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CORPORATE PERFORMANCE MANAGEMENT

AND VALUE CREATION



Corporate Performance Management and Value Creation – University Lecture Notes
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Introduction

The effective operation and long-term competitiveness of companies are fundamentally dependent on the conscious and integrated application of Corporate Performance Management. Corporate Performance Management represents a comprehensive framework within which managers and employees jointly ensure the coordinated management and operation of processes and resources necessary to achieve both individual and organizational objectives. Corporate Performance Measurement and Performance Management are not merely internal control or monitoring tools. Rather, they constitute a distinct body of knowledge that enables economic and business professionals to understand how strategic objectives are translated into measurable outcomes, how sustainable value creation can be achieved, and how data and performance information can be transformed into informed managerial decisions.

This electronic lecture note has been prepared for educational purposes primarily for the students of Eszterházy Károly Catholic University, supporting the courses Financial Performance Measurement and Company Valuation *and* Corporate Valuation. The main objective of the material is to provide both theoretical foundations and practical insights into the Corporate Performance Management system, with particular emphasis on understanding its key dimensions. The lecture notes introduce classical and contemporary performance measurement approaches, methods, and principles, and highlight the strategic role of performance management and its contribution to corporate value creation. The material offers a comprehensive overview of the main components and dimensions of Corporate Performance Management. Its focus lies on the various performance measurement concepts, tools, and methodologies, and on the ways in which they contribute to corporate value creation and to the long-term enhancement of firm value.

The primary aim of this lecture note is to equip students with knowledge and competencies that support the recognition of interdependencies and the development of a business-oriented mindset. These capabilities enable students to effectively manage and control economic processes in practice and to support managerial decision-making required for the sustainable operation of business activities. The textbook approaches the complexity of Corporate Performance Management through strategic, operational, and economic dimensions, placing particular emphasis on the economic dimension. Within this framework, special attention is given to financial and business performance measurement tools and to their role in decision support and value-based management. The second major thematic unit of the material is Corporate Valuation, which interprets and integrates performance measurement information into the process of determining corporate value, thereby demonstrating the close relationship between value-driven thinking and performance-based management.

The lecture notes are based on a comprehensive and accessible synthesis of a wide range of international and domestic academic literature listed in the references, and are intended to encourage readers to further explore the original sources. The development of this material has been made possible by the authors' several decades of professional experience in corporate leadership, higher education management, and university-level teaching, complemented by insights drawn from case studies and in-depth interviews.

I. Theoretical Foundations of Corporate Performance

1.1. The Theoretical Foundations of Corporate Performance

The concept of performance is broad, multifaceted, and highly context-dependent. Its meaning varies across fields such as sports, education, technology, the arts, and different scientific disciplines. Performance is inherently interdisciplinary, referring to the manifestation of effectiveness and capability, and in general usage it encompasses notions of success, competitiveness, action, effort, and progress. Owing to this diversity, there is no single universally accepted definition of performance; its interpretation is always shaped by the applied perspective. Performance comprises not only achieved outcomes, but also the actions, processes, and mechanisms that lead to those outcomes. From the perspective of financial and business performance measurement, corporate performance can be interpreted through three major disciplinary lenses: economics, management, and accounting. An economic perspective is essential because companies utilize resources to produce outputs, thereby generating performance that underpins the principles of efficiency, productivity, and value added. From a management perspective, corporate performance reflects how organizations set strategic and operational objectives and how effectively these objectives are implemented. The accounting perspective provides objective, structured, and verifiable data, enabling evaluation, measurement, and control systems that ensure the reliability and transparency of both financial and non-financial information.

Over recent decades, the interpretation of performance within economics, management, and accounting has increasingly shifted toward integrated and holistic approaches. This evolution is reflected in the widely accepted view that organizational performance should be assessed across economic, social, and environmental dimensions. Modern corporations are therefore expected to pursue the simultaneous optimization of economic performance, social performance, and environmental performance. A firm can be regarded as truly high-performing in a contemporary sense only when these three pillars are balanced. Corporate performance ultimately represents a state of competitiveness that enables sustainable market presence. It is closely linked to a firm's adaptability, flexibility, and resilience, which collectively ensure the ability to maintain performance over time, preserve value creation, and remain competitive in a global economic environment. This resilience allows organizations to sustain efficient operations and achieve strategic objectives even under conditions of uncertainty or disruption. In the context of business and financial performance measurement, the economic, accounting, and management perspectives jointly form an interdisciplinary bridge that captures the core dimensions of corporate performance. While economics emphasizes resource allocation and efficiency, accounting focuses on financial information and measurement reliability, and management concentrates on the achievement of strategic and operational objectives. Corporate performance thus emerges as a comprehensive indicator of a firm's economic and financial effectiveness and its contribution to strategic objectives, grounded in principles of efficiency, reliable financial reporting, and a goal-oriented, stakeholder-focused management approach.

1.1.1. Corporate Performance in Economics

From a microeconomic perspective, performance generally refers to how well an economic entity achieves its objectives relative to its opportunities and constraints, typically expressed through the concepts of efficiency and profit maximization. Classical economic theory assumed that corporate performance could be primarily assessed on the basis of profitability and market value. Within economics, the notion of performance is often reduced to the efficiency with which economic goals are achieved. At the firm level, corporate performance encompasses profitability, productivity, and competitiveness in the marketplace. From a microeconomic standpoint, it focuses on how effectively a company allocates and utilizes its resources in order to maximize profits, create value, and achieve a competitive position within its market environment. In this view, performance reflects the firm's ability to transform inputs—such as labor, capital, and raw materials—into outputs in the form of goods or services that optimally satisfy consumer demand while generating sustainable returns.

Key microeconomic factors include productivity, cost efficiency, pricing strategies, and market behavior, all of which are central to both financial and business performance analysis. A firm's performance in microeconomics is the outcome of how effectively it combines its business competencies and economic capabilities in response to market forces and in the optimization of resource utilization.

Business competencies refer to the capabilities, resources, and knowledge that enable a firm to achieve and sustain competitive advantage. These include innovation capability, adaptability to market changes, customer relationship management, the management of value-creating processes, and strategic thinking. Economic capabilities, by contrast, determine internal efficiency in terms of cost control and profitability. Both sets of capabilities are essential for optimizing corporate performance from a microeconomic perspective.

Economics approaches corporate performance primarily through the lenses of economic rationality, efficient resource utilization, and value creation. In this framework, corporate performance depends on how efficiently inputs—such as labor, capital, and natural resources—are transformed into marketable products or services. Productivity expresses the relationship between output and resource use, while efficiency refers to achieving the best possible outcome from a given level of inputs. Economic utility reflects the extent to which a firm's products and services contribute to the satisfaction of societal needs. A key concept of economic performance is value creation, which extends beyond profit to include economic value added. Corporate performance is also shaped by competitiveness, which determines a firm's ability to survive and grow over the long term within its market environment. Taken together, these concepts indicate that, in economics, corporate performance is fundamentally interpreted through efficient resource utilization, productivity, and economic value creation. This approach emphasizes that sustainable performance requires not only short-term financial results, but also the continuous development of capabilities that strengthen long-term value generation and strategic positioning.

1.1.2. Corporate Performance in Management

From a managerial and organizational perspective, corporate performance reflects the extent to which an organization effectively formulates and achieves its strategic objectives, coordinates internal processes, mobilizes human resources, and adapts to change. Performance is therefore not merely an outcome, but a reflection of internal alignment, leadership quality, and process efficiency within the dynamic context of strategic management. Managerial interpretations of performance play a critical role in aligning organizational goals with stakeholder expectations. Leaders must consider what constitutes superior performance for different stakeholder groups, including owners, shareholders, employees, and customers. These perspectives often differ significantly, as stakeholders pursue distinct interests. For example, top management and shareholders may define performance in terms of profit growth or shareholder value, while employees may emphasize job security and satisfaction, and customers may focus on service quality. Consequently, organizational performance is inherently subjective and multidimensional.

From a management standpoint, corporate performance is a complex construct manifested in the achievement of organizational objectives, the maintenance of competitiveness, and the organization's capacity for value creation. In management theory and practice, performance refers to the organization's ability to attain its goals through the coordinated management of competencies and resources. Business and financial performance represent key, though not exclusive, dimensions of corporate value creation and sustainable competitiveness. These dimensions both actively contribute to value generation and enable its economic measurement and interpretation. A core responsibility of management is to align these performance dimensions and to formulate strategies grounded in organizational competencies, while taking into account the firm's economic conditions and market opportunities. Through this alignment, management guides the organization toward the achievement of defined performance objectives. Leaders are therefore required to act not only as operational managers but also as performance-oriented strategists. This role demands strategic competencies, decision-making and problem-solving skills, communication and relationship management capabilities, leadership and motivational skills, organizational abilities, systems thinking, change management and adaptability, agility, and ethical conduct. Corporate competitiveness represents an integrated system of organizational competencies and economic characteristics that enables firms to utilize resources more effectively than competitors and to achieve sustained superior business performance. Competitive organizations are capable of interpreting changes in the economic and market environment in a forward-looking manner and responding flexibly to both current and anticipated impacts. This capability is closely linked to corporate resilience, as firms strive to balance economic, social, and environmental factors in their operations. Within this process, management functions as the mediating and coordinating system that, through managerial decisions, continuously develops corporate competencies and economic characteristics, thereby strengthening the performance system. In doing so, management ensures long-term sustainability, competitiveness, and the maximization of shareholder value.

1.1.3. Corporate Performance in Accounting

Accounting can be interpreted as a dual-function system. On the one hand, through its regulated and standardized nature, it provides reliable and faithful financial information to external stakeholders; on the other hand, it supplies flexible, purpose-oriented data to support internal managerial decision-making. This duality enables accounting to function simultaneously as a reporting system and as a management tool. When examining the relationship between accounting and the concept of corporate performance, it becomes evident that accounting supports both the objective and standardized representation of financial performance within the framework of financial accounting and the internal, decision-support-oriented evaluation of business performance through the tools of management accounting. Together, financial accounting and management accounting reveal what level of performance a company has achieved, what it has been capable of in the past, and what it is capable of in the present. In financial accounting, corporate performance is reflected through profitability, efficiency, asset-related, and financial indicators derived from financial statements. Management accounting, by contrast, focuses on internal processes in order to understand cost behavior, productivity, and efficiency, while supporting planning, budgeting, and forecasting activities. It provides analytical tools—such as variance analysis—that enable performance evaluation and control.

Management accounting also defines performance indicators at both individual and organizational levels and has introduced the concept of performance measurement systems that incorporate non-financial indicators to guide internal decision-making. While financial accounting presents the results of past operations in a reliable and externally interpretable form, management accounting explores internal performance dimensions related to operations, resource utilization, and future potential. The interaction of these two accounting perspectives ensures that corporate performance can be measured, evaluated, and interpreted for different stakeholders and purposes. Financial accounting provides the core information base for financial performance measurement, while management accounting supplies a significant portion of the data required for business performance measurement. Over time, accounting has expanded into areas such as social and environmental reporting, reflecting the recognition that performance cannot be interpreted solely from a financial perspective. In practice, both accounting functions are closely integrated with controlling activities, which coordinate planning, monitoring, and variance analysis, thereby actively supporting strategic and operational performance management. Corporate valuation is also closely linked to this system. Based on financial statements, controlling information, and management accounting data, valuation methods enable the determination of a company's market or internal value, thereby extending the interpretation of performance measurement. Corporate performance reflects the effectiveness and capabilities of current operations, while corporate value represents the forward-looking projection of that performance. Performance analysis focuses on the firm's present condition, whereas valuation analysis captures expected future cash-generating capacity and anticipated investor returns. The two are inherently interconnected, as corporate value ultimately derives from corporate performance.

1.2. Corporate Performance Measurement in the Support of Value Creation

Corporate Performance Measurement is not merely a tool for evaluating past results; it also serves as a foundation for forward-looking strategic management. Its role is particularly significant in operations and production management, where operational efficiency, resource utilization, and performance along the value chain directly contribute to corporate competitiveness. Modern performance measurement systems are designed to interpret production and operational processes not in isolation, but as integral components of corporate value creation. This chapter demonstrates how performance measurement supports the achievement of strategic objectives, facilitates management through data-driven decision-making, and contributes to continuous improvement and organizational learning. This integrated approach enables companies not only to respond to challenges in their market environment, but also to proactively shape it.

1.2.1. The Purpose of Corporate Performance Measurement

The purpose of corporate performance measurement is to monitor plans, budgets, and objectives and to compare them with actual results in order to assess how effectively an organization implements its strategic goals. Performance measurement may relate to short-term operational objectives as well as to long-term strategic goals. It refers to the systematic identification, quantification, and application of performance indicators designed to evaluate how successfully an organization achieves its objectives, and to measure the efficiency and effectiveness of organizational actions against predefined targets. Over recent decades, the importance of performance measurement has increased significantly, driven by the recognition that traditional financial indicators alone are insufficient for managing competitive and resilient organizations. Today, performance indicators are regarded as central elements of organizational strategy and operations, providing data-driven insights that help minimize risks and maximize returns. In essence, performance measurement has become a critical management tool for guiding decision-making and supporting continuous improvement. The primary objective of corporate performance measurement is to ensure that an organization remains on track toward its strategic goals while continuously improving its performance. By collecting and analyzing relevant performance data, managers gain reliable information that supports planning and decision-making at all organizational levels. In this sense, performance measurement provides feedback on how the company is performing and where adjustments may be required. The ultimate purpose of performance monitoring is organizational development. Through the use of performance indicators, weaknesses can be identified, corrective actions initiated, and improved results achieved over time. Performance measurement also establishes a foundation for accountability, both internally—such as holding teams responsible for achieving objectives—and externally, for example by reporting results to shareholders and other stakeholders. An effective performance measurement system enables an organization to translate strategy into action and measurable outcomes, ensuring that daily operations are aligned with long-term goals and values.

The objectives of corporate performance measurement are therefore closely linked to the implementation of corporate strategy. Rather than referring to specific tools or processes, these objectives reflect a system-level ambition to promote performance-oriented management, information-based decision-making, and long-term value creation through the measurement system.

Table 1: Objectives and Content of Corporate Performance Measurement

Objective of Performance Measurement	Content of the Objective
Ensuring strategic goal alignment	Aligning organizational operations with defined strategic objectives.
Supporting continuous performance improvement	Identifying weaknesses, initiating corrective actions, and achieving improved results.
Providing reliable information for decision-making	Supporting data-driven management at all organizational levels.
Establishing accountability	Enabling performance reporting toward internal and external stakeholders.
Making strategy tangible through indicators	Translating strategic objectives into measurable indicators to support execution.
Supporting long-term value creation	Encouraging sustainability and innovation through non-financial indicators.
Identifying and monitoring stakeholder value	Identifying value creation for different stakeholders and managing it consciously.
Monitoring sustainability objectives	Using ESG indicators to track and measure progress toward sustainability goals.
Measuring digital maturity and innovation performance	Assessing technological adaptation, digitalization, and innovation as key success factors.
Identifying and controlling risks	Early detection of underperformance to support prevention and risk management.
Monitoring employee engagement and culture	Measuring and developing organizational culture, employee engagement, and satisfaction.
Benchmarking and measuring competitive advantage	Identifying competitive advantages and gaps through industry comparison.
Process maturity and operational excellence	Improving efficiency, quality, and process maturity using Lean, TQM, or Six Sigma approaches.

Source: Own compilation based on Kaplan & Norton (1996), Neely (2002), Armstrong (2002), Bititci (2016)

The objectives of corporate performance measurement provide guidance for management at both strategic and operational levels, ensuring that the organization progresses toward the achievement of its strategic goals while maintaining competitiveness and adapting to a changing environment. The objectives presented in Table 1 reflect different organizational intentions, while the column Content of the Performance Measurement Objective briefly elaborates on their practical meaning, operational context, and managerial relevance. Clearly defining and interpreting these objectives is essential to ensure that performance measurement does not become a self-serving administrative exercise, but rather functions as a strategic management tool. The function of corporate performance measurement describes how performance indicators contribute to organizational governance, operations, and development. These functions encompass practical roles through which performance measurement becomes an integral part of both everyday and strategic organizational processes. Such roles include supporting management control, informing decision-making, motivating employees, ensuring alignment with organizational objectives, and establishing accountability. Collectively, these functions aim to ensure that the organization not only measures performance, but—through conscious interpretation and feedback—evolves into an adaptive, learning-oriented, and results-driven system. A well-designed performance measurement system is therefore multidimensional and strategically significant, playing a key role in fostering long-term competitiveness and sustainable value creation.

1.2.2. The Key Functions of Corporate Performance Measurement

Corporate performance measurement fulfills multiple, interrelated functions within an organization. These functions explain how performance indicators move beyond simple measurement and become active instruments of management, supporting strategic alignment, operational control, and organizational development. By embedding performance metrics into decision-making and daily operations, organizations are able to translate strategic intentions into coordinated actions.

The following functions summarize the key roles through which performance measurement contributes to effective management and long-term value creation:

- **Strategic alignment and clarification:** Defining what is measured in performance management compels leaders to clarify organizational priorities and strategic objectives. By specifying concrete indicators linked to strategic goals, companies transform abstract intentions into actionable targets. Clearly defined metrics communicate strategy across the organization and ensure that all organizational levels are aligned toward common objectives. In practice, this alignment function helps employees understand what matters most and how their work contributes to overall goals.
- **Performance monitoring and control:** Performance measurement provides the data required to track progress and to monitor operations over time. Managers use indicators as dashboards to compare actual results with targets or standards, enabling them to detect deviations from plans.

This function represents the classic managerial control role of performance measurement—ensuring that the organization remains “within acceptable limits” and moves in the intended direction. Regular monitoring through key performance indicators (KPIs) allows for the timely identification of problems and the initiation of corrective actions. In essence, the measurement system functions as an organizational early warning system to keep performance on track.

- **Decision support and planning:** Another critical function of performance measurement is to provide a factual basis for decision-making and planning. Executives and managers rely on performance data when making budgeting decisions, allocating resources, and setting development priorities. Well-designed indicators offer objective evidence about which areas of the business perform well and which underperform, thereby informing strategic and operational decisions.
- **Motivation and behavioral influence:** When performance indicators are linked to objectives and feedback, they can motivate employees and shape behavior. Setting specific targets for key metrics—and monitoring progress toward them—naturally focuses attention on organizational priorities. Managers may also use indicators in performance appraisals or incentive systems to reward desired outcomes, thereby reinforcing motivation. It is essential, however, that metrics are applied constructively: the objective is to encourage effort and improvement rather than to create a punitive environment. Well-chosen indicators, combined with supportive feedback, can inspire teams to achieve higher performance levels by clarifying what success means and when progress is being made.
- **Communication and accountability:** Performance indicators serve as a common language for communicating performance expectations and results within the organization. By publishing and discussing performance reports, management sends clear signals about what the organization values and how success is defined. This transparency establishes accountability: individuals and departments understand how their performance will be measured and can be held responsible for results. Internally, this fosters a culture of responsibility and ownership. Externally, performance indicators—such as financial reports or sustainability metrics—enable stakeholders to assess corporate performance and hold the organization accountable. In both cases, the measurement system builds trust and credibility by documenting performance in an objective manner.
- **Organizational learning and continuous improvement:** Perhaps the most powerful function of performance measurement is its role in fostering learning and improvement. Beyond monitoring for control purposes, collected data can be analyzed to gain insights into what works well and what does not. Managers and teams can investigate the root causes of performance gaps and test business assumptions by using measured outcomes as feedback. This reflective use of indicators transforms the performance measurement system into a tool for managerial learning rather than mere control. By examining trends and relationships in the data, organizations can identify opportunities for process improvement and innovation. Performance measurement should be viewed as a continuous cycle of goal setting, measurement, learning, and improvement.

Table 2: Key Functions of Corporate Performance Measurement

Corporate Performance Measurement Function	Content
Strategic alignment and clarification	Clarifying strategy and organizational priorities and translating them into measurable indicators.
Performance monitoring and control	Tracking deviations from objectives and identifying problems in a timely manner.
Decision support and planning	Providing objective information to support operational and strategic decisions.
Motivation and behavioral influence	Shaping and motivating behavior through performance targets and incentives.
Communication and accountability	Transparent communication of expectations and results, strengthening internal and external accountability.
Organizational learning and continuous improvement	Supporting development processes based on the interpretation of performance results.
Value creation focus	Placing value-creating processes at the center and supporting conscious competitive advantage development.
Strengthening strategic communication	Ensuring clear and consistent communication of strategic objectives through performance indicators.
Transparency and trust building	Enhancing internal and external trust through regular and transparent performance measurement.
Supporting change management	Monitoring the impacts of change and supporting organizational transformation.
Enhancing organizational agility	Enabling fast and accurate feedback to support rapid responses to environmental changes.
Strengthening performance-oriented culture	Embedding measurement and evaluation into daily operations to reinforce performance-oriented thinking and behavior.

Source: Own compilation based on Kaplan & Norton (1996), Neely (2002), Armstrong (2002), Bititci (2016)

1.2.3. Performance Measurement in Corporate Practice

Performance measurement becomes truly effective when strategic objectives are translated into clear and concrete indicators that are understandable across the entire organization and provide guidance for business units, departments, and individuals alike. In this way, performance measurement evolves into a framework not only for management control but also for coherent organizational operation. Within this framework, metrics and key performance indicators become instruments of change, accountability, and strategic success. The functions of corporate performance measurement are closely linked to strategic management, competitiveness, and organizational learning. The following thematic grouping structures these functions along three main perspectives: (1) supporting the implementation of strategic objectives, (2) strengthening value creation capabilities, and (3) developing the organization's capacity for learning and adaptation. Although these functions represent different aspects, their common denominator is the support of corporate value creation. Whether through strategic alignment, competitive advantage, or adaptive learning, each function contributes to the company's long-term success, as illustrated in Table 3. Taken together, the functions of corporate performance measurement foster the organization's value-creating potential and establish the foundation for a competitive, sustainable, and learning-oriented future.

Table 3: Thematic Grouping of Corporate Performance Measurement Functions

Strategic Management	Value Creation and Competitiveness	Organizational Learning
Strategic alignment and clarification	Performance monitoring and control	Organizational learning and continuous improvement
Decision support and planning	Value creation focus	Motivation and behavioral influence
Strengthening strategic communication	Strengthening performance culture	Communication and accountability
Benchmarking and competitive analysis	Transparency and trust building	Encouraging knowledge sharing
Developing KPIs aligned with strategic objectives	Stimulating innovations that ensure competitive advantage	Reflection and feedback mechanisms
Monitoring competitiveness trends	Monitoring competitiveness trends	Competence development
Supporting strategic flexibility, risk management, and organizational resilience	Enhancing organizational agility	Adaptive learning

Source: Own compilation based on Kaplan & Norton (1996), Neely (2002), Armstrong (2002), Bititci (2016)

Corporate performance measurement is not merely a one-directional instrument for tracking objectives; rather, it is a system designed to serve multiple, often diverse and sometimes even conflicting goals simultaneously. Strategic, operational, learning, and incentive-related objectives do not necessarily point in the same direction, which creates complex challenges for managers and performance management systems. Managing this diversity of objectives is therefore not only a technical task, but also a leadership competence that requires organizational culture, conscious governance, and managerial judgment. Performance measurement systems are expected to support, at the same time, the monitoring of strategic objectives, individual motivation, accountability, learning processes, and resource allocation. Conflicts between objectives—such as tensions between short-term financial indicators and long-term learning or development goals—frequently emerge and may lead to managerial dilemmas. To address this multi-objective nature, it is essential to design performance management systems that allow for the flexible reassessment of priorities, the balancing of competing objectives, and the regular redefinition of goals in response to changing environmental conditions. Transparent relationships among objectives, as well as their clear communication and interpretability, are critical for effective integration. Performance measurement therefore fulfills not only a technical role, but also a strategic and organizational coordination function.

The multidimensional management of objectives—such as the integration of control-oriented, developmental, and motivational goals—can only be realized if organizational structures and processes actively support it. While goal conflicts cannot be fully eliminated, they can be managed through deliberate strategic steering and strong managerial commitment. In this way, corporate performance measurement becomes truly integrated: it seeks not only alignment between indicators and objectives, but also takes into account the expectations of different stakeholders, including managers, employees, and owners, thereby building a system that adapts to organizational realities. The objective system of corporate performance measurement is complex and multilayered, simultaneously serving strategic, value-creation, and learning functions. The diversity of objectives—such as ensuring the achievement of strategic goals, supporting continuous performance improvement, and advancing sustainability and innovation—means that performance measurement systems must address multiple organizational expectations and challenges at once. Consequently, performance measurement extends far beyond the mere application of indicators. It requires an integrated, data-driven approach capable of translating strategic objectives into operational-level indicators, ensuring accountability, and fostering value creation in both financial and non-financial forms. In addition, such systems must be capable of tracking stakeholder value, supporting ESG objectives, stimulating organizational learning, and identifying sources of competitive advantage. The three conceptual dimensions—Strategic Management, Value Creation and Competitiveness, and Organizational Learning—do not operate as independent systems, but as closely interconnected networks of objectives. Together, they ensure adaptive, value-based, and future-oriented organizational performance. The essence of integrated performance management therefore lies not simply in the use of indicators, but in managing the interrelationships among objectives and maintaining balance between them in a dynamically changing environment.

1.2.4. The Corporate Performance Framework

The Corporate Performance Framework defines how corporate performance can be interpreted, measured, analyzed, and improved. The primary purpose of such a framework is to establish strategic alignment among objectives, processes, and resources; to design performance indicators and evaluation levels; to support managerial decision-making; to enhance accountability and transparency in corporate operations; and to manage the expectations of various stakeholders, including investors and regulators. An additional objective of the performance framework is to assist management in linking strategic objectives to organizational operations, internal and external factors, and key performance indicators. Well-known examples of corporate performance frameworks include the Balanced Scorecard (Kaplan & Norton), the EFQM Model (European Excellence Model), the Stakeholder Capitalism Metrics developed by the World Economic Forum, the Triple Bottom Line approach (economic, environmental, and social dimensions), and Value-Based Management frameworks.

The core components of a Corporate Performance Framework consist of internal factors, external factors, and performance elements:

- **Internal factors** include the company's organizational structure, processes, resources, and corporate culture, all of which directly influence operational performance and outcomes.
- **External factors** encompass the industry, market, economic, social, and regulatory environment in which the company operates. These factors may constrain performance or, alternatively, create opportunities for performance improvement.
- **Performance elements** represent the outcomes and indicators through which the company's value-creation capability can be assessed from both financial and business perspectives. Financial dimensions typically include liquidity, efficiency, profitability, cash flow, and value creation, while business dimensions may involve growth, customer orientation, quality, innovation, corporate culture, and sustainability.

The Corporate Performance Framework functions as a system that aligns performance measurement and evaluation with the expectations and needs of different stakeholder groups. Individual performance dimensions reflect how the company responds to the expectations of owners, customers, employees, suppliers, and society at large. In this way, the framework connects strategic objectives with value creation for stakeholders. For management, the Corporate Performance Framework serves as a guiding compass that provides a comprehensive view of organizational operations, enables the assessment of progress, and supports targeted initiatives to strengthen long-term competitiveness. By offering a unified perspective on the performance of corporate functions, the framework acts as a bridge between them. It represents a structured system of interrelationships in which various organizational domains are linked through measurable objectives and indicators, jointly contributing to corporate value creation and sustained competitiveness.

1.2.5. Performance Measurement and Value Creation

The Corporate Performance Framework connects long-term strategic objectives with the organization's actual performance through multi-level measurement systems. This linkage enables the organization not only to measure outcomes, but also to actively manage the path toward its strategic goals. The relationship extends beyond financial results and is also reflected in the development of organizational values, capabilities, and competitive advantages. In contemporary organizations, corporate performance measurement is no longer merely a technical instrument for ex post evaluation. Instead, it has become an integral component of strategic management that actively contributes to corporate value creation. Table 4 illustrates how corporate performance measurement operates across three temporal dimensions and how these dimensions are associated with different forms of value creation. Retrospective, operational, and prospective perspectives apply distinct types of indicators and analytical approaches to capture a company's past, present, and future value.

Table 4: Corporate Performance Framework – Temporal and Value Creation Dimensions

Time Horizon / Perspective	Performance Measurement Focus	Value Creation Link
Retrospective (Past)	Financial indicators derived from financial statements (e.g. ROA, cash flow, revenue)	Preservation of past value and maintenance of investor confidence
Operational (Present)	Financial and business performance indicators, evaluation of tangible and intangible assets	Short-term value optimization and increased stakeholder satisfaction
Prospective (Future)	Forward-looking valuation models (e.g. DCF), ESG indicators, strategic objective systems	Ensuring long-term competitiveness and sustainable value growth

Source: Own compilation based on Kaplan & Norton (1996); Ittner & Larcker (2003); Bititci (2016); Fenyves et al. (2018) based on authors' own compilation.

The Corporate Performance Framework integrates different time dimensions—past, present, and future—into a unified system of measurement and management. The terminology used for these time horizons (retrospective, operational, and prospective) reflects the fact that corporate performance measurement approaches performance from different temporal perspectives. Each time horizon embodies distinct objectives, measurement focuses, and value creation logics.

The **retrospective perspective** enables organizations to draw lessons from the outcomes of past decisions. It focuses on the evaluation of historical performance through indicators derived from financial statements, with the primary objective of preserving value and analyzing past results. This backward-looking view supports accountability and learning based on realized performance.

The **operational perspective** monitors current operational efficiency and key performance indicators, responding to market and organizational processes in near real time. Its purpose is immediate optimization, effective operational control, and the enhancement of stakeholder satisfaction by aligning ongoing activities with performance targets.

The **prospective perspective** adopts a forward-looking view, developing estimates of future corporate value in support of long-term value creation and the building of sustainable competitive advantage. By linking strategic objectives with expected future outcomes, this perspective supports investment decisions and long-term strategic steering.

This three-level temporal structure helps to organize performance measurement and connects lessons from the past, present operational performance, and future-oriented objectives within a coherent corporate value creation system.

The concepts of the **Corporate Performance Framework** and **Corporate Performance Measurement** are closely related and mutually reinforcing, yet they serve distinct functions in corporate governance. The Corporate Performance Framework represents a structured system that defines what is considered performance, along which dimensions performance is evaluated—such as financial, business, operational, strategic, or sustainability dimensions—and who the relevant stakeholders are. Its primary role is to connect strategic objectives with measurement dimensions, indicators, and value-creating processes, thereby providing the theoretical and organizational foundation for performance measurement.

Corporate Performance Measurement, by contrast, refers to the practical process of data collection, analysis, and evaluation carried out within the boundaries of the performance framework. Its purpose is to provide feedback on the achievement of objectives, support managerial decision-making, enable motivation and incentives, and foster organizational development. The performance framework establishes the conceptual and structural foundation, while performance measurement represents its practical implementation.

The two operate in a continuous interaction: the framework defines what and how to measure, while measurement executes the evaluation and feeds results back into the framework. Together, they support corporate value creation and competitiveness. The time dimension is therefore a core logical and substantive element of the performance framework, determining the relevant time horizon and purpose of performance evaluation. Performance measurement collects and assesses data in line with this framework, applying the appropriate temporal perspective to support effective management and long-term value creation.

Table 5: Structural Relationship between Corporate Performance Measurement and Value Creation

Level	Level of Performance Measurement	Content of Performance Measurement	Link to Value Creation
Level 1	Data level	Operational data collection, basic metrics (e.g. costs, volumes, time utilization)	Structured data recording enables the calculation of indicators that make value-creating processes visible and measurable.
Level 2	Financial and business performance measurement	Financial indicators (ROA, cash flow), business indicators (customer retention, innovation)	Measured performance can be directly linked to organizational objectives, identifying key drivers of value creation.
Level 3	Interpretation and strategic synthesis	KPI systems, Balanced Scorecard, benchmarking, stakeholder analysis	Interpreting indicators supports management in identifying competitive advantages and making long-term value-oriented decisions.
Level 4	Corporate valuation and value maximization	DCF models, market valuation, goodwill, ESG-based valuation	The ultimate purpose of performance measurement is to reflect current and future corporate value for stakeholders.

Source: Own compilation based on Kaplan & Norton (1996); Ittner & Larcker (2003); Bititci (2016); Fenyves et al. (2018), based on authors' own compilation.

Table 5 highlights that a hierarchical and structured relationship exists between corporate performance measurement and value creation. At the data level, operational indicators ensure the transparency and measurability of value-creating processes, without which higher-level analyses could not be reliably established.

At the level of financial and business performance measurement, measured results can already be directly linked to organizational objectives, allowing key areas of value creation to be identified. At the level of interpretation and strategic synthesis, KPI systems and management tools enable performance indicators to be placed within a strategic context, thereby supporting managerial decision-making. At this stage, it becomes clear which performance elements contribute to the development of sustainable competitive advantage. At the level of corporate valuation, the outcomes of performance measurement are reflected in the quantification of corporate value, expressing the firm's future value creation potential. Based on the logic of the table, performance measurement is not an end in itself, but a tool for revealing and managing value creation. In the absence of such a structured approach, value creation processes could neither be interpreted nor developed in a coordinated and systematic manner.

Corporate performance measurement can also be structured as a hierarchical system, similar to the levels of financial accounting. The objective is to illustrate how an organization progresses from data collection to corporate valuation, while increasingly higher levels of synthesis and decision support are achieved. Table 5 demonstrates how the corporate performance measurement system is built from the data level up to corporate valuation. This structure follows a performance measurement → value creation → valuation logic within a four-level hierarchical framework. As the system moves upward, the level of complexity and abstraction increases: starting from basic data, a progressively integrated interpretation of performance is developed, ultimately culminating in corporate valuation. Financial and business performance measurement occupies a central position within this system, linking operational data with strategic value creation. In contemporary organizations, corporate performance measurement is no longer merely an instrument for evaluating past results, but a conscious and integrated supporter of value creation. Performance measurement forms a hierarchical system in which each level contributes to shaping corporate value. By making organizational outcomes visible and measurable, performance measurement enables improvement and targeted managerial intervention. Through performance indicators, key areas of value creation can be identified, ensuring efficient resource allocation. Furthermore, performance measurement connects strategic objectives with day-to-day operations, thereby supporting long-term competitiveness and sustainable value growth. The emergence of the digital economy has fundamentally transformed corporate value creation processes. Technological advancement, data-driven operations, usage-based business models, and globalized information flows have given rise to new forms of business models in which value creation can no longer be captured solely through financial outcomes. In the digital economy, corporate competitive advantage increasingly rests on intangible assets such as knowledge, relational capital, brand equity, data, and customer relationships. Closely related to these developments are ESG considerations, which integrate social, environmental, and governance impacts into the logic of value creation. One of the major challenges of modern performance management lies in embedding these dimensions into decision-making systems and performance indicators. Digital transformation, therefore, is not merely a technological issue, but a structural shift that creates new linkages between value creation and performance measurement.

The relationship between digital transformation, value creation, and performance measurement can be interpreted through the following key perspectives:

- **Data-driven value creation and performance measurement:** Digital systems collect real-time data across all points of operation, enabling precise and immediate performance measurement. KPIs are no longer limited to historical data; they increasingly incorporate predictive analytics to model future trends. Business intelligence systems and dashboards not only reflect value-creating processes in real time but also actively influence them.
- **Integration of intangible values into performance measurement:** In the digital economy, a substantial share of corporate value is derived from intangible assets such as brands, customer data, software, and know-how. These assets are largely invisible in traditional financial statements, necessitating new measurement approaches, including ESG metrics and intellectual capital reporting. As a result, value creation can no longer be assessed exclusively through financial indicators.
- **Stakeholder-oriented approach and ESG dimensions:** Digital transformation has generated new expectations toward firms, particularly with respect to sustainability, transparency, and corporate social responsibility. Performance measurement has become increasingly multidimensional, incorporating environmental, social, and governance factors. Corporate performance is therefore assessed not only in terms of shareholder value, but also stakeholder value creation.
- **Business model-based performance measurement:** In the digital era, business models—such as platform-based or subscription-based models—have become independent units of analysis and measurement. Value creation is no longer defined solely by the difference between production costs and revenues, but also by ecosystem effects, network value, and user activity. This shift has introduced new performance metrics, including Customer Lifetime Value (CLV), Net Promoter Score (NPS), and various engagement metrics.
- **The relationship between digital maturity and performance:** A firm's level of digital maturity—encompassing technological infrastructure, digital culture, and data asset management—is closely linked to both financial and non-financial performance. Digital maturity can therefore be measured and serves as a predictive factor of corporate value creation. In this sense, digital maturity functions as a latent capability: the more effectively a firm leverages digital tools, the faster, more accurate, and more adaptive it becomes.

In the context of modern performance management, the concept of corporate value can be understood as the complex outcome of a firm's operations and future potential. Corporate value expresses the extent to which a company is able to transform its resources efficiently and sustainably into performance that is meaningful in economic, business, and social terms. From this perspective, corporate value appears simultaneously as an outcome and as a capability. It represents an **outcome** in the sense that the firm is able to deliver stable financial performance, profitability, and cash flow—generating capacity for its owners.

At the same time, it represents a **capability**, reflecting the organizational, technological, and human competencies that enable the firm to adapt to market changes, innovate, and sustain long-term competitiveness. Accordingly, the concept of corporate value extends beyond accounting-based notions of assets and earnings and incorporates intangible factors that form the foundation of future value creation. These factors include, in particular, knowledge, data assets, customer relationships, brand value, organizational culture, and digital and innovation capabilities.

Although such elements are often not directly reflected in financial statements, they play a decisive role in shaping a company's market perception and valuation. In contemporary interpretations, corporate value is also a **stakeholder-based concept**. It is no longer limited solely to the maximization of shareholder returns, but also considers the firm's impacts on its broader stakeholder environment. The integration of sustainability and ESG considerations implies that corporate value is closely linked to the responsible use of environmental resources, the quality of social relationships, and transparent, ethical corporate governance.

Within this framework, the role of performance management is to make corporate value visible, measurable, and interpretable. This goes beyond the mere application of financial indicators and requires the development of multidimensional measurement systems capable of capturing not only outcomes, but also the underlying processes, capabilities, and risks that drive value creation. Corporate value, therefore, should not be treated as an isolated measurement target, but rather as the resultant of interrelated factors that emerge across different levels of performance measurement. In summary, within the modern performance management perspective, corporate value represents a complex construct that reflects a firm's long-term value creation capability through the integration of financial results, operational effectiveness, intangible resources, and sustainability and resilience considerations. The ultimate objective of corporate performance measurement is to reveal this complex value and to support its conscious and systematic development.

The ultimate purpose of corporate performance measurement is not merely to monitor individual operational, business, or financial indicators, but to identify and interpret the extent to which a firm is capable of creating value for its owners and its broader stakeholder base. In this sense, corporate value cannot be equated solely with the profit or balance sheet figures reported in financial statements; rather, it should be understood as a complex, multidimensional concept. Traditionally, corporate value has been captured primarily through financial categories such as profitability, cash flow-generating capacity, or market value. According to this logic, value is embodied in the present value of future cash flows and is grounded in the objective of maximizing shareholder returns. While this approach remains fundamental it is insufficient on its own to fully capture the value creation processes of modern firms. With the rise of the digital economy, the concept of corporate value has expanded significantly. An increasing share of firm value now derives from intangible sources such as organizational knowledge, innovation capability, brand equity, customer relationships, data assets, and platform and network effects. Corporate value is no longer confined to financial returns generated for owners alone; it also encompasses the firm's impact on employees, customers, suppliers, the broader social environment, and natural resources.

II. Framework of Corporate Performance Management

2.1. Foundations of Corporate Performance Management

Corporate performance management is one of the key governance instruments of organizations, aimed at planning, measuring, evaluating, and improving performance in support of achieving strategic objectives. The purpose of this chapter is to present the theoretical frameworks of performance management and to explore its systemic significance in corporate operations. Performance management represents an integrated, strategy-driven process that links corporate objectives with operational activities and managerial decision-making. The following sections review the conceptual foundations, core objectives, and the ways in which performance management becomes a central element of corporate governance.

2.1.1. The Concept and Role of Corporate Performance Management

The concept of Corporate Performance Management (CPM) can be interpreted from multiple perspectives. CPM is a comprehensive, strategy-oriented management framework that ensures alignment between corporate strategy, planning, and execution. Its primary objective is to provide unified direction for corporate operations in a way that enables strategic objectives to be translated into actionable, implementable, and measurable targets. CPM is a dynamic organizational process that encompasses the continuous planning, monitoring, evaluation, and improvement of performance. The performance management process begins with the decomposition of strategy, followed by the formulation of objectives and performance indicators, and includes ongoing monitoring, analysis, feedback, and corrective decision-making. This process ensures that the organization can respond effectively to changing environmental conditions while maintaining alignment with its strategic goals. Performance management also represents a collaborative managerial–employee approach in which individual and organizational objectives are jointly defined and monitored with the active involvement of employees. This collaborative dimension enhances accountability, motivation, and responsibility, while simultaneously supporting continuous improvement. CPM functions as both a strategic and operational management instrument that can be applied across the entire organization or within specific units. It enables goal-oriented performance measurement, evaluation, and development, supports operational efficiency, and contributes to long-term sustainable growth. Performance management can also be interpreted as a measurement and evaluation mindset through which performance becomes measurable, comparable, and assessable, thereby providing a sound basis for informed managerial decision-making. Overall, Corporate Performance Management constitutes a complex system that simultaneously operates as a management framework, a process, a collaborative mechanism, a strategic–operational governance system, and a measurement and evaluation approach. It connects strategy with operations, supports the achievement of shared objectives through a process-oriented perspective, and, as a governance and evaluative system, facilitates the measurement and continuous improvement of organizational performance (Figure 1).

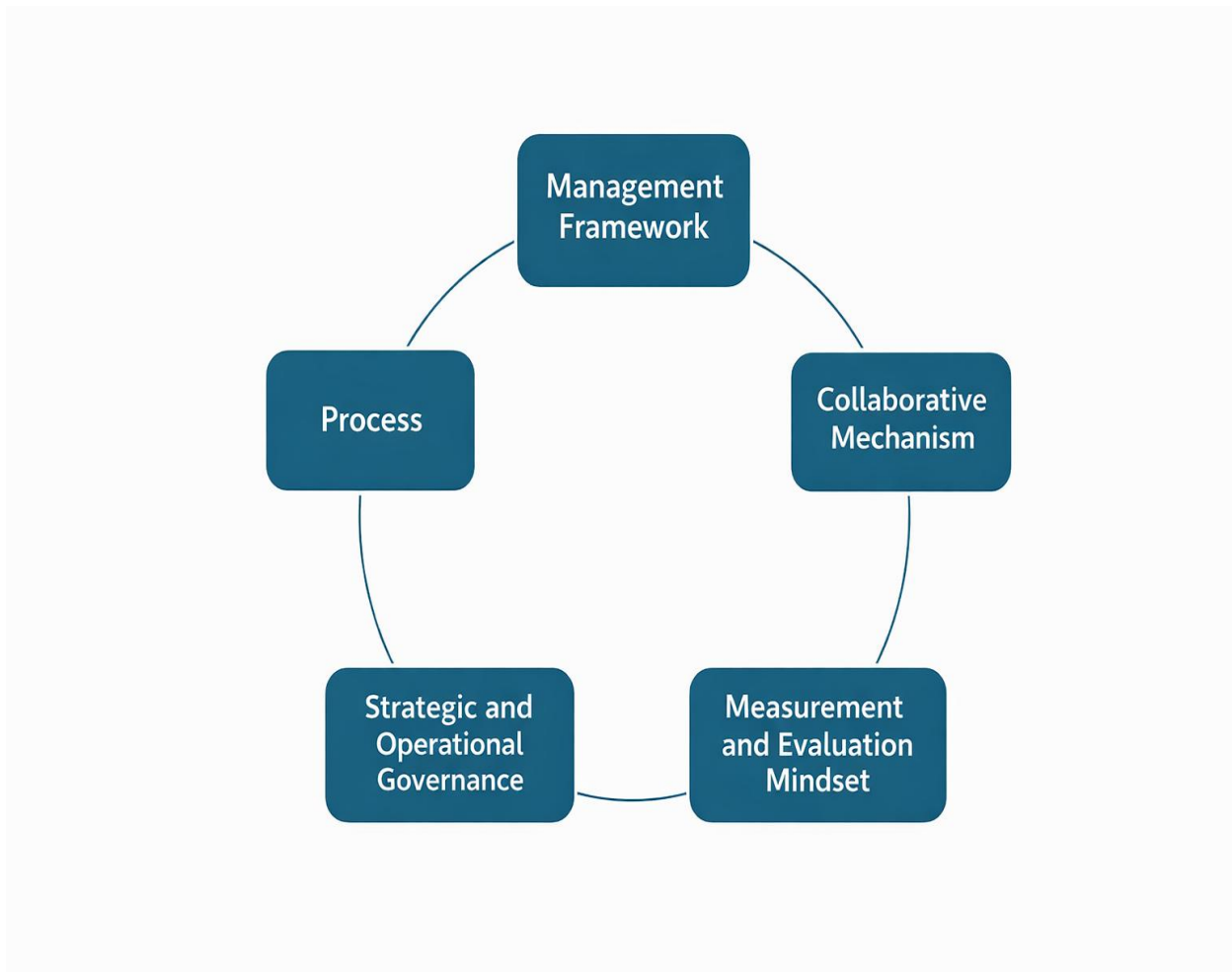


Figure 1: The Integrated System of Corporate Performance Management
Source: Authors' own compilation

Corporate Performance Management represents a comprehensive approach that goes beyond the mere measurement of performance and focuses on its deliberate and systematic management. Corporate performance is a complex, multidimensional phenomenon that can only be made visible, interpretable, and improvable through an integrated perspective. Accordingly, CPM does not serve solely to evaluate past results, but functions as a key instrument of future-oriented strategic management. As illustrated in Figure 1, Corporate Performance Management operates as a complex, interrelated system composed of five mutually reinforcing elements. As a management framework, it provides the overarching structure that aligns strategy, objectives, and performance expectations. As a **process**, it ensures the continuous planning, monitoring, evaluation, and improvement of performance. Through its collaborative mechanism, CPM facilitates alignment and cooperation between managers and employees in defining and pursuing individual and organizational goals. As a strategic and operational control system, it connects long-term strategic intent with day-to-day decision-making and execution. Finally, as a measurement and evaluation mindset, it enables performance to be assessed, interpreted, and compared in a consistent and transparent manner.

Together, these elements explain why Corporate Performance Management is not a static measurement tool, but a dynamic governance system. Its objective extends beyond measuring historical performance to include assessing the organization's current position, shaping employee behavior and motivation, encouraging action, and supporting organizational learning. The five key roles of the performance measurement system—diagnostic, directive, motivational, intervention, and learning—summarize how performance measurement becomes an effective instrument of corporate governance and value creation within this integrated framework (Table 6).

Table 6: The Five Functions of the Corporate Performance Measurement System

Role	Function	Explanation
Diagnostic	Position assessment	Diagnoses the organization's current position through the use of performance data.
Directive	Direction setting	Defines strategic objectives and organizational priorities.
Motivational	Behavioral influence	Encourages employee motivation and accountability.
Intervention	Stimulating action	Identifies performance gaps and stimulates actions to improve performance.
Learning	Supporting learning	Facilitates the processing and application of organizational experience.

Source: Own compilation based on Bourne, M., & Bourne, P. (2011), authors' own compilation.

Performance management systems perform functions that contribute to the achievement of organizational objectives at both strategic and operational levels, while also supporting organizational flexibility and continuous improvement. These functions are not abstract theoretical categories; rather, they are embedded in concrete managerial and organizational practices. The diagnostic function is typically supported by controlling, internal audit, and management information systems, which enable managers to identify deviations between planned and actual performance and to uncover the underlying causes of problems.

Performance management functions operate effectively only when they are not isolated elements, but are organically integrated into the organization's day-to-day operations. Key actors include managers at all levels, HR professionals, controlling functions, and the organizational culture itself, which supports transparency, accountability, and continuous learning.

The five key functions of Corporate Performance Management are as follows:

- **Diagnostic function:** The primary role of performance management is to enable the diagnosis of organizational operations. Through indicators, evaluations, and analyses at different levels, performance bottlenecks, strategic misalignments, and structural deficiencies that lead to weak performance can be identified. The diagnostic function is a prerequisite for effective intervention and improvement.
- **Directive (steering) function:** Performance Management Systems (PMS) play a crucial role in defining strategic and operational objectives and cascading them throughout the organization. Through the specification of goals, standards, and expectations, the directive function ensures that organizational units and employees work in alignment with the corporate vision and strategy. This function supports organizational cohesion and coordination.
- **Motivational function:** Clearly articulated performance expectations, regular evaluation and feedback on results, and performance-based recognition all contribute to strengthening employees' intrinsic and extrinsic motivation. The motivational function supports the development and maintenance of a performance-oriented culture, increasing commitment and goal-directed behavior.
- **Intervention function:** The performance management system enables management to intervene in a timely and targeted manner in areas of underperformance. Based on measured performance data, development programs can be launched, training initiatives implemented, or even structural changes introduced. The key to effective intervention lies in objective information and the correct interpretation of that information.
- **Learning function:** PMS do not merely evaluate performance; they also provide learning opportunities for individuals, teams, and the organization as a whole. By drawing conclusions from past performance, systematizing experience, and applying feedback mechanisms, the organization can adapt to environmental changes, improve its processes, and remain competitive in the long term. This function represents one of the fundamental pillars of the learning organization.

2.1.2. A Systems-Based Approach to Corporate Performance Management

The systems-based approach to Corporate Performance Management means that the planning, measurement, evaluation, and development of corporate performance are implemented as a unified, structured, and coherent system. The essence of a systems-based CPM approach lies in the fact that theoretical principles cannot be sharply separated from their practical forms of implementation (components). Core principles (such as strategic alignment and feedback) function as theoretical compasses, while components represent the practical elements of operation; their meaning becomes clear only when they are interpreted together. A systems-oriented approach to Corporate Performance Management represents a holistic framework in which organizational units, processes, objectives, and measurement systems operate in an aligned manner to achieve strategic goals.

This approach takes into account cause-and-effect relationships, the value chain, and stakeholder perspectives, enabling management to proactively shape strategy based on performance data. The proposed structuring is grounded in the theoretical principles and characteristics of internationally recognized performance management frameworks, while also being enriched by the authors' practical professional experience and analytical insights gained through their university teaching activities. The systems-based approach to Corporate Performance Management is built upon the following core principles and components:

- **Unified objective system and strategic alignment:** Performance management operates in alignment with the company's mission, vision, and strategy. Objectives and performance indicators are not independent entities; rather, they serve the implementation of corporate strategy.
- **Integrated performance indicator system:** Financial and non-financial indicators form an integrated system that spans different organizational levels and functions.
- **Process and value chain orientation:** The focus of performance management extends beyond individual organizational units to key processes and customer value creation. This ensures that measurement concentrates on the core drivers of operational performance.
- **Feedback and learning mechanisms:** Measured results provide the basis for interpretation, feedback, and intervention, thereby supporting organizational learning and continuous improvement.
- **Clear roles and responsibilities:** Performance management functions effectively only when all involved parties—managers, employees, and controllers—have clearly defined roles and responsibilities.
- **Technological and information support:** A systems-based approach presupposes the use of digital tools that enable data-driven decision-making and real-time performance monitoring.
- **Dynamic and adaptive operation:** The performance management system is capable of adapting to environmental changes, integrating new objectives and indicators, and supporting agile organizational practices.

In this integrated perspective, Corporate Performance Management functions as a coherent architecture rather than a collection of isolated measurement tools. Its primary role is to translate strategic intent into operational reality by aligning objectives, processes, and performance indicators across the organization. The systems-based logic emphasizes consistency and connectivity, ensuring that individual performance measures contribute meaningfully to overall corporate goals. By embedding performance management into daily operations, organizations can enhance transparency, accountability, and strategic coherence. Moreover, this approach supports informed managerial decision-making by transforming performance data into actionable insights. The systemic integration of measurement, feedback, and learning mechanisms enables organizations to respond proactively to internal and external changes. As a result, Corporate Performance Management becomes not only a control mechanism, but also a driver of strategic renewal, organizational learning, and long-term value creation.

Table 7: Core Principles of Corporate Performance Management

Model	Core Principles / Key Elements	Components / Implementation Elements
Kaplan & Norton (Balanced Scorecard)	Strategic alignment, feedback loops, balance, process and learning orientation	Strategy maps, strategic objectives and causal relationships; BSC indicators (financial, customer, internal process, learning & growth KPIs); feedback cycles, regular review and analysis
Neely et al. (Performance Prism)	Stakeholder orientation, strategic alignment, process focus, capability-based approach, integrated measurement	Stakeholder identification; strategic alignment of objectives; process performance measurement; capability assessment; KPI system
Bititci et al. (IPMS)	Systems thinking, cyclicity, integration of strategic and operational levels	Performance measurement cycle; integration of strategic and operational levels; process-based control; indicator systems
OECD (Public Sector Framework)	Comprehensiveness, balance, transparency, adaptability, development orientation	Standardized evaluation frameworks; indicator systems; reporting and accountability mechanisms
Author's integrated framework	Strategic alignment, integrated indicator system, feedback mechanisms, technological support, adaptability	Objectives and KPI architecture; BI-supported data collection and visualization; feedback points; digital dashboards; agile decision-making mechanisms

Source: Own compilation based on Kaplan & Norton (1996), Neely & Kennerley (2002), Ittner & Larcker (2003), and Bititci (2016)

Overall, the Table 7 highlights that Corporate Performance Management can only operate effectively when its core principles are applied in an integrated and consistent manner. Strategic alignment, coherent indicator systems, and well-defined roles ensure that performance measurement supports decision-making rather than becoming a purely administrative exercise. At the same time, feedback mechanisms and technological support enable continuous learning and adaptation in a dynamic business environment. Together, these principles form a robust foundation for sustainable value creation and long-term organizational competitiveness.

Table 7 provides a structured overview of the core principles and implementation components of Corporate Performance Management (CPM) based on internationally recognized models and the author's integrated framework. The table should not be interpreted as a simple comparison of models, but rather as a conceptual map that illustrates how different performance management approaches operationalize similar underlying principles through distinct system architectures and managerial tools. The "Model" column identifies the theoretical or institutional framework that serves as the reference point. These models represent different schools of thought in performance management, ranging from strategy-focused approaches (e.g. Balanced Scorecard), through stakeholder-oriented and process-based models (e.g. Performance Prism, IPMS), to public-sector-inspired governance frameworks (OECD). Together, they demonstrate the evolution from financially dominated measurement systems toward integrated, multi-dimensional performance management concepts.

The "Core Principles / Key Elements" column captures the fundamental managerial and theoretical assumptions underlying each framework. These principles describe *what* the model considers essential for effective performance management, such as strategic alignment, stakeholder orientation, causal logic, feedback mechanisms, transparency, or adaptability. At this level, the focus is on conceptual coherence rather than on specific tools. The principles serve as normative guidelines that define the role of performance management within corporate governance and strategic control.

The "Components / Implementation Elements" column translates these abstract principles into concrete organizational practices and system components. This column explains *how* the principles are operationalized in practice through instruments such as KPI systems, strategy maps, feedback loops, dashboards, standardized indicators, or digital decision-support tools. The emphasis here is on implementation logic, managerial routines, and information infrastructure that enable the principles to function in real organizational settings.

From an interpretative perspective, the table highlights that effective Corporate Performance Management emerges from the alignment between principles and implementation, rather than from the mechanical application of individual tools. Models differ not primarily in their objectives, but in the way they structure cause–effect relationships, integrate financial and non-financial dimensions, and support managerial learning and adaptation. The Core Principles of Corporate Performance Management framework synthesizes these approaches by combining strategic alignment, integrated indicator systems, feedback mechanisms, technological support, and adaptability into a coherent, system-based performance management architecture. This synthesis reflects both theoretical consolidation and practical experience, emphasizing that CPM should be understood as a dynamic, learning-oriented management system, capable of supporting value creation, decision-making, and long-term competitiveness in a changing environment. In addition, the framework highlights that performance measurement is not an end in itself, but a governance mechanism that translates strategic intent into organizational behavior and resource allocation. Consequently, CPM becomes a critical capability for resilience, enabling firms to detect early signals of change, adjust performance priorities, and maintain strategic coherence under uncertainty.

2.1.3. The Key Contexts of Corporate Performance Management

Corporate Performance Management (CPM) systems aim to enable the operationalization of strategy at the organizational level, the measurement of objectives, and the data-driven support of managerial decision-making. CPM represents a comprehensive management philosophy built on the deliberate planning, monitoring, and continuous improvement of corporate performance. For CPM systems to operate effectively, a multidimensional approach to performance is essential. In particular, three perspectives are of critical importance: the vertical (hierarchical), the functional (discipline-based), and the goal-oriented (strategic) perspectives.

These aspects do not constitute separate dimensions; rather, they are interrelated and mutually reinforcing, jointly forming the foundation of an integrated performance management system:

- **Vertical approach:** The essence of the vertical approach lies in defining, measuring, and managing performance at every level of the organizational hierarchy. Most companies operate within multi-level structures, including top management, middle management, and operational levels. Corporate Performance Management (CPM) systems must therefore be capable of providing information that is interpretable, relevant, and actionable for each level. At the top management level, strategic objectives and key performance indicators dominate, while at lower levels the focus shifts toward operational metrics and specific tasks. The objective of vertical performance management is to ensure strategic alignment, meaning that day-to-day operations remain consistent with the company's long-term strategy. This is achieved by cascading strategic goals into sub-strategies, programs, projects, and ultimately into concrete, measurable individual objectives.
- **Functional approach:** The functional approach focuses on aligning the performance of different functional areas within the organization. Various functional units—such as finance, sales, production, HR, and IT—operate with distinct objectives, indicators, and processes, yet all contribute to overall corporate performance. CPM systems must therefore be able to integrate and manage these functional performance dimensions within a unified and comparable framework. The functional approach goes beyond the decentralization of performance measurement; it also ensures that interdependencies and cross-functional impacts become visible. For example, the impact of marketing campaigns on financial results, or the effect of HR initiatives on employee turnover and productivity, can be systematically assessed. In this sense, CPM plays an integrative role by enabling data consolidation, synthesizing diverse perspectives, and supporting cross-functional decision-making. Functional accountability is also a key aspect: within a CPM framework, each organizational unit clearly understands its objectives and the indicators used to evaluate its contribution. This enhances transparency, strengthens accountability, and supports the development of a performance-oriented organizational culture.

- **Goal-oriented approach:** The fundamental purpose of performance management is the achievement of strategic objectives. Accordingly, the goal-oriented approach does not focus merely on recording past performance, but rather on evaluating the extent to which the organization is progressing toward its long-term goals. CPM systems must therefore extend beyond traditional controlling functions and adopt a forward-looking, predictive role. One of the core tools of the goal-oriented approach is the Balanced Scorecard (BSC), which structures objectives and indicators across four dimensions: financial, customer, internal processes, and learning and growth. This framework enables organizations to move beyond a narrow financial focus and incorporate the drivers of sustainable development. By mapping cause-and-effect relationships between objectives and indicators, the BSC promotes strategic consistency and supports goal-driven leadership. CPM systems allow timely interventions based on performance data, such as reallocating resources, adjusting objectives, or launching training programs.

The Table 8 presents a three-dimensional approach to Corporate Performance Management by distinguishing vertical, functional, and goal-oriented perspectives. The vertical dimension emphasizes hierarchical alignment and cascading objectives, ensuring that performance indicators support strategic coherence across organizational levels. The functional and goal-oriented dimensions highlight cross-functional integration and the strategic logic of cause–effect relationships, demonstrating how coordinated measurement systems and management tools jointly support value creation and long-term competitiveness.

Table 8: Three-Dimensional Approach to Performance Management

Approach	Focus	Key Aspects	Typical Tools
Vertical	Alignment of objectives and performance indicators across organizational levels	Hierarchical cascading, strategic alignment, line of sight	Objective cascading, KPI matrices, management reports
Functional	Coordination and accountability of performance across functional areas	Cross-functional transparency, integration, coherent measurement logic	Functional dashboards, benchmarking, performance analyses
Goal-oriented	Evaluation and support of contributions to strategic objectives	Balanced Scorecard, cause-and-effect relationships, forward-looking management	Strategy maps, performance indicators, feedback mechanisms

Source: Own compilation based on Otley (1999), Ferreira & Otley (2009), Hansen (2021), authors' own compilation.

2.1.4. The Objective of Corporate Performance Management

The objective of Corporate Performance Management (CPM) is to support the achievement of strategic goals within an integrated, cyclical framework, thereby contributing to the attainment of corporate objectives, the continuous improvement of operations, and the enhancement of the firm's value-creation capability. These objectives are not limited to improving operational efficiency but are also oriented toward long-term value creation. The main objectives of Corporate Performance Management are as follows:

- **Ensuring strategic and operational alignment:** Establishing a clear link between corporate strategy and day-to-day operations.
- **Supporting decision-making:** Providing accurate and timely performance data to enable well-informed managerial decisions.
- **Strengthening transparency and accountability:** Ensuring that the performance of both management and employees is measurable, traceable, and evaluable.
- **Identifying deficiencies and stimulating development:** Revealing critical areas of underperformance and defining opportunities for improvement.
- **Resource optimization and risk management:** Enhancing operational efficiency while minimizing organizational and business risks.
- **Promoting organizational agility and adaptability:** Enabling rapid responses to environmental changes and the integration of new objectives into the system.
- **Supporting communication and collaboration:** Ensuring coordinated operations across business units and functional areas.
- **Increasing corporate value:** Contributing to profitability and sustainable value creation through effective performance measurement and management.

The ultimate objective of corporate operations is not merely efficiency or the achievement of predefined targets, but the enhancement of **corporate value** (such as shareholder value, enterprise value, and corporate reputation). Value-based objectives define the final outcome that all other performance goals are intended to support. Corporate Performance Management (CPM) therefore serves corporate value creation, which is a complex phenomenon dependent on multiple dimensions, including profitability, growth potential, operational efficiency, strategic positioning, and the reduction of operating risks.

While traditional performance management objectives primarily focus on operations, effectiveness, and processes, value-based objectives integrate these elements into a broader strategic goal system. Value-based objectives play a synthesizing role by revealing how individual performance outcomes contribute to overall corporate value. An additional objective of CPM is to align and coordinate systematic managerial steps, including strategy formulation, goal setting and planning, measurement and data collection, analysis and reporting, performance evaluation and feedback, decision-making and development, as well as alignment and communication. Organizing these steps within a unified framework ensures that all levels of corporate operations consistently support strategic objectives.

This systematic approach reduces uncertainty in decision-making, facilitates proactive management, and promotes transparency and cooperation across organizational units. Performance management represents a universal managerial approach; however, its application is always tailored to the firm's type, size, and strategic objectives. Although the specific indicators and tools applied may differ, the value-based perspective provides a coherent framework for monitoring and improving performance in all cases. Significant differences can also be observed across industries with respect to performance management objectives. In manufacturing firms, performance management traditionally emphasizes production efficiency, quality, cost control, and delivery performance. In the service sector, customer satisfaction, sales performance, and customer retention play a central role (for example, in financial institutions, customer satisfaction and retention rates are among the most critical performance indicators). In public sector and non-profit organizations, output-oriented and process-efficiency indicators typically dominate, while learning and development-related measures are less prevalent. In non-profit organizations, performance measurement systems are often less well-designed, with weaker goal definition and less systematic feedback mechanisms. Consequently, industry-specific competitive environments generate distinct performance objectives—such as market growth in banking, quality improvement in manufacturing, or community impact in public services—which are reflected in different performance indicators and managerial emphases (Table 9).

Table 9: Objectives of Performance Management by Type of Business Activity

Company Type	Primary Focus	Key Performance Measurement Characteristics
Manufacturing Companies	Efficiency, cost management	Productivity, unit cost, defect rate
Service Companies	Customer satisfaction, flexibility	Service time, complaint handling, NPS
Trading Companies	Sales volume, inventory management	Turnover indicators, gross margin, inventory turnover
Digital / Technology Companies	Scalability, innovation	Number of users, digital reach, ROI

Source: Own compilation based on Wimmer et al. (2006), Wimmer-Oroszné (2012), Paladino (2013), Bhakar et al. (2024)

The objectives and tools of performance management are strongly influenced by firm size. In the case of small enterprises, the primary goals are survival, operational efficiency, and the maintenance of flexibility; performance management systems tend to be informal, based on simple indicators, and focused mainly on short-term financial control. In medium-sized enterprises, more structured performance monitoring emerges, with greater emphasis on growth, process improvement, and the support of organizational learning. For small and medium-sized enterprises (SMEs), performance management objectives primarily focus on maintaining operational stability, efficiency, and competitiveness.

These objectives are often achieved through direct managerial control and experience-based decision-making, typically within a narrower and less formalized performance management framework. In contrast, large corporations operating across multiple countries and engaged in diversified activities require performance management systems that support transparent coordination between strategic and operational levels, as well as the consistent enforcement of a unified value system and objective structure. This necessitates the alignment of complex operations, the cascading of strategic goals, and the establishment of transparency and accountability, all of which are supported by formal, system-level performance management frameworks incorporating both financial and non-financial indicators, as well as short- and long-term objectives (Table 10).

Table 10: Objectives of Performance Management by Company Size

Enterprise / Company Size	Key Characteristics	Performance Management Features
Micro and Small Enterprises	Simpler organizational structure, personal decision-making	Few KPIs, intuitive measurement, financial focus
Medium-sized Enterprises	More structured operations, initial formalization	Operational and strategic indicators in parallel
Large Enterprises	Complex operations, segmented objective system	Balanced Scorecard, controlling, integrated indicator systems

Source: Own compilation based on Wimmer et al. (2006), Wimmer-Oroszné (2012), Paladino (2013), Bhakar et al. (2024)

Ownership structure significantly determines the relative weight of financial, social, regulatory, and strategic considerations in performance evaluation, thereby shaping the focus of management. In state-owned enterprises, the objective of performance management is often to ensure the provision of public services, support social value creation, and strengthen transparency and accountability. In this context, economic efficiency is important but not exclusive, as organizations are frequently required to meet public policy expectations as well (such as employment objectives, territorial coverage, or sustainability).

In profit-oriented (privately owned) companies, the primary objective of performance management is to increase shareholder value, maximize profitability, improve efficiency, and build competitive advantage. Accordingly, performance objectives tend to be strongly financially oriented and closely aligned with strategic indicators.

In non-profit organizations, where success is not primarily defined by financial outcomes but by social results (such as target group reach, service quality, and long-term impact), performance management systems are adapted to these goals and typically combine both qualitative and quantitative indicators (Table 11).

Table 11: Objectives of Performance Management by Ownership Interest

Ownership / Interest Type	Objective System	Performance Measurement Focus
Profit-oriented companies	Profit generation, value maximization	ROI, ROE, Cash Flow, EBITDA, shareholder value
Non-profit organizations	Achievement of social objectives	Impact measurement, efficiency of resource utilization
Public service organizations, state-owned enterprises	Realization of public interest	KPIs, service quality, social utility

Source: Own compilation based on Wimmer et al. (2006), Wimmer-Oroszné (2012), Paladino (2013), Bhakar et al. (2024)

The design and operation of Corporate Performance Management (CPM) are closely related to a firm's life cycle stage, operational stability, and strategic objective system. Accordingly, the performance management of start-up firms and mature companies is based on different logics, particularly with respect to goal setting, measurement focus, and time horizon. These differences do not reflect methodological shortcomings but rather stem from distinct value-creation challenges. Start-up firms typically operate in the early or growth stages of the corporate life cycle, where management's primary task is not the optimization of existing operations but the validation of the business model's viability. In this context, performance management is fundamentally learning-oriented: it supports the rapid interpretation of market feedback, adaptability, and the continuous refinement of value-creation directions. CPM in start-ups therefore does not primarily serve a control function; instead, it operates as an active instrument of strategy formation. In contrast, in mature firms the objective of performance management is to maintain operational stability, ensure efficient resource utilization, and manage already established value-creation processes. The emphasis is placed on reliable results, predictable performance, and long-term sustainability. In this case, CPM primarily fulfills a feedback and optimization role, ensuring alignment between strategic objectives and operational execution.

The difference between these two types of firms is also clearly reflected in the interpretation of value. In start-ups, value is primarily perceived as future potential, embodied in growth capability, scalability, and innovation opportunities. By contrast, in mature firms a significant portion of value is already realized, appearing in the form of stable financial performance, predictable cash flows, and a sustained market position. The focus of performance measurement also differs substantially. In start-up environments, measurement aims to assess whether the organization is capable of learning, developing, and adapting to an uncertain market environment. Short-term financial results play a secondary role and, in isolation, are not suitable indicators of the firm's true performance. In mature firms, however, financial and business performance indicators carry strategic importance, and performance management systems are largely built upon these stable measures.

Differences are also evident at the level of decision-making mechanisms and organizational operations. Start-up performance management supports rapid, data-driven, and experimental decision-making, characterized by short feedback cycles and flexible organizational structures. In mature firms, decision-making is typically more formalized, planning-oriented, and forward-looking over longer time horizons, which is reflected in more structured performance management solutions. The difference in time horizon further reinforces these contrasting approaches. Start-up performance management relies on short- and medium-term cycles that enable rapid strategic shifts and course corrections. In mature firms, performance measurement is primarily linked to medium- and long-term objectives and serves to preserve operational stability. Overall, while the performance management of start-ups and mature firms is grounded in the same fundamental principles, it is implemented in different ways and with different emphases. In start-ups, CPM primarily functions as a tool for identifying and deliberately shaping value-creation potential, whereas in mature firms it supports the maintenance and further development of an already established value-creation logic.

2.2. Framework for the Application of Corporate Performance Management

Corporate Performance Management (CPM) represents a comprehensive set of processes, methodologies, performance indicators, and systems that an organization uses to monitor and manage its performance. In practice, CPM integrates strategic planning and execution by aligning corporate strategy with measurable objectives and then using data and reporting to ensure that these objectives are achieved. CPM relies on frameworks such as the Balanced Scorecard to translate strategy into a balanced set of financial and business (non-financial) performance indicators. CPM combines methodologies for managing strategy, metrics for evaluating performance, and processes used to guide and coordinate people within the organization. Corporate Performance Management is therefore not merely a measurement methodology, but a complex management framework that enables the decomposition of corporate objectives, the systematic monitoring of performance, and data-driven decision support. For this system to operate effectively and sustainably, the entire process of design and operation must be consciously planned. During the development of a CPM system, it is essential for the organization to assess its own operational characteristics, objective structure, resources, and internal organization, as these factors determine the fundamental elements that ensure the system's effective functioning. A well-designed CPM system can become one of the most important drivers of corporate performance, enabling not only the evaluation of past results but also the proactive management of future performance. The design of a CPM system follows a logical sequence of activities aligned with corporate strategy. This sequence typically begins with clarifying strategic priorities and translating them into measurable objectives, followed by the selection of relevant KPIs and target values. The next step involves establishing data collection, reporting, and governance mechanisms that ensure reliable performance information and accountability across organizational levels. Finally, CPM becomes effective only if the organization embeds feedback loops into managerial routines, enabling continuous learning, corrective actions, and strategic adaptation in response to internal and external changes.

2.2.1. Defining Strategic and Operational Objectives

The foundation of a Corporate Performance Management (CPM) system is the formulation of clear, realistically achievable, and measurable strategic objectives. The definition of these objectives serves as a compass for corporate operations, aligning the entire organization within a unified framework for action. The key to success lies in the active involvement of top management, the deliberate breakdown of strategic objectives into operational goals, and the promotion of commitment to shared objectives at all organizational levels. In addition, the consistent communication of these objectives and their integration into everyday managerial practices ensure that strategy becomes embedded in organizational routines and decision-making processes.

The starting point of corporate performance management is the definition of strategic objectives, which establishes the basis for organizational governance and provides a coherent framework for performance measurement:

- The first point of departure of the CPM framework is the conscious articulation of the organization's vision and mission. Strategic objective setting represents the initial step of the CPM cycle and defines what success means for the organization. Well-formulated objectives provide a comprehensive yet concrete direction, are time-oriented, and are aligned with the company's mission, competitive environment, and internal resources. Properly designed strategic objectives have a strong motivational effect. Corporate goal setting becomes effective when management is able to communicate objectives clearly and embed them across all organizational levels. The identification of Key Success Factors (KSFs) supports the concretization of strategic and operational objectives and facilitates organizational alignment with these goals.
- Leadership commitment and involvement are critical prerequisites for successful strategic objective setting. CPM systems must be developed in a top-down manner, as top management (e.g. the Chief Executive Officer, Chief Strategy Officer, or the Board of Directors) defines the strategic direction of the organization.
- The involvement of middle management is also essential, as they act as key channels for effective communication of objectives. A lack of managerial support and communication is among the most common weaknesses of CPM systems, whereas active involvement promotes consistent organizational behavior and coherent management practices.
- The decomposition of strategic objectives into operational goals ensures that objectives are interpretable and actionable in day-to-day operations. During this process, middle management (business unit leaders, department heads) is responsible for translating strategy into operational-level goals (e.g. product development plans, marketing campaigns). Operational objectives should comply with the SMART criteria: Specific, Measurable, Achievable, Relevant, and Time-bound. These objectives are directly linked to strategic goals, ensuring optimal resource allocation and coherent organizational control.

- The identification and coordination of key stakeholders involve the integration of functional leaders and employees across different organizational levels. Top management (executive management, managing directors) is responsible for defining strategic directions, setting organizational priorities, validating strategic objectives, and providing control and support. Strategic teams are responsible for market analysis, competitiveness assessments, and risk analysis. Financial management contributes through planning, variance analysis, and safeguarding financial stability. Middle management defines operational objectives, coordinates implementation, and evaluates performance.
- Communication and organizational transparency ensure that the strategic objectives and their practical implications are clearly translated to all organizational levels. Transparent communication strengthens employee commitment and identification with corporate objectives.

2.2.2. Identification of Corporate Stakeholders, Their Roles, and the Integration of Their Expectations

The second step of a Corporate Performance Management (CPM) system—the identification of stakeholders and the mapping of their expectations—has strategic significance. This step ensures that the organization responds consciously and credibly to the requirements articulated by its environment. Stakeholder analysis not only provides a foundation for performance indicators but also supports the company’s social embeddedness and long-term competitiveness. The identification of stakeholders and their expectations represents the second stage of CPM, ensuring the system’s economic and social embeddedness, while contributing to organizational cohesion, the alignment of culture and strategy, and long-term sustainability. By identifying and classifying stakeholders and their expectations, CPM defines what constitutes performance, how it can be measured, and how organizational collaboration can be enhanced, while reducing operational and reputational risks and fostering a learning- and adaptation-oriented corporate culture. Different stakeholder groups define success according to different criteria. Owners focus on shareholder value maximization; customers expect reliable products and services; the state emphasizes lawful operation and regular tax compliance; employees seek a motivating work environment; and suppliers expect stable orders and timely payment. The benefits of a stakeholder-based approach—such as legitimacy, flexibility, and effective risk management—have become cornerstones of modern corporate governance.

Performance can only be meaningfully interpreted and measured if it is clear whose expectations are to be met and from which perspective:

- **Stakeholders** are individuals, groups, or institutions that have an interest in the organization’s operations or are directly or indirectly affected by them. Within the CPM framework, stakeholders do not merely articulate expectations but also define measurable requirements that guide the development of organizational objectives and performance indicators.

- **Assessing stakeholder influence, interest, and expectations** supports priority setting, ensuring that organizational resources are allocated to the most critical performance expectations. This alignment integrates strategic, operational, and functional levels into a coherent performance logic. Identifying expectations helps prevent operational and reputational risks arising from neglecting the legitimate interests of certain stakeholder groups. Expectations can be documented through interviews, surveys, and strategic workshops to uncover value preferences and performance measurement requirements across stakeholder groups.
- **Performance indicators** should be selected based on stakeholder expectations, ensuring that they are not only measurable but also interpretable and accepted within the organizational context.
- **Stakeholder-specific KPIs** should be developed by translating identified expectations into objectives and indicators that align with the corporate performance measurement system. A communication and engagement strategy should also be established to ensure continuous dialogue with stakeholders, including regular feedback mechanisms and transparent goal tracking.
- **System-level integration and collaboration** are essential. The design of a CPM system should involve cross-functional teams integrating finance, operations, HR, and IT. This ensures the relevance of performance indicators (e.g. HR linking metrics to talent management), the consistency of data flows, and the identification of interdependencies across processes.
- **Iterative thinking and cultural alignment** play a critical role, particularly in relation to organizational size. Performance management must be aligned with corporate culture. A positive performance environment can be fostered through training, value communication, the use of scorecards, and regular strategic reviews, all of which support strategic alignment across organizational levels.
- **Stakeholder classification** enables the organization to anticipate which stakeholders exert the strongest influence on the achievement of corporate objectives and may therefore act as either barriers to or catalysts for performance.

2.2.3. Selection of Performance Indicators

One of the most critical building blocks of Corporate Performance Management (CPM) is the appropriate selection and application of performance indicators. These indicators serve as objective measurement tools that enable an organization to assess the efficiency of its operations and its progress toward strategic objectives. Poorly selected or overly complex indicator systems may not only provide a distorted picture of performance but may also hinder organizational development. Therefore, it is essential that the performance measurement system be designed deliberately, in alignment with the company's strategy and available resources. Corporate Performance Management cannot operate effectively without well-structured and purposefully selected performance indicators. Different types of indicators highlight organizational performance from different perspectives. Their selection should not be driven solely by theory or prevailing trends. The foundation of an effective indicator system lies in strategic alignment, technical feasibility, practical applicability, and rationality.

When identifying performance indicators, the starting point is to determine which economic events create value, what can realistically be measured, and which indicators not only measure performance but also encourage managerial action. In practice, the indicator system should include both lagging indicators that reflect past outcomes and leading indicators that capture the drivers of future performance. In addition, the number of indicators must remain manageable, ensuring that the system supports focus and decision-making rather than generating excessive reporting complexity. Finally, indicators should be regularly reviewed and updated, because changes in strategy, market conditions, or technological capabilities may require the adaptation of the measurement logic to maintain relevance and effectiveness.

The selection of performance indicators is therefore not merely a technical task but a strategic decision. In this process, the following principles should be applied:

- **Strategic alignment and relevance:** Each indicator must be clearly linked to a strategic objective or a core activity. Indicators should provide meaningful feedback on how the organization is performing in a given area. If an indicator does not signal issues in a timely manner or fails to reveal the root causes of problems, it does not serve its purpose.
- **Alignment with information systems:** Performance measurement must be compatible with existing IT systems and data sources. Indicators should not be selected if the technical conditions required for their calculation are not in place. If data cannot be generated accurately, on time, and cost-effectively, the indicator becomes impractical in everyday use.
- **Pragmatic filtering and prioritization:** Having too many indicators can be just as problematic as having too few. Both management and operational staff may become overwhelmed if they are required to interpret ten or twenty different indicators on a daily or weekly basis. Therefore, indicators should be limited and prioritized. Only those metrics should be included that can be reported accurately and regularly and that genuinely contribute to strategy execution. Experts generally agree that a small number of well-monitored indicators is preferable to an overloaded and chaotic measurement system.
- **Controllability and influence:** An indicator fulfills its role only if the relevant organizational unit or manager can realistically influence it. If employees are unable to contribute to the improvement of an indicator or do not understand the cause-and-effect relationships behind it, motivation declines and the logic of performance management is distorted.
- **Cost-benefit analysis:** The introduction of each KPI requires resources, including data collection, system development, and reporting. Indicators that are costly to maintain but offer limited strategic value should not be forced into the system. Instead, such KPIs should be postponed or abandoned in favor of metrics that genuinely support effective management.
- **Timeliness and responsiveness:** An effective KPI enables rapid feedback and timely intervention. Indicators that are updated only once a year rarely function as effective management tools. Timely and actionable metrics are essential for proactive decision-making and performance improvement.

2.2.4. Design of the Corporate Performance Measurement System

The foundation of Corporate Performance Management (CPM) is a reliable and operational performance measurement system that ensures organizational objectives can be continuously monitored, evaluated, and improved based on real data. A performance measurement system is a complex managerial framework that encompasses the deliberate design of measurement methods, measurement frequency, data sources, and technological infrastructure, aligned with the organization's size, culture, and strategic focus. The development of such a system is a fundamental pillar of corporate success, as it not only provides information but also encourages action, offers strategic focus for management, and contributes to employee motivation.

When designing the system, key considerations include the method of measurement, measurement frequency, the reliability of data sources, and alignment with organizational size and culture:

- **Measurement methods:** Measurement may be quantitative (e.g., KPIs, financial indicators) or qualitative (e.g., customer satisfaction surveys, managerial evaluations). The chosen measurement method determines who performs the measurement, which methodologies are applied, and which data sources are used. Within organizations, measurement activities are typically structured according to designated roles or functional areas. In most companies, performance measurement operates as an internal function carried out by dedicated teams. For example, Controlling or Finance departments are usually responsible for collecting and analyzing financial indicators such as revenue, profit, and costs. Other departments measure their performance through indicators related to their specific business activities. In larger organizations, Business Intelligence (BI) teams often aggregate data, develop dashboards, and provide decision-support analyses for management. Most performance measurements rely on internal data sources; however, external measurements also exist, such as analyses conducted by auditors, customer satisfaction or market research surveys carried out by external service providers, benchmarking studies, ratings, and certifications. Internal measurement primarily supports operational control, while external measurement enhances credibility and comparability. Measurement techniques may include data extraction from enterprise management systems, manual data reporting by departments through documents and spreadsheets, employee and managerial interviews, questionnaires, observational methods, and audit-based assessments (e.g., data requests, inventories).
- **Measurement frequency:** The frequency of measurement depends on the nature of the activity. Certain operational indicators (e.g., sales volume, inventory levels) may need to be monitored daily or weekly, while other strategic indicators (e.g., market share, innovation performance) may be adequately measured on a monthly or quarterly basis. Measurement frequency is influenced by the company's type, market environment, data maturity, and strategic objectives. Different measurement frequencies serve distinct purposes within the performance management system.

2.2.5. Establishing the Data Collection and Monitoring System

The data collection and monitoring system is a central component of corporate performance measurement. The availability of appropriate data, the integration of systems managing those data, and the quality of information processing determine whether management can obtain a realistic and reliable picture of organizational performance. Effective monitoring requires standardized data definitions, clear responsibilities, and transparent reporting routines to ensure consistency across organizational units. Furthermore, the increasing role of digital technologies and automation enhances the timeliness of performance information, enabling faster managerial responses and more proactive performance control.

The key characteristics of data collection and processing are as follows:

- **Data sources and data quality:** Corporate Performance Management is fundamentally data-driven; therefore, data must be reliable, relevant, timely, accurate, interpretable, and of high quality. Virtually all empirical studies confirm that poor data quality is one of the most frequent and critical barriers to the implementation and effective operation of CPM systems. Incomplete, duplicated, inaccurate, or outdated data not only mislead management decisions but also undermine employees' trust in the performance measurement system. To ensure that performance indicators provide a reliable picture, organizations must consciously design a structured framework for data generation and data management.
- **Identification of data requirements:** This step determines which types of data are required to measure each performance indicator. For every indicator, the necessary data fields, their sources, and their update frequency must be clearly identified.
- **Definition of data sources:** Organizations must explicitly define which systems and organizational units provide each dataset, as well as which data formats, definitions, and measurement principles are applied. Together, these elements form a standardized framework that enables consistent and comparable reporting across the organization.
- **Data quality rules and validation routines:** These aim to ensure regular data cleansing and verification to filter out incomplete, duplicated, or erroneous data. Beyond technical infrastructure, well-defined processes are essential. Data governance typically rests on three main pillars: data cleansing, data validation, and data ownership. Data cleansing involves regular data checks, removal of duplicates, and completion of missing values. Data validation and verification refer to established routines and tools that detect inconsistencies and errors.
- **Data integration and data warehouse development:** Centralized data integration ensures that performance-related data are collected in a unified system (e.g., a data warehouse), where they can be harmonized, structured, and reported consistently. The establishment of data warehouses is a key step, enabling data from various source systems to be stored and accessed in a standardized format.

- **Digital data collection tools:** Digital solutions enable the management of large volumes of data. The tools applied depend on the maturity of the IT infrastructure, organizational size and complexity, and the types of indicators monitored. Common tools include ERP (Enterprise Resource Planning) systems as central sources for financial, logistics, procurement, and production data; CRM (Customer Relationship Management) systems supporting sales and customer-related indicators; HRM software for employee performance, turnover, and attendance data; and BI (Business Intelligence) platforms for data visualization, analysis, and dashboard development.
- **Manual data collection tools:** These include spreadsheets and forms used for basic performance measurement, as well as questionnaires, interviews, and qualitative data sources such as employee feedback, customer satisfaction surveys, internal audit reports, and specialized manually maintained documentation.
- **Data monitoring and reporting systems:** These enable managers to continuously track performance through automated data collection and dashboards that provide real-time information on critical performance indicators. Such systems support faster and more informed decision-making by identifying trends, signaling deviations, and generating forecasts that facilitate proactive intervention. Data are automatically collected from various corporate systems, analyzed on a common platform, and presented in an easily interpretable format—such as charts, indicators, or color-coded displays. As a result, managers can immediately detect anomalies and respond quickly to emerging problems or opportunities. Thus, the system does not merely display data but actively supports trend recognition and managerial decision-making.
- The **strategic role of data monitoring and reporting systems** in Corporate Performance Management can only be fulfilled if their design is based on deliberate and systematic planning. The objective is to ensure that managers receive timely, accurate, and relevant information that supports well-founded and proactive decision-making. Accordingly, special attention must be paid to the preliminary mapping of data sources, data standardization, and the clear and consistent definition of key performance indicators (KPIs).
- A **structured, hierarchically organized data architecture** is essential, as it enables the integration and comparison of data originating from different organizational units. The system must be capable of generating automated analyses, trend monitoring, and visual reports (e.g., dashboards) that facilitate rapid and accurate interpretation of information. A well-designed structure also allows for the configuration of automated alerts that immediately signal critical deviations, thereby enabling prompt managerial intervention. Careful system design thus ensures that data monitoring supports not only retrospective evaluation but also forward-looking, strategic management.
- A **well-functioning data monitoring system** should meet the following functional and qualitative requirements. It must provide real-time or regularly updated dashboards for tracking critical performance indicators. The system should be customizable to the needs of different managerial levels and roles.

- A **size-adjusted approach** is essential when developing data monitoring systems, as requirements differ significantly between large enterprises and small and medium-sized enterprises (SMEs). In large corporations, the system must provide a high level of integration, automation, and data security. Performance measurement is typically based on ERP data, integrating multiple source systems. Reporting is usually performed by dedicated BI or controlling teams, ensuring data quality and real-time, structured visualization. Customizability, scalability, and the consistent application of standardized KPI definitions are key requirements. In contrast, for SMEs, data monitoring must be simple, cost-effective, and easy to use. Performance measurement typically focuses on a limited set of critical KPIs, supported by basic tools such as spreadsheets or simple dashboards. The system must remain transparent, practical, and time-efficient, avoiding unnecessary complexity.
- **Data monitoring and reporting serve** as instruments of organizational awareness, strategic focus, and continuous learning. These systems function effectively when aligned with the organization's size, culture, and strategic objectives, and when they actively support managerial decision-making.

2.2.6. Design of Evaluation and Feedback Mechanisms

Evaluation and feedback mechanisms constitute a critical element of Corporate Performance Management, serving as the foundation for learning and corrective action. The purpose of Corporate Performance Management is not only to monitor past results but also to actively shape future performance. Performance indicators, dashboards, and databases alone are insufficient; an appropriately designed evaluation and feedback mechanism is required to connect measured data with actionable managerial responses. This ensures that the organization does not merely measure performance but also interprets it, identifies deviations, and intervenes when necessary. Performance measurement becomes a genuine management tool only when it is followed by systematic evaluation and feedback. These mechanisms close the performance management cycle by processing information derived from data collection and performance monitoring, organizing it, and transforming it into actionable knowledge. For a Corporate Performance Management system to operate effectively, the deliberate and structured design of evaluation and feedback mechanisms is essential. These mechanisms ensure that the organization not only tracks performance but also interprets results meaningfully and is capable of learning, intervention, and continuous improvement. A well-functioning feedback system defines the frequency, format, and responsibility structure of performance reviews, ensuring that evaluation is embedded into regular managerial routines. It also requires predefined thresholds and escalation rules, so that deviations from targets trigger timely corrective actions rather than delayed reactions. In addition, effective feedback mechanisms support organizational learning by identifying not only symptoms but also root causes behind performance gaps, thereby improving strategic and operational decision-making. Finally, the integration of feedback into planning processes strengthens adaptability, enabling the CPM system to evolve continuously in response to changing internal conditions and external market dynamics.

Key characteristics of evaluation and feedback mechanisms include:

- The integration of the diagnostic function within the Corporate Performance Management (CPM) system aims to ensure the continuous comparison of actual performance against predefined target values and norms, enabling deviations to be identified in a timely manner. For each performance indicator, a target value as well as minimum and maximum acceptable thresholds must be defined. Appropriate tools for recording results must also be specified, as these enable evaluation and the comparison of planned objectives with achieved outcomes. Performance measurement should identify areas requiring further development or optimization. This developmental function involves comparing weak points, defined objectives, and unmet targets, and exploring improvement opportunities. When designing the process-diagnostic module, it is essential that the system be capable of evaluating not only outcomes but also underlying processes (e.g., through cause–effect analyses), and that processes can be decomposed into components to identify problematic areas.
- Feedback refers to the targeted and timely communication of conclusions derived from measured performance data to decision-makers, managers, and other stakeholders. During the feedback process, evaluated data are analyzed and interpreted, and decisions and interventions are initiated based on the resulting information. Effective feedback requires several elements: the establishment of reporting processes and tools such as regular and exception reports, focused analyses, dashboards, and interactive visualizations; the provision of filtering and analytical capabilities that allow information to be used at different levels (strategic and operational); and the assurance of timeliness and relevance so that feedback not only documents facts but also prompts action. A well-functioning evaluation and feedback mechanism makes performance visible not only at the level of final results but also at the level of underlying processes, supports timely decision-making before problems escalate, provides a foundation for improvement, enables organizational learning and adaptation, and reduces information asymmetry across organizational levels, thereby supporting transparent and responsible governance.
- Feedback as a mechanism represents a formal, structured system that enables the continuous monitoring of measured performance data, their comparison with target values (plan–actual analysis), and the initiation of reactive or proactive interventions. This mechanism typically consists of reporting, monitoring, analysis, and reporting processes. The objective of feedback is to support control, governance, and transparency.
- Feedback comprises four main components: evaluation, interpretation, response, and learning. Evaluation involves the systematic comparison of planned and actual data; interpretation focuses on identifying the underlying causes behind the indicators; response refers to managerial actions such as corrective measures, revised targets, or resource reallocation; and learning involves incorporating experiences into future objectives and operations. Feedback functions as an early warning system by signaling critical points, enhances controllability and decision support by revealing performance dynamics rather than only end results.

- Automated systems play a key role in feedback by performing data collection and reporting functions. These systems incorporate the logic for processing performance data, workflows for data updates and validation, and user interfaces (dashboards, scorecards) through which decision-makers receive immediate feedback. Consequently, significant emphasis is placed on the development of such automated systems during CPM implementation: the more advanced these tools are, the more effective they become in delivering high-quality data and supporting managerial decision-making.
- Reporting processes and tools are required to process, interpret, and present data in a targeted manner. These include regular reports, exception reports, analytical statements, and their visual representations through interactive interfaces that display objectives alongside achieved performance, thereby enabling systematic evaluation and feedback.
- The learning function aims to promote conscious learning from experience and to integrate lessons learned into future operations, strategy, and objective systems. Its implementation requires enabling both retrospective and forward-looking analyses, embedding learning cycles into performance evaluation, and supporting knowledge-sharing forums that facilitate organization-wide dissemination of insights. Each feedback-derived recommendation should have a traceable path—such as evaluation, implementation reporting, and impact assessment—supported by decision logs and other documentation formats that record decisions and their rationales, thereby enhancing future organizational learning.

2.2.7. Organizational Embeddedness and Allocation of Responsibilities

The successful operation of Corporate Performance Management (CPM) systems is closely linked to organizational culture, company size, and the actors responsible for operating the system. CPM becomes truly effective only when it does not remain a purely formal measurement framework but is embedded in daily operations, managerial thinking, and decision-making mechanisms. This integration ensures that the performance management system serves not merely as a tool for recording results but also as a mechanism for shaping the organization's future. Performance measurement instruments create real added value only if clear responsibilities, supportive leadership roles, and a performance-oriented organizational culture are established within the company. Achieving this requires conscious system design and implementation, active stakeholder involvement, continuous training, and the development of a culture that recognizes and rewards performance. The final, yet critical, step in the operation of CPM is embedding the system into the organizational structure and process architecture. This integration enables performance management to remain sustainable, continuously improvable, and broadly accepted across all organizational levels in the long term. In addition, organizations must ensure that CPM is not perceived as a control instrument but as a supportive framework that improves transparency, accountability, and cooperation across functions. When CPM is aligned with incentive systems and communication practices, it strengthens strategic coherence and motivates employees to contribute actively to corporate value creation and long-term competitiveness.

The integration of the Corporate Performance Management system into the organizational structure and process framework involves the following elements:

- Organizational configuration, that is, the structure and operating model of the organization, determines how responsibilities are allocated and which control mechanisms prevail in corporate operations. Functional, matrix, or transnational organizational models follow different logics, each defining accountability for goal achievement, the conduct of performance evaluation, and the organizational levels at which strategic or operational decisions are made. For this reason, it is particularly important to map at which organizational level performance evaluation takes place and who is involved in setting objectives. Clearly defining performance management responsibilities is of critical importance. The effective functioning of Corporate Performance Management requires that measurement and interpretation tasks be explicitly embedded in organizational operations. This includes defining the responsibilities of data owners, as well as identifying those responsible for interpreting performance data, preparing reports, supporting managerial decision-making, and operating feedback processes. The system becomes a genuine management tool only if deviation analysis and the initiation of corrective actions are carried out in a structured manner along clearly assigned responsibilities. These responsibilities may be centralized (e.g., BI or FP&A teams) or decentralized (allocated across departments), but in all cases they must be clearly defined and accountable.
- The role of iterative development and regular validation in operating CPM systems: The introduction of Corporate Performance Management systems rarely results in an immediately optimal solution. By nature, CPM systems are evolutionary, as the external environment, strategic priorities, and internal organizational structures of companies continuously change. One recommended method within the iterative development process is pilot implementation, which allows the system to be tested initially on a limited scale—such as within a specific business unit or functional area. During the pilot phase, targeted feedback is collected from users, not only on technical aspects but also on content-related dimensions (e.g., KPI relevance, data interpretation, reporting logic). Based on this feedback, system fine-tuning follows, including adjustments to KPIs, reporting structures, and data flows. Only after this refinement phase should the solution be rolled out to other organizational units or implemented over a defined time horizon. This learning-based, cyclical development ensures that the CPM system remains aligned with the company's current operational and strategic context.
- Alignment with organizational size and culture is another critical consideration. In large corporations, CPM systems tend to be complex and multidimensional, characterized by a high level of integration with ERP and BI systems. Dedicated teams operate performance measurement processes, supported by detailed and formalized reporting and analytical structures. In contrast, for small and medium-sized enterprises (SMEs), the focus is typically on a limited number of critical indicators (e.g., cash flow, revenue, customer acquisition). These systems are simpler, more flexible, and easier to manage.

- Instead of overly formal solutions, practical tools that deliver immediate insights—such as Excel or lightweight BI applications—are commonly used. A performance measurement system becomes effective only if it is linked to corporate strategy, HR systems, and daily operations, while remaining aligned with organizational size and culture. CPM becomes a true driver of development only when it becomes part of the organizational culture—that is, when it functions not merely as a tool but as a guiding principle. Indicators of a performance-oriented culture include shared understanding of objectives, clarity regarding assigned indicators, employee commitment to achieving goals, and the perception of feedback not as control but as an opportunity for improvement. Cultural embeddedness is particularly important in SMEs, where informal relationships play a greater role and managerial role modeling is one of the strongest influencing factors. Organizational structure itself serves as a fundamental control mechanism, defining responsibilities, decision rights, and information flows.
- Performance measurement alone is insufficient; it must be linked to incentive systems so that employees perceive their efforts as visible and valued. Incentives may include financial rewards (bonuses, premiums), promotions, professional development opportunities, training programs, or public and personal recognition. The key is that performance evaluations based on measurement results must have real consequences and generate motivational effects; otherwise, the system loses its influence on organizational mindset and behavior.
- Training and awareness development are essential to the effective operation of CPM. The use of performance measurement information requires knowledge and competencies. A Corporate Performance Management system functions effectively only if not only managers but also relevant employees understand and are capable of interpreting the system. Performance measurement systems become effective not by their mere existence, but through how they are used. This requires the development of a data-conscious organizational culture. A prerequisite is that employees understand the meaning of key indicators, their practical implications, and how they can use them to improve their own activities. Therefore, it is recommended that regular training and awareness programs accompany the introduction and development of CPM systems, explaining the logic of performance measurement, clarifying the role of indicators in daily operations, and fostering data-driven thinking at all organizational levels.
- The role of managerial commitment in operating CPM systems: One of the most critical conditions for the successful implementation and operation of Corporate Performance Management systems is managerial commitment. Top and middle managers must not only initiate system development but also actively participate throughout its entire life cycle. This includes ensuring alignment between strategic objectives and performance indicators, regularly using system outputs in decision-making, and consciously communicating the value and importance of performance measurement within the organization. Active managerial use—such as in responding to strategic uncertainty or during performance review discussions—serves as role-model behavior and promotes system acceptance throughout the organization.

- Balancing diagnostic and interactive use is particularly important: managers should not only monitor deviations (diagnostic use) but also support learning and adaptation (interactive use). In this way, leaders act as the engine of the system, ensuring its integration into corporate decision-making and operational processes. The significance of managerial commitment lies in continuous involvement across all CPM phases, validation of strategic alignment, regular use of outputs in decisions, and clear communication that performance measurement represents value and opportunity.
- Formal and informal embeddedness: Beyond formal structures, informal networks (e.g., informal leaders and key individuals) also exert significant influence on performance management. Successful operation of CPM systems requires recognizing and integrating these informal dynamics. The effectiveness of Corporate Performance Management systems is determined not only by formal organizational structures and regulations but also by informal networks and actors within the organization. Such informal factors may include key individuals, opinion leaders, or employees who unofficially assume leadership roles and influence organizational culture, communication, and collaboration. Examining performance management systems solely through formal mechanisms is insufficient. Control systems may be distorted if informal modes of operation are ignored. Successful implementation therefore requires conscious recognition of these informal elements and their integration into system design and operation.

2.2.8. Adaptation and Development of Corporate Performance Management

The real value of Corporate Performance Management lies in the combination of its implementation, continuous operation, and ongoing development. However, the system can create long-term value only if it is capable of continuous learning, adaptation, and self-reflection. A changing market and organizational environment, along with evolving strategic objectives, require CPM to function as a dynamic and continuously evolving instrument. It is not a one-off implementation project, but a living, management-supporting system that continuously reinterprets its own operation in line with the company's life cycle. The key to success is regular evaluation and fine-tuning, which ensure that CPM genuinely supports strategic decision-making.

Key elements of CPM adaptation and development:

- Evaluation and operation of the system along the corporate life cycle: A well-functioning CPM system does not merely provide data but supports continuous decision-making cycles. As the company grows and evolves, the performance management system must also adapt to these transformations. System operation typically builds on the following elements: regular data collection; continuously updated dashboards that make performance transparent; variance reports and scorecards that compare actual results with targets; and follow-up measurements on the basis of which corrective actions are taken. In this way, CPM is not a closed project but a recurring management process embedded in the company's day-to-day operations.

- Effectiveness indicators and auditability: An important aspect of evaluating a CPM system is its ability to measure its own performance. This requires the use of effectiveness indicators such as the on-time achievement rate of KPIs, the effectiveness of variance alerts (how quickly the organization responds), the extent to which reports are used in managerial decision-making, and the actual alignment with strategic objectives. Regular auditing provides an opportunity to review and fine-tune CPM performance. Such audits examine not only technical aspects but also content-related and operational dimensions, including whether the current KPIs genuinely cover the company's strategic priorities.
- Adaptation, learning, and recalibration: As the company's life cycle and strategy evolve over time, the CPM system must evolve accordingly. The primary means of doing so is the integration of learning cycles into performance management—encompassing experience accumulation, interpretation, feedback, and system recalibration. This cycle is iterative and continuously repeated. The goal is not to create a perfect system, but to ensure that the system is always capable of adapting to the real operating environment.
- Support for agile, project-based, and traditional operations: A CPM system is truly effective when it can be flexibly applied to different organizational operating models. In traditional hierarchical organizations, the system typically operates according to predefined cycles, whereas in agile or project-based organizations, measurement and feedback must function in faster, more iterative cycles.

2.2.9. Synthesis and Application Framework of the Corporate Performance Management System

The operation of a Corporate Performance Management (CPM) system requires a complex and structured approach. A CPM system can create real value only if performance measurement, monitoring, organizational learning, and development are carried out along clear and aligned processes derived from strategic objectives. The simultaneous presence of the technical, structural, and cultural conditions necessary for system operation ensures that performance management becomes not merely a tool, but an embedded mode of organizational functioning. Operating a CPM system demands an integrated and structured mindset that generates real value only when it is built on clear strategic and operational objectives, and when performance measurement, monitoring, evaluation, and development are consistently aligned with these objectives. CPM is not merely a measurement tool, but an integrated managerial system that supports decision-making and learning from goal setting through indicator selection, data collection, and feedback mechanisms. The starting point for defining objectives is alignment with the corporate vision, together with ensuring measurability and accountability. During the decomposition of objectives, particular emphasis must be placed on incorporating stakeholder expectations, as their integration enhances organizational legitimacy and long-term sustainability. Performance indicators are effective when they are clear, measurable, and provide a balanced representation of both outcome-based and activity-based performance. The performance measurement system must be aligned with the organization's structure, information systems, and decision-making processes.

Table 12: Operation of the Corporate Performance Management System

CPM Element	CPM Process	Conceptual Linkage
Strategy and Objective Setting	Definition of strategic objectives. Identification of stakeholders and integration of their roles and expectations.	The CPM system starts with the decomposition of strategic objectives into concrete operational goals. During strategy formulation and execution, stakeholder expectations and relevant success factors must be taken into account.
Performance Measurement and Interpretation	Design of the performance measurement system. Selection of performance indicators. Data collection and monitoring.	The interpretation of collected data based on target values and benchmarks supports the evaluation of performance and the identification of development opportunities.
Reward and Incentive System	Evaluation and feedback mechanisms.	Performance evaluations based on individual and organizational objectives contribute to the implementation of corporate strategy through reward and incentive mechanisms.
Information Feedback and Organizational Learning	Evaluation mechanisms. Organizational integration. Adaptation and development of the CPM system.	Monitoring, feedback, and learning enable continuous adaptation and improvement of the organization. The CPM system must be continuously refined based on feedback and environmental changes, ensuring long-term sustainability and dynamic capability.

Source: Own compilation based on Otley (1999), Ferreira & Otley (2009), Hansen (2021)

The purpose of monitoring systems is not only data collection, but also enabling real-time observation and rapid response, which is significantly supported by digital technologies. Evaluation and feedback are critical to development and learning, and may be implemented through both formal and informal mechanisms. System effectiveness is ensured by clearly defined responsibilities, strong managerial commitment, and appropriate training. Success further requires integration across organizational levels and alignment with corporate culture. A CPM system fulfills its strategic role when it is continuously capable of adaptation, adopting best practices, and encouraging internal innovation—thus operating not as an administrative burden, but as a genuine value-creating instrument. Corporate Performance Management represents a complex, systems-oriented approach that aims not only to measure corporate operations but also to consciously manage them. Starting from strategic objectives, through stakeholder integration, indicator selection, and the development of measurement systems, and extending to evaluation and improvement, CPM encompasses the entire performance management cycle. The success of CPM depends on its ability to support the achievement of organizational objectives, foster continuous improvement, and adapt to a changing environment. A well-designed and effectively operated performance management system is an indispensable tool of strategic leadership and can provide a sustainable competitive advantage over the long term. Table 12 presents the key elements of the Corporate Performance Management system and integrates their sequential processes into a coherent framework. This structural overview facilitates an understanding of the system's logical architecture, operational dynamics, and strategic interrelationships. Transparency and system-level organization of the process contribute directly to corporate value creation.

Conceptual Summary: Corporate performance can be interpreted as the overall ability of an organization to create value through the efficient and effective utilization of its resources in line with its strategic objectives. It encompasses not only financial outcomes, but also operational efficiency, business performance, innovation capability, and the organization's capacity to adapt to a changing environment. Corporate performance therefore represents a multidimensional construct that reflects both achieved results and the underlying processes that generate those results. Within this context, Corporate Performance Management can be defined as a comprehensive managerial framework that supports the systematic planning, measurement, evaluation, and improvement of organizational performance. Corporate Performance Management translates strategic intentions into measurable objectives, aligns financial and non-financial indicators, and provides feedback mechanisms that enable informed decision-making. It is not limited to performance measurement, but integrates strategy execution, monitoring, learning, and corrective actions into a coherent system. Through this integrated approach, Corporate Performance Management ensures consistency between strategic goals and operational activities. Consequently, performance management becomes a continuous, cyclical process that enhances transparency, accountability, and organizational learning. Together, the concepts of corporate performance and performance management establish the analytical foundation for understanding how organizations can consciously influence their long-term value creation.

III. Corporate Performance Management Radial System Model

3.1. Components of the Radial System Model of Corporate Performance Management

Corporate Performance Management is a complex system of governance, control, and development that links strategic objectives with performance measurement, evaluation, and feedback mechanisms. It supports competitive, resilient, and value-based operations, while fostering organizational learning and continuous improvement. The dimensions, components, characteristics, and measurement approaches of Corporate Performance Management operate in close interconnection within a coherent and consistent structure. The Radial Corporate Performance Management Model represents a concentric framework that describes the interpretation and management of corporate performance across four interrelated layers. The core layer consists of the key dimensions that define the primary focus areas of corporate performance management, specifying the perspectives along which performance is examined (strategic, operational, financial). The second layer contains the components associated with each dimension, indicating the main elements, functions, and activities that constitute the given performance domain. The third layer comprises the defining characteristics that reveal the specific properties, modes of operation, and interpretative frameworks of each approach. The outermost layer is Measurement and Performance Interpretation, which encompasses the measurement possibilities that enable the objective and system-level evaluation of performance through concrete indicators, tools, and methods.

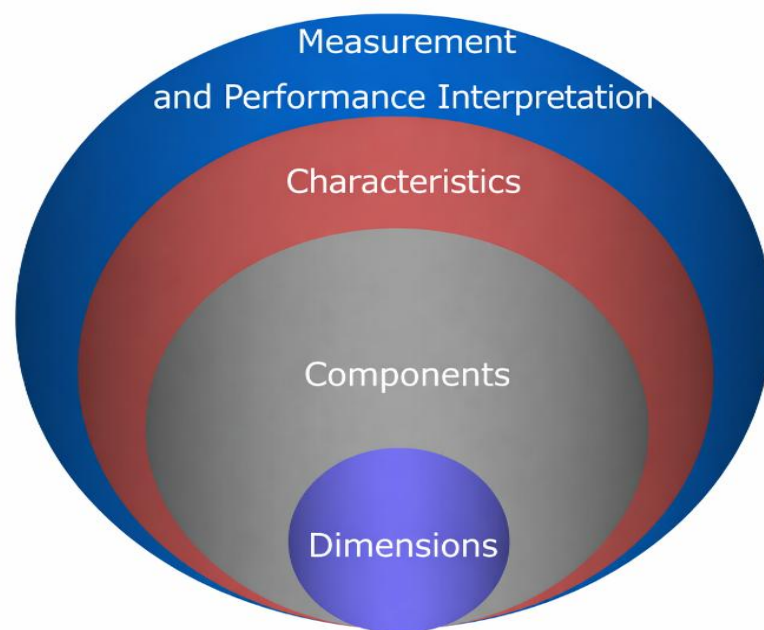


Figure 2: Radial System Model of Corporate Performance Management
Source: author's own compilation

3.1.1. Dimensions of Corporate Performance Management

The key dimensions of Corporate Performance Management (strategic, operational, and economic/financial) refer to the company's own operations, internal system, and value-creation logic. These dimensions determine what corporate performance consists of and how the performance management system is structured. The **strategic dimension focuses** on goal setting and strategic direction. It encompasses the company's mission, vision, strategic objectives, and leadership logic. Its substantive elements include strategy formulation, leadership and decision-making, change management, innovation, and transformation. The **operational dimension relates** to execution and day-to-day operations, covering the organization's daily activities, processes, and resources. Its core elements include operational and process management, human resource management, organizational structure, compliance, control, and risk management. The **economic** (business and financial) dimension makes the performance and value created by the company visible and measurable. Its key elements are business and financial performance measurement and corporate valuation. This three-dimensional classification renders the complex system of corporate performance management transparent by linking objectives, instruments, and outcomes. The key dimensions clearly indicate the highest structural level of the framework, while the sub-dimensions express further decompositions of these key dimensions, representing more focused and specific areas. The sub-dimensions of Corporate Performance Management are those critical functional and evaluative areas along which organizational performance can be systematically examined, managed, and improved. These dimensions allow the company to assess its performance not only from a financial perspective but also across strategic, operational, and human aspects. While the dimensions can be aligned with functional aspects of corporate operations, they do not merely represent organizational units; rather, they denote areas or perspectives to which measurable objectives, operational components, and characteristics can be assigned. These sub-dimensions define where and along which perspectives corporate performance can be interpreted, and in which areas the company must create value and deliver performance:

- **Strategic goal-setting** sub-dimension examines how effectively the organization defines and achieves its long-term objectives and mission. It assesses the success of implementing strategies established by top management to realize the company's mission and long-term vision. Strategic performance indicators may include progress in strategic initiatives and the achievement of key milestones.
- **Leadership sub-dimension evaluates** the strategic role of leadership, as managerial decisions, communication, and coordination directly influence the company's direction and goal achievement. Leadership quality is critical to the implementation of organizational strategy and the alignment of individual and organizational objectives. Leaders not only manage but actively shape corporate performance by providing feedback, setting expectations, and supporting development. Therefore, leadership activity constitutes an integral part of the strategic dimension. This sub-dimension assesses the extent to which leaders can align individual goals with organizational strategy and how they contribute to enhancing corporate performance through their influence and leadership tools.

- **Innovation and Transformation sub-dimension** evaluates the company's capacity for renewal and adaptation at the strategic level. Since the ability to innovate and transform determines whether a company can create and sustain competitive advantage, this area is critical for defining strategic direction. It includes digitalization, the adoption of new business models, agility, as well as product and process innovation, through which the company can both respond to environmental challenges and proactively initiate change.
- **Compliance and Risk Management** sub-dimension assesses the degree of regulation, legal compliance, and risk management practices embedded in the organization's day-to-day operations. Compliance and risk management fundamentally serve operational stability, control, and security, and are directly integrated into everyday processes, decisions, and performance control mechanisms. The objective is not merely adherence to rules, but ensuring that these mechanisms support rapid response, adaptability, and operational transparency in a changing environment.
- **Organizational and Human Resources** sub-dimension evaluates the human factors of corporate performance, with particular emphasis on employees' competencies, behaviors, and development. As part of the operational dimension, it examines how performance expectations, feedback, and training are embedded in daily operations and how they directly contribute to business processes. The goal is to establish a performance-oriented culture in which human resource management tools become an integral part of everyday operations, supporting adaptability, continuous development, and the achievement of business objectives.
- **Operational and Process-Based** sub-dimension focuses on the internal business processes and operations that form the foundation of the company's daily functioning. Its classification within the operational dimension stems from its direct measurement of execution, efficiency, quality, and process stability. This sub-dimension encompasses the regulation of workflows, optimization of resource allocation, operational flexibility, error reduction, and the identification of improvement opportunities.
- **Business and Financial sub-dimension** serves to present the company's economic performance in a measurable and objective manner. Financial performance, based on financial statements, is characterized by profitability, efficiency, liquidity, capital structure, and cash-generating capability, which directly reflect the economic outcomes of organizational operations. Business performance captures aspects that do not appear directly in financial statements, indicating how effectively the company operates in achieving its objectives, particularly in terms of market position, growth, customer value creation, operational efficiency, and competitiveness.
- **Value-Based sub-dimension** aims to explore how the company is able to create lasting, sustainable value for investors, shareholders, and other stakeholders, and how current performance becomes a source of future corporate value. Value-based performance thus forms a bridge between financial and non-financial results and prepares the ground for the application of corporate valuation methods.

Table 13: Key Dimensions of Corporate Performance Management

CPM Core Dimension	CPM Sub-Dimension	Sub-Dimension Content
Strategic	Strategic Goal Setting	Alignment with corporate objectives
	Leadership	Quality of managerial decision-making, communication, coordination, and incentive systems
	Innovation and Transformation	Digital and technological renewal, innovation capability, change management
Operational	Compliance and Risk Management	Performance control, regulatory compliance, auditing, feedback, risk management, internal governance, agility
	Organizational and Human Resources	Employee engagement and performance, organizational culture, knowledge management, innovation capability, training and development
	Operational and Process-Based	Operational consistency, process efficiency, project management, daily operations, internal process optimization (Lean, Six Sigma)
Financial & Business	Value-Based	Tangible value: financially measurable corporate value. Intangible value: intellectual capital, rights, brand value, reputation, and social value
	Business and Financial	Financial stability, economic efficiency, profitability, growth potential

Source: Own compilation based on Bititci et al. (1997, 2015); Kaplan & Norton (1996, 2004); Neely et al. (2002); Armstrong, M. (2020) Own compilation.

3.1.2. Components and Characteristics of Corporate Performance Management

The dimensions of Corporate Performance Management (CPM) define the main interpretative and evaluative domains of corporate performance, while the components represent the fundamental operational elements that shape, influence, and sustain performance within these domains. The dimensions function as an analytical framework, specifying where and according to which perspectives corporate performance is assessed, whereas the components indicate what and how should be operated and measured along these perspectives. The components constitute the building blocks of performance: mechanisms, processes, resources, and managerial instruments that appear with dimension-specific content but, in every case, contribute to the creation, development, and long-term maintenance of organizational performance. While the dimensions provide a thematic structure, the components act as dynamic operational drivers that enable the actual shaping of performance. Dimensions and components are logically and functionally interconnected. The dimensions define the interpretative framework of performance, the components ensure its operational foundation, and upon these elements the specific characteristics and concrete performance indicators can be aligned. These indicators make systematic evaluation, comparison, and continuous improvement possible. The components of the strategic dimension collectively describe the pathway through which an organization defines its long-term objectives, communicates and implements them, and maintains its capacity to adapt and renew itself in a changing environment. Strategy is not merely a formal document but a guided, dynamic managerial and developmental process in which the components jointly ensure the realization of the company's vision. The strategic key dimension can be structured along three main functional areas:

- **Strategic direction setting:** This includes the definition of the organization's mission, vision, and strategic objectives, which determine the company's long-term development trajectory. These objectives must be effectively communicated throughout the organization to ensure shared understanding and commitment. Continuous feedback mechanisms enable the adjustment of strategic goals in response to environmental changes when necessary.
- **Strategic governance and leadership:** This area encompasses leadership activities that support the implementation of strategic objectives. Decision-making, coordination, and efficient information flows enable coherent organizational functioning. Leadership incentives, role modelling, and a feedback-oriented culture contribute to employee motivation and engagement in executing the strategy.
- **Capability for renewal and adaptation:** Product and service innovation, process development, business model renewal, and digital transformation are key instruments through which the organization can respond to environmental changes. Adaptability, resilience, and agility ensure that strategic objectives remain achievable even when external or internal conditions shift.

The components of the operational key dimension ensure that the organization functions in a compliant, efficient, and reliable manner in its day-to-day activities. Together, they create the conditions necessary for translating strategic objectives into practical execution. These components can be interpreted along three main logical areas:

- **Ensuring regulation and compliance:** This component includes auditing, control mechanisms, risk management, and compliance requirements that ensure organizational operations conform to legal, internal, and industry standards. These elements provide operational stability, reduce operational risks, and promote transparency and accountability across all levels of the organization.
- **Managing human factors and organizational culture:** Competence development, communication, feedback, motivation, as well as organizational culture and attitudes are factors that influence employee performance, engagement, and development. These components determine how employees experience the organization, how well they understand and support organizational objectives, and how they develop and contribute to overall performance outcomes.
- **Optimization of processes and operations:** Process improvement, resource allocation, operational regulation, and performance control define how daily business processes are executed, how efficiently resources are utilized, and how performance is monitored, reviewed, and continuously improved.

The Economic, Financial and Value Creation Core Dimension serves the objective evaluation of the company's economic and value-creation performance by capturing its profitability, efficiency, and future value potential:

- **Stakeholder value creation:** This component reflects the value generated by the company for its various stakeholder groups. Within the financial dimension, value creation can be expressed in monetary terms or in terms of future corporate value.
- **Measurement of corporate financial and business performance:** A wide range of performance indicators is applied to assess financial and business performance. These indicators enable evaluation based on objective and comparable data, thereby supporting managerial decision-making, feedback mechanisms, and corporate valuation.
- **Resources in the financial dimension:** The availability and utilization of resources fundamentally determine the company's financial performance capacity. Efficient resource management constitutes a core foundation for long-term sustainability and value creation.
- **Performance evaluation:** The systematic and periodic assessment of corporate performance allows the organization to determine whether financial objectives have been achieved and provides a basis for future forecasts and corporate valuation.
- **Financial control:** Financial control refers to governance and control mechanisms that ensure financial integrity, budgetary discipline, and the management of financial risks. This component enables financial processes to operate in alignment with corporate objectives.

Table 14: Corporate Performance Management – Dimensions, Components and Characteristics

CPM Core Dimension	CPM Components	CPM Characteristics
Strategic core dimension	Objectives and mission; Vision; Communication of goals and expectations; Feedback mechanisms; Managerial decision-making; Coordination and collaboration; Communication and information flow; Incentive and motivation systems; Leadership example and feedback; Product and service innovation; Process innovation and development; Business model renewal; Digitalization; Change management; Adaptation; Resilience; Agility	Strategic alignment; Communication; Coherence; Systemic integration; Adaptability; Organizational learning and development
Operational core dimension	Audit; Control mechanisms; Risk management; Compliance requirements; Competence development; Communication; Feedback; Motivation; Organizational culture and attitudes; Process improvement; Resource allocation; Operational regulation; Performance control	Efficiency; Stability; Transparency; Feedback orientation; Coherence; Organizational learning
Economic, Financial and Value Creation Dimension	Stakeholder value creation; Performance indicators; Resources; Performance evaluation; Financial control; Financial stability	Value orientation; Objectivity; Measurability; Transparency; Timeliness

Source: Own compilation based on Bititci, Carrie & McDevitt (1997, 2015); Kaplan & Norton (1996, 2004); Neely, Adams & Kennerley (2002); Armstrong (2020)

The dimensions of Corporate Performance Management (CPM) represent the functional, strategic, or structural focus areas along which performance is interpreted, measured, and managed. A dimension answers the question of **where** and **in which area** performance is assessed. Components refer to the specific operational elements or management mechanisms that create, shape, and sustain performance within a given dimension. Components answer the question of **which elements operate** within a dimension to support performance. Characteristics describe the properties, quality, effectiveness, and distinctive features of the components. They help explain **how** a given component operates and **what quality of performance** it produces. Characteristics therefore address how a component functions, at what level of quality, and in what manner it exerts its impact. The characteristics of Corporate Performance Management represent fundamental organizational principles and capabilities that determine the quality of the CPM system's operation and, at the same time, ensure its strategic usefulness, flexibility, and value-creation potential.

Key Characteristics of Corporate Performance Management:

- **Adaptability:** The ability to adjust to changing internal and external conditions.
- **Data Management and Business Intelligence:** Corporate performance is grounded in the structured collection, analysis, and interpretation of relevant data. Business intelligence tools support real-time decision-making, trend identification, and continuous performance monitoring.
- **Agility:** The capacity to respond rapidly to environmental changes.
- **Transparency:** Performance processes are clearly traceable and controllable.
- **Goal Orientation:** The system prioritizes contribution to organizational objectives.
- **Effectiveness:** Achieved outcomes correspond to predefined goals.
- **Accountability:** Clear assignment of responsibilities within the performance measurement system.
- **Sustainability Sensitivity:** Integration of environmental and social sustainability considerations.
- **Efficiency:** Resource utilization is proportional to achieved performance.
- **Openness to Innovation:** Willingness to adopt new solutions, developments, and technologies.
- **Integration:** Coherent alignment among different systems and performance dimensions.
- **Future Orientation:** Focus not only on current performance but also on long-term outcomes.
- **Risk Awareness:** Consideration of risk identification and risk management in operations.
- **Communication and Information Flow:** Effective communication facilitates the understanding of strategic objectives, supports collaboration, and ensures the proper functioning of feedback mechanisms within the organization.
- **Controllability:** The system is auditable, monitorable, and subject to regular review.

- **Cultural Alignment:** The system's operation is aligned with the organization's culture and value system.
- **Measurability:** Performance factors can be quantified and objectively assessed.
- **Motivational Impact:** Performance management exerts a motivating effect on employees.
- **Alignment:** Strategic and operational objectives are coherently aligned.
- **Proactiveness:** The system is forward-looking; it anticipates issues rather than merely reacting to them.
- **Relevance:** Performance measurement provides meaningful and decision-relevant information for the organization.
- **Regularity:** Processes and activities are repeated at predefined intervals.
- **Resilience:** The organization is capable of adapting flexibly to unexpected challenges.
- **Formalization:** Operations are conducted within stable frameworks and clearly defined rules.
- **Flexibility:** The system can adapt to different situations and operating environments.
- **Stakeholder Sensitivity:** The system takes into account stakeholder interests and value-creation expectations.
- **Learning Orientation:** The organization is able to learn from performance measurement and continuously improve.
- **Organizational Support:** The system is backed by managerial commitment and organizational endorsement.
- **Feedback Capability:** The system is capable of providing feedback and learning from it.

The dimensions of Corporate Performance Management define where and in which areas corporate performance can be interpreted. The components of Corporate Performance Management explain what the dimensions are built upon and how they operate, while the characteristics represent qualitative attributes that determine how effectively and in what manner the dimensions and components function together. The Corporate Performance Management system is driven by the interaction of components and characteristics linked to its key dimensions. Within the strategic dimension, components such as goal setting, managerial decision-making, and innovation support long-term competitiveness. Within the operational dimension, elements including operational regulation, risk management, human resource development, and process control are complemented by characteristics such as process improvement, integration, and collaboration. Together, these ensure the stability and continuous improvement of day-to-day operations. The economic, financial, and value creation dimension incorporates components such as business performance, financial control, and stakeholder value creation, enabling transparent, measurable, and sustainable performance. In this dimension, characteristics primarily relate to performance measurement, data-driven operation, and sustainability. This structured framework prepares the system to measure, evaluate, and develop performance in a coherent and integrated manner. The detailed operationalization of this logic is presented in the following chapter (Table 15).

Table 15: Corporate Performance Management – Dimensions, Components and Characteristics

CPM Key Dimension	CPM Components	CPM Characteristics
Strategic Dimension	Objectives and mission; Vision; Communication of goals and expectations; Feedback; Managerial decision-making; Coordination and collaboration; Communication and information flow; Incentive and motivation systems; Role modeling and feedback; Product and service innovation; Process innovation and development; Business model renewal; Digitalization; Change management; Adaptation; Resilience; Agility	Strategic alignment; Communication; Coherence; Systemic thinking; Adaptability; Learning and development
Operational Dimension	Audit; Control mechanisms; Risk management; Compliance requirements; Competence development; Communication; Feedback; Motivation; Organizational culture and attitudes; Process improvement; Resource allocation; Operational regulation; Performance control	Efficiency; Stability; Transparency; Feedback orientation; Coherence; Organizational learning
Economic, Financial and Value Creation Dimension	Stakeholder value creation; Performance indicators; Resources; Performance evaluation; Financial control; Financial stability	Value orientation; Objectivity; Measurability; Transparency; Timeliness

Source: Own compilation based on Bittici et al. (1997, 2015); Kapla & Norton (1996, 2004); Neely et al. (2002); Armstrong (2020)

3.1.3. Measurement and Performance Interpretation

Corporate Performance Management (CPM) represents a comprehensive approach to managing an organization's business performance. It encompasses the setting of strategic objectives, planning and budgeting, monitoring results, and analyzing data in order to support well-founded, goal-aligned managerial decisions. Two critical components of CPM are performance measurement—deciding what and how to measure in order to achieve success—and performance interpretation, which involves translating measurement results into insights for managerial decision-making. Measurement and performance interpretation form the core of Corporate Performance Management, enabling organizations to objectively track the achievement of their goals and to manage operations in a data-driven manner. Measurement and interpretation are therefore not merely a series of technical steps, but management functions of strategic importance. Through them, companies are able to monitor and influence their own development, respond to environmental changes, and sustain competitiveness in the long term. Measurement enables the reliable, coherent, and systematic monitoring of performance. This requires an internal measurement infrastructure that includes indicator systems, data collection solutions, reporting mechanisms, and evaluation protocols. The purpose of measurement is to make strategic, operational, and financial performance visible in a real-time, structured, and decision-supportive way. Measurement is not an end in itself, but rather the methodological and system-level foundation of performance evaluation. Consequently, measurement is not merely a technical activity, but one of the most powerful instruments for influencing and steering performance.

The measurement process is supported by performance indicators, which are quantified tools that assist in tracking strategic and operational objectives, evaluating organizational performance, and underpinning decision-making. Well-selected indicators help focus attention on critical factors, make progress visible, and enable the interpretation of operations, including the identification of the causes of deviations. Measurement capability refers to the organizational and technological conditions within the company; thus, the measurement infrastructure includes indicator systems, data collection solutions, reporting processes, and evaluation protocols. In addition to indicator-based measurement, several methodological approaches support a comprehensive assessment of corporate performance. Scorecard-based evaluations—such as the Balanced Scorecard—link financial and non-financial objectives within a structured framework. Internal audits, self-assessments (e.g., the EFQM model), and process performance analyses help reveal operational efficiency and organizational maturity. These methods complement quantitative indicators with qualitative dimensions, enrich performance interpretation, and provide a sound basis for development initiatives. The ultimate aim of measurement is to make strategic and operational performance visible in a real-time, structured, and decision-supportive manner. However, data generated through performance measurement only become meaningful when placed in context. Measured results must be compared with target values, prior periods' performance, or external benchmarks in order to assess whether the organization is moving in the right direction.

Performance interpretation enables the identification of the root causes of deviations, the recognition of trends, and the analysis of factors influencing operations. As a result, measurement does not merely represent a snapshot assessment of the current state, but serves as a starting point for managerial decision-making, the definition of development directions, and the initiation of organizational learning processes. Performance interpretation can therefore be understood as the process of “assigning meaning” to measurement data, which is indispensable for effective managerial work. Interpretation helps distinguish between one-off, incidental performance fluctuations and persistent operational problems. This distinction allows for targeted and proportionate interventions that address not only symptoms but also underlying causes. In this way, the close relationship between measurement and interpretation forms the foundation of informed, responsible, and forward-looking corporate governance. The tools of performance interpretation include variance analysis, which reveals the reasons for differences between actual and planned results. Benchmarking enables organizations to compare their own performance with industry averages or competitors, thereby identifying performance gaps and best practices. Time-series analysis and trend analysis allow for the evaluation of performance developments over longer periods. Dashboards and visualization tools (e.g., charts, heat maps) support the rapid recognition of relationships and improve the communicability of data. In addition, cause-and-effect analyses (e.g., Pareto analysis, fishbone diagrams) help achieve a deeper understanding of the factors influencing performance.

The Cycle of Corporate Performance Measurement and Performance Interpretation:

- **Strategic goal setting:** The purpose of measurement is to monitor the achievement of strategic objectives in an objective and reliable manner. Therefore, a clear and measurable definition of goals is an essential starting point, to which appropriate performance indicators can be assigned. The aim of performance management is to ensure that strategic objectives become measurable, traceable, and realistically achievable. Through the integration of strategic planning, budgeting, forecasting, and performance monitoring, the organization is able to link high-level objectives with concrete operational actions and results. Measurement and interpretation thus play a bridging role by translating strategic intentions into measurable and executable performance targets, thereby ensuring coherence and adaptability in corporate governance.
- **Cascading goals to the operational level:** Translating strategy into actionable performance objectives ensures that clear and attainable performance expectations are established for organizational units and employees operating at different levels of the company. To this end, performance indicators aligned with key objective areas are defined. The purpose of operational and financial planning is to convert strategic directions into concrete, executable plans, including the definition of operational and financial targets, the preparation of budgets, and forecasts of future performance. Comparing planned and actual results enables the reallocation of resources and the identification of intervention points, thereby ensuring alignment between day-to-day operations and strategic objectives.

- **Methodological foundations of measurement and the definition of performance indicators:** The effectiveness of corporate performance measurement largely depends on the methodological framework within which data are collected and on the types of indicators applied. Performance measurement represents a structured process of information collection and interpretation that underpins corporate governance and strategic decision-making. Therefore, a methodological approach is required that ensures the validity, reliability, comparability, and timeliness of data. Well-defined performance indicators support a deeper understanding of operational processes, help identify intervention points, and facilitate continuous improvement.
- **Data collection and measurement:** Data collection is a key step in the technical implementation of performance measurement, as it determines the validity and reliability of performance indicators. Data must be accurate, complete, and credible, since they form the basis of managerial decision-making. A consistent data structure ensures comparability across time and organizational units, while regular updates allow for real-time monitoring of current performance. Transparency of data sources and appropriate data management practices are also essential.
- **Presentation of results:** Measured data become a true management tool only when they are presented in an appropriate and intelligible way. This typically involves the use of modern business intelligence (BI) tools, dashboards, and reports. Visibility is further enhanced by benchmarking results against target values (e.g. internal standards or external benchmarks), which enables rapid interpretation and supports timely managerial responses.
- **Analysis of results and performance interpretation:** Data collected through performance measurement create real value only when they are analyzed and placed into context. The purpose of performance interpretation is to uncover the underlying causes of achieved results, identify trends, and explain deviations from target or reference values. Variance analysis and time-based comparisons make it possible to identify development opportunities and necessary interventions.
- **Feedback and decision support:** Performance management operates as a continuous feedback system in which measurement, interpretation, and decision-making are cyclically linked. Interpreting measurement results enables strategic refinement, resource reallocation, and the definition of development interventions. This cycle ensures that the organization can respond flexibly to environmental changes and proactively shape its operations. Performance measurement thus functions as a decision-support tool that directly contributes to maintaining corporate competitiveness.
- **Learning and development:** One of the most significant value contributions of performance interpretation lies in supporting organizational learning. A well-functioning performance management system is not limited to evaluating past results, but also facilitates future development and innovation. Continuous feedback and the systematic integration of lessons learned contribute to the emergence of a learning organization that is capable of adapting to environmental changes and strengthening a performance-oriented culture.

Performance measurement and performance interpretation become truly effective when the hierarchical structure of corporate objectives is taken into account. Organizations define their goals at different levels—strategic, tactical, and operational—and each level requires its own specific measurement logic and set of tools. Achieving these objectives necessitates the application of various types of performance indicators, measurement frameworks, and decision-support instruments that are aligned with the time horizon, focus, and decision-making authority of the given level. At the strategic level, performance indicators primarily focus on long-term value creation, as the emphasis is placed on sustainable value generation, competitiveness, and the strengthening of market position. Commonly used indicators include ROCE (Return on Capital Employed), ROI (Return on Investment), growth rates, and market share. These indicators are typically embedded in integrated frameworks such as the Balanced Scorecard or Value-Based Management, which structure performance monitoring around strategic objectives. At the tactical level, the coordination and optimization of performance across functional areas become central, with the focus on achieving the objectives of individual departments. Cost-related indicators (such as cost recovery or contribution margin per unit) tend to dominate at this level. Performance evaluation is often conducted using cost center or profit-oriented approaches, frequently complemented by benchmarking practices. The operational level, in turn, measures the efficiency and quality of day-to-day operations. Typical indicators at this level include scrap rates, the number of customer complaints, or daily production output. Performance measurement tools at the operational level often rely on lean management, Six Sigma methodologies, or daily operational dashboards. Transparency and consistency across these levels contribute to the strengthening of a performance-oriented culture and the development of a learning-oriented organizational approach (Table 16).

Table 16: Levels and Tools of Corporate Performance Measurement

Level of Measurement	Nature of Objectives	Typical Indicators	Measurement Frameworks
Strategic	Long-term value creation, competitiveness	ROCE, ROI, growth rate, market share	Balanced Scorecard (financial and strategic perspectives), Value-Based Management
Tactical	Achievement of unit- or department-level objectives	Cost budget fulfilment, unit profitability, cost–benefit ratio	Cost center / profit center approach, Benchmarking
Operational	Optimization of daily operations	Scrap rate, number of customer complaints, daily production volume	Lean, Six Sigma, daily operational KPI dashboards

Source: Own compilation based on Bititci et al. (1997, 2015); Kaplan & Norton (1996, 2004); Neely et al. (2002); Armstrong (2020)

3.1.4. Structural Complexity of the CPM Radial System Model

The Radial System Model of Corporate Performance Management (CPM) is constructed as an integrated whole of multiple interrelated dimensions, components, characteristics, and measurement–interpretation elements. Structural complexity refers to the fact that the model does not follow a linear logic, but rather a networked one, in which the relationships among individual elements produce system-level functionality. Presenting this complexity helps to explain how the CPM model becomes a dynamic and practically applicable management tool in corporate practice. The CPM Radial Model is a complex yet logically structured system composed of four interdependent and mutually reinforcing elements: dimensions, components, characteristics, and measurement and performance interpretation. The inner circle of the CPM Radial Model is formed by the dimensions, which define the main areas for interpreting performance, such as financial, business, organizational, or sustainability dimensions. These dimensions provide the fundamental interpretative framework within which different aspects of corporate operations can be understood and measured. In the second circle surrounding the dimensions are the components, which decompose each dimension into concrete structural, operational, or strategic elements. These may include resources, processes, goal systems, or organizational units. The role of the components is to translate the abstract dimensions into content that can be applied in practice, enabling their operational use and evaluation. The third layer of the circular model consists of the characteristics, which describe the qualitative and quantitative attributes of the components. The purpose of these characteristics is to provide a more detailed picture of how the components function and to identify the factors that directly influence or reflect corporate performance. These characteristics form the basis for the analytical depth required for well-founded performance evaluation and improvement.

The fourth and outermost circle of the Radial Model is measurement and performance interpretation, which embodies the model’s analytical and feedback functions. At this level, data related to the characteristics are collected, structured, and evaluated. Measurement quantifies performance, while interpretation reveals the underlying causes, relationships, and consequences behind the results. This layer provides the decision-support information base upon which both strategic and operational corporate management can be built. Measurement and interpretation thus constitute the informational foundation and feedback mechanism of the performance management system. The structural perspective of the CPM Radial Model allows performance management to be viewed not merely as a collection of indicators, but as a structured mindset applicable at both strategic and operational levels. The four elements of the model are closely interconnected, ensuring the system’s flexibility and customizability across different corporate contexts. This integrated system perspective makes the model adaptable to company size, industry-specific characteristics, or strategic priorities, while preserving the core principles of consistent performance evaluation. The feedback-based logic of the model supports the development of a learning organization, as interpreted performance data can be continuously embedded into decision-making and development processes (Table 17).

Table 17: Elements of the Corporate Performance Management Radial Model

Dimension	Components	Measurement and Performance Interpretation
Strategic Objectives	Goal setting, mission, vision; Communication; Feedback	Balanced Scorecard, strategic indicators
Leadership	Leadership decision-making; Coordination and cooperation; Communication and information flow; Incentive and motivation systems; Role modelling and feedback	Executive dashboards, management indicators
Innovation and Transformation	Product and service innovation; Process innovation; Digitalization; Change management; Adaptation, resilience, agility	Innovation rate, project monitoring
Compliance and Risk Management	Audit; Control mechanisms; Risk management; Compliance requirements	Compliance indicators, audit reports
Organizational and Human Resources	Competence development; Communication; Feedback; Motivation; Culture and attitudes	HR KPIs, employee satisfaction surveys
Operational and Process-Based	Process development; Resource allocation; Operational regulation; Performance control	Process performance, cycle times
Value-Based	Stakeholder-centered approach; Investor perspective	ESG-related and fundamental indicators, stakeholder satisfaction
Business and Financial	Stakeholder value creation; Performance indicators; Resource efficiency; Performance evaluation; Financial control	Financial indicators, ROI, ROE, KPI ratios

Source: Own compilation based on Bititci et al. (1997, 2015); Kaplan & Norton (1996, 2004); Neely et al. (2002); Armstrong (2020)

3.2. Framework on Economic, Financial and Value Creation Dimension

3.2.1. The System and Methodological Toolkit of Economic Performance Measurement

Corporate Performance Management is built on strategic, operational, and economic dimensions. The strategic dimension defines the company's long-term objectives and directions, while the operational and economic dimensions represent two closely connected yet distinct areas of implementation. The operational dimension focuses on day-to-day operations and process management, including production, service delivery, human resources, and the practical application of quality management. Its primary objective is to ensure efficiency, reliability, and operational stability. In contrast, the economic dimension examines corporate operations from the perspective of financial performance and resource utilization. This includes cost management, profit generation, liquidity, investments, and the measurement of returns. Accordingly, the operational dimension shows how the company functions in everyday practice, whereas the economic dimension reveals the results achieved and the efficiency with which available resources are utilized. The economic dimension constitutes the third, quantitative pillar of Corporate Performance Management, linking strategic intentions and operational activities to measurable outcomes. This dimension establishes the measurement and feedback framework that enables the company's financial and economic performance to be assessed accurately, compared meaningfully, and systematically improved. The economic dimension consists of two main areas: business and financial performance measurement, and corporate valuation. These two subsystems operate in close interdependence, yet with different objectives. While performance measurement primarily focuses on operational efficiency, effectiveness, and stability, corporate valuation assesses future value creation potential, investor perception, and market value. Business and financial performance measurement provides a quantitative description of corporate operations. Financial performance measurement defines corporate performance through financial indicators, whereas business performance analysis examines the company's competitive capabilities. While performance measurement supports the continuous monitoring and improvement of operations, corporate valuation estimates the economic value of the organization using various valuation methods. Thus, performance measurement addresses the question "How does the company perform?", while corporate valuation answers "What is the company worth?". There is a strong interrelationship between these two approaches: performance indicators form the basis of valuation, while valuation outcomes provide feedback on the effectiveness of strategic decisions and long-term value creation. The significance of the economic dimension lies in its ability to make transparent, through financial and business indicators, how the company utilizes its resources, to what extent it is capable of generating sustainable results, and how its value evolves within the market and economic environment. The use of indicators supports not only internal managerial decision-making but also responds to the expectations of various stakeholder groups, including investors' return requirements, creditors' solvency concerns, regulators' transparency expectations, and the evaluation criteria of market analysts.

Table 18.: Comparison of Business and Financial Performance Measurement

Aspects	Business Performance Measurement	Financial Performance Measurement
Objective	Improving operational efficiency, customer relationships, and internal processes.	Measuring profitability, liquidity, financial stability, and investment performance.
Focus	Operational and strategic aspects such as customer satisfaction, quality, processes, and innovation.	Revenue, costs, profit, and other financial indicators reflecting corporate performance.
Types of indicators	Qualitative and quantitative indicators, e.g. customer satisfaction, product quality, process efficiency.	Quantitative indicators such as net profit, revenue, return ratios, and leverage.
Data sources	Internal surveys, operational data, project reports.	Financial statements, accounting records, balance sheets, income statements.
Time horizon of impact	Medium- and long-term effects, often targeting strategic advantages.	Primarily short- and medium-term financial performance, but may also be long-term (e.g. investments).
Typical users	Operational managers, HR professionals, strategic decision-makers.	Financial managers, investors, analysts, top executives.
Measurement frequency	Daily, weekly, or monthly depending on the given business process.	Monthly, quarterly, or annual reporting; in some cases weekly.
Linkage	Indirect impact on financial indicators through efficiency and customer retention.	Direct impact on company profitability and investment decisions.
Evaluation perspective	Stakeholder-oriented approach, evaluating multiple performance dimensions.	Shareholder value maximization based on financial returns and risk considerations.

Source: Own compilation based on Brealey & Myers (2023) and Damodaran (2024).

3.2.2. Purpose and Main Areas of Business Performance Measurement

Business performance focuses on a company's competitive capabilities, including its ability to innovate, adapt, and differentiate itself from competitors. These capabilities are rooted in the organization's intangible assets—resources that are often difficult to quantify but are essential for long-term value creation. Business performance measurement assesses these intangible assets by highlighting those elements that generate competitive advantage and future growth. In contrast to financial indicators that primarily evaluate short-term performance, business performance indicators adopt a forward-looking perspective, as in today's dynamic and highly competitive business environment reliance on traditional financial metrics alone is no longer sufficient to assess overall corporate performance. To provide stakeholders with a comprehensive view of success and sustainability, organizations must focus on uncovering their intangible assets and competitive capabilities, as well as the underlying drivers that create long-term value and sustainable competitive advantage. These intangible resources are often difficult to measure using conventional financial tools, yet they play a critical role in shaping business performance across a wide range of industries, including manufacturing companies, sports-related organizations, and IT service providers. Intangible assets refer to non-physical resources that are frequently indispensable for value creation. These include intellectual capital, brand reputation, customer relationships, organizational culture, and innovative capabilities.

Through business performance measurement, companies assess what values they possess beyond financial performance and what future operational and growth prospects they have. For manufacturing companies, intangible assets and competitive capabilities often include process efficiency and innovation, supplier and distribution networks, and intellectual capital. In this context, business performance measurement may focus on indicators such as innovation performance (e.g., the introduction of new products), production cycle times, defect rates, and the effectiveness of supplier relationships. These indicators provide insight into whether a company is capable of sustaining long-term operational success and responding to market changes, and their quality can enhance the firm's market value. In the sports industry, intangible assets include brand value, fan loyalty, and athlete development programs. Competitiveness may involve the development and retention of outstanding talent, increasing fan engagement, and strengthening sponsorships and partnerships. Measuring business performance through the lens of intangible assets and competitive capabilities enables organizations to bridge the gap between short-term financial results and long-term strategic success. Whether applied in manufacturing, sports, or information technology services, this approach helps uncover hidden value within the organization and ensures that it remains adaptable, innovative, and resilient under changing market conditions. The objective of business performance measurement is to go beyond financial indicators and shed light on the non-financial and strategic factors that determine a company's long-term competitiveness. By structurally measuring intangible elements—such as knowledge, innovation, organizational flexibility, customer relationships, and brand value—the company becomes capable of identifying and assessing its own competence portfolio.

This approach examines not only outcomes but also their underlying drivers, thereby providing a comprehensive picture of the forces that shape corporate performance. Such a perspective on business performance measurement enables the quantification of hidden value sources, supporting strategic decision-making and sustainable development. Knowledge capital represents a company's ability to create new knowledge, preserve it, systematize it, and transform it into competitive advantage. It includes intellectual property, undocumented know-how, and the culture of knowledge sharing within the organization. Knowledge capital plays a critical role in innovation performance, technological development, and the maintenance of long-term competitiveness. This competence contributes to measurable business performance only when knowledge is not merely created but also actively utilized—in the form of new products, patents, internal developments, or efficiency improvements. The effective utilization of knowledge capital strengthens adaptive capability and reduces risks associated with dependency on key individuals.

Corporate competencies and business performance measurement:

- Related **business performance** indicators help measure the presence, flow, monetization, and risk profile of knowledge. In addition, they support the development of intelligent corporate learning management systems and innovation strategies. Key related indicators include:
 - **Innovation Output Index:** Measures how quickly and to what extent R&D investments result in patents, new products, or technological solutions.
 - **Patent Utilization Rate:** Indicates the percentage of total patents that are under actual market utilization (e.g., sales, licensing, new product integration).
 - **Knowledge Dissemination Indicators:** Reflect the volume and quality of internal knowledge flows (e.g., number of knowledge-sharing trainings, usage of intranet knowledge repositories).
 - **Know-how Retention Ratio:** Measures the proportion of internal expertise and undocumented know-how that is preserved and transferred over time, particularly in cases of key personnel turnover. The objective is to minimize knowledge loss and ensure the transfer of corporate knowledge to the next generation.
 - **Intellectual Property Revenue Ratio (IP Revenue Ratio):** Represents the share of revenues generated from intellectual property (e.g., patents, licenses, know-how) within total revenue, indicating the extent to which intellectual assets are transformed into marketable value.
 - **R&D Time-to-Impact (Research Cycle Time):** Measures the average time required for a research and development project to reach market utilization. It is applicable for assessing innovation agility and speed, indicating how efficiently R&D activities are transformed into commercially viable outcomes.
 - **Knowledge Sharing Frequency:** Captures the number of formal and informal knowledge-sharing events within a given period (e.g., training sessions, internal forums, mentoring meetings). This indicator is closely linked to the effectiveness of organizational learning processes and the efficiency of knowledge dispersion across the organization.

- **Key Knowledge Loss Risk Indicator:** Provides an estimate of the risk that the departure of key personnel may result in irreversible knowledge loss. Typical input sources include succession plans, the level of documentation, and the mapping of critical positions within the organization.
 - **Knowledge Digitalization Ratio:** Measures the proportion of existing organizational knowledge that is available in structured, digital form. This indicator is particularly important from the perspectives of scalability and accessibility of knowledge.
 - **Innovation Collaboration Index:** Assesses the volume and effectiveness of cooperation with external innovation partners (such as universities, start-ups, and clusters). It is especially useful for monitoring ecosystem-based innovation activities and external knowledge integration.
- **Organizational capital and process efficiency:** Organizational capital refers to the value inherent in a company's internal structures, regulatory and operational systems, and corporate culture. This includes the quality of internal collaboration, the speed of decision-making mechanisms, and the ability to adapt. Well-functioning organizational capital promotes a company's flexibility, operational stability, and responsiveness, especially in dynamic or crisis environments. This competency directly contributes to efficiency, innovation, and time-based competitive advantage. The faster and more coordinated an organization can respond to market changes, the greater its chances of sustainable growth and value creation. Related business performance indicators:
 - **Process Innovation Ratio:** Measures the number of operational processes improved or optimized annually relative to the total number of processes. This ratio reflects the organization's renewal and continuous improvement capability.
 - **Organizational Resilience Index:** Assesses the organization's ability to maintain operations and adapt effectively in crisis situations or rapidly changing environments.
 - **Cross-Functional Collaboration Score:** Indicates the level of corporate synergy and the quality of information flow between different organizational units. It is a strong predictor of organizational learning and collaborative innovation.
 - **Decision Speed Index:** Examines the speed and effectiveness of decision-making across different organizational levels. Fast and well-informed decisions are critical for business agility and the maintenance of competitiveness.
 - **Change Management Effectiveness Index:** Measures how successfully the organization implements change initiatives, such as acceptance rates, implementation time, and the proportion of achieved objectives.
 - **Internal Decision Cycle Time:** Represents the average time required to make a specific type of internal decision. The primary objective is to reduce internal bureaucracy and enable faster market entry.
 - **Process Renewal Rate:** Indicates the proportion of operational processes that undergo not only incremental improvement but complete redesign. This metric differentiates continuous development from radical process innovation.

- **Organizational Learning Activity Rate:** Captures the frequency of learning-related and internal knowledge-building activities (e.g., feedback workshops, initiation of internal development projects). Its purpose is to monitor continuous improvement and organizational learning dynamics.
- **Information Flow Index:** Evaluates the effectiveness of strategic and operational information flows across different organizational levels. Data sources may include internal surveys, email response times, and document-sharing analytics.
- **Span of Control Fit Index:** Measures whether managers' spans of control are aligned with the complexity of the areas they supervise. **Significance:** excessively narrow or overly broad spans of control may slow operations or overload management.
- **Strategic Alignment Accuracy:** Examines the degree of alignment between the objectives of organizational units and the company's strategic goals. Typical sources include goal-setting systems, KPI alignment analyses, and annual planning data.
- **Brand Value and Corporate Reputation:** Brand value and corporate reputation represent the symbolic capital of a company's market perception. Although they are intangible assets, they exert a strong influence on customer trust, loyalty, pricing power, and the company's negotiation and partnership positions. A positive brand image and a stable reputation can provide a long-term competitive advantage, particularly in saturated markets. This competence is especially significant because it influences not only customers' decisions but also those of investors, employees, and business partners. Strengthening brand identity and corporate reputation becomes a strategic value, particularly in markets built on consumer trust and sustainability commitments. Related business performance indicators include:
 - **Brand Evaluation Metrics (Non-Financial):** Measure brand strength based on qualitative factors such as consumer perception, brand awareness, media presence, and social media activity.
 - **Reputational Risk Index:** Analyzes potential risks threatening corporate reputation. Using artificial intelligence-based sentiment analysis, it monitors the tone, themes, and intensity of media coverage.
 - **Customer Sentiment Dynamics:** Machine learning-based models that track changes in customer opinions over time across different channels (e.g., online reviews, ratings, forums).
 - **Net Promoter Score (NPS):** Measures customer loyalty related to the brand based on customers' willingness to recommend the company or its products.
 - **Brand Loyalty Index:** Indicates the proportion of repeat customers relative to total customers, serving as a proxy for long-term relationship value.
 - **Media Space-Time Indicator:** Assesses the ratio and distribution of positive and negative brand mentions across different media channels over time.

- **Brand Equity Awareness Score:** Measures brand awareness and associated emotional attitudes, typically based on survey data or online data collection methods.
- **CSR and Sustainability Reputation Score:** Captures consumer perceptions of the company's environmental and social responsibility performance. This indicator is critical for reducing reputational risks and supporting value-based purchasing decisions.
- **Social and relational capital:** encompasses the resources that are generated through a company's external stakeholder network. These include strategic partners, suppliers, customers, and actors in the regulatory and social environment. These relationships play a significant role in reducing business risks, accessing information, ensuring supply chain stability, and strengthening market presence. Well-established relational capital not only creates trust, but also business synergies and collaboration benefits that can increase operational efficiency and result in faster time to market. Related business performance indicators:
 - **Partnership Synergy Score:** Evaluates the extent to which strategic alliances contribute to shared objectives, such as joint product development, market expansion, or cost reduction.
 - **Customer Advocacy Ratio:** Indicates the percentage of customers who actively support the company, reflecting the depth of customer relationships (e.g., recommendations, feedback, social media sharing).
 - **Supplier Collaboration Index:** Measures the strength of operational and strategic integration with key suppliers, including joint planning, data sharing, and supplier flexibility.
 - **Stakeholder Engagement Index:** Assesses the extent to which the company involves stakeholders in decision-making processes (e.g., public consultations, customer panels, supplier forums).
 - **Supply Chain Reliability Indicator:** Provides a combined evaluation of supplier performance (on-time delivery, quality, flexibility) and supplier-related risks (e.g., geographical concentration, substitutability).
 - **Customer Community Activity Level:** Captures the level of activity on platforms where customers interact with each other and with the company (e.g., community forums, customer experience sharing, co-creation projects).
 - **CSR Impact Index:** Measures the reputational and business impact of the company's corporate social responsibility activities, including community relations, sustainability objectives, and ethical values.
 - **Revenue Share from Collaborative Activities:** Represents the proportion of revenue generated from products, services, or markets jointly developed with strategic partners.
 - **Partner Satisfaction Index:** An indicator derived from surveys conducted among strategic partners, reflecting the quality of collaboration and its future potential.

- **Human capital** includes the knowledge, skills, experience, commitment, creativity and performance culture of a company's employees. Attracting, developing and retaining talent is key to sustaining organizational innovation and growth. A company can remain competitive in the long term if it not only builds on current knowledge but also proactively develops future competencies. The related business performance depends on how well employees are able to contribute to value creation, how quickly they acquire new skills, how committed and productive they are, and how stable the company's workforce retention is. Related business performance indicators:
 - **Knowledge retention rate** tracks how much critical knowledge remains within the company when employees leave or are promoted.
 - **Employee innovation index:** measures how employees contribute to innovative ideas, products, or services.
 - **Skill renewal rate:** the percentage of employees who acquire new skills through training or development programs annually.
 - **Absenteeism rate:** the ratio of absenteeism to total hours worked.
 - **Attrition rate:** the ratio of employees who leave the organization over a given period.
 - **New hire rate:** the ratio of new employees to total employees.
 - **Training engagement rate:** the number of employees who have participated in some form of training.
 - **Average hours spent on training:** the number of training hours per employee.
 - **Employee engagement:** an indicator measured based on the results of engagement surveys.
 - **Employee satisfaction,** measured by questionnaires or surveys, measures overall satisfaction.
 - **Performance appraisal coverage,** the proportion of employees participating in annual or semi-annual performance appraisals.
 - **Productivity indicator,** revenue per employee.
 - **Internal promotion rate,** the proportion of employees promoted.
 - **Absenteeism rate,** the proportion of missed work hours, an indicator of motivation, health status and workplace climate.
- **Digital Capital and Technological Adaptability Metrics:** Digital capital and technological adaptability metrics focus on digital infrastructure, IT systems, and a company's ability to adapt to technological change. Their objective is to assess the extent to which a company can leverage digital tools to gain operational advantages and secure future growth. Digital capital encompasses the digital resources, technological systems, and the resulting operational capabilities available within the organization. This competency becomes strategically significant when the company is able to convert digital assets into operational advantages, cost savings, speed, or innovation. Related business performance indicators include:

- **Digital Infrastructure Utilization Index:** Measures the extent to which the company's available digital systems, software, and tools are actually used in practice. It indicates the effectiveness of technology investments.
- **Digital Agility:** A key indicator of digital flexibility, measuring how quickly the company adopts new digital technologies (e.g., AI, automation, data-driven systems) and the time elapsed between adoption and full implementation.
- **Cybersecurity Resilience Index:** Indicates the security and reputational stability of digital operations. It evaluates the company's ability to detect, prevent, and recover from cyber threats, including the frequency of IT security audits, data loss incidents, and recovery time.
- **Digital Maturity Level:** Enables benchmarking against other companies by providing a composite indicator of the organization's progress in digital transformation (e.g., existence of a digital strategy, degree of data-driven operations, share of intelligent automation).
- **Artificial Intelligence Integration Ratio:** A forward-looking indicator measuring the proportion of AI-based solutions applied in the company's operations (processes, decision support, customer interactions).
- **Data-Driven Decision-Making Ratio:** Reflects the extent to which digital intelligence is embedded in operations by measuring the percentage of decisions based on real data and digital analytics rather than routines or intuition.
- **Digital Training Coverage:** Measures the cultural embeddedness of technological adaptation, indicating the proportion of employees who have participated in digital skills development programs (e.g., BI tools, data interpretation, AI applications).
- **Cultural Capital:** Cultural capital represents the aggregate of an organization's core values, norms, behavioral patterns, and beliefs that shape the quality of internal operations, the space for learning and innovation, and attitudes toward change. Cultural capital can either facilitate or hinder the achievement of strategic and operational objectives. This competence becomes a source of competitive advantage when it fosters creativity, risk-taking, openness, and collaboration—that is, the behavioral patterns essential for adapting to a complex business environment. Related business performance indicators include:
 - **Cultural Adaptability Index:** Measures the extent to which corporate culture responds flexibly and proactively to market or organizational changes. It may be based on internal surveys, change management success rates, or feedback mechanisms.
 - **Organizational Collaboration Level:** Indicates the quality of horizontal collaboration among departments, teams, and individuals. It facilitates knowledge sharing, accelerates problem-solving, and supports innovation. It can be measured by the number of joint projects, the proportion of shared performance objectives, or survey-based synergy indicators.
 - **Internalization of Corporate Values:** Measures the extent to which employees identify with the company's core values, mission, and strategic objectives. Data sources may include internal satisfaction surveys, feedback systems, or conflict assessment tools.

- **Creative Initiative Ratio:** Serves as an indicator of openness and experimentation culture. It captures the number of internal proposals, developments, or innovations initiated independently by employees and subsequently implemented by the organization.
- **Risk-Taking Comfort Index:** Measures how safe employees feel when proposing new ideas, making mistakes, or experimenting with new approaches.
- **Feedback Culture Quality:** Assesses the effectiveness of formal and informal feedback channels (e.g., 360-degree evaluations, managerial feedback, internal audits).
- **Quality and Operational Excellence Competency:** Quality and operational excellence competency refers to a company's ability to continuously improve its operational processes, reduce waste, and operate stable, standardized systems. This competency extends beyond the quality of products and services to include the reliability, efficiency, and continuous improvement potential of business processes. The application of methodologies such as Lean, Six Sigma, or Total Quality Management (TQM) indicates that the company consciously strives for defect-free, customer-oriented, and optimized operations. These systems not only reduce costs but also create competitive advantage, enhance customer retention, and ensure operational stability. Related business performance indicators include:
 - **Defect Rate:** A key indicator of quality control and process stability, measuring the proportion of defective products or services relative to total output.
 - **Rework Rate:** Represents the proportion of outputs that must be reworked due to defects, in both manufacturing and service activities. It directly reflects resource waste and operational efficiency.
 - **Scrap Rate:** Measures the proportion of materials or products that are irreversibly lost or scrapped. It serves as an indicator of process stability and process control.
 - **Process Maturity Index:** Evaluates the level of standardization, documentation, and improvement capability of corporate processes. It may be based on internal assessments or international frameworks (e.g., CMMI). This indicator forms the foundation of long-term sustainable operations and a quality-oriented culture.
 - **Lean Maturity Level:** Measures the depth to which Lean management principles are embedded in organizational operations (e.g., identification of waste types, 5S, visual management, value stream mapping). It reflects the organization's capability to reduce waste and maximize customer value.
 - **Six Sigma Project Ratio:** Indicates the proportion of Six Sigma projects within the total portfolio of improvement initiatives during a given period. It serves as an indicator of a data-driven quality improvement culture.
 - **TQM Embeddedness Index:** Assesses the extent to which Total Quality Management principles permeate the entire organization (e.g., top management commitment, employee involvement, continuous improvement cycles). It reflects the strategic integration of total quality management.

- **Business and Value-Creating Process Capability:** Business and value-creating process capability measures the extent to which a company is able to execute its operational processes efficiently, cost-consciously, and flexibly, while adapting to environmental and market changes. The objective is to optimize value creation by delivering customer requirements quickly, reliably, and cost-effectively across the entire value chain. This competency is critical for competitiveness and operational excellence, as it enables the analysis of operational performance, the identification of inefficiencies and losses, and the strategic reallocation of resources. Related business performance indicators include:
 - **Value Chain Efficiency Indicator:** Analyzes the value added, overlaps, and cost ratios across the stages of the value creation process (procurement, production, sales). It helps identify points where the company creates or loses real competitive advantage.
 - **Cost Optimization Rate:** Measures the percentage of total costs that can be reduced or avoided through more efficient operations, automation, or the introduction of new processes. It reflects operational efficiency and the effectiveness of business transformation initiatives.
 - **Process Lead Time:** Measures the duration of key operational processes. It is a critical indicator of speed and customer service performance.
 - **Process Utilization Rate:** Indicates the extent to which the operational capacity of a given process is utilized. It is used to assess efficiency and resource allocation.
 - **Operational Flexibility Index:** Measures the company's ability to rapidly reorganize business processes in response to new requirements (e.g., introduction of product variants, handling demand fluctuations). It serves as a key indicator of dynamic market adaptability.
 - **Response Time:** Represents the average time required to respond to environmental changes or customer demands. It is a competition-critical metric from the perspectives of customer retention and reliability.
 - **Supply Chain Reliability Indicator:** Evaluates delivery accuracy, inventory turnover speed, and the proportion of stockout days. It is a key component of operational security and service performance.
- **Environmental responsibility competency** refers to a company's ability to organize its operations in a sustainable manner, minimize environmental impact, and actively contribute to the preservation of social and ecological values. This includes the application of environmental accounting, which supports the separate identification of environmental costs and expenditures, the monitoring of environmentally friendly investments, and the measurement of environmental performance. The significance of this competency lies in the fact that integrating environmental considerations is important not only for regulatory compliance and meeting societal expectations but increasingly also as a source of business competitive advantage. Environmental responsibility strengthens corporate reputation, improves investor perception, and contributes to long-term sustainability, while companies are subject to increasingly stringent reporting.

- **Energy Efficiency Indicators:** Energy consumption per unit of output and the share of renewable energy in total energy use.
- **Emission Reduction Indicators:** Total CO₂ emissions or emissions relative to revenue, as well as the rate of reduction in greenhouse gas emissions.
- **Waste Management Ratios:** Proportion of recycled waste and the minimization of hazardous waste.
- **Water Usage Indicators:** Water consumption per unit of output (m³ per product unit) and the water recirculation ratio.
- **Green Investment Ratio:** The proportion of environmental protection and energy efficiency investments within total capital expenditures.
- **Sustainability Reporting Coverage:** The share of quantified and audited indicators included in ESG/CSR reports.
- **Environmental Risk Index:** Measures the extent to which environmental risks associated with operations are identified and mitigated.
- **Sustainability and reporting competency** refers to a company's ability to document, quantify, and transparently communicate its operations in accordance with sustainability, ESG, and regulatory requirements to relevant stakeholders. This includes mandatory reporting obligations under the EU's Corporate Sustainability Reporting Directive (CSRD) and the EU Taxonomy, which require the disclosure of environmental, social, and governance performance indicators. The significance of this competency lies in ensuring that the company not only integrates sustainability considerations into its internal operations but is also capable of presenting them credibly to investors, regulatory authorities, and society at large. This capability contributes to strengthening corporate reputation, increasing investor confidence, and supporting long-term competitiveness:
 - **ESG Reporting Coverage:** The proportion of ESG indicators presented and audited in sustainability reports relative to the company's overall operations.
 - **EU Taxonomy Alignment Ratios:** The share of environmentally sustainable activities based on CAPEX, OPEX, and revenue, in accordance with the EU Taxonomy framework.
 - **Sustainability Audit Index:** Assesses the frequency and depth with which the company's sustainability reports are reviewed by independent auditors.
 - **Transparency Indicator:** Measures the level of detail and traceability of publicly available sustainability data.
 - **Stakeholder Feedback Index:** Indicates the extent to which disclosed sustainability information meets the expectations of various stakeholder groups (investors, customers, and society).

Systematizing corporate competencies and business performance indicators enables corporate management not only to evaluate past results but also to identify the capabilities and resources that are critical drivers of future performance and competitiveness. The added value of competence-based performance measurement lies in making invisible value-creating factors visible, linking day-to-day operations with strategic objectives, and providing targeted diagnostic, development, and decision-support functions.

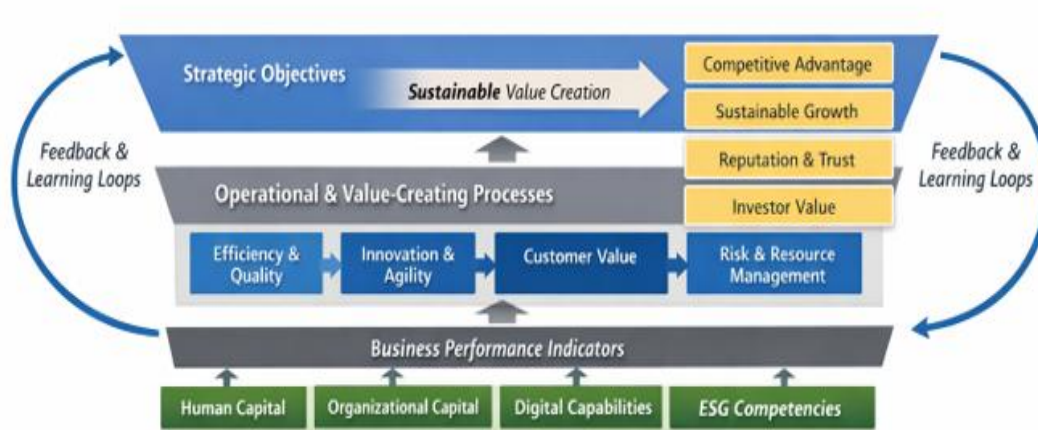


Figure 3: Business Performance Measurement Framework

Source: author's own compilation

The Figure 3 illustrates how business performance is transformed into value through the alignment of corporate capabilities, operational processes, and strategic objectives. Business performance measurement makes intangible capabilities visible and manageable, enabling their conversion into operational results. The framework highlights that value is not generated by financial outcomes alone, but by the continuous transformation of capabilities into performance. Feedback and learning loops ensure that performance measurement supports ongoing adaptation, strategic renewal, and sustainable growth.

The framework presented in the figure is built around the distinction between **operational value** and **sustainable value**, and explains how business performance is transformed into long-term value creation. Operational value refers to the short- and medium-term value generated through the company's day-to-day activities, such as efficient processes, cost-conscious operations, quality, speed, and reliable customer service. It reflects the organization's ability to convert its resources and capabilities into measurable operational performance. Sustainable value, in contrast, represents long-term value creation that extends beyond immediate financial results and includes competitiveness, adaptability, reputation, investor confidence, and environmental and social responsibility. Sustainable value emerges when operational performance is continuously renewed and aligned with long-term strategic objectives. At the foundation of the framework are **corporate capabilities**, which represent the firm's underlying ability to operate and develop effectively. These capabilities include knowledge, organizational structures, culture, leadership practices, digital readiness, and innovation capacity. Although they are largely intangible and not directly visible in financial statements, they form the basis of value creation.

Corporate capabilities are transformed into results through **operational and value-creating processes**, which connect internal resources with customer-facing outcomes. The efficiency, flexibility, and reliability of these processes determine the level of operational value that the company is able to generate.

Business performance measurement plays a central role in the framework by making these capabilities and processes visible, measurable, and manageable. Rather than focusing solely on outcomes, performance measurement also captures the drivers of performance, enabling managers to identify strengths, weaknesses, and development opportunities. By linking performance indicators to **strategic objectives**, the framework ensures that operational improvements are not isolated actions but contribute directly to long-term competitiveness and value creation. Finally, the framework emphasizes the importance of **feedback and learning loops**. These mechanisms ensure that performance information is continuously fed back into decision-making and organizational learning. Through feedback and learning, the company is able to adjust its processes, develop its capabilities, and renew its strategy over time. In this way, business performance measurement becomes a dynamic system that supports ongoing adaptation, strategic renewal, and the sustainable transformation of operational value into long-term value creation.

The framework explicitly illustrates how business performance elements are transformed into value and ultimately into sustainable value creation. Business performance does not represent value in itself; rather, it acts as an intermediate mechanism through which corporate capabilities are converted into tangible and intangible outcomes. When corporate capabilities are mobilized through operational and value-creating processes, they generate operational performance in the form of efficiency, quality, speed, reliability, flexibility, and customer satisfaction. These performance elements together constitute operational value, which reflects how effectively the organization delivers value in its day-to-day activities.

Operational value becomes economic and strategic value when performance outcomes are consistently aligned with strategic objectives. Cost efficiency improves margins, quality and reliability strengthen customer retention, speed and flexibility enhance market responsiveness, and process stability reduces operational risk. Through this alignment, business performance is transformed into competitive advantage, financial results, and stakeholder value. Importantly, value creation is therefore not a direct consequence of financial outcomes, but the result of well-performing operational systems built on underlying capabilities.

The framework further demonstrates that sustainable value creation emerges when operational value is continuously renewed over time. Feedback and learning loops ensure that performance information is reintegrated into capability development, process redesign, and strategic adjustment. This dynamic interaction allows the organization to adapt to environmental changes, strengthen resilience, and maintain long-term competitiveness. As a result, business performance measurement functions not only as an evaluation tool but as a value-conversion mechanism that transforms operational performance into sustainable value creation.

3.2.3. Objectives and Key Areas of Financial Performance Measurement

Financial performance measurement refers to a company's ability to assess its success through quantitative indicators, either in relation to its internal objectives or to external benchmarks. This practice primarily relies on metrics that evaluate financial health and are essential for monitoring operational efficiency, resource allocation, profitability, and financial stability. Financial performance measurement therefore not only indicates how a company performs relative to industry standards, competitors, or its own historical results, but also reflects its short-term viability and the effectiveness with which it utilizes its resources. At the core of financial performance measurement are the classical financial statements—the balance sheet, income statement, and cash flow statement—which record past performance while simultaneously providing a foundation for future decision-making. Financial performance indicators derived from these statements (such as liquidity ratios, leverage indicators, profitability ratios, and asset efficiency measures) present the company's economic reality in a structured and quantifiable form. However, financial performance cannot be reduced to a single indicator; comprehensive evaluation always requires the joint analysis of multiple dimensions. The classification of financial performance indicators follows international practices and includes profitability, efficiency, liquidity and capital structure, as well as cash-generating capacity metrics. These are complemented by market-based and resilience indicators, as well as institutional KPI sets. This systematic approach ensures that all critical aspects of corporate operations are measurable and assessable. The objectives of financial performance measurement address the information needs of multiple stakeholder groups. For owners and investors, it supports the assessment of returns and value creation; for management, it enables the evaluation of operational efficiency; for creditors and banks, it facilitates the analysis of solvency and debt-servicing capacity; and for regulators and supervisory authorities, it ensures transparency and comparability. Consequently, financial performance measurement fulfills both internal management and external communication functions.

In a broader sense, financial performance measurement represents the quantitative mapping of corporate strategy and operations. Through objective data, it renders value creation assessable, supports resource allocation, and underpins strategic decision-making. In today's data-driven business environment, financial performance measurement is no longer merely a technical exercise but a strategically significant activity, closely linked to the company's objectives, financial context, and operational reality.

Overall, the objective of financial performance measurement is to:

- Present the company's financial position and operating results in an objective manner;
- Communicate financial information transparently to various stakeholder groups;
- Support long-term sustainable value growth and competitiveness through a value-based perspective.

Table 19. : Comparison of Traditional Financial Statement Analysis and Financial Performance Measurement

Aspect	Financial Statement Analysis	Financial Performance Measurement
Subject	Complete financial statements.	Performance indicators derived from accounting and reporting data.
Method	Horizontal, vertical, trend, ratio, and structural analysis.	Calculation and interpretation of performance indicators.
Objective	Comprehensive diagnosis of the company's financial position and profitability.	Measurement of profitability, efficiency, and stability for a given closed period.
Regulation / Frequency	Legally regulated, mandatory analysis, usually conducted annually.	Managerial decision-based; flexible frequency (e.g. weekly, quarterly, project-based).
Time Horizon	Based on data from a closed financial year.	Applicable to any time period.
Users	Owners, creditors, investors, authorities (public information users).	Stakeholders; evaluation of operations, risks, returns, and decision support.
Output	Broad overview: financial condition, structure, and processes.	Targeted output: quantitative evaluation of financial performance for a given period.

Source: own compilation

In practice, the concept of financial performance measurement is often conflated with financial analysis, as both approaches rely on a company's financial data. However, the objectives and interpretative focus of the two areas are not identical. Financial analysis primarily serves a diagnostic purpose by exploring and interpreting the company's financial management and performance. In contrast, financial performance measurement is explicitly aimed at evaluating the effectiveness, efficiency, and stability of operations, as well as supporting managerial decision-making. Table 19 illustrates the differences between these two approaches. Financial performance reflects how effectively a company is able to generate revenue, manage its assets and liabilities, and satisfy the financial interests of shareholders and other stakeholders. The measurement of financial performance is primarily based on financial statements, from which a wide range of indicators can be derived, including profitability, liquidity, leverage, and cash flow dynamics. Traditional financial statement analysis is static in nature, focusing on past results and relying mainly on classical financial ratios.

In contrast, financial performance measurement represents a more dynamic approach: it applies a broader set of indicators, monitors corporate operations in near real time, and supports management through forecasting and decision-support information. This dual perspective ensures that, in addition to past experience, the current situation and future prospects can also be evaluated. As a result, financial performance measurement becomes an indispensable tool of corporate performance management.

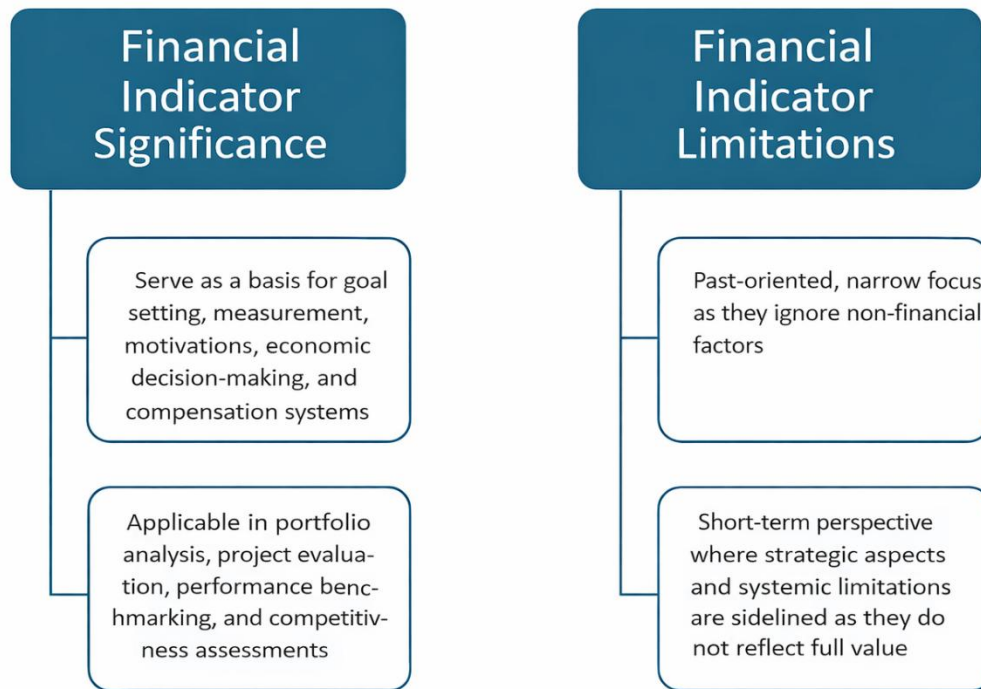


Figure 4: The importance and limitations of financial indicators

Source: author's own compilation

The significance of financial indicators lies in their ability to provide a quantifiable and objective picture of economic performance, while also serving as a foundation for goal setting, performance measurement, and the design of managerial motivation and compensation systems. They are widely applied in portfolio analysis, project evaluation, plan–actual comparisons, and competitiveness assessments, and therefore constitute a primary analytical toolkit for management, investors, and regulators alike. At the same time, the limitations of financial indicators are also evident. They are backward-looking and narrowly focused, as they do not take into account non-financial factors such as human capital development, innovation, or customer satisfaction. Moreover, they tend to reinforce a short-term perspective and marginalize strategic considerations, failing to reflect the company's full value. For this reason, modern performance management requires complementary systems—such as non-financial KPIs or integrated performance measurement frameworks—in order to reveal a company's true value-creation capability.

The classification of financial performance measurement indicators is based on the premise that different financial dimensions of corporate operations address different analytical questions and, at the same time, satisfy the information needs of different stakeholder groups. Most indicators can be derived directly from accounting statements, thereby providing an objective and comparable representation of performance:

- **Profitability Indicators:** These indicators show how effectively a company is able to generate profit from its revenues and what level of return it provides to owners and investors. **Primary stakeholder group:** shareholders, investors.
- **Efficiency Indicators:** Measure how efficiently resources (assets, inventories, receivables) are utilized in generating revenue and profit. **Primary stakeholder group:** management, controlling.
- **Liquidity and Capital Structure Indicators:** Address whether the company is able to meet its short- and long-term financial obligations and assess the risk embedded in its financing structure. **Primary stakeholder group:** creditors, banks, regulators.
- **Cash-Generating Capacity Indicators:** Evaluate the company's ability to generate cash and indicate the sustainability of operational financing, dividend payments, and debt servicing. **Primary stakeholder group:** owners, creditors, management.
- **Corporate Resilience Indicators:** Provide insights into the company's market valuation, crisis resistance, and long-term sustainability prospects. **Primary stakeholder group:** investors, market analysts.
- **Institutional KPI Sets:** Metrics linked to international guidelines that support comparability and standardization across organizations. **Primary stakeholder group:** regulators, international institutions, supervisory authorities.

These indicator groups together form a structured financial measurement system that supports a multidimensional interpretation of corporate performance. However, the usefulness of financial indicators depends not only on their calculation but also on their contextual interpretation, as the same ratio may reflect different realities across industries, business models, and economic cycles. Therefore, financial analysis should always be complemented by benchmarking and trend analysis in order to identify whether performance changes are driven by internal improvements or external market effects. In addition, the selection of indicators must reflect the company's strategic priorities, because an excessive focus on profitability may lead to underinvestment in innovation, sustainability, or organizational capabilities. Financial indicators also play a key role in supporting corporate valuation, as they provide essential inputs for cash flow forecasting, cost of capital estimation, and risk assessment. At the same time, a well-designed financial KPI system must incorporate forward-looking logic by linking historical outcomes to future-oriented drivers such as growth potential, reinvestment capacity, and financial flexibility. This is especially relevant in periods of uncertainty, when liquidity, solvency, and cash-generation indicators become critical for survival. Corporate resilience indicators, in this context, provide an additional layer of interpretation by capturing the firm's ability to absorb shocks, maintain operational stability, and preserve value under stress conditions.

Table 20.: Financial Performance Measurement – Profitability and Efficiency Indicators

Indicator	Definition	Formula
Asset Turnover	Measures how efficiently assets generate revenue.	Revenue / Average Total Assets
Inventory Turnover	Measures how quickly inventory is sold and replaced.	COGS / Average Inventory
Days Inventory Outstanding (DIO)	Average number of days inventory is held.	$365 \times \text{Average Inventory} / \text{COGS}$
Receivables Turnover	Measures how efficiently receivables are collected.	Revenue / Average Accounts Receivable
Days Sales Outstanding (DSO)	Average number of days to collect receivables.	$365 \times \text{Average Accounts Receivable} / \text{Revenue}$
Payables Turnover	Measures how quickly suppliers are paid.	COGS / Average Accounts Payable
Days Payables Outstanding (DPO)	Average number of days to pay suppliers.	$365 \times \text{Average Accounts Payable} / \text{COGS}$
Cash Conversion Cycle (CCC)	Time required to convert operations into cash.	$\text{DIO} + \text{DSO} - \text{DPO}$
Return on Equity (ROE)	Profitability relative to shareholders' equity.	Net Income / Equity
Return on Assets (ROA)	Profitability relative to total assets.	Net Income / Total Assets
Return on Sales (ROS)	Operating profitability of sales.	Operating Income / Net Revenue
Net Profit Margin	Share of net profit in revenue.	Net Income / Net Revenue
EBIT Margin	Operating profit margin before interest and taxes.	EBIT / Net Revenue
Gross Margin	Gross profitability after cost of goods sold.	$(\text{Net Revenue} - \text{COGS}) / \text{Net Revenue}$
Return on Capital Employed (ROCE)	Profitability of employed capital.	EBIT / Capital Employed
Interest Coverage Ratio	Ability to cover interest expenses.	EBIT / Interest Expense
Leverage Ratio	Degree of financial leverage.	Total Liabilities / Equity
Dividend Yield	Dividend return relative to share price.	Dividend per Share / Share Price

Source: Own compilation based on Akkoç & Vatansever (2013), Bertoneche & Knight (2015), Brealey & Myers (2023), OECD (2024).

Profitability indicators express the extent to which a company is able to transform its available resources into profit. These indicators provide a comprehensive picture of a firm's financial performance and long-term sustainability by showing how efficiently operations utilize costs and how revenues and investments are converted into earnings.

Profitability = Profit measure / Base of comparison

Numerator (profit measure): e.g. operating (business) profit, net income, EBIT, EBITDA, etc. **Denominator (base of comparison):** e.g. revenue, equity, total assets, total expenses, etc.

Profitability indicators used in financial performance measurement shed light on corporate operations from multiple perspectives. **Asset Turnover** shows how efficiently assets generate revenue; depending on the industry, a value between 1 and 2 is generally considered favorable. **Inventory Turnover** and the related **Days Inventory Outstanding (DIO)** provide insight into the efficiency of inventory management: higher turnover and a lower number of days are typically preferable, with a DIO range of 30–90 days usually regarded as acceptable. **Receivables Turnover** and **Days Sales Outstanding (DSO)** measure collection discipline, where a payment period of 30–60 days is commonly accepted practice. **Payables indicators** (Payables Turnover, **Days Payables Outstanding – DPO**) reflect payment discipline; it is considered favorable if DPO approximates the average customer payment period, ensuring that the company does not excessively finance its business partners.

These indicators are summarized in the **Cash Conversion Cycle (CCC)**, which shows the total duration of the cash circulation process. Generally, a cycle of 30–90 days is considered acceptable, although a shorter cycle indicates a more favorable liquidity position. Classical profitability indicators include **Return on Equity (ROE)**, which measures the return on capital invested by owners; an optimal value typically lies around 10–15 percent. **Return on Assets (ROA)** expresses the profit-generating capability of total assets and is generally considered favorable when exceeding 5 percent. **Return on Sales (ROS)** and the **Net Profit Margin** measure profitability relative to revenue: depending on the industry, a ROS of 5–10 percent and a net profit margin of 3–8 percent indicate a healthy level.

The **Gross Margin** depends on competitive conditions, but a range of 20–40 percent is generally acceptable. For the **EBIT Margin**, values above 10 percent typically indicate stable operations. **Return on Capital Employed (ROCE)** measures the efficiency of employed capital, with values around 8–12 percent considered ideal. Among capital structure-related indicators, the **Interest Coverage Ratio** reflects the company's ability to meet interest obligations; values above 3 indicate financial stability, while values below 1 signal significant risk. In the case of the **Leverage Ratio**, lower values are generally preferable; however, depending on industry characteristics, a level around 0.5–1.0 is considered sustainable. Finally, **Dividend Yield** indicates the return realized by shareholders; an optimal range of 2–5 percent ensures investor satisfaction while allowing the company to retain sufficient resources to finance growth (Table 20).

Efficiency indicators express the extent to which a company is able to use its available resources—such as assets, inventories, labor, or capital—effectively and transform them into performance outcomes. The purpose of these indicators is to measure how efficiently business operations achieve the optimal utilization of costs and inputs.

The general formula of **economic efficiency** is:

Economic efficiency = Output (performance) / Utilized production resources (inputs)

Numerator (output / performance): e.g. number of products produced, sales revenue, value added, profit, etc.

Denominator (inputs): e.g. material costs, labor, energy, machine time, capital, etc.

This formula shows how much output is generated from a single unit of input. The higher the value, the more efficient the company's operations. Efficiency indicators are of key importance in corporate performance measurement because they not only complement financial profitability measures but also highlight operational weaknesses and areas where improvement can be achieved. These indicators enable industry benchmarking and allow companies to identify their own strengths and shortcomings relative to competitors. Measuring efficiency is one of the most important areas of financial performance management, as it reveals how effectively a company is able to utilize its resources. At the core of efficiency indicators is always the relationship between inputs and outputs: the greater the output achieved with a given level of resource consumption, the more efficient the operation. Efficiency indicators do not merely assess past performance; they also provide signals about the long-term sustainability of corporate processes. Through efficiency analysis, operational bottlenecks can be identified, such as excessive inventory levels, slow customer payments, or low productivity. Per-employee indicators play a particularly important role, such as revenue per employee or value added per employee. These measures show the level of performance that the workforce is able to generate and how efficiently available resources are utilized. Companies frequently apply these indicators in industry comparisons, as they make it possible to assess performance per employee relative to competitors.

The three-table classification of efficiency indicators is based on the analytical focus and the level at which efficiency is examined within the organization. The first group (Table 21) concentrates on turnover and cycle efficiency, capturing how quickly assets and working capital elements are converted into revenue and cash. The second group (Table 22) focuses on revenue and cost efficiency, linking financial outputs to key input factors such as labor, costs, and capital employed. The third group (Table 23) addresses productivity and functional efficiency, providing a more granular view of how specific operational and functional resources contribute to performance. This layered structure ensures conceptual clarity and supports both high-level financial analysis and detailed operational diagnostics. As a result, the three-table structure enables a comprehensive and well-structured assessment of efficiency across different managerial decision levels.

Table 21 presents turnover and cycle efficiency indicators that focus on how effectively a company manages its assets, inventories, receivables, and payables within its operating cycle. These indicators describe the speed at which resources are converted into revenue and cash, thereby providing insight into working capital management and short-term operational efficiency. Asset turnover and inventory-related measures reveal how intensively the firm utilizes its asset base and inventory levels to generate sales. Receivables and payables indicators reflect the balance between collection discipline and payment practices, highlighting potential liquidity pressures or financing advantages. The Cash Conversion Cycle integrates these elements into a single measure, capturing the overall duration of cash tied up in operations and serving as a key indicator of short-term financial efficiency.

In addition to their operational relevance, the indicators in Table 21 play a critical role in assessing liquidity risk and short-term financial resilience. Prolonged inventory holding periods or weak receivables collection can significantly increase financing needs and expose the firm to cash flow pressure. Conversely, efficient turnover and a shorter cash conversion cycle enhance financial flexibility and reduce dependence on external financing. As such, these indicators are not only measures of efficiency but also early warning signals of potential operational and financial imbalances.

Table 21.: Financial Performance Measurement – Turnover and Cycle Efficiency Indicators

Indicator	Description	Formula
Asset Turnover (TATO)	Efficiency of total asset utilization.	Net Revenue / Total Assets
Inventory Turnover	Speed of inventory rotation.	Net Revenue / Inventory
Days Inventory Outstanding (DIO)	Average inventory holding period.	$365 \times \text{Average Inventory} / \text{COGS}$
Receivables Turnover	Efficiency of receivables collection.	Net Revenue / Average Accounts Receivable
Days Sales Outstanding (DSO)	Average collection period.	$365 \times \text{Average Accounts Receivable} / \text{Revenue}$
Payables Turnover	Speed of supplier payments.	$\text{COGS} / \text{Average Accounts Payable}$
Days Payables Outstanding (DPO)	Average supplier payment period.	$365 \times \text{Average Accounts Payable} / \text{COGS}$
Cash Conversion Cycle (CCC)	Length of cash circulation.	$\text{DIO} + \text{DSO} - \text{DPO}$
Equity Turnover	Efficiency of equity utilization.	Net Revenue / Equity

Source: Own compilation based on Akkoç-Vatansever (2013), Bertoneche–Knight (2015), Brealey–Myers (2023), OECD (2024).

Table 22 focuses on revenue and cost efficiency indicators that evaluate how effectively a company transforms its cost structure, labor input, and capital base into revenue and profit. These indicators provide a bridge between operational activity and financial outcomes by examining the relationship between output and key input factors such as labor, assets, and total costs. Measures such as revenue per employee and revenue-to-cost ratios offer insights into economic productivity and cost control, while return-based indicators reflect the effectiveness of capital utilization. From a managerial perspective, these indicators support performance benchmarking, internal efficiency analysis, and resource allocation decisions. They are particularly useful for assessing whether growth is driven by real efficiency improvements or merely by increased input consumption. Beyond their descriptive role, the indicators in Table 22 provide important insights into the economic logic of value creation within the firm. By relating revenues to labor input, total costs, and capital employed, these measures highlight whether growth is efficiency-driven or input-intensive. Revenue-based efficiency ratios allow management to identify structural cost rigidities and potential productivity gaps across organizational units. At the same time, return-oriented indicators support strategic evaluation by linking operational efficiency to profitability outcomes. These measures are particularly useful in internal benchmarking and performance comparison across business units or time periods. From a managerial perspective, they contribute to more informed resource allocation and cost optimization decisions. Moreover, the indicators help distinguish between short-term performance improvements and sustainable efficiency gains. As such, Table 21 plays a central role in connecting operational efficiency with financial performance and strategic control. In addition, these indicators may serve as early warning signals, as declining revenue efficiency can indicate operational bottlenecks, capacity underutilization, or weakening market demand. When interpreted together with profitability and cash flow metrics, they provide a more complete picture of whether the company's efficiency improvements translate into sustainable financial value creation.

Table 22.: Financial Performance Measurement – Revenue and Cost Efficiency Indicators

Indicator	Description	Formula
Revenue per Employee	Revenue generated per employee.	Net Revenue / Number of Employees
Revenue to Cost Ratio	Revenue relative to total costs.	Net Revenue / Total Costs
Revenue to Profit Ratio	Revenue relative to profit.	Net Revenue / Net Income
Labour Efficiency Ratio	Efficiency of labor input.	Net Revenue / Labour Costs
Asset Efficiency Ratio	Revenue relative to asset book value.	Net Revenue / Book Value of Assets
Return on Capital (ROC)	Return generated on equity capital.	Net Income / Equity

Source: Own compilation based on Akkoç-Vatansever (2013), Bertoneche–Knight (2015), Brealey–Myers (2023), OECD (2024).

Table 23 presents productivity and functional efficiency indicators that assess the effectiveness of specific operational and functional areas within the organization. These measures extend beyond aggregate financial efficiency by focusing on labor productivity, material usage, energy efficiency, marketing effectiveness, project performance, and innovation outcomes. By linking functional inputs to measurable outputs, these indicators provide detailed diagnostic information on where value is created or lost within the organization. They are especially relevant in performance management systems that aim to support continuous improvement, operational optimization, and innovation-driven growth. Together, these indicators complement traditional financial metrics by revealing the underlying drivers of efficiency and long-term competitiveness. The indicators presented in Table 23 deepen the analysis of efficiency by focusing on functional and operational performance at a more granular level. These measures reveal how effectively specific inputs—such as labor, materials, energy, and marketing expenditures—are transformed into measurable outputs. By isolating individual functional areas, the indicators support targeted diagnostics and process-level improvement initiatives. They are particularly valuable in identifying bottlenecks, inefficiencies, or underperforming activities that may not be visible through aggregate financial metrics. In addition, project- and innovation-related efficiency indicators highlight the firm’s ability to convert investments into future-oriented value.

Table 23.: Financial Performance Measurement – Productivity and Functional Efficiency Indicators

Indicator	Description	Formula
Labour Productivity Ratio	Output per labor input.	Output / Labour Input
Material Efficiency Ratio	Efficiency of material usage.	Net Revenue / Material Costs
Material Ratio	Material intensity of revenue.	Material Costs / Net Revenue
Labour Cost Ratio	Share of labor costs in revenue.	Labour Costs / Net Revenue
Labour Hour Efficiency	Revenue per labor hour.	Net Revenue / Hours Worked
Depreciation Ratio	Depreciation intensity.	Depreciation / Net Revenue
Energy Efficiency Ratio	Revenue per energy consumption.	Net Revenue / Energy Consumption
Marketing Efficiency Ratio	Revenue per marketing cost.	Net Revenue / Marketing Costs
Project Efficiency Ratio	Return on project investments.	Project Result / Project Costs
Innovation Efficiency Ratio	Revenue from innovation.	Revenue from New Products / Total Revenue

Source: Own compilation based on Akkoç-Vatansever (2013), Bertoneche–Knight (2015), Brealey–Myers (2023), OECD (2024).

Liquidity ratios are of outstanding importance in financial performance measurement because they directly indicate whether a company is able to meet its short-term obligations. Maintaining continuous solvency is a fundamental condition for uninterrupted operations; if a company is unable to settle its liabilities on time, this not only undermines creditors' confidence but also jeopardizes relationships with business partners. Short-term liquidity ratios (such as the current ratio, quick ratio, and cash ratio) measure the coverage of short-term liabilities with varying degrees of strictness. Based on the development of these indicators, management can assess to what extent current assets ensure short-term solvency (Table 24).

Table 24.: Financial Performance Measurement – Liquidity and Capital Structure

Indicator	Description	Formula
Current Ratio	Measures the ability to cover short-term liabilities with current assets.	$\text{Current Assets} / \text{Current Liabilities}$
Quick Ratio	Assesses short-term liquidity excluding inventories.	$(\text{Current Assets} - \text{Inventories}) / \text{Current Liabilities}$
Cash Ratio	Shows the extent to which liabilities are covered by cash.	$\text{Cash and Cash Equivalents} / \text{Current Liabilities}$
Defensive Interval Ratio	Indicates how long daily operations can be financed from liquid assets.	$(\text{Cash} + \text{Short-term Receivables}) / \text{Daily Operating Expenses}$
Working Capital	Represents net short-term financial resources.	$\text{Current Assets} - \text{Current Liabilities}$
Working Capital to Assets	Shows the proportion of current assets in total assets.	$\text{Current Assets} / \text{Total Assets}$
Debt Ratio	Measures the share of assets financed by liabilities.	$\text{Total Liabilities} / \text{Total Assets}$
Debt-to-Equity Ratio	Indicates the balance between debt and equity financing.	$\text{Total Liabilities} / \text{Equity}$
Equity Ratio	Shows the proportion of assets financed by equity.	$\text{Equity} / \text{Total Assets}$
Capitalization Ratio	Measures long-term debt within permanent capital.	$\text{Long-term Debt} / (\text{Long-term Debt} + \text{Equity})$
Interest Coverage Ratio	Indicates the ability to cover interest expenses from operating profit.	$\text{EBIT} / \text{Interest Expense}$

Source: Own compilation based on Akkoç-Vatansever (2013), Bertoneche-Knight (2015), Brealey-Myers (2023), OECD (2024).

Liquidity analysis is particularly important in performance measurement because profitability alone does not guarantee survival: if profits are generated only “on paper” without corresponding cash inflows, the company may face liquidity difficulties. Therefore, liquidity ratios complement profitability analysis by providing a comprehensive assessment of the company’s financial position. Very low ratios indicate insolvency risk, while excessively high values may suggest inefficient resource utilization, as too many assets are held in liquid form instead of being invested in production or development. Liquidity ratios measure a company’s short-term solvency and its ability to meet obligations as they fall due. The **Current Ratio** expresses the relationship between current assets and current liabilities, indicating the firm’s capacity to cover short-term obligations. An optimal value is generally considered to be between 1.5 and 2; a ratio below 1 signals potential solvency problems, while excessively high values may indicate idle asset accumulation. The **Quick Ratio** is a stricter measure because it excludes inventories from current assets, thus relating only liquid assets to short-term liabilities. An acceptable level is typically around 1. The **Cash Ratio** is the most conservative indicator, as it compares only cash and cash equivalents to current liabilities; its typical range is between 0.2 and 0.5. The **Defensive Interval Ratio** indicates how many days cash and short-term receivables can cover daily operating expenses. The higher this value, the larger the company’s safety buffer; values between 30 and 90 days are generally regarded as stable.

Working Capital is defined as the difference between current assets and current liabilities. A positive value indicates that the company has sufficient short-term resources to meet its obligations, while a negative value signals liquidity risk. The **Working Capital to Assets ratio** shows the proportion of current assets within total assets; a healthy level typically ranges between 20% and 40%, depending on the industry. This indicator directly measures short-term solvency. Positive working capital means that the firm has more short-term resources than short-term obligations, enabling it to meet payment commitments safely. Conversely, negative working capital may indicate difficulties in settling liabilities on time. This indicator is important not only for assessing solvency but also for understanding the financing structure of operations. Excessively high working capital may signal inefficiency, as too much capital is tied up in inventories or receivables. Consequently, maintaining working capital at an optimal level is a key managerial task: short-term security must be ensured while minimizing capital lock-up. For this reason, working capital is a fundamental measure in both financial analysis and performance measurement, representing the intersection of liquidity, operational efficiency, and risk management.

Capital structure ratios examine the financing structure of the company and show the proportion of equity and debt financing. From a performance measurement perspective, these indicators are significant because an optimal capital structure balances the two sources. A high proportion of debt (reflected in high debt and leverage ratios) increases financial risk, as regular principal and interest payments may lead to liquidity problems, especially during economic downturns. Conversely, an excessively high equity ratio may indicate that the company is not fully exploiting growth opportunities provided by external financing.

In general, a balanced capital structure varies by industry, but a roughly 50–50% distribution or a range between 40% and 60% is often considered optimal. This balance ensures financial stability while allowing debt financing to enhance return on equity. Capital structure analysis is a key element of performance measurement, as it provides essential information to investors and creditors regarding the sustainability and competitiveness of the company's financing policy. Together, liquidity and capital structure ratios provide a comprehensive assessment of a company's financial stability: short-term solvency ensures operational security, while capital structure analysis signals long-term sustainability and growth potential. In addition to liquidity ratios, capital structure indicators provide insight into long-term financial stability. The **Debt Ratio** expresses the proportion of total liabilities to total assets; values between 40% and 60% are generally considered sustainable. The **Debt-to-Equity Ratio** measures the relationship between liabilities and equity, with an optimal range typically between 0.5 and 1.5, depending on the industry. In contrast, the **Equity Ratio** shows the proportion of assets financed by equity; values above 40% indicate healthy financial independence. The **Capitalization Ratio** expresses the proportion of long-term debt within permanent financing sources; it is favorable if this ratio does not exceed 50%, as it supports long-term financial stability. Finally, the **Interest Coverage Ratio** measures how many times operating profit (EBIT) covers interest expenses. Values above 3 are considered safe, while values below 1 indicate serious financial risk (Table 24).

The concepts of **cash-generating capacity** and **cash-creation capacity** are closely linked to the cash flow statement, as the focus here is not on accounting profit but on actual cash movements. A company may appear profitable according to its financial statements while simultaneously facing liquidity problems due to insufficient cash to meet its obligations. For this reason, the analysis of cash-generating capacity is an indispensable complement to profitability and liquidity analysis. Cash-generating capacity refers to the extent to which a company's core operations are able to produce cash flows. This capability is best captured by **Operating Cash Flow (OCF)**, which represents the net cash flow generated from operating activities. OCF shows how much cash remains in the company after cash inflows from revenues and cash outflows related to operating expenses. The higher the OCF, the stronger the company's internal cash-generating capacity, which also forms the basis of short-term solvency.

Cash-creation capacity is a broader concept, as it does not focus solely on cash flows generated from operations but also considers whether the company is able to sustainably generate cash resources that support growth and meet long-term obligations.

The relationship between the cash flow statement and performance indicators can be summarized as follows:

- operating cash flow reflects the company's short-term viability,
- free cash flow indicates long-term cash-creation potential,
- supplementary indicators (such as Cash Flow Margin, Cash Flow to Debt, CROE, Operating Cash Flow Ratio, CAPEX/OCF, and Cash-Based Interest Coverage) measure the extent to which these cash flows cover various obligations or how efficiently revenues are transformed into actual cash.

Table 25.: Financial Performance Measurement – Cash Generating and Cash Creation Capacity

Indicator	Description	Formula / Definition
Operating Cash Flow (OCF)	Cash generated from core business operations.	OCF
Free Cash Flow (FCF)	Cash available after capital expenditures.	OCF – CAPEX
Cash Flow Margin	Operating cash flow relative to sales revenue.	OCF / Revenue
Cash Flow to Debt	Ability to cover total debt from operating cash flow.	OCF / Total Debt
Cash Return on Equity (CROE)	Cash-based return generated for shareholders.	OCF / Equity
Operating Cash Flow Ratio	Short-term liquidity based on operating cash flow.	OCF / Current Liabilities
CAPEX to Operating Cash Ratio	Extent to which operating cash flow finances investments.	CAPEX / OCF
Times Interest Earned (Cash Basis)	Interest coverage based on cash flow.	OCF / Interest Expense

Source: Own compilation based on Akkoç-Vatansever (2013), Bertoneche–Knight (2015), Brealey–Myers (2023), OECD (2024).

The indicators presented in **Table 25** approach the same core question from different perspectives: how strong the company’s cash-generating capacity is. From the perspective of financial performance measurement, these indicators are of particular importance because they go beyond accounting profit and examine the extent to which operating results actually generate cash flows. They make it possible to assess how effectively revenue can be converted into cash and whether this cash is sufficient to cover short-term obligations and support long-term development. In this sense, the indicators form a bridge between liquidity and profitability measurement, as they simultaneously reflect financial stability and value-creation capacity. In financial performance measurement, they play a key role in identifying the sustainability of corporate operations and in determining whether internal resources are sufficient to finance investments and debt service. For investors and creditors, the results support the assessment of risks and returns, while for management they provide a solid basis for strategic decision-making. Accordingly, these indicators should not be interpreted in isolation, but as integral components of financial performance measurement, offering a comprehensive view of operational efficiency and long-term competitiveness. Indicators of cash-generating and cash-creation capacity provide insight into a company’s actual liquidity position and long-term financial sustainability. **Operating Cash Flow (OCF)** is the fundamental indicator, showing how much cash the company is able to generate from its core activities. Under stable operating conditions, OCF remains consistently positive and grows proportionally with revenue.

Free Cash Flow (FCF) represents the difference between operating cash flow and capital expenditures (CAPEX), indicating the amount of freely available cash retained by the company. A positive FCF reflects strong financial flexibility, whereas persistently negative FCF suggests that growth must be financed through external sources. The **Cash Flow Margin** indicates what proportion of revenue is converted into operating cash flow. Values in the range of 10–20% are generally considered favorable and signal high efficiency. The **Cash Flow to Debt** ratio measures the company's debt coverage capacity. Depending on industry standards, values around 20–30% are typically regarded as safe, implying that operating cash flow could cover total debt within three to five years. **Cash Return on Equity (CROE)** expresses shareholder returns on a cash-flow basis; values between 8–12% are generally acceptable, while figures above 15% are considered particularly favorable. The **Operating Cash Flow Ratio** measures the coverage of short-term liabilities. Values above 1 indicate secure operations, while values below 1 suggest that operating cash flow alone is insufficient to meet short-term obligations. From a long-term sustainability perspective, the **CAPEX to Operating Cash Ratio** is also critical, as it compares investment expenditures with operating cash flow. Values persistently below 70–80% indicate a healthy balance, whereas values above 100% signal increased risk, as investments exceed internal financing capacity. Finally, the **Times Interest Earned (Cash Basis)** ratio measures interest coverage on a cash-flow basis. Values above 3 are generally considered safe, while values below 1 indicate that operating cash flow is insufficient to cover interest expenses, representing a significant financial risk.

The figure 5 presents a layered framework that explains how financial performance is transformed into financial value creation. At the base of the model are the **financial performance drivers**—profitability, efficiency, liquidity, and capital structure—which describe the accounting-based financial condition of the firm. These drivers influence the firm's ability to generate cash through operations, represented in the middle layer as **cash-based financial performance**. Operating Cash Flow captures the company's short-term cash-generating capacity, while Free Cash Flow reflects its ability to finance investments, debt service, and shareholder returns from internal resources. The arrows between the layers emphasize that accounting performance alone does not create value unless it is converted into stable and recurring cash flows. The upper layer represents **financial value creation and sustainability**, where operational financial value evolves into sustainable financial value over time. This transformation is supported by financial stability, growth potential, and investor value. Overall, the framework highlights that value is not generated by financial outcomes alone, but by the continuous transformation of capabilities into performance. Feedback and learning loops ensure that performance measurement supports ongoing adaptation, strategic renewal, and sustainable growth. In this sense, the model also underlines the importance of reinvestment decisions, because sustainable value creation requires that a portion of generated cash flows is continuously allocated to maintaining and developing strategic capabilities. Furthermore, the framework suggests that long-term competitiveness is achieved when financial outcomes, operational efficiency, and organizational learning are consistently aligned within an integrated performance management system.

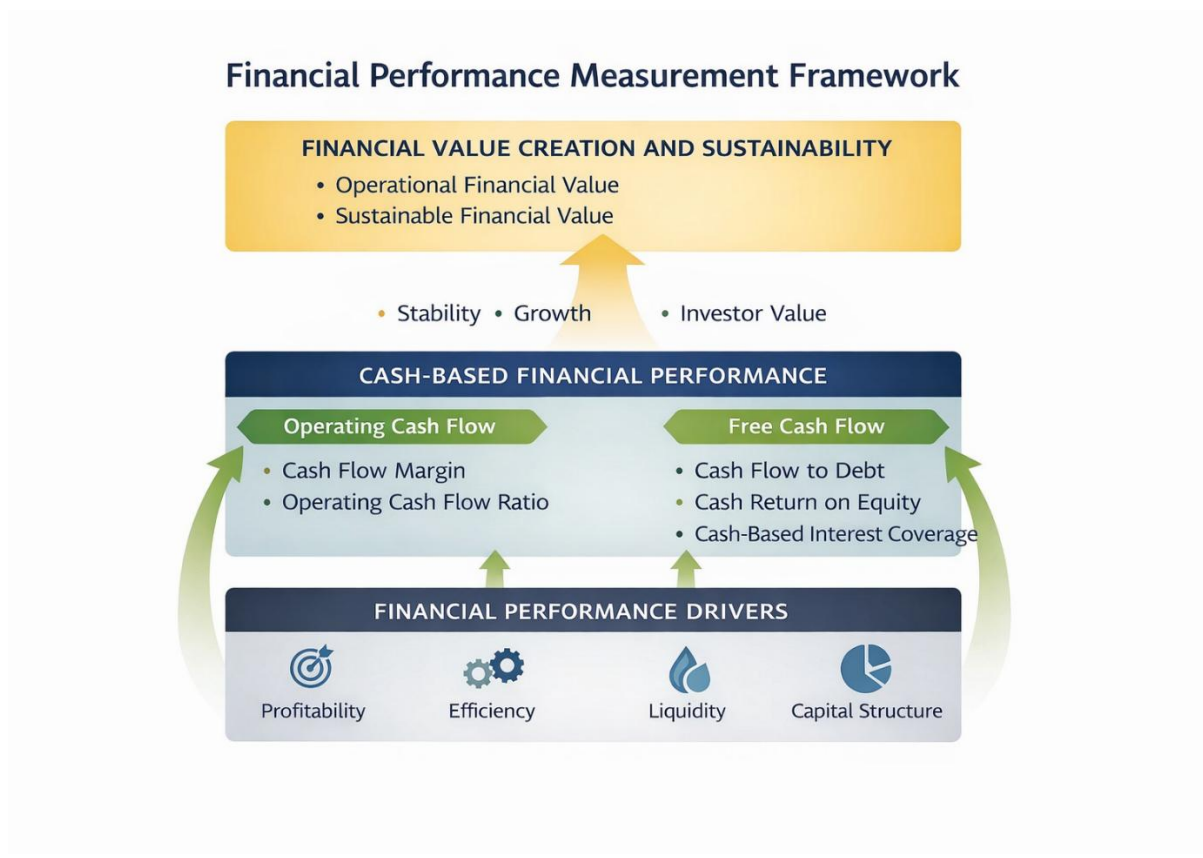


Figure 5: Financial Performance Measurement Framework

Source: author's own compilation

Financial Performance Drivers refer to the core accounting-based dimensions that describe a company's financial condition and operating results. **Profitability** measures the firm's ability to generate earnings relative to sales, assets, or equity. **Efficiency** captures how effectively the company uses its resources to produce revenue and results. **Liquidity** reflects the firm's short-term solvency and its ability to meet current obligations. **Capital Structure** describes the proportion and balance of equity and debt financing and determines the firm's financial risk profile. **Cash-Based Financial Performance** represents the transformation of accounting results into actual cash flows, focusing on financial sustainability rather than reported profit. **Operating Cash Flow** measures the cash generated from core business activities and forms the basis of short-term financial viability. **Cash Flow Margin** indicates how much of revenue is converted into operating cash, while the **Operating Cash Flow Ratio** shows whether operating cash flows can cover short-term liabilities. **Free Cash Flow** reflects the cash remaining after investment expenditures and represents the firm's capacity to finance growth, debt repayment, and shareholder returns. **Cash Flow to Debt**, **Cash Return on Equity**, and **Cash-Based Interest Coverage** evaluate the firm's ability to service debt and create value for investors using internally generated cash. **Financial Value Creation and Sustainability** represent the outcome of stable and repeatable cash-based performance over time. **Operational Financial Value** refers to value generated through efficient and profitable operations, while **Sustainable Financial Value** reflects the firm's long-term ability to maintain stability, support growth, and deliver investor value.

Table 26.: Indicators of Asset and Capital Structure Analysis

Indicator	Description	Formula / Definition
Debt-to-Equity Ratio	Measures the proportion of debt financing relative to shareholders' equity.	Total Liabilities / Equity
Equity Ratio	Shows the proportion of total financing provided by equity.	Equity / Total Sources of Funds
Equity-to-Asset Ratio	Indicates the share of assets financed by equity.	Equity / Total Assets
Debt Ratio	Measures the proportion of total assets financed by liabilities.	Total Liabilities / Total Sources of Funds
Long-term Debt to Equity Ratio	Shows long-term financial leverage relative to equity.	Long-term Liabilities / Equity
Long-term Capitalization Ratio	Indicates the proportion of long-term financing within total capital.	(Equity + Long-term Liabilities) / Total Sources of Funds
Current Assets to Total Assets	Measures the share of current assets within total assets.	Current Assets / Total Assets
Fixed Assets to Total Assets	Shows the proportion of fixed (invested) assets within total assets.	Fixed Assets / Total Assets
Equity Multiplier	Measures financial leverage by comparing assets to equity.	Total Assets / Equity
Net Working Capital Ratio	Indicates the share of net working capital within total assets.	(Current Assets – Current Liabilities) / Total Assets
Provisions Ratio	Measures the proportion of provisions within total funding sources.	Provisions / Total Sources of Funds
Equity Growth Ratio	Shows the growth of equity relative to registered share capital.	Equity / Share Capital

Source: Own compilation based on Takács–Márkus (2020), Brealey & Myers (2023), Kresalek–Pucsek (2024).

Asset and capital structure indicators are deliberately presented **outside the Financial Performance Measurement Framework**, and their placement at the end of the chapter is both conceptually and methodologically justified. The core objective of the framework is to explain how financial performance is transformed into **value creation through dynamic, cash-based mechanisms**.

Consequently, the model focuses on **flow-based indicators**, such as profitability, liquidity, efficiency, and especially cash-flow measures, which directly capture the firm's ability to generate, sustain, and allocate financial resources over time. In contrast, asset and capital structure indicators are **stock-based measures**, derived from balance sheet positions at a specific point in time. They describe the **structural configuration** of assets and financing sources rather than the ongoing performance process. These indicators do not measure value creation directly; instead, they provide the **financial and risk context** within which value creation takes place. Including them directly in the framework would blur the analytical distinction between **performance dynamics** and **financial position**, potentially leading to conceptual confusion for students. For this reason, these indicators are discussed **after the performance-oriented framework**, where they serve as a **contextual and interpretative extension** rather than a core component. Asset and capital structure analysis is particularly useful in situations where the objective is to assess **financial stability, leverage, solvency risk, and funding sustainability**, such as credit assessments, investment risk analysis, restructuring decisions, or long-term strategic financing evaluations. These measures help explain *why* certain cash-flow or profitability patterns may be sustainable—or risky—given the company's financing structure.

The relationship between the two approaches is therefore **complementary rather than hierarchical**. The Financial Performance Measurement Framework explains **how value is created**, while asset and capital structure indicators explain **under what financial conditions** this value creation can be maintained. In practical analysis, the framework is typically applied first to assess operational and cash-based performance, and asset and capital structure indicators are then used to **validate the robustness and risk profile** of the observed performance. Together, they provide a comprehensive understanding of both **financial performance dynamics** and **financial stability**, which is essential for informed managerial, investor, and creditor decision-making.

A company's capital structure fundamentally determines its financial performance and long-term stability. Capital structure indicators express the proportion in which a firm relies on equity and debt financing and how balanced its overall financing structure is. These indicators reveal how secure and sustainable the company's operations are over time. Ratios measuring equity levels and the volume of liabilities directly reflect the firm's risk exposure. High financial leverage may increase profitability in the short term, but over the long run it raises vulnerability and the risk of insolvency. In contrast, a strong equity base provides financial security by reducing excessive dependence on external financing. The proportion of long-term funding sources indicates the extent to which the company's financing is stable and permanent. Indicators of asset and capital structure analysis examine the safety of the firm's financial structure and its long-term financing capacity. The **Debt-to-Equity Ratio** measures the relationship between liabilities and equity; depending on the industry, an optimal range is typically between 0.5 and 1.5. Values below 1 indicate moderate risk, while values above 2 signal excessive indebtedness. The **Equity Ratio** shows the proportion of total financing provided by owners; values above 40% are generally considered stable, while levels below 25% indicate high dependence on external funds.

The **Equity-to-Asset Ratio** provides a similar perspective, with values between 30% and 50% reflecting a healthy capital structure. The **Debt Ratio** measures the weight of liabilities within total financing; a range of 40–60% is considered balanced, whereas values above 70% indicate excessive exposure.

The **Long-term Debt-to-Equity Ratio** is regarded as favorable when it remains below 1, as excessive long-term indebtedness increases financial risk. The **Long-term Capitalization Ratio** is considered healthy when it falls between 60% and 80%, indicating that the company relies primarily on permanent sources of financing. Asset structure indicators vary by industry: the **Current Assets to Total Assets Ratio** is typically optimal between 30% and 50%, while the **Fixed Assets to Total Assets Ratio** is usually 50–70% in manufacturing firms and lower in service industries. The **Equity Multiplier** reflects the degree of financial leverage; values between 2 and 3 are generally optimal, values above 3 signal elevated risk, while values below 1.5 indicate low indebtedness. The **Net Working Capital Ratio** is considered healthy when it ranges between 5% and 15% of total assets; very low values signal liquidity risk, whereas excessively high values indicate inefficient capital lock-up. The **Provisions Ratio** is industry-specific, but values between 1% and 5% typically reflect prudent risk management. Finally, the **Equity Growth Ratio** exceeding 1 indicates that equity exceeds subscribed capital due to retained earnings and reserves; values between 1.5 and 3 suggest balanced and sustainable capital growth.

Indicators of asset and capital structure analysis are essential because they reveal how efficiently a company allocates its resources and how its operations are financed in the short and long term. These indicators highlight the composition, liquidity, and risk profile of the balance sheet, showing whether the firm relies more on equity or debt and how stable its financial structure is. From a managerial and investor perspective, they provide critical insights into solvency, financial flexibility, and the company's ability to sustain growth while maintaining an optimal level of financial risk.

3.2.4. Value-Based Performance Measurement Sub-Dimension

Corporate value creation is one of the most fundamental principles and guiding concepts of performance management, as it defines why, how, and for whom the company operates. The process of value creation is not confined to a single organizational level: it is jointly shaped by the strategic and operational dimensions, while the economic dimension—within which the Value-Based Management (VBM) system operates—provides the financial and measurable framework for value creation. Consequently, value creation is an organization-wide process that permeates all levels of the firm, from goal setting through day-to-day operations to the evaluation of results. Within the strategic dimension, value creation plays a conceptual and directive role. At this level, the company defines what it considers value, for whom it intends to create value (stakeholders), and through which competitive advantages it can achieve this in a sustainable manner. This dimension answers the “why” and “where” of value creation by defining objectives, mission, and long-term directions. It includes value chain strategy, market positioning, competitive advantage, and the value proposition, all of which determine how the firm fits into the broader economic and social ecosystem.

At this stage, value remains largely a theoretical construct that provides a framework for the company's future value-creating activities. In the operational dimension, value creation becomes tangible and measurable through everyday business activities. This is where strategic objectives are translated into practice through processes, services, resource utilization, and human performance. The operational level represents the “how” of value creation, where strategic principles materialize into concrete outcomes, such as improved product quality, higher customer satisfaction, enhanced cost efficiency, or innovation. Without strategic guidance, operational value creation would lack direction; without operational execution, strategic goals would remain purely theoretical. From the perspective of long-term resilience and sustainability, the operational level is the space in which strategic promises are transformed into measurable results and stakeholder value. Modern performance management systems—such as the Balanced Scorecard (BSC), Value-Based Management (VBM), and ESG–VTM models—do not interpret value creation as a set of isolated levels, but rather as an integrated interaction between strategic and operational dimensions. Value originates at the strategic level but is realized at the operational level, where financial evaluation, measurement, and feedback ensure its sustainability. Value-based performance measurement therefore examines not only the company's financial value but also its enduring value-creation capability by linking strategic directions with the outcomes of economic and operational processes. The Balanced Scorecard (BSC) and Value-Based Management (VBM) represent two complementary approaches to measuring corporate value creation. The BSC is a stakeholder-oriented performance measurement tool that evaluates corporate performance from multiple perspectives—financial, customer, internal processes, and learning and growth. Its objective is to translate strategic goals into measurable indicators and to balance financial and non-financial factors. Through this approach, the BSC enables firms to meet not only shareholder expectations but also the needs of customers, employees, and other stakeholders.

In contrast, VBM represents a value-oriented, financially focused performance management system centered on increasing corporate value. Its primary objective is to ensure that all corporate decisions and processes contribute to the growth of shareholder value. VBM focuses on measuring economic value creation using financial indicators such as Economic Value Added (EVA), Market Value Added (MVA), and Cash Flow Return on Investment (CFROI). Thus, while the Balanced Scorecard serves as a stakeholder-based performance management tool that assesses strategic goal achievement through both financial and non-financial lenses, Value-Based Management embodies the value-oriented approach that prioritizes financial value creation and shareholder value maximization. Within the Corporate Performance Management framework, these two approaches build upon one another: the BSC represents the stakeholder-oriented perspective, while VBM provides value-oriented governance. Their combined application enables companies to simultaneously meet stakeholder expectations and financial value-creation requirements, thereby ensuring long-term sustainable value growth and competitiveness. Corporate valuation directly supports the decision-making of owners and managers, while the value creation process itself relies on the cooperation of the entire stakeholder network. Accordingly, modern valuation approaches interpret market value not in isolation, but as the aggregate of economic, social, and environmental values created for stakeholders (Table 27).

Table 27.: Stakeholders and Their Relationship to Corporate Valuation

Stakeholder	Link to Valuation
Owners / Shareholders	The ultimate beneficiaries of value creation; they focus on investment returns and growth in market value.
Executives / Management	The operational drivers of value creation; their decisions directly influence financial performance and firm value.
Financial Institutions and Investors	The company's market value and creditworthiness determine financing conditions and cost of capital.
Employees	Corporate value and stability provide job security, compensation incentives, and long-term career opportunities.
Suppliers	A stable and valuable company represents a reliable business partner, enabling long-term cooperation.
Customers / Clients	Market value and brand strength increase trust, customer loyalty, and competitive market position.
Societal and Environmental Stakeholders	Sustainability and ESG performance are increasingly integrated into valuation models as risk and value factors.

Source: Own compilation based on Bititci et al. (1997, 2015); Kaplan & Norton (1996, 2004); Neely et al. (2002); Armstrong (2020)

The modern approach to corporate valuation is no longer limited to a shareholder-centric perspective focused exclusively on maximizing returns through purely financial indicators. Instead, it increasingly incorporates the economic, social, and environmental impacts that a company has on its stakeholders. Accordingly, the assessment of corporate value has gradually shifted toward a **stakeholder value** logic. This perspective is based on the premise that corporate value cannot be measured solely by the financial benefits generated for owners, but also by the extent to which the company creates value for various stakeholder groups—including managers, employees, investors, suppliers, customers, and social and environmental actors. Owners are the ultimate beneficiaries of corporate value creation, primarily monitoring the growth of market value and the return on their investments. Managers act as the operational drivers of value creation, as their decisions directly influence financial performance and overall corporate value. For financial institutions and investors, the company's market value and creditworthiness determine financing conditions and the cost of capital. Employees benefit from corporate value and stability through secure employment, compensation, and career opportunities enabled by economic success. For suppliers, a stable and valuable company represents a reliable long-term business partner, while customers and clients derive value from the company's market position, brand strength, and reliability.

The **Value-Based Management (VBM)** approach is built on three fundamental pillars: **measurement, management, and motivation**. The purpose of measurement is to quantify corporate performance using financial and value-based indicators—such as **EVA (Economic Value Added), RI (Residual Income), and CFROI (Cash Flow Return on Investment)**—thereby providing an objective basis for evaluating value creation.

The management dimension focuses on incorporating the value impact of decisions, aiming to ensure that managerial actions consistently support the long-term increase of corporate value. The motivational pillar reinforces value creation through value-based incentive systems, aligning employee interests with sustainable value generation. By doing so, it strengthens long-term thinking and enhances stakeholder commitment across the organization.

Table 28. :The Value-Based Management (VBM) Approach

Pillar	Content	Objective
Measurement	Financial and value-based indicators (EVA, RI, CFROI)	Quantification of performance
Management	Decision-making based on value impact	Strategic decision support
Motivation	Value-based incentive systems	Strengthening long-term thinking

Source: Own compilation based on Bititci et al. (1997, 2015); Kaplan & Norton (1996, 2004); Neely et al. (2002); Armstrong (2020)

Table 28 presents the integration of the Balanced Scorecard (BSC) and Value-Based Management (VBM) systems, highlighting that the two approaches are not contradictory but rather complementary within the corporate value creation process. While the BSC primarily supports the implementation of strategic objectives, VBM provides the financial logic of value creation. The BSC represents a broader, stakeholder-oriented perspective that incorporates both financial and non-financial indicators, whereas VBM focuses on increasing shareholder value, capital efficiency, and the long-term sustainability of financial performance. The difference between the two systems is also reflected in their measurement horizons: the BSC typically addresses short- and medium-term strategic goals aimed at improving operations and strengthening market position, while VBM emphasizes the maximization of long-term shareholder value. At the level of managerial focus, the BSC is built on cause-and-effect relationships—demonstrating how improvements in specific processes influence overall performance—whereas VBM concentrates on value-driving decisions, the cost of capital, and financial value impacts. In terms of motivation systems, the BSC promotes internal commitment, learning, and organizational development, thereby aligning corporate culture with strategic objectives. In contrast, VBM places shareholder interests at the center and applies value-based incentive systems that link managerial and employee decisions to long-term value growth.

At the level of integrated application, combining the two approaches creates a truly comprehensive performance management system. The KPI hierarchy of the BSC and the value-based metrics of VBM (e.g., EVA) jointly ensure a balance between financial and strategic objectives. While the BSC demonstrates how strategic goals can be translated into operational actions, VBM ensures that these actions contribute to the sustainable increase of corporate value. Consequently, the integrated BSC–VBM approach represents a synthesis of strategic and financial perspectives, forming the foundation of value-centered corporate management in the long run (Table 29).

Table 29. Integration of the Balanced Scorecard (BSC) and Value-Based Management (VBM)

Aspect	BSC	VBM
Objective	Strategic implementation	Value creation
Metrics	Financial and non-financial KPIs	Value-based financial indicators
Time horizon	Short- to medium-term strategic goals	Long-term shareholder value
Management focus	Cause-and-effect relationships	Cost of capital and value impact
Motivation	Internal commitment	Shareholder interests
Integrated application	KPI hierarchy linked to EVA	Balance between financial and strategic objectives

Source: Own compilation based on Bititci et al. (1997, 2015); Kaplan & Norton (1996, 2004); Neely et al. (2002); Armstrong (2020)

The managerial (financial management) dimension represents the core domain of value-based performance measurement, as it provides a continuous, quantitative evaluation of the company's operations. Its primary objective is to monitor, measure, and feed back the financial impacts of strategic and operational decisions, thereby demonstrating how day-to-day activities contribute to value creation. The data and results generated by value measurement frequently serve as direct inputs for corporate valuation, meaning that the two processes are structurally interdependent: a well-designed value-measurement system provides a reliable analytical foundation for corporate valuation. Corporate valuation estimates the overall value of the firm at a given point in time and is typically applied in investment decisions, mergers and acquisitions, divestments, financing transactions, or strategic repositioning. The mutual reinforcement between corporate valuation and value-based performance measurement establishes a comprehensive financial-logical framework for corporate performance management, in which the strategic, operational, and managerial dimensions function in an integrated and mutually supportive manner. This integrated perspective is further extended by the Balanced Scorecard (BSC), which, as the central topic of the following chapter, illustrates how financial and non-financial performance indicators can be combined into a unified, stakeholder-oriented evaluation system. The BSC framework acts as a bridge between strategic objectives and operational execution, enabling value creation to become measurable and manageable at all organizational levels.

3.3. Measurement and Performance Interpretation in Corporate Practice

3.3.1. The VTM Radial Model Measurement and Performance Measurement Dimension

The relationship between strategy and performance measurement is a central issue of corporate governance. Strategy defines the fundamental objectives and long-term direction of the company, as well as the allocation of resources required to achieve these objectives. Performance management translates this strategy into measurable goals, indicators, and metrics, and ensures that the company's operations and decisions remain continuously aligned with the chosen direction. Accordingly, performance measurement operates within a hierarchical system. At the strategic level, it assesses the achievement of long-term objectives and competitive advantages; at the tactical level, it evaluates the effectiveness of business units and functions; while at the operational level, the focus is on daily processes, efficiency, and cost management. Alignment across these three levels ensures that the organization is not only efficient but also effective—that it not only performs its tasks well, but also moves in the right direction. For companies, performance measurement is therefore no longer merely a control function, but also a managerial and organizational learning mechanism. In modern organizations, the objective of the Performance Measurement System is to provide real-time, reliable, and decision-supporting information that facilitates the cascading of strategic objectives, the improvement of processes, and the integrated assessment of financial and non-financial performance. The Performance Measurement System serves as a tool for feedback and continuous improvement, the functioning of which is described in the Radial Model by the dimension of **Measurement and Performance Interpretation**. This dimension examines how the corporate performance measurement system is structured, at which hierarchical levels it operates (strategic, operational, financial, sustainability-related), and which data sources, methodologies, and feedback mechanisms it relies on in the decision-making process.

The hierarchy of performance measurement can be interpreted across three levels:

- **Strategic level:** focuses on the company's long-term value creation and competitiveness. At this level, indicators such as ROI, EVA, ESG Score, or market share are applied, which signal the company's success over a multi-year horizon.
- **Tactical level:** measures the effectiveness of business units and functional areas. Here, efficiency, customer satisfaction, and cost management come to the forefront. Typical KPIs include contribution margin and the Customer Satisfaction Index.
- **Operational level:** tracks processes and cost structures related to day-to-day operations over shorter time horizons (days to months). This level includes productivity, quality, and process stability indicators, such as cycle time, scrap rate, or capacity utilization.

The relationship between dimensions and stakeholder groups ensures that performance measurement is not limited solely to financial outcomes, but also reflects the company's broader responsibility for value creation. The financial dimension captures the expectations of owners and creditors (ROI, Cash Flow Margin); the business/customer dimension reflects the satisfaction of partners and customers (Retention Rate, Net Promoter Score); the operational dimension measures the performance relevant to management and suppliers (OTIF, inventory turnover); while the innovation and social dimensions assess employee development and social responsibility (training hours, ESG Score). The integrated model illustrates how different levels and dimensions are aligned with one another. Indicators defined at the strategic level (e.g. ROI, innovation rate, ESG) determine tactical objectives (e.g. contribution margin, customer satisfaction, R&D expenditure), which in turn can be decomposed into operational processes and daily performance indicators (e.g. production cost, scrap rate, occupational safety). This cascading system ensures that corporate objectives become measurable and interpretable at every organizational level.

3.3.2. The Role of Corporate Performance Indicators in the VTM Radial Model

Corporate performance indicators are key instruments of modern corporate governance, aimed at making the achievement of a company's strategic and operational objectives measurable and interpretable. Performance measurement is no longer merely a control function; it has evolved into a strategic management and communication system that renders the logic of value creation transparent for both management and external stakeholders. Over recent decades, the role of performance indicators has undergone a fundamental transformation: traditional financial indicators—such as profit, return ratios, or cash flow—are no longer sufficient on their own to provide a comprehensive picture of a company's value creation capability. The European Union's Non-Financial Reporting Directive (NFRD), the Sustainable Finance Action Plan, and the ESMA Guidelines on Alternative Performance Measures have all reinforced the need for companies to develop comprehensive, transparent, and strategically aligned performance measurement systems. This paradigm shift was further supported by the UK Financial Reporting Council's *Performance Metrics – Principles and Practice* guidance (FRC, 2018), developed within the framework of the Financial Reporting Lab project, which articulated five fundamental principles of corporate performance metrics: strategic alignment, transparency, context, reliability, and consistency. According to the FRC's approach, a high-quality performance metric is not valuable in isolation; rather, it serves as a tool for communicating corporate strategy, business model, and value creation. In a broad sense, the concept of *performance metrics* encompasses all financial and non-financial indicators used to present corporate performance. This includes traditional financial indicators, business performance indicators (alternative performance measures), as well as sustainability, operational, and human-related metrics, which together form an integrated system for evaluating corporate performance. According to the FRC, investors do not primarily assess the type of indicators applied, but rather their substantive relevance: an ESG score, employee turnover rate, or order backlog may be just as decisive for a company's future value as profitability indicators.

The emphasis is therefore on interpretability and coherence, rather than on the sheer number of metrics. Within the Corporate Performance Management (VTM) Radial Model, performance indicators constitute the core of the **Measurement and Performance Interpretation** dimension. At this level, the indicators:

- connect the strategic, operational, and financial dimensions;
- translate long-term objectives into measurable indicators; and
- ensure a structured system of decision support, feedback, and organizational learning.

According to the Radial Model, performance indicators are not isolated numerical values, but communicative elements that reflect the company's value creation logic, providing a unified interpretative framework across the dimensions of strategy, operations, and financial management.

3.3.3. Methodological Approach – The Analytical Framework of the KPI System

The analysis of corporate performance goes beyond the mere comparison of numerical data; it involves exploring how performance indicators are linked to strategic objectives, operational processes, and managerial decision-making. The purpose of performance management is to ensure that the underlying logic of corporate value creation, internal interdependencies, and future development potential become visible behind the measurement results. The first step of the methodological approach is to examine the structure of the performance measurement system. From an analytical perspective, it is essential to understand the hierarchy according to which the company builds its KPI system and the extent to which this hierarchy reflects strategic, operational, and managerial objectives. The strategic level captures long-term value creation, growth, and sustainability; the operational level reflects the efficiency and quality of day-to-day operations; while the managerial level represents the effectiveness of accountability structures and incentive systems. A well-aligned KPI hierarchy ensures that operational performance genuinely contributes to the achievement of strategic objectives and that managerial decisions become measurable and accountable. The next analytical aspect is the assessment of the relevance of the indicators. A KPI can be considered valuable if it is directly linked to the company's value creation processes and makes measurable those factors that truly influence competitive advantage or the organization's long-term success. According to the principle of strategic alignment, indicators are not standalone data points, but measurable representations of the corporate objective system. The system-level evaluation of Key Performance Indicators is supported by their thematic grouping. Financial indicators (e.g. revenue, EBITDA, cash flow) capture profitability and capital efficiency; operational indicators reflect efficiency and quality; customer and market indicators measure customer experience and market position; innovation indicators assess renewal and adaptability; while sustainability KPIs make social and environmental responsibility measurable. This categorization enables the analysis not only to describe outcomes, but also to reveal the logic of the performance chain—namely, which factors lead to financial results. The temporal dimension of performance measurement is completed through the analysis of consistency and trends.

A company's true effectiveness cannot be judged on the basis of a single period; its value is determined by multi-year trends, the stability of indicators, and the consistency of calculation methods. Temporal comparability ensures that KPIs provide not merely a snapshot, but a developmental trajectory of organizational performance. An essential element of methodological analysis is contextualization and the application of industry benchmarks. An indicator in isolation is neither good nor bad; its meaning depends on the reference against which it is evaluated. Therefore, it is important to compare results with industry averages, competitor data, prior target values, or macroeconomic trends. Context allows the underlying drivers of change—whether structural, market-related, or operational—to be clearly distinguished. Reliability and control play a prominent role in the KPI system.

Indicators are credible only if their data sources are verified, audited, or supported by appropriate control mechanisms. Reliable data management is a fundamental prerequisite for high-quality corporate governance and for maintaining investor confidence. An important element of the methodological evaluation of performance measurement is the relationship between KPIs and incentive systems. Indicators fulfil a genuine managerial function only when they are embedded in executive remuneration and performance evaluation systems, clearly signaling the behaviors and outcomes the company expects from its key personnel. This linkage often provides a more accurate picture of the organization's true priorities than formal strategic documents.

The ultimate objective of methodological analysis is the establishment of an integrated perspective: KPIs should not be interpreted in isolation, but as part of a coherent system. Corporate performance emerges as a chain of interrelated effects, in which operational efficiency influences customer satisfaction, customer satisfaction affects revenues, revenues drive profitability, and together these determine the overall value of the company.

The Radial Model captures this logic by presenting the strategic, operational, financial, and interpretative dimensions as an interdependent, layered system. The methodological principles that underpin performance measurement—strategic alignment, transparency and consistency, context, reliability and control, and an integrated perspective—ensure that performance measurement is not merely an administrative exercise, but a genuine instrument for corporate value creation, operational efficiency, and strategic governance.

3.3.4. KPI Checklist for the Introduction of a Performance Indicator

The effectiveness of performance indicators lies in the quality of the conceptual and operational decisions behind them. The introduction of a KPI is always a managerial decision that influences organizational focus, behavior, and resource allocation. For this reason, the design and operation of a KPI system cannot be regarded merely as a technical or controlling task. Poorly selected or improperly applied KPIs may lead to information overload, behavioral distortions, data quality issues, and strategic misalignment. Performance measurement becomes a genuine management tool only when the selection of indicators is deliberate, consistent, and subject to regular review.

The following checklist is intended to provide a structured set of criteria for the introduction, operation, and review of KPIs. Reflecting on these questions helps ensure that performance indicators genuinely support the achievement of strategic objectives, fit organizational operations, and do not become self-serving measurement elements.

The checklist can be applied both when developing new KPIs and when critically reviewing existing indicators:

- **Strategic Alignment**

- Is the KPI clearly linked to the company's strategic objectives?
- Is it clear which decision or intervention the KPI is intended to support?
- Can it be clearly distinguished as an operational, tactical, or strategic indicator?

- **Conceptual Adequacy**

- Is the KPI precisely defined (what it measures and what it does not measure)?
- Are the calculation rules and applied definitions clear and unambiguous?
- Does it avoid duplicating or substantially overlapping with other KPIs?

- **Measurability and Data Quality**

- Is reliable data available for calculating the KPI?
- Is the data timely, accurate, and consistent?
- Is data collection automated or manual?

- **Data Source and Data Integration**

- Is the data source clearly defined (system, module, database)?
- Is it aligned with other financial or non-financial reports?
- Does the data fit into a unified data model?

- **2.4.5. Responsibilities**

- Who is responsible for data collection?
- Who verifies and validates the data?
- Who is authorized to interpret the KPI and initiate corrective actions?

- **Reporting and Monitoring**

- Where is the KPI presented (dashboard, report, Excel, system)?
- Does the presentation support rapid interpretation and comparison?
- Is the frequency of measurement and reporting clearly defined?

- **Behavioral and Incentive Effects**

- Does the KPI avoid encouraging undesired or distorted behavior?
- Is it linked to incentives, and if so, in an appropriate manner?
- Is it interpreted within a multidimensional framework, or assessed in isolation?

- **Time Horizon and Sustainability**

- Does it measure short-term or long-term performance?
- Does it avoid jeopardizing longer-term strategic objectives?
- Are forward-looking (leading) indicators applied alongside it?

- **Review and Calibration**

- Is the timing of regular KPI reviews clearly defined?
- Are strategic relevance and data quality periodically assessed?
- Can the indicator be modified or discontinued if necessary?

The questions formulated in the KPI checklist are not linked to a single organizational role, but affect multiple levels and functions of performance management. Issues related to strategic alignment and the objective system primarily fall within the responsibility of top management and strategic governance, while the conceptual and methodological design of indicators is typically a professional task of the controlling and finance functions. Questions concerning data sources, data quality, and data integration require close cooperation between business units, the IT function, and data owners.

In corporate practice, the development of a KPI system is rarely a linear process. It is typically iterative, with the initial set of indicators undergoing testing, discussion, and refinement before being fully embedded in the managerial control system. For many of the questions, there is no single correct answer; instead, compromises emerge between strategic expectations, data availability, and the practical realities of organizational operations. Managers are not only the ones who pose these questions, but also the owners of the answers, as the decisions and interventions based on KPIs ultimately fall under their responsibility.

3.3.5. Types and Characteristics of Key Performance Indicators

A significant proportion of companies worldwide apply performance indicators incorrectly. Many organizations use inappropriate metrics or apply indicators that are mistakenly labeled as KPIs, even though they do not actually qualify as such. In most cases, organizations do not have a clear understanding of what a “key performance indicator” truly means or what role it plays within the performance management system. Organizations often fail to distinguish between different types of performance indicators and do not understand the strategic significance of key indicators—namely, that KPIs are designed to measure those factors that are genuinely critical to corporate success. In many companies, performance measurement serves merely a control and reporting function, rather than acting as a strategic decision-support tool.

Table 30: Types of Corporate Performance Indicators

Type	Meaning	Characteristics	Example
Key Result Indicators (KRI)	Key result indicators	Show how the organization has performed over a given period of time.	Net profit, customer satisfaction
Result Indicators (RI)	Result indicators	Indicate what the organization has achieved in concrete terms.	Daily sales volume, number of complaints
Performance Indicators (PI)	Performance indicators	Show what needs to be done to improve performance.	Number of customer visits, defect rate
Key Performance Indicators (KPI)	Key performance indicators	Indicators that have a dramatic impact on the success of the organization.	On-time departure rate, utilized logistics capacity

Source: Own compilation based on Parmenter (2010) and Marr (2012)

Within the system of the four types of performance indicators, a clear hierarchical relationship can be observed, progressing from the measurement of outcomes to action-oriented management (Table 30). **Key Result Indicators (KRIs)** reflect the aggregated, historical outcomes of corporate performance: they show how the organization has performed over a given period, but do not provide guidance on what actions are required to achieve improvement. These indicators are often financial in nature and primarily support the strategic decision-making of top management and the board of directors. Typical examples include the customer satisfaction index, profit before tax, return on equity (ROE), employee satisfaction, or customer retention rate. KRIs therefore provide direction, but they are not action-oriented; they record the final results of performance.

Performance Indicators (PIs) and **Result Indicators (RIs)** form the middle layer of the system. These indicators link day-to-day operational activities with organizational objectives, yet they do not always carry critical strategic significance. Most **Result Indicators (RIs)** are aggregated—often financial—measures that show what the organization has achieved in a specific area (for example, daily sales volume, net profit of key products, or the number of complaints). By contrast, **Performance Indicators (PIs)** signal which activities need to be carried out in order to improve performance. Examples include the number of weekly sales meetings, the number of employee suggestions implemented over the past 30 days, or the proportion of late deliveries to key customers. PI and RI metrics are particularly well suited to monitoring operational processes and identifying areas for improvement within the organization.

Key Performance Indicators (KPIs) constitute the core of performance measurement. These indicators express the factors that are most critical to the success of the company and have a direct impact on the achievement of strategic objectives. KPIs are action-oriented: they indicate what the organization must do to improve its performance. An important characteristic of KPIs is that they are not necessarily newly created metrics; in many cases, they already exist within the organization, but their strategic importance is only recognized when they are interpreted in alignment with the objective system. The use of KPIs supports focused management, facilitates the identification of intervention points, and ensures that the organization concentrates on those areas that have the greatest impact on performance and long-term competitiveness. Together, the four types of indicators form a coherent logical system in which outcome-oriented information (KRIs, RIs) and action-oriented metrics (PIs, KPIs) complement one another to ensure that performance management operates in a transparent, consistent manner aligned with strategic objectives.

Table 31: Key Characteristics of Key Performance Indicators

Characteristic	Explanation
Built on both financial and non-financial data sources	Their purpose is to measure the achievement of strategic objectives and to support decision-making.
Frequently measurable	Updated daily, weekly, or in real time – not quarterly.
Captures the attention of top management	The KPI triggers immediate reactions from management, even at CEO level.
Encourages clear action	Employees know what actions are required to improve the indicator.
Linked to a specific team	Responsibility can be clearly assigned at the operational level.
Has a significant impact on multiple strategic factors	A KPI influences several critical success factors and multiple Balanced Scorecard dimensions.
Generates positive behavioral effects	A well-designed KPI encourages desirable behavior and does not distort operations.

Source: Own compilation based on Parmenter (2010) and Marr (2012)

A defining characteristic of **Key Performance Indicators (KPIs)** is that they focus attention on the most critical factors of organizational operations and directly support the achievement of strategic objectives (Table 31). KPIs are typically operational- and business-oriented measures designed to guide day-to-day activities and employee behavior, rather than to directly reflect the outcomes of financial reporting. When a company's economic characteristics are analyzed, financial performance indicators are primarily applied, whereas the assessment of corporate competencies, operational capabilities, and organizational factors calls for the use of business performance measures.

3.4. Balanced Scorecard Integrating Framework

3.4.1. The Emergence and Framework of the Balanced Scorecard

The Balanced Scorecard (BSC) is a strategic management and performance measurement framework. The method was developed by Robert S. Kaplan and David P. Norton in the early 1990s. The core idea of the concept is the integration of strategic management and control, meaning that, alongside traditional financial indicators, non-financial perspectives also play a role in evaluating corporate performance. The term “*balanced*” refers to the balanced attention given to different perspectives (financial versus non-financial indicators, past performance versus future-oriented drivers), while the term “*scorecard*” originates from the metaphor of a scoring sheet. The framework has since been further developed (for example through the concept of strategy maps) and has been successfully applied not only in profit-oriented companies, but also in the public sector and in non-profit organizations worldwide. Today, the Balanced Scorecard is widely recognized as one of the most established tools of strategic planning and performance management. As a strategic planning and management framework, it supports the long-term success of organizations through its holistic perspective. The essence of the method lies in clarifying the organization’s fundamental objectives and enabling strategy to become interpretable, implementable, and measurable at all organizational levels. It helps align day-to-day operational activities with strategic directions, while highlighting key priorities and resource allocation decisions. Through the regular use of performance indicators, the BSC supports well-founded, data-driven decision-making, makes development paths and results transparent, and ensures a visible link between projects, objectives, mission, and vision, thereby strengthening organizational coherence and commitment.

A fundamental principle of the Balanced Scorecard is that corporate performance should not be evaluated exclusively on the basis of financial indicators, but across multiple, interrelated dimensions. One core principle is **balance**, which refers to the integration of the financial, customer, internal process, and learning and growth perspectives. Another key principle is **strategic alignment**, as all objectives and indicators must be derived from the organizational strategy. The method emphasizes the importance of **cause-and-effect relationships**: improvements in learning and growth lead to more effective internal processes, which in turn result in higher customer satisfaction and ultimately improved financial performance. **Measurability** is also a fundamental principle, meaning that every strategic objective must be linked to quantifiable indicators. The BSC builds on the principles of **communication and transparency**, as performance indicators clearly convey organizational priorities to all stakeholders. Equally important is **balanced stakeholder consideration**: alongside shareholders, the perspectives of customers, employees, and other stakeholders are also reflected. The framework is designed to take both short-term and long-term objectives into account, thereby avoiding an exclusive focus on short-term profit maximization. Finally, the implementation of the BSC is guided by the principles of **continuous feedback and learning**, as ongoing monitoring of indicators enables the adjustment and refinement of strategy over time.

3.4.2. Content and Indicators of the Four Perspectives

Within the Balanced Scorecard, four perspectives are defined along which organizational performance can be comprehensively evaluated. These perspectives have proven to be both necessary and sufficient to capture the core dimensions of corporate success. In special cases, the framework may be extended with additional perspectives; however, none of the core perspectives—such as customers, internal processes, and learning and growth—should be omitted, as together they establish the cause-and-effect relationships among performance indicators that support the achievement of long-term strategic objectives. The customer, internal process, and learning and growth perspectives are illustrated primarily through the tools of **Business Performance Measurement**, using **Key Performance Indicators (KPIs)** that describe business operations, while the financial perspective is represented through **Financial Performance Measurement**.

The content of the four classical BSC perspectives is as follows:

- **Financial perspective:** This perspective encompasses all financial performance indicators that signal corporate success from the owners' point of view. It addresses the question of the company's financial position and what actions are required to improve it. It includes classical financial indicators such as revenue, profit (profitability), costs, liquidity (e.g., working capital), and debt and capital structure ratios. These indicators reflect the financial results of past operations and also signal future financial objectives. The achievement of financial goals is supported by the other three perspectives; ultimately, therefore, all perspectives contribute to improving long-term financial performance and shareholder value.
- **Customer perspective:** The customer perspective examines the level of customer satisfaction and how the company can create greater value for customers in order to build loyal, long-term relationships. Indicators in this perspective include customer satisfaction measures, customer loyalty, market share, customer retention rates, number of complaints, and the proportion of repeat customers. The customer perspective helps to clarify customer expectations and what the company must do to meet them, as customer satisfaction and loyalty have a direct impact on revenues and, ultimately, on financial performance.
- **Internal process perspective:** This perspective evaluates the efficiency and quality of corporate operations. It addresses how well internal processes support value creation and where process improvements are needed to enhance performance. Typical indicators include measures of production and service efficiency (e.g., cycle times, defect rates, capacity utilization), the level of innovation, supply chain management metrics, process standardization, and even environmental and quality compliance indicators. The internal process perspective ensures that operational activities are well organized; without efficient and well-structured processes, it is impossible to deliver high-quality products and services, which are essential for customer satisfaction.

- **Learning and growth perspective:** Often also referred to as the innovation or learning perspective, this dimension examines how the organization's human resources and capabilities develop and how they contribute to future success. It includes indicators measuring employee competencies, satisfaction, and engagement (e.g., number of training hours, number of employee suggestions, employee turnover), measures reflecting the maturity of corporate culture and infrastructure (e.g., size of the knowledge base, effectiveness of information systems), and indicators of innovation potential. The learning and growth perspective ensures the organization's capacity for renewal. Well-trained and motivated employees, a supportive corporate culture, and continuous investment in development provide the foundation for efficient internal operations, satisfied customers, and ultimately strong financial results.

In the Balanced Scorecard system, strategic objectives, performance indicators measuring the achievement of those objectives, target values, and the actions required to achieve them must be defined in a coordinated and consistent manner for each perspective. Essentially, the BSC ensures that long-term objectives derived from the organization's mission and strategy are translated into concrete, measurable elements. For each strategic objective, one or more performance indicators (KPIs) are assigned to quantify progress toward the objective; desired target values (i.e. the expected level of performance) are defined; and the initiatives or actions necessary to achieve the objectives are specified.

Performance indicators therefore are not ends in themselves, but serve the implementation of strategy. One of the key advantages of applying the BSC is that it helps decompose high-level strategic ambitions into concrete operational actions. Behind every objective and indicator stand specific measures with assigned responsibilities, deadlines, and resource allocations, ensuring that the implementation of strategic objectives becomes an integral part of daily operations. The BSC indicator system thus represents a closely linked chain of strategy-derived objectives, indicators measuring their achievement, target values assigned to those indicators, and actions designed to ensure goal attainment.

This structure enables continuous monitoring of strategic objectives and effective feedback. If indicator values deviate from their targets, management can intervene in a timely manner with corrective actions. As a result, the BSC is not only suitable for measurement, but also serves as an effective tool for the successful execution of strategy. Traditional corporate performance measurement relied almost exclusively on financial indicators; however, this approach is no longer sufficient to assess the complex effectiveness of modern organizations. In rapidly changing and turbulent business environments, evaluating a company solely on the basis of financial data can lead to a distorted picture of performance. The Balanced Scorecard offers a solution to this challenge by providing a comprehensive strategic compass that balances financial and non-financial factors, thereby supporting the achievement of long-term objectives. The BSC plays a crucial role in integrating financial indicators with customer, operational, and learning-related measures, making it possible to consistently monitor and implement strategic objectives across the entire organization.

One of the major strengths of the **Balanced Scorecard** is its ability to balance past and future perspectives, as well as short-term and long-term considerations. While traditional financial indicators primarily report on past performance, the additional perspectives of the BSC focus on the drivers of future performance (such as customer loyalty, process improvement, and innovation). As a result, the indicator system not only informs management about what has happened so far, but also helps to anticipate and promote future success. Another important role of the BSC is to create balance among corporate objectives: beyond purely financial results, it enables management to pay equal attention to customer experience, operational efficiency, and innovation. This is, in fact, the origin of the term “*balanced*”—the BSC ensures an appropriate balance between costs, efficiency, customer satisfaction, and development within corporate governance. Owing to these characteristics, the Balanced Scorecard has become an integral part of corporate controlling and performance management systems. It translates strategic objectives into concrete, measurable indicators, thereby supporting planning, control, and performance feedback. Through the application of the BSC, top management gains a rapid and comprehensive overview of corporate operations, as financial outcomes and their underlying performance drivers can be viewed “on a single page.” As a performance measurement tool, the Balanced Scorecard introduced a new managerial mindset: it is not a self-contained collection of indicators, but an action-oriented management system placed in the service of strategy, supporting competitiveness and value creation in the modern business environment.

Previously defined financial performance indicators—such as profitability, liquidity, efficiency, capital structure, and resilience—can be integrated into the appropriate perspectives of the Balanced Scorecard. The financial perspective includes indicators that describe purely financial results and stability, such as profitability ratios (e.g. profit margin, ROE/ROI), liquidity indicators reflecting short-term solvency (e.g. liquidity ratios, working capital ratio), capital structure measures (e.g. debt-to-equity ratio, level of indebtedness), and, more broadly, indicators relevant to financial resilience. These metrics signal the company’s financial health, earnings-generating capacity, and ability to withstand shocks, and therefore clearly belong to the **financial perspective** of the BSC. For example, increasing profitability is typically a financial strategic objective, to which indicators such as revenue growth rate or net profit margin can be assigned. Similarly, maintaining liquidity may be a key objective measured by liquidity ratios (e.g. quick ratio), while the desired balance of capital structure can be monitored through leverage indicators (e.g. debt-to-equity ratio). If financial resilience—defined as the ability to remain stable in the face of unexpected shocks or crises—is emphasized in corporate strategy, this can also be measured within the financial perspective through indicators such as the level of liquid reserves, capital buffers, or risk ratios. In some cases, an additional perspective may be created to complement the four classical BSC perspectives. The concept of **efficiency** within the BSC framework is primarily captured by the **internal process perspective**. Indicators describing the efficiency of corporate operations—such as productivity measures, cost efficiency indicators (cost per unit of output), asset utilization, inventory turnover, defect rates, and similar metrics—are all typically included within the internal process perspective.

According to the logic of the **Balanced Scorecard**, improvements in internal operations—such as higher efficiency, quality, and innovation—lead to greater customer satisfaction, which in turn enhances financial performance. Consequently, the efficiency indicators discussed earlier appear in the BSC as causal drivers: they serve as measures of internal process improvement that contribute to the achievement of financial objectives. The Balanced Scorecard is a flexible framework into which all relevant financial indicators can be integrated under the appropriate perspectives. Indicators of profitability, liquidity, capital structure, and financial resilience are linked to the objectives of the **financial perspective**, while efficiency-related indicators are aligned with the performance objectives of the **internal process perspective**. It is important to emphasize that although these indicators are assigned to different perspectives, the Balanced Scorecard ensures that they are managed as part of a coherent, integrated system. The BSC enables previously defined financial performance indicators to function not in isolation, but embedded within the strategic objective system and interconnected with one another, thereby supporting long-term value creation and sustainable growth of the company.

Table 32: Integration of Performance Indicators into the Balanced Scorecard Perspectives

BSC Perspective	Related Indicators
Financial perspective	- Profitability indicators (ROE, ROI, ROS, profit margin) - Liquidity indicators (Current ratio, Quick ratio) - Capital structure indicators (Debt/Equity, Equity ratio, equity multiplier) - Financial resilience indicators (liquidity buffer, DSCR, interest coverage ratio)
Customer perspective	- Revenue diversification - Market share - Customer satisfaction indicators (NPS, customer retention)
Internal processes	- Efficiency indicators (inventory turnover, asset-based performance, productivity indicators) - Supplier dependency indicator - Operational flexibility, recovery speed (post-crisis)
Learning and growth	- R&D expenditure ratio - Employee skills, engagement, and commitment indicators - Innovation capacity indicators - Employee satisfaction and turnover

Source: Own compilation based on Vágner (2019), Hågen (2019), and Kaplan & Norton (2004)

One of the greatest advantages of the **Balanced Scorecard** framework is that it enables corporate performance indicators to be classified into a logical and transparent system. The different perspectives clarify the dimension in which a given indicator provides relevant information and how it relates to strategic objectives:

- **The financial perspective** includes all indicators that directly measure the company's financial stability and performance. These comprise profitability indicators, liquidity and capital structure ratios, as well as measures of financial resilience. Such indicators primarily provide reliable information for owners, investors, and creditors, reflecting not only past performance but also long-term sustainability.
- **The customer perspective** contains indicators related to the diversity of revenue sources, market position, and the quality of customer relationships. Customer satisfaction, loyalty, and market share not only support customer retention, but also directly influence revenue stability and future financial results.
- **The internal process perspective** focuses on operational efficiency and flexibility. Inventory management, productivity, supplier dependency, and the speed of recovery from crises all indicate how well corporate processes are organized and how effectively operations can adapt to a changing environment. These indicators are directly linked to performance in both the customer and financial perspectives.
- **The learning and growth perspective** includes indicators that underpin the company's future competitiveness. The ratio of R&D expenditure, innovation capacity, and employee satisfaction and engagement all contribute to the organization's ability to renew itself and achieve sustainable growth over the long term.

Placing indicators within the appropriate BSC perspectives ensures that they are interpreted not in isolation, but as part of a coherent strategic framework. This structure helps students clearly understand how financial performance indicators contribute to the company's overall, long-term success. One of the core ideas of the Balanced Scorecard is that non-financial dimensions—customer, internal process, and learning and innovation—are indirectly transformed into financial results. For example, higher customer satisfaction leads to increased revenues; more efficient internal processes enable lower costs and improved profitability; and stronger learning and innovation capabilities generate long-term competitive advantage, new markets, and increasing firm value.

The three non-financial dimensions primarily reflect **business performance**, part of which is eventually converted into financial results. Thus, the Balanced Scorecard acts as a bridge: it makes non-financial performance visible and helps explain how it is (partly) transformed into financial performance. At the same time, there is always an element of added value—such as knowledge, innovation potential, or reputation—that is not visible in traditional financial statements. These elements can be uncovered through corporate valuation. Some of them are directly translated into financial performance—such as cost reductions, revenue growth, or higher profits—which then become visible in financial reports.

Another part contributes **indirectly**, in the form of values that create current and future corporate value but do not appear directly in the financial statements. These include:

- **Human capital** (knowledge, skills, commitment),
- **Innovation potential and R&D outcomes**,
- **Customer relationships and brand value**,
- **Organizational culture and resilience**.

This is why the Balanced Scorecard is said to create balance: it does not focus solely on short-term financial indicators, but also on the long-term value drivers of the organization. **Business performance** (customer, internal process, learning/innovation) is thus **partly transformed into financial performance** and **partly embedded in current and future firm value** in the form of intangible elements, goodwill, and sustainable competitive advantage.

3.4.3. BSC design and main features

The implementation of the **Balanced Scorecard** is a structured process supported by a wide range of tools, templates, and checklists. The steps of this toolkit extend from information gathering and goal setting through the development of the strategy map to the definition of performance indicators and target values. Table 33 illustrates that each phase of the process is associated with a practical template or checklist designed to enhance transparency and effectiveness. The toolkit follows a coherent logic: first, the clarification of strategy; second, the design of indicators and programs; and finally, the preparation of the implementation plan. At the core of the Balanced Scorecard framework are those elements that translate the organization's vision and strategy into tangible, measurable, and executable forms:

- **Strategic objectives:** These transform the abstract directions articulated by the mission and vision into concrete, achievable goals. They clearly define the steps the organization must take to ensure long-term success.
- **Strategy map:** A visual tool that depicts the cause-and-effect relationships among objectives. It enables a clear understanding of how different goals are interconnected and how they collectively contribute to the fulfillment of the organization's mission.
- **Performance indicators (KPIs):** Each strategic objective is linked to at least one performance measure that ensures traceability and provides feedback on progress. Through KPIs, strategy becomes measurable not only in narrative terms, but also in quantitative form.
- **Strategic initiatives:** Specific projects and programs that directly support the achievement of strategic objectives. These initiatives may be short- or long-term, but they share common characteristics: clearly defined ownership, deadlines, and measurable outcomes.
- **Cascading:** The key mechanism for translating strategy into practice. Cascading objectives from the institutional level through organizational units down to the individual level ensures that every employee understands how their tasks contribute to the success of the organization as a whole.

Table 33: Complete Toolkit for Developing a Balanced Scorecard

Task	What Needs to Be Done
Strategic information collection (Process Inputs Checklist)	Collect and review strategic data and background information.
Development timeline	Define the expected steps of the process and their timeline.
Team formation checklist	Establish the project team and define roles and responsibilities.
Core team checklist	Identify and carry out critical tasks.
Definition of strategic objectives (Establish Goals)	Define and document the company's strategic objectives.
Strategic themes checklist	Review whether appropriate strategic themes have been identified.
Strategy map development (Strategic Map)	Link strategic objectives across perspectives (financial, customer, internal processes, learning and growth).
Measurement definition	Define and test individual performance measures.
Measurement summary	Compile and systematize all performance measures and their attributes in the scorecard.
Lag–lead indicator comparison (Lag–Lead Comparison)	Identify lagging (outcome) and leading (driver) indicators.
Target setting checklist	Define and review target values for each performance indicator.
Program attributes collection	Document and systematize the key attributes of programs and initiatives.
Program prioritization matrix (Program Selection Grid)	Evaluate and rank programs based on strategic objectives.
Objectives–Measures–Targets–Programs summary (O-M-T-P Summary)	Integrate objectives, measures, targets, and programs into a coherent structure.
Control vs. strategic alignment	Compare the role of control activities with the strategic management process.
Generic model	Develop a general framework for linking objectives and performance measures.
Measurement basics	Summarize key measurement principles, concepts, and examples.
Implementation plan example	Develop and present an organizational-level Balanced Scorecard implementation plan.

Source: Own compilation based on Niven (2012), Vágner (2019), Hågen (2019), and Kaplan & Norton (2004).

Designing the BSC Process

- **Starting point of the BSC process:** The process begins with a strategic situation analysis and the formulation of strategic objectives. The key questions include:
 - Where is the company now? → e.g. declining market share, high scrap rate, long lead times.
 - What trends are affecting it? → automation, digitalization, labor shortages, sustainability requirements.
 - How can cost-efficient yet high-quality production be ensured?
 - Which strategic directions does the company choose? – e.g. cost reduction vs. quality improvement; entering new markets vs. strengthening existing ones.
- **Defining priorities across the four perspectives (cascading strategic objectives):**
 - **Financial:** revenue growth, cost reduction.
 - **Customer:** increasing customer satisfaction and market share.
 - **Internal processes:** reducing scrap, shortening lead times, implementing Lean projects.
 - **Learning and growth:** employee training, fostering innovation.
- **Strategy map (cause-and-effect relationships):** Following the **Learning → Process → Customer → Financial** logic:
 - If employees receive training → processes become more efficient.
 - If processes improve → quality increases and delivery becomes faster.
 - If customers are satisfied → market share grows.
 - If market share increases → financial performance improves.
- **Defining indicators (KPIs):** Each objective is linked to specific measures and target values, identifying which KPIs will measure and monitor progress. Examples: scrap rate (%), lead time (days), customer satisfaction index, revenue.
- **Data collection and monitoring:** For example, the company records actual values in 2024 (baseline), measures again in 2025, and compares results against target values.
- **Analysis and feedback:**
 - Where have targets been achieved? (e.g. cost reduction, scrap reduction)
 - Where is further improvement required? (e.g. shortening lead times, deepening employee training)

Successful implementation of the Balanced Scorecard depends not only on the methodology, but also on the composition and engagement of the participating teams. Top management is responsible for defining the strategic direction and publicly endorsing the Scorecard. At the strategic level, the board approves the BSC as a corporate governance system. At the operational level, middle managers regularly report on BSC indicator performance and decide on necessary interventions. In practice, middle management forms the bridge between strategy and execution, translating top-level objectives into operational programs and measurable indicators. Employees working at the operational level provide the data, conduct analyses, and offer feedback on how the process functions in practice.

The collaboration of the three levels enables the Balanced Scorecard to operate across the entire organization, rather than remaining a tool used only by a narrow group of managers. Consequently, a clear division of roles among teams is a key factor in the effective application of the method. During the annual evaluation, the BSC makes it transparent to what extent the strategy has been successfully implemented. The formulation and approval of objectives therefore genuinely take place at the board level. Execution, however, is delegated to individual departments (such as production, logistics, sales, and HR), which contribute to the overall picture through their own performance indicators. This organizational structure ensures that strategic objectives are consistently translated into operational priorities (Table 34).

Table 34: Roles of Teams in Developing the Balanced Scorecard

Team Type	Responsibilities and Competencies
Top Management (Leadership Team)	- Strategic thinking and overview of the organization as a whole. - Visible support for and representation of the Balanced Scorecard. - Involving others and taking responsibility for the process. - Effective communication of strategy and objectives. - Decision-making on strategic themes, objectives, and priorities.
Middle Management (Core Team)	- Comprehensive business knowledge. - Collecting information, conducting interviews, and adopting a “big picture” perspective. - Credibility and respect among other managers. - “Selling” the Balanced Scorecard to other organizational units. - Cooperation with top management. - Documentation, presentation, and communication of results.
Operational Level (Measurement Team)	- Detailed functional knowledge of their specific area. - Data collection, analysis, and accurate reporting. - Interpreting strategic issues within the context of their own functional area. - Effective cooperation with middle management.

Source: Own compilation based on Niven (2012), Vágner (2019), Hågen (2019), and Kaplan & Norton (2004).

The **Core Team** is the key actor in the development of the Balanced Scorecard and typically consists primarily of middle management. Their task is to gain a thorough understanding of the BSC development process and to collect the strategic information required for this purpose. To achieve this, they conduct preliminary research and carry out individual interviews with members of top management. The information gathered is then consolidated into strategic objectives and themes, which are subsequently discussed and aligned with senior leaders. One of the most important responsibilities of the Core Team is to develop appropriate **strategy maps** for each strategic theme. These maps visually represent the relationships among financial, customer, internal process, and learning objectives. The strategy maps are discussed jointly with top management and become an official part of the Balanced Scorecard only after formal approval. For this reason, it is particularly important for Core Team members to understand the criteria and considerations underlying managerial decision-making. Critical questions include identifying the most important financial objectives, understanding customer service expectations, and determining which internal processes contribute to achieving these objectives.

The Core Team therefore plays a **bridging role**: it translates the strategic thinking of top management into operational objectives and measurable elements, enabling the entire organization to implement the strategy on a day-to-day basis. The first step in the Balanced Scorecard development process is the definition of **strategic objectives**. When setting objectives, it is essential that they are formulated in a concrete and tangible manner, as they define the desired outcomes and direction for the organization. These objectives form the foundation of subsequent stages of the process: they clarify where the company intends to go and simultaneously validate the mission and vision. Several criteria should be considered when defining objectives. These include market developments and industry trends, which shape external expectations and opportunities, as well as technological progress, which creates new operational possibilities and challenges. The performance of competitors and analysis of the competitive environment (benchmarking) also provide important reference points, while past performance enables the organization to set realistic and achievable goals. However, objectives should not be formulated exclusively at the managerial level. Once objectives have been defined, it is crucial to ensure their widespread communication and acceptance throughout the organization, so that everyone is aware of the jointly defined directions. This creates the foundation for the subsequent development steps of the Balanced Scorecard.

Key aspects of team building include:

- **Functional diversity:** the project team should include representatives from finance, HR, IT, marketing, production, and customer service.
- **Shared learning:** knowledge sharing across different functional areas promotes holistic thinking.
- **Increased acceptance:** employees are more likely to accept a new system if representatives from their own area were involved in its development.
- **Creative problem-solving:** proposals arising from diverse perspectives help identify the most appropriate indicators and objectives.

3.4.4. Strategic Maps and the Logical Relationship Between Objectives and Indicators

From the 1990s onward, Kaplan and Norton emphasized that the real value of the Balanced Scorecard does not lie merely in the variety of indicators it employs, but in its ability to visualize and structure performance measurement. The concept of the **strategy map** was developed to serve this purpose: through chains of cause-and-effect relationships, it illustrates how intangible resources, internal processes, customer experience, and financial results are interconnected. In this way, the BSC evolved from a simple collection of indicators into a framework that enables a clear visualization and systematic linkage of performance measurement, thereby supporting the practical implementation of strategy. One of the key steps in designing a Balanced Scorecard is the identification of **strategic themes**, which define the organization's most important strategic focus areas. Typically, no more than five strategic themes should be formulated, as a greater number would fragment organizational focus. These themes must always be realistic and achievable within the organization's capabilities, and they must be closely linked to the defined strategic objectives. It is essential that strategic themes have a positive impact on the organization, provide clear direction and priorities, and are distinctly differentiated from one another. They do not represent day-to-day operational tasks, but rather longer-term strategic issues that are aligned with the organization's mission and vision and ultimately influence financial results. In defining strategic themes, it is advisable to draw on previously collected strategic information, such as market trends, competitive dynamics, and past performance. If the main focus areas do not emerge clearly from these sources, interviews with top management can help identify them. Examining internal organizational perspectives may also provide a useful starting point, as common themes—such as innovation in product development—often recur.

A single strategic theme may encompass multiple objectives and may span all four perspectives of the Balanced Scorecard: financial, customer, internal processes, and learning and growth. At the same time, potential tensions may arise between themes—for example, reducing the number of new programs may conflict with revenue growth ambitions. In such situations, it is crucial that all members of the organization clearly understand the ultimate objectives and interpret priorities consistently. The **strategy map** itself is a visual tool that presents the company's strategy in the form of cause-and-effect chains. Its core logic illustrates how the development of intangible resources within the learning and growth perspective leads to improved internal processes, how these improvements enhance customer experience, and ultimately how they result in superior financial performance. This structure emphasizes that financial results are consequences rather than independently controllable factors.

A typical strategy map is structured hierarchically:

- **Learning and growth** – employee capabilities, information systems, organizational culture.
- **Internal processes** – innovation, operations, regulatory compliance.
- **Customer value proposition** – price, quality, speed, customer relationships.
- **Financial outcomes** – revenue growth, cost reduction, value creation.

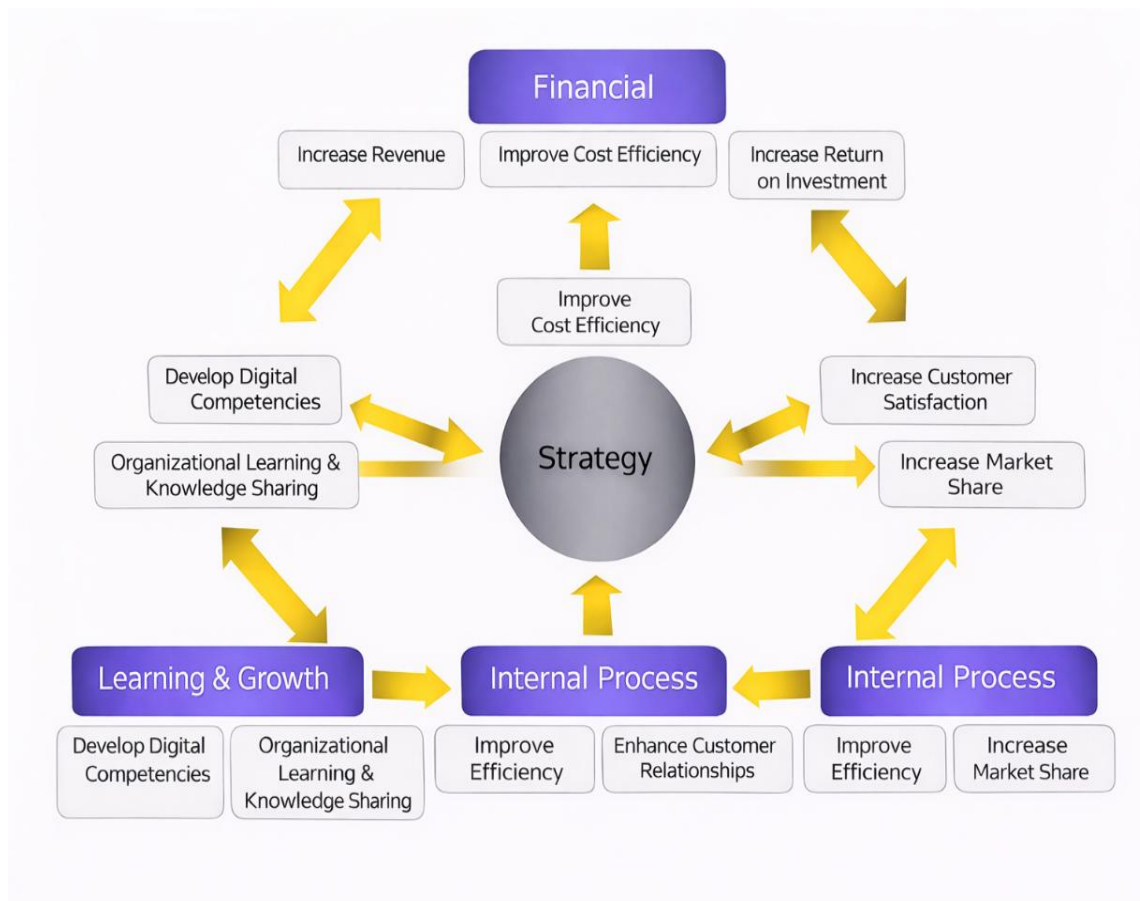


Figure 6: Strategic Map of the Balanced Scorecard

Source: author's own compilation

The strategic map of the Balanced Scorecard (Figure 6) presents the four perspectives of the Balanced Scorecard by illustrating the cause-and-effect relationships among strategic objectives. The figure visually demonstrates how learning and growth objectives contribute to the improvement of internal processes, which in turn enhance customer value and ultimately strengthen financial performance and corporate value creation.

- **Financial perspective:** At the top level of the figure, financial objectives appear, expressing the economic effectiveness of the strategy. These include revenue growth, improved cost efficiency, and increased return on investment as the financial outcomes of corporate value creation.
- **Customer perspective:** The customer perspective presents objectives related to market success. In the figure, increasing customer satisfaction and expanding market share are shown, both of which are directly linked to the company's competitiveness and financial performance.
- **Internal processes perspective:** At the level of internal processes, the figure highlights operational objectives that enable the fulfillment of customer expectations. Increasing operational efficiency and developing customer relationships are depicted as key areas of the strategy's operational implementation.

- **Learning and growth perspective:** The learning and growth perspective illustrates the foundations of long-term performance. In the figure, the development of digital competencies as well as organizational learning and knowledge sharing are presented, which support the implementation of the strategy through the improvement of internal processes.

Table 35: Balanced Scorecard – Strategic Map Template

Perspective	Focus Areas	Strategic Objectives (to be defined)
Financial	ROI, EVA, Revenue, Profit, Capital, Cash Flow	
Customer	Quality, Service, Pricing, Time, Image, Relationships	
Internal Processes	Production, Delivery, Marketing, Operations, Quality Control, Customer Service, R&D	
Learning and Growth	Employees, Human Capital, Knowledge, Technology, Best Practices, Intangible Assets	

Source: Own compilation based on Niven (2012), Vágner (2019), and Kaplan–Norton (2004)

The **strategy map template** within the Balanced Scorecard framework serves to structurally decompose corporate strategy along the four perspectives, enabling the integration of strategic objectives, related performance indicators, and the actions that support implementation. By applying the template, strategy is no longer treated merely as a planning document, but becomes a management tool embedded in day-to-day operations, ensuring continuous feedback on operational performance. Based on measurement results, the organization is able to learn, assess the effectiveness of its strategy, and, if necessary, adjust it—thereby realizing the closed-loop strategic management logic of the Balanced Scorecard. Over the course of its development, the Balanced Scorecard has evolved from an initial performance measurement tool into a comprehensive system for strategy execution. Its true value lies in its ability to translate corporate strategy into concrete objectives, measurable performance elements, and actionable initiatives. Within this process, the strategy map plays a key role by visually linking strategic objectives across the four perspectives and establishing a clear cause-and-effect logic between long-term goals and operational activities (Table 35). Moreover, by explicitly mapping the interdependencies between financial outcomes, customer value propositions, internal process improvements, and learning and growth capabilities, the strategy map enhances strategic coherence and managerial alignment.

The operation of the **Balanced Scorecard strategic management system** is ensured by five interrelated managerial processes, which together form a **closed-loop management system**:

1. Mobilize change through leadership

- Top management is responsible for defining the strategic direction and communicating the need for change.
- The key to success lies in leadership commitment and the involvement of employees.

2. Translate the strategy

- The vision and mission are transformed into concrete, measurable objectives and indicators.
- Strategy maps help illustrate cause-and-effect relationships across the different perspectives.

3. Align the organization

- The objectives of business units, departments, and support functions are linked to the company's overall strategy.
- A "strategy-focused organization" emerges when all units support the same strategic objectives.

4. Motivate to make strategy everyone's job

- Strategy execution can only be successful if every employee understands how their own tasks contribute to organizational goals.
- The Balanced Scorecard supports individual- and team-level objectives and incentive systems.

5. Govern to make strategy a continual process

- Strategy must be continuously reviewed and adapted in response to a changing environment.
- Management meetings address not only financial indicators but also customer, process, and learning-related measures.

Based on the strategy map, the corporate vision and strategy can be translated into concrete objectives and performance expectations, to which specific indicators and execution initiatives are linked. Performance data generated during day-to-day operations provide continuous feedback on strategy implementation, enabling management to evaluate results. By incorporating experience and learning from these outcomes, the organization can adjust its strategic direction when necessary, ensuring that strategy does not remain a static document but becomes a living management tool embedded in everyday operations. An important extension of the Balanced Scorecard is the management of **corporate synergies**, particularly in large organizations and multinational corporate groups where multiple business units and organizational entities operate in parallel. The isolated performance measurement of individual units is insufficient to create group-level competitive advantage; therefore, the conscious management of shared value-creation points is required. In this context, the Balanced Scorecard not only supports the execution of individual strategies but also provides a framework for identifying and measuring corporate-level synergies.

Table 36: Manufacturing Company Sample BSC Map

Perspective	Focus Areas	Strategic Objectives
Financial	ROI, EVA, Revenue, Profit, Capital, Cash Flow	Increase revenue growth through core products Improve cost efficiency and reduce unit production costs Increase return on invested capital (ROI) Strengthen cash flow stability
Customer	Quality, Service, Pricing, Time, Image, Relationships	Increase customer satisfaction Improve on-time delivery performance Increase market share in key segments Strengthen long-term customer relationships
Internal Processes	Production, Delivery, Marketing, Operations, Quality Control, Customer Service, R&D	Reduce scrap and rework rates Shorten production lead times Improve operational efficiency through Lean initiatives Strengthen quality control and process reliability
Learning and Growth	Employees, Human Capital, Knowledge, Technology, Best Practices, Intangible Assets	Develop employee skills and competencies Enhance digital capabilities (ERP, MES, data usage) Promote continuous improvement culture (Kaizen) Strengthen knowledge sharing across functions

Source: Own compilation based on Niven (2012), Vágner (2019), and Kaplan–Norton (2004)

3.4.5. Objectives and Performance Indicators in the BSC

An essential element of designing a Balanced Scorecard is ensuring that each strategic objective is linked to a clearly defined performance indicator (KPI). This purpose is served by the indicator definition template below, which consists of three main steps.

Balanced Scorecard – Performance Indicator Definition Template

Step 1: Defining the Performance Indicator for the Strategic Objective

Strategic Objective:	_____
Performance Indicator Used:	_____
Description of the Indicator:	_____
Unit of Measurement (\$, %, units, etc.):	_____
Measurement Frequency:	☐ Monthly ☐ Quarterly ☐ Annually ☐ Other: _____

Step 2: Identifying Data Sources for the Performance Indicator

☐ Internal documents / reports
☐ External documents / reports
☐ Specialized studies
☐ Programs / projects
☐ Databases
☐ Other: _____

Step 3: Calculation and Reporting of the Performance Indicator

Required calculations:	_____
Assumptions used in calculation:	_____
Data availability:	☐ Currently available ☐ Requires some research ☐ Requires extensive research ☐ Currently not available
Comments / Notes:	_____

The following example illustrates the application of the Balanced Scorecard performance indicator definition template for a manufacturing company (sample company). The example focuses on operational efficiency and quality improvement.

1. Step 1: Defining the Performance Indicator for the Strategic Objective

Strategic Objective:	Reduce production waste and improve operational efficiency
Performance Indicator Used:	Scrap Rate (%)
Description of the Indicator:	Ratio of defective units to total units produced within a given period
Unit of Measurement (\$, %, units, etc.):	%
Measurement Frequency:	☒ Monthly ☐ Quarterly ☐ Annually ☐ Other

Step 2: Identifying Data Sources for the Performance Indicator

☒ Internal documents / reports (production and quality reports)
☐ External documents / reports
☐ Specialized studies
☒ Programs / projects (Lean manufacturing, Six Sigma initiatives)
☒ Databases (ERP, MES systems)
☐ Other

Step 3: Calculation and Reporting of the Performance Indicator

Required calculations:	$\text{Scrap Rate (\%)} = (\text{Number of defective units} / \text{Total units produced}) \times 100$
Assumptions used in calculation:	Defective units are identified based on standardized quality inspection criteria
Data availability:	☒ Currently available ☐ Requires some research ☐ Requires extensive research ☐ Currently not available
Comments / Notes:	Indicator supports Lean initiatives and continuous improvement programs

This indicator is linked to the Internal Processes perspective of the Balanced Scorecard and contributes indirectly to customer satisfaction and financial performance through cost reduction and quality improvement.

In the **first step**, the strategic objective and its associated performance indicator are defined. At this stage, it is specified exactly what is being measured, which indicator is applied, and in what unit of measurement (for example, percentage, number of units, or monetary value) it is expressed. In addition, the frequency of measurement must be determined, which may be monthly, quarterly, or annual. The **second step** involves identifying the data sources. These may include internal company reports, external industry analyses, specialized studies, databases, or the results of specific programs and projects. The reliability and verifiability of data sources are of fundamental importance, as they ensure the credibility of the measurement. The **third step** is the description of the calculation and reporting of the indicator. In this phase, the required calculations, any underlying assumptions, and the level of data availability can be documented. Some indicators are fully available, while others may require a greater or lesser degree of research, or in certain cases may not yet be fully available. This three-step process ensures that each strategic objective is linked to a well-defined indicator supported by reliable data and measured on a regular basis. As a result, the organization does not merely define its objectives, but is also able to continuously monitor the extent to which they are being achieved. When implementing the Balanced Scorecard, it is not sufficient to simply select performance indicators; it is also necessary to assign their key characteristics. This is supported by the **Measurement Summary Template**, which structures and makes transparent the selected indicators.

Table 37: Balanced Scorecard – Performance Measurement Summary

Perspective	Indicator	Update Frequency	Data Reliability	Link to Strategy	Responsible	Strategic Alignment	Decision Support Role
Financial	F1 ...	...	...	...	...	...	...
	F2 ...	...	...	...	...	...	...
	F3 ...	...	...	...	...	...	...
Customer	C1 ...	...	...	...	...	...	...
	C2 ...	...	...	...	...	...	...
	C3 ...	...	...	...	...	...	...
Internal Processes	I1 ...	...	...	...	...	...	...
	I2 ...	...	...	...	...	...	...
	I3 ...	...	...	...	...	...	...
Learning and Growth	L1 ...	...	...	...	...	...	...
	L2 ...	...	...	...	...	...	...
	L3 ...	...	...	...	...	...	...

Source: Own compilation based on Niven (2012), Vágner (2019), and Kaplan–Norton (2004)

The template 35 organizes performance indicators across four main perspectives (financial, customer, internal processes, and learning and growth) and provides the opportunity to evaluate each KPI in detail.

When completing the table, the first step is to specify the name and code of the indicator, followed by defining the frequency of updates (monthly, quarterly, or annually). Next, the reliability of the data must be assessed, as well as the extent to which the indicator is directly linked to a strategic objective. The template also requires identifying who is responsible for the indicator and which organizational unit it belongs to. In addition, it is necessary to evaluate how well the indicator aligns with the organization's strategy and to what extent it supports decision-making and strategy execution. This process ensures that the Balanced Scorecard is not merely a collection of indicators, but a system in which each KPI has a clear role and genuinely contributes to the achievement of strategic objectives.

Performance measurement can take various forms and types, each with different advantages and limitations. Measurement formats include, for example, absolute numbers, indices, percentages, ratings, ratios, or rankings. Each highlights a different type of information: while absolute numbers are simple and easy to understand, ratios reveal deeper relationships, and rankings convey competitive positioning. Measurement types can be grouped into two main categories: **lagging (outcome) indicators**, which capture past performance, and **leading (driver) indicators**, which are predictive in nature and provide insight into future performance. Outcome indicators have the advantage of being objective and easy to measure, but their limitation is that they provide feedback only after the fact. In contrast, leading indicators can help the organization respond proactively, although they are more difficult to define precisely. The two types complement each other: while outcome indicators show what the organization has achieved in the past, leading indicators help explain what may lead to future success. This duality ensures that the Balanced Scorecard functions as both a retrospective and a forward-looking measurement system. One of the most critical elements of implementing the Balanced Scorecard is the design of performance indicators and objectives. The strategy map illustrates the cause-and-effect relationships among organizational goals, while performance indicators ensure their measurability and traceability.

The success of the Balanced Scorecard depends on strategic objectives and indicators being clearly defined, measurable, and consistently applied at all levels of the organization. Indicators developed across the four perspectives create a balance between past performance and future development. The combination of short-, medium-, and long-term objectives simultaneously ensures operational stability, innovation, and the realization of the organization's vision. The prioritization of objectives and the assignment of initiatives further guarantee that strategy becomes not just a document, but a guiding compass for the organization's everyday activities. Performance indicators fulfill three fundamental functions:

- **Strategy translation:** they quantify the objectives to be achieved, making it clear at every organizational level what constitutes success.
- **Communication:** they convey management expectations to employees, fostering a shared and consistent understanding.
- **Responsibility and accountability:** they enable performance to be evaluated and held accountable.

Table 38: Examples of Performance Indicators and Objectives in the BSC Perspectives

Perspective	Typical Performance Indicators	Related Strategic Objectives
Financial	- Revenue growth (%) - Net profit - ROI, ROE - Cost level / unit cost - Economic Value Added (EVA)	- Increase annual revenue by 5% - Achieve 15% return on equity - Reduce costs by 10% within three years - Maintain financial stability
Customer	- Customer Satisfaction Index - Market share (%) - Number of new customers - Customer retention rate - Number of complaints - Net Promoter Score (NPS)	- Achieve customer satisfaction above 90% - Increase market share by 3% within two years - Reduce number of complaints by 20% - Strengthen customer loyalty
Internal Processes	- New product development cycle time - Product defect rate - On-time order fulfillment (%) - Service process cycle time - Number of innovation projects	- Reduce time-to-market for new products by 25% - Reduce defect rate by 50% - Achieve 95% on-time order fulfillment - Launch at least 3 innovation projects annually
Learning and Growth	- Employee satisfaction - Employee turnover rate - Training hours per employee - Rate of new skill acquisition - Availability of IT systems	- Achieve employee satisfaction above 85% - Reduce turnover rate below 10% - Provide at least 40 training hours per employee annually - Integrate new competencies into key functional areas

Source: Own compilation based on Niven (2012), Vágner (2019), and Kaplan & Norton (2004).

3.4.6. Implementation of the Balanced Scorecard within the Organization

One of the fundamental objectives of the Balanced Scorecard is to translate organizational strategy into measurable objectives and performance indicators. However, defining indicators and targets represents only the first step; the real added value emerges when the strategy is cascaded throughout all levels of the organization. The corporate scorecard at the highest level captures the strategic plan, the vision, and the core objectives, which are then translated into business unit, departmental, and ultimately individual scorecards. This top-down process ensures that organization-wide strategic guidelines become measurable within each unit, while feedback from lower levels allows for continuous refinement. During implementation, scorecards provide a basis for budgeting, resource allocation, and priority setting, supported by a regular review cycle that ensures dynamism. In this way, the Balanced Scorecard is not a static document but an integrated management system that links strategy to day-to-day operations and continuously improves it.

The implementation of the Balanced Scorecard within the organization does not stop at the definition of performance indicators. Strategy deployment and execution can be divided into four main phases: strategy formulation, planning, integration, and implementation. The process begins with the corporate-level scorecard, which defines the strategic plan, vision, and guiding principles. From this, business unit and departmental scorecards are derived, ensuring that each organizational unit operates in alignment with central objectives. The cascading process is completed at the individual and team levels, where employees' daily tasks and performance indicators are directly linked to organizational strategy. During implementation, scorecards serve as the foundation for budgeting, resource allocation, program management, and priority setting. The process is accompanied by continuous review and adjustment cycles, ensuring that the Balanced Scorecard remains a dynamic management system rather than a static document, thereby supporting the practical execution of strategy.

The implementation of the Balanced Scorecard is therefore not a one-off documentation exercise, but a process through which organizational strategy is gradually translated into measurable objectives and concrete actions. This implementation is structured around four main phases. The first phase is strategy formulation, during which the corporate-level scorecard defines the strategic plan, vision, and guiding principles. This is followed by the planning phase, in which business unit scorecards are developed, objectives are cascaded, and targets are approved and reviewed. The third phase is integration, which ensures that strategic objectives are not confined to top management but become measurable at departmental and individual levels as well. The fourth phase is implementation, during which budgets are prepared based on the scorecards, resources are allocated, and strategic programs and projects are launched. The entire process is permeated by a continuous review and change cycle, ensuring that the Balanced Scorecard does not remain a static document but functions as a flexible and dynamic management system that supports the organization's long-term success (Table 39).

Table 39: Phases of Balanced Scorecard Implementation

Phase	Name	Description	Objective
Phase 1	Strategy Formulation (Strategize)	Development of the corporate-level scorecard, including the strategic plan, vision, and guiding principles.	Defining the strategic direction of the organization.
Phase 2	Planning (Plan)	Development of business unit scorecards; cascading, approval, and review of corporate objectives and target values.	Aligning business unit objectives with the corporate strategy.
Phase 3	Integration (Integrate)	Alignment of the corporate strategy with business unit, departmental (shared service), and individual scorecards.	Full cascading and vertical integration of strategic objectives.
Phase 4	Implementation (Implement)	Budget preparation, resource allocation, program and project management, and priority setting.	Practical execution of the strategy and support of daily operations.
Continuous Cycle	Continuous Review and Change	Regular evaluation, adjustment, and development of the scorecards.	Ensuring dynamism so that the BSC remains a living management system rather than a static document.

Source: Own compilation based on Niven (2012), Vágner (2019), Kaplan and Norton (2004)

3.4.7. Sustainability and Resilience Oriented Balanced Scorecard

The Balanced Scorecard can be flexibly adapted to organizational characteristics and external environmental challenges. As a result, many organizations extend the four core perspectives with additional dimensions. One such extension is **resilience**, which measures the organization's ability to adapt to unexpected events and disruptions. Another important extension concerns **sustainability**. These additions aim to ensure that performance measurement does not focus exclusively on financial and operational outcomes, but also incorporates considerations related to sustainability and the effective implementation of strategy.

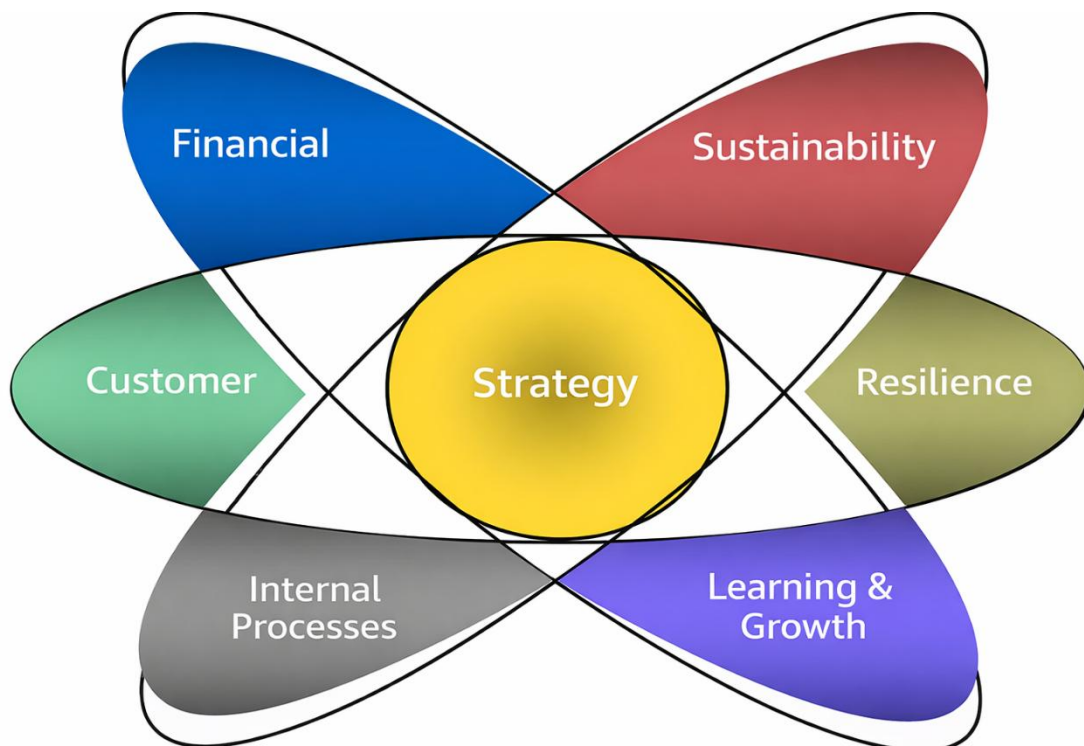


Figure 7: Sustainability and Resilience Oriented Balanced Scorecard

Source: author's own compilation

The traditional four perspectives of the Balanced Scorecard—financial, customer, internal processes, and learning and growth—provide a strong foundation for making strategy measurable and executable. However, today organizations are shaped not only by economic performance but also by sustainability and resilience requirements. As a result, the **Sustainability- and Resilience-Oriented Balanced Scorecard** has emerged, extending the classical framework with two additional perspectives. The **sustainability perspective** integrates environmental and social responsibility into strategic objectives, while the **resilience perspective** enables the measurement of adaptability to crises and long-term organizational robustness. In this way, the Balanced Scorecard becomes a tool not only for evaluating current performance, but also for addressing future challenges and ensuring long-term value creation.

Sustainability within the Balanced Scorecard may be incorporated into the *internal processes* perspective, but it can also appear as an independent perspective, as corporate performance today is no longer assessed solely on the basis of financial and operational indicators. Environmental and social impacts are increasingly taken into account in performance evaluation. The extension of the Balanced Scorecard with a sustainability perspective is therefore a natural consequence of changes in the economic environment and corporate governance expectations. Globalization, climate change, and the emergence of ESG and CSRD regulations impose new forms of responsibility on companies: ensuring financial performance is no longer sufficient; organizations must also measure and communicate the long-term social and environmental impacts of their operations. Integrating sustainability into the Balanced Scorecard enables strategic objectives to be aligned with the principles of responsible business conduct, ensuring that value creation is realized not only in economic terms, but also across social and ecological dimensions. Moreover, the extended BSC supports transparent reporting and strengthens stakeholder trust, as ESG performance has become a key determinant of corporate competitiveness and reputation. The **Sustainability Balanced Scorecard (SBSC)** explicitly aims to embed environmental responsibility, resource efficiency, and social expectations into strategic objectives. As a result, the BSC becomes a framework that not only reflects short-term performance, but also supports the measurement of long-term value creation and corporate responsibility. The **ESG dimensions**—Environmental, Social, and Governance—represent the three fundamental pillars of sustainability and play an increasingly significant role in modern corporate performance management. Corporate value creation can no longer be measured exclusively through financial indicators, but also through the impact of operations on the environment, society, and governance structures. The ESG approach therefore constitutes an integrated framework for measuring sustainability performance, assessing not only economic outcomes but also the quality of responsible corporate behavior.

The **Environmental (E)** dimension evaluates the company's environmental footprint, resource management practices, and energy-efficiency efforts. This includes the reduction of CO₂ emissions, optimization of energy and water use, waste management, and the implementation of circular economy principles, all of which produce measurable outcomes for regulators and society alike. The objective of the environmental dimension is to preserve natural resources and mitigate the effects of climate change while ensuring the long-term sustainability of corporate operations.

The **Social (S)** dimension measures corporate social responsibility and the company's relationship with its workforce. Key indicators in this area include occupational safety, employee turnover, diversity, workplace well-being, community engagement. Strong social responsibility enhances the organization's social embeddedness, increases employee commitment, and contributes to a positive and corporate reputation.

The **Governance (G)** dimension focuses on governance structures, transparency, and ethical conduct. This includes board independence, risk management practices, compliance with ethical codes, and executive accountability. Good corporate governance not only strengthens investor confidence but also reduces operational and reputational risks (Table 40).

Table 40: ESG Dimensions and Their Objectives

Dimension	Focus Area	Examples	Stakeholders
Environmental (E)	Environmental impacts and resource management	CO ₂ emissions, energy efficiency, waste ratio, water use	Society, regulators
Social (S)	Employee-related and social responsibility	Employee turnover, occupational safety, diversity, local community programs	Employees, communities
Governance (G)	Governance and ethical structures	Board independence, risk management, code of ethics	Owners, investors, authorities

Source: Own compilation based on Hristov & Chirico (2019), EFFAS (2009), Mirza et al. (2025)

The **Environmental (E) dimension** is one of the most fundamental pillars of corporate sustainability, as it measures the ecological impacts and resource utilization of a company's activities. Its purpose is to reveal the extent to which an organization contributes to environmental protection, climate change mitigation, and the preservation of natural resources. This dimension is based on the recognition that economic growth can only be considered sustainable if corporate operations are environmentally responsible and efficient. The assessment of environmental performance encompasses several key areas. Indicators related to **carbon dioxide emissions (carbon footprint)** and **energy intensity** reflect the company's environmental burden and energy efficiency, that is, the extent to which its operations place pressure on the natural environment.

The **renewable energy ratio** indicates the degree to which green energy sources are utilized, while **water usage intensity** evaluates the sustainability of water management practices. The **waste recycling rate** expresses the company's ability to reduce its environmental footprint through the application of circular economy principles.

The objective of this dimension is to make environmental responsibility measurable and comparable, thereby supporting managerial decision-making and enhancing the transparency of ESG reporting. Through these indicators, organizations are able to identify areas with significant improvement potential, whether in increasing energy efficiency, reducing emissions, or expanding the use of renewable resources. verall, the environmental dimension goes beyond regulatory compliance and becomes an integral part of strategic value creation. Today, sustainable operation is no longer merely a moral or social expectation, but a source of competitive advantage that, in the long term, contributes to a company's financial stability, reputation, and resilience (Table 41).

Table 41: Environmental Key Performance Indicators

Indicator	Indicator Description	Formula / Definition
Carbon Footprint (tCO _{2e})	Total greenhouse gas emissions	Total greenhouse gas emissions (Scope 1+2+3) measured in tonnes of CO ₂ equivalent
Energy Intensity	Energy efficiency of operations	Energy consumption (MWh) / Revenue (EUR million)
Renewable Energy Ratio	Share of renewable energy use	Energy from renewable sources / Total energy consumption × 100%
Water Usage Intensity	Water consumption efficiency	Water consumption (m ³) / Revenue (EUR million)
Waste Recycling Rate	Extent of waste recycling	Recycled waste / Total waste generated × 100%

Source: Own compilation based on Hristov & Chirico (2019), EFFAS (2009), Mirza et al. (2025).

The **Social dimension** is one of the most complex areas of corporate sustainability, as it simultaneously encompasses internal responsibility toward employees and the external social impacts of corporate activities. According to the modern ESG approach, corporate performance is not measured solely by operational efficiency or profitability, but also by the value a company creates for the people and communities with whom—and within which—it operates. **Internal social responsibility** focuses on human resources, employee well-being, and workforce development. This includes indicators such as employee turnover, gender diversity, occupational health and safety, training, and workplace satisfaction, which reflect the company's ability to provide a stable, supportive, and safe working environment. These indicators not only support the preservation of human capital but also contribute, in the long run, to organizational performance and innovation capability.

In contrast, **external social responsibility** measures the company's social embeddedness and its impact on the broader community. One such indicator is the **Community Investment Ratio**, which shows the extent to which the company contributes to local social and economic development and the strengthening of social cohesion. The two areas are closely interconnected: supporting internal well-being and employee development enhances workforce engagement, which indirectly improves the company's external reputation and social legitimacy. The Social dimension therefore acts as a bridge between internal human capital and broader social value creation, ensuring that sustainability performance is reflected not only in economic outcomes but also in social impact. Overall, the KPIs presented in the table follow the logic that the **Social dimension integrates internal (human) and external (community and societal) responsibility into a unified framework**, highlighting the role of social performance as a core component of sustainable corporate value creation (Table 42).

Table 42: Social Key Performance Indicators (KPIs)

Indicator	Indicator Description	Formula / Definition
Employee Turnover Rate	Measures employee retention and workforce stability.	Number of employees leaving / Average headcount $\times$ 100%
Gender Diversity Ratio	Indicates gender balance in management positions.	Number of female managers / Total number of managers $\times$ 100%
Occupational Health & Safety Rate (LTIFR)	Measures workplace safety performance.	Number of lost-time injuries $\times$ 1,000,000 / Total hours worked
Community Investment Ratio	Shows the level of corporate social responsibility investments.	CSR-related expenditures / Revenue $\times$ 100%
Training & Qualification Ratio	Indicates employee participation in training programs.	Number of employees receiving training / Total number of employees $\times$ 100%
Training Cost per Employee	Average investment in employee training.	Total training expenditure / Number of employees
Workforce Age Structure	Shows the demographic composition of the workforce.	Distribution of employees by age groups
Absenteeism Rate	Measures employee absence levels.	Number of lost workdays / Total available workdays $\times$ 100%

Source: Own compilation based on Hristov & Chirico (2019), EFFAS (2009), Mirza et al. (2025).

The **Governance dimension** represents the third pillar of sustainability performance management, focusing on the quality of corporate governance structures, decision-making processes, and ethical standards. The essence of this dimension lies in assessing the extent to which a company operates in a transparent, responsible, and accountable manner, and how it ensures that its decisions support long-term value creation and corporate reputation.

Key areas of the Governance dimension include **ethical conduct, legal compliance, risk management, and transparency**. Indicators such as the **Litigation Risks Ratio** or the **Corruption Exposure Ratio** serve to identify legal and reputational risks and help reveal vulnerabilities within corporate operations. The **Sustainable Supplier Ratio** measures the ethical and responsible functioning of the value chain, indicating the extent to which business partners comply with environmental and social expectations. In addition, the **Innovation Revenue Ratio** reflects the company's ability to generate value through new, sustainable products and solutions, highlighting the strategic role of governance in fostering responsible innovation (Table 43).

Table 43: Governance Key Performance Indicators (KPIs)

Indicator	Indicator Description	Formula / Definition
Litigation Risks Ratio	Measures the proportion of revenues exposed to legal and regulatory risks.	Fines and legal provisions related to anti-competitive behavior / Revenue $\times$ 100%
Corruption Exposure Ratio	Assesses revenue exposure to regions with high corruption risk.	Share of revenues generated in regions with a Corruption Perception Index below 6.0
Sustainable Supplier Ratio	Indicates the share of suppliers meeting defined sustainability standards.	Number of suppliers meeting sustainability criteria / Total number of suppliers $\times$ 100%
Innovation Revenue Ratio	Shows the contribution of innovative products to total revenue.	Revenue from new products / Total revenue $\times$ 100%

Source: Own compilation based on Hristov & Chirico (2019), EFFAS (2009), Mirza et al. (2025).

The **Social dimension** is one of the most complex pillars of corporate sustainability, as it simultaneously encompasses internal responsibility toward employees and the external impacts a company has on its broader social environment. According to the modern ESG approach, corporate performance is no longer assessed solely on the basis of operational efficiency or profitability, but also on the value the organization creates for the people and communities with whom and within which it operates. Internal social responsibility focuses on human resources, employee well-being, and workforce development. This includes indicators such as employee turnover, gender diversity, occupational health and safety, training intensity, and workplace satisfaction, all of which reflect the company's ability to provide a stable, supportive, and safe working environment. These indicators not only contribute to the preservation and development of human capital but also support long-term organizational performance and innovative capacity. In contrast, external social responsibility measures the company's social embeddedness and its impact on the surrounding community. A key indicator in this area is the **Community Investment Ratio**, which captures the extent to which the company contributes to local social and economic development and participates in strengthening social cohesion. The two areas are closely interconnected: supporting internal well-being and employee development enhances workforce engagement, which in turn indirectly improves the company's external perception and social legitimacy. The Social dimension therefore serves as a bridge between internal human capital and broader social value creation, ensuring that sustainability performance is reflected not only in economic outcomes but also in societal impact. Overall, the KPIs presented in the table follow the logic that the Social dimension integrates the company's internal (human-related) and external (community and societal) responsibilities into a coherent framework (Table 44).

Table 44: Social Key Performance Indicators (KPIs)

Indicator	Indicator Description	Formula / Definition
Employee Turnover Rate	Measures the proportion of employees leaving the organization during a period.	Number of employees leaving / Average headcount $\times$ 100%
Gender Diversity Ratio	Indicates the share of female managers within total management.	Number of female managers / Total number of managers $\times$ 100%
Occupational Health & Safety Rate (LTIFR)	Measures workplace safety based on lost-time injuries.	Number of lost-time injuries $\times$ 1,000,000 / Total hours worked
Community Investment Ratio	Shows the extent of corporate contribution to social and community development.	CSR-related expenditures / Revenue $\times$ 100%
Training & Qualification Ratio	Indicates the proportion of employees participating in training programs.	Number of employees receiving training / Total number of employees $\times$ 100%
Training Cost per Employee	Measures average investment in employee training.	Total training expenditure / Number of employees
Workforce Age Structure	Describes the age distribution of the workforce.	Distribution of employees by age groups
Absenteeism Rate	Measures the level of employee absence from work.	Number of lost workdays / Total available workdays $\times$ 100%

Source: Own compilation based on Hristov & Chirico (2019), EFFAS (2009), and Mirza et al. (2025).

The **Governance dimension** represents the third pillar of sustainability performance management and focuses on the quality of corporate governance, decision-making processes, and ethical standards. The core objective of this dimension is to assess the extent to which a company operates in a transparent, responsible, and accountable manner, and how effectively it ensures that its decisions support long-term value creation and corporate reputation. Key areas of the Governance dimension include **ethical conduct, legal compliance, risk management, and transparency**. Indicators such as the **Litigation Risks Ratio** or the **Corruption Exposure Ratio** are designed to identify reputational and legal risks, helping to reveal vulnerabilities in corporate operations. The **Sustainable Supplier Ratio** measures the ethical and responsible functioning of the value chain by assessing the extent to which business partners comply with environmental and social expectations. In addition, the **Innovation Revenue Ratio** reflects the company's ability to generate value through new, sustainable products and solutions (Table 45).

Table 45: Governance Key Performance Indicators (KPIs)

Indicator (English Name)	Description	Formula / Definition
Litigation Risks Ratio	Measures the proportion of legal and litigation-related financial exposure, reflecting legal and reputational risk.	Fines and legal provisions related to anti-competitive behavior / Revenue $\times$ 100%
Corruption Exposure Ratio	Assesses exposure to corruption risks based on the geographic distribution of revenues.	Share of revenues generated in regions with a Corruption Perception Index below 6.0
Sustainable Supplier Ratio	Indicates the share of suppliers complying with sustainability, environmental, and social criteria.	Number of suppliers meeting sustainability criteria / Total number of suppliers $\times$ 100%
Innovation Revenue Ratio	Shows the contribution of innovative and sustainable products to total revenue.	Revenue from new products / Total revenue $\times$ 100%

Source: Own compilation based on Hristov-Chirico (2019), EFFAS (2009), and Mirza et al. (2025).

An **ESG score** is a quantitative or quantifiable indicator that measures a company's ESG. It expresses the extent to which a company is able to manage non-financial factors that may influence its long-term financial performance, reputation, and operational risks (SG Analytics). ESG scores are **not based on a single, uniform standard**. Different rating agencies and data providers apply their own methodologies, using varying weighting schemes and data collection approaches. ESG scores serve multiple audiences and fulfill several key functions:

- **For investors and asset managers:** ESG scores enable the incorporation of social and environmental risks into financial analysis beyond traditional financial metrics. They support portfolio selection, risk management, and the comparison of securities (diligent.com).
- **For companies:** ESG scores help improve transparency regarding non-financial aspects of operations, support the development of sustainability strategies, and facilitate communication with stakeholders such as investors, customers, and regulators.
- **For regulators and stakeholder groups:** ESG scores can serve as tools for measuring sustainability progress, enabling benchmarking and ongoing monitoring of corporate behavior.
- **Risk identification:** Since ESG-related issues may translate into financial impacts over time—such as climate-related regulation, changing consumer expectations, or reputational damage—ESG scores help uncover “hidden” or emerging risks that may not yet be reflected in traditional financial indicators.

The determination of an ESG score consists of several sequential steps:

- **Data collection:** The organization conducting the ESG assessment (rating agency or data provider) collects company-related information from multiple sources, including financial disclosures and their supplementary notes, sustainability reports, public databases, regulatory filings, as well as media and news sources. The data may be **quantitative** (e.g., CO₂ emissions, waste volume, number of workplace accidents) and **qualitative** (e.g., corporate governance structure, existence of an ethics code, diversity policies).
- **Identification of key topics, categories, and materiality:** During the assessment process, it is necessary to determine which ESG topics expose the company to risks and which are relevant within its industry. This process is referred to as **materiality assessment**, typically summarized in a **materiality matrix** (LSEG). For example, environmental issues (such as greenhouse gas emissions or fossil fuel exposure) tend to be more critical for energy companies than for firms operating in service industries.
- **Assignment of weights to pillars and themes:** Once the relevant data and topics have been identified, weights are assigned to the **E, S, and G pillars** and to individual themes. For instance, the Environmental pillar may carry a weight of 40%, Social 30%, and Governance 30%. However, weighting schemes are not standardized. For example, **BNP Paribas Asset Management** evaluates the Environmental pillar relative to industry averages, where weights may be implicitly embedded in the methodology. Other evaluators applying **weighted aggregate approaches** may use ratios such as 45% for Environmental, 30% for Social, and 25% for Governance.
- **Scoring and evaluation at the thematic level:** The collected data are incorporated into scoring models, and company performance is assessed on predefined scales for each theme. This may include evaluations of carbon emission reduction, workforce diversity, or the transparency of executive management. Assessments are often **industry-relative**, meaning companies are compared against peers within the same sector.
- **Aggregation and calculation of the final ESG score:** The weighted thematic and pillar scores are aggregated to determine the overall ESG score:
 - The weighted sum of the **Environmental, Social, and Governance pillars** forms the overall ESG assessment (Corporate Finance Institute).
 - Some methodologies apply **percentile or ranking-based approaches**, positioning companies within an industry distribution. The **London Stock Exchange Group (LSEG)** methodology (Refinitiv/FTSE) is an example of this ranking-based model (lseg.com).
 - In certain cases, **negative adjustments** may be applied if a company is assessed as riskier than the industry average, particularly when significant controversies or adverse events are identified.
- **Ongoing updates and monitoring:** Since the ESG environment is dynamic—driven by regulatory changes, evolving societal expectations, and improvements in corporate practices—ESG scores are updated on a regular basis.

Table 46: ESG Score and Performance Evaluation

Score / Rating	Meaning	Typical Characteristics
85–100 / AAA–AA	Outstanding sustainability performance	Best-practice corporate governance, full ESG integration, compliance with EU Taxonomy and IFRS-ESG requirements
70–84 / A–BBB	Good ESG performance	Advanced regulatory compliance, active risk management, ESG objectives embedded at strategic level
50–69 / BB–B	Moderate performance	Partial ESG integration, fragmented reporting, limited stakeholder communication
30–49 / CCC–CC	Weak sustainability performance	Significant compliance and transparency risks, non-harmonized reporting
0–29 / C–D	Critical ESG deficiencies	Lack of environmental and social responsibility, high reputational and financial risks

Source: Own compilation based on Hristov-Chirico (2019), EFFAS (2009), Mirza et al. (2025)

Table 46 illustrates how the ESG perspective can be integrated into the Balanced Scorecard (BSC) system, that is, how sustainability indicators can be linked to the key perspectives of corporate performance management. Within the financial perspective, the ESG score has a direct impact on corporate value: the returns on green investments and ESG–ROE/ROA correlations indicate that sustainability is also a value-creating factor from a financial standpoint. In the customer dimension, social responsibility and trust are at the center, which can be measured, for example, by CSR activities or consumer trust indices. At the level of internal processes, ESG supports environmental and regulatory compliance, including, among others, the reduction of CO₂ emissions and energy management practices. Within the learning and growth perspective, ESG strengthens human capital development, employee well-being, and organizational resilience—through initiatives such as training, diversity, and an innovation-oriented culture. Finally, the sustainability extension dimension serves the realization of global responsibility and transparency, where GRI reporting, ESG audits, and compliance with the EU Taxonomy represent the most important indicators. Overall, the table highlights that ESG integration within the BSC is not an additional reporting layer, but a strategic management approach that connects sustainability performance with long-term competitiveness, risk reduction, and corporate value creation.

Table 47: Integration with the Balanced Scorecard (BSC) System

BSC Perspective	Related ESG Dimension	Example Metrics / Indicators
Financial	Impact of ESG on corporate value	ESG score and ROE/ROA correlation, return on green investments
Customer	Social responsibility and trust	CSR activities, consumer trust index, ethical marketing
Internal Processes	Environmental and regulatory compliance	CO ₂ emission reduction, waste ratio, energy management
Learning and Growth	Employee well-being and resilience	Share of ESG-related training, workplace diversity, innovation culture
Sustainability Extension	Global responsibility and transparency	Quality of GRI reporting, ESG audits, compliance with the EU Taxonomy

Source: Own compilation based on Hristov-Chirico (2019), EFFAS (2009), and Mirza et al. (2025).

Overall, the table demonstrates that ESG is not a separate system of objectives, but an integrated performance measurement framework that can be embedded across all perspectives of the Balanced Scorecard (Table 47). This integration ensures that sustainability goals are translated into measurable indicators and managerial actions, thereby strengthening strategic alignment, accountability, and long-term value creation.

3.4.8. Resilience and Adaptive Performance Management

The concept of resilience has become a new, strategically significant dimension of corporate performance management. Derived from the Latin term *resilio* (“to bounce back”), in an organizational context it refers to a company’s ability to respond rapidly to unexpected environmental, economic, or technological shocks, to recover from them, and to continue operating in a strengthened position. In the turbulent economic environment of the twenty-first century, resilience is no longer an optional capability but a fundamental prerequisite for long-term competitiveness. Corporate resilience is a multidimensional construct. It encompasses leadership flexibility and foresight, employee commitment and adaptability, an innovative organizational culture, financial stability, and processes that ensure business continuity. Resilience does not merely mean coping with crisis situations; rather, it reflects a proactive, learning-based, and adaptive mindset that enables companies to transform change into a source of competitive advantage. Adaptive performance management is closely linked to this concept. It is not a static system of measurement and control, but a dynamic framework that continuously incorporates changes in the external environment into strategic decision-making.

While traditional performance management primarily focused on measuring past results, the adaptive approach is forward-looking and explicitly aims to strengthen corporate resilience.

Table 48: Types of Corporate Resilience

Type of Resilience	Description	Example
Operational Resilience	Stability of day-to-day operations and recovery capability	Continuation of production in case of supplier disruption
Financial Resilience	Stability of liquidity and capital structure during crisis periods	Reserve building, cash flow management
Organizational Resilience	Decision-making flexibility and strong leadership culture	Rapid strategic reorganization
Technological Resilience	Maintenance of IT security and data protection	Defense against cyberattacks
Supply Chain Resilience	Supplier diversification and inventory strategy	Engagement of alternative suppliers

Source: Own compilation based on Bititci et al. (1997, 2015); Kaplan & Norton (1996, 2004); Neely et al., Armstrong (2009), Parmenter (2010)

The classical Balanced Scorecard (BSC) model comprises four main perspectives: financial, customer, internal processes, and learning and growth. In recent decades, however, with the increasing importance of sustainability and resilience, the framework has been extended by two additional perspectives.

Table 49: Crisis Management and Strengthening Organizational Resilience

Area	Measure	Objective
Finance	Liquidity reserves, cost control	Maintaining solvency
Supply Chain	Alternative sources, regional diversification	Continuity of supply
Work Organization	Remote work, flexible working hours	Preservation of human stability
IT and Digitalization	Cloud-based systems, cybersecurity	Data security and business continuity
Communication	Transparent crisis communication	Maintaining trust and loyalty

Source: Own compilation based on Bititci et al. (1997, 2015); Kaplan & Norton (1996, 2004); Neely et al., Armstrong (2009), Parmenter (2010)

Table 49 presents the key areas, measures, and objectives of crisis management and resilience strengthening. The three columns form a coherent logical framework that supports both the stability of corporate operations and the substantive elaboration of the resilience perspective within the Balanced Scorecard (BSC) framework.

The first column, “**Area**,” identifies the functional dimensions that constitute the core pillars of corporate resilience. These dimensions cover the financial, operational, human, technological, and communication subsystems of the organization—essentially encompassing the company’s entire value chain.

The second column, “**Measure**,” includes the concrete actions through which the organization can prepare for or manage crisis situations. These measures are not one-off reactions, but embedded corporate governance practices that enhance adaptability, such as the creation of liquidity reserves, the introduction of remote work, or the use of cloud-based systems.

The third column, “**Objective**,” consistently defines the ultimate outcome of corporate resilience—namely, the organization’s ability to maintain operational continuity, human and financial stability, and stakeholder trust even during crisis situations.

This logical chain (**area** → **measure** → **objective**) represents the operational translation of the resilience perspective within the BSC system. While the Balanced Scorecard connects corporate objectives and performance indicators at a strategic level, this table illustrates how strategic resilience is embedded into daily operations through specific managerial actions.

Overall, the table does not merely present a crisis management toolkit, but also articulates the practical dimensions of resilience as a new perspective within the BSC structure. A company can be considered resilient only if it is capable of integrating measures across all identified areas that, in alignment with strategic objectives, sustainably preserve stability and value creation over the long term.

IV. Performance Measurement and Performance Management as a Decision Architecture and Value Creation Framework

4.1. Performance Measurement as a Decision Architecture

In contemporary corporate governance and management theory, performance measurement is no longer interpreted merely as a technical system of indicators or a reporting mechanism. Instead, it has evolved into a **decision architecture** that structures managerial thinking, supports value-oriented decision-making, and provides systematic feedback on whether managerial actions generate economic value above the cost of capital. From this perspective, business and financial performance measurement focuses on a fundamental question: **Do managerial decisions made in day-to-day operations create economic value for the firm in excess of its required return on capital?** Performance indicators, therefore, do not represent ends in themselves, but function as **signals, constraints, and feedback mechanisms** embedded in managerial decision processes.

The concept of decision architecture emphasizes that performance measurement systems shape behavior by influencing:

- what managers pay attention to,
- how trade-offs are evaluated,
- which actions are incentivized or discouraged,
- and how success or failure is interpreted within the organization.

Financial performance measures such as Economic Value Added (EVA), Return on Invested Capital (ROIC), or residual income explicitly connect operational decisions to capital costs, thereby aligning managerial behavior with shareholder value creation. At the same time, business performance indicators—covering customers, processes, innovation, human capital, sustainability, and resilience—broaden the decision framework beyond short-term financial outcomes and support long-term strategic viability.

In this sense, performance measurement becomes a **managerial control system** that enables:

- ex post evaluation of decisions,
- ex ante guidance for future choices,
- and continuous learning through structured feedback loops.

This logic is particularly important in modern organizations operating in volatile, uncertain, complex, and ambiguous (VUCA) environments, where static control mechanisms are insufficient. Performance measurement, when properly designed, allows organizations to detect deviations early, reassess strategic assumptions, and recalibrate managerial actions accordingly.

A critical function of performance measurement as decision architecture is its role in **managerial performance evaluation and incentive design**. Performance indicators provide an objective basis for assessing managerial effectiveness, not only in terms of achieved results, but also in relation to the risks undertaken and resources employed.

Well-designed performance measurement systems ensure that:

- incentives are aligned with value creation,
- short-term targets do not undermine long-term sustainability,
- and managerial accountability is clearly established.

By linking compensation systems, promotion criteria, and strategic evaluation to value-based and strategy-consistent indicators, organizations can reinforce responsible decision-making and mitigate agency problems. In this context, performance measurement serves as an internal governance mechanism that supports transparency, discipline, and strategic coherence. Importantly, performance measurement is also a **feedback instrument**. It allows organizations to assess whether strategic intentions are translated into operational outcomes, and whether deviations stem from flawed execution, unrealistic assumptions, or external shocks. This feedback function closes the learning loop between strategy formulation and strategy execution.



Figure 8: The mechanism of performance measurement and value creation
Source: author's own compilation

4.2. Performance Management as a Value Creation and Cognitive Framework

While performance measurement provides the informational backbone, **performance management** represents the broader **value creation and cognitive framework** within which measurement is embedded. Performance management goes beyond metrics and dashboards; it defines how organizations think about performance, success, and strategic priorities. From this viewpoint, performance management:

- integrates financial and business performance dimensions,
- connects strategic objectives with operational actions,
- and embeds value creation logic into everyday managerial practices.

Performance management frameworks—such as the Balanced Scorecard and its extended versions incorporating sustainability and resilience—translate abstract strategic goals into coherent systems of objectives, indicators, targets, and initiatives. These frameworks support managerial sense-making by structuring complex organizational realities into interpretable perspectives. Crucially, performance management is not a static system. It is **adaptive by nature**, continuously evolving in response to environmental changes, stakeholder expectations, and organizational learning. In this adaptive context, performance management helps organizations maintain strategic focus while remaining flexible enough to respond to uncertainty and disruption.

4.2.1. The Conceptual Boundary Between Performance Management and Corporate Valuation

At this point, it is essential to clearly distinguish **performance management** from **corporate valuation**, while simultaneously highlighting their conceptual interdependence. Performance management is primarily an **internal, forward-looking management framework**. Its objective is to:

support managerial decision-making,

- guide resource allocation,
- evaluate performance relative to strategic goals,
- and ensure continuous value creation over time.

Corporate valuation, in contrast, represents an **external, decision-support extension** of the performance logic. Although valuation relies on many of the same data sources, indicators, and financial concepts used in performance measurement, it addresses a fundamentally different question: What is the total economic or market value of the company at a given point in time? Valuation methods—such as discounted cash flow (DCF), relative valuation, or market-based approaches—aggregate expectations about future performance into a single monetary value. While performance management focuses on improving value creation processes, corporate valuation assesses the outcome of those processes from an external perspective.

The key difference, therefore, lies in the **purpose of measurement**:

- performance management measures to **manage and improve**,
- corporate valuation measures to **assess and decide** (e.g., investment, acquisition, divestment).

Performance management and corporate valuation differ not only in purpose but also in their scope, time horizon, and output format. Performance management produces multidimensional performance information (financial and non-financial) to support internal steering and continuous improvement, typically through dashboards, KPI systems, and strategic performance reviews. Corporate valuation, by contrast, transforms selected performance information into a single monetary estimate of firm value, primarily for external decision contexts such as investment appraisal, mergers and acquisitions, financing, or shareholder reporting. In this sense, performance management is a multidimensional internal control and learning system, whereas valuation is a synthetic external assessment tool that condenses expected future performance into a financial value estimate. Thus, performance management focuses on managing value creation, while valuation focuses on pricing the expected outcome of value creation.

4.2.2. Performance Management as the Internal Foundation of Corporate Valuation

Despite this distinction, corporate valuation cannot be meaningfully separated from performance management. Valuation models implicitly assume that the organization's performance management system:

- supports sustainable cash flow generation,
- ensures effective capital allocation,
- and manages financial, operational, sustainability, and resilience risks.

In this sense, corporate valuation can be interpreted as the **external reflection of internal performance management quality**. A firm with weak performance management may temporarily generate financial results, but is unlikely to sustain long-term value creation. Conversely, a robust performance management system increases the credibility of future cash flow projections and reduces perceived risk, thereby positively influencing firm value. Accordingly, corporate valuation can be understood as the **market-level validation** of the organization's performance management and strategic decision architecture.

This chapter has demonstrated that performance measurement and performance management together form an integrated decision architecture and value creation framework. Performance measurement provides structure, discipline, and feedback, while performance management embeds these elements into a coherent strategic and cognitive system. By clarifying the internal logic of value creation and its connection to managerial decisions, this framework establishes the conceptual foundation for corporate valuation.

The subsequent chapter builds on this foundation by shifting the analytical focus from internal management processes to the external assessment of firm value. In this way, performance measurement and performance management do not represent isolated technical tools, but rather constitute the **conceptual bridge between operational decision-making and corporate valuation**.

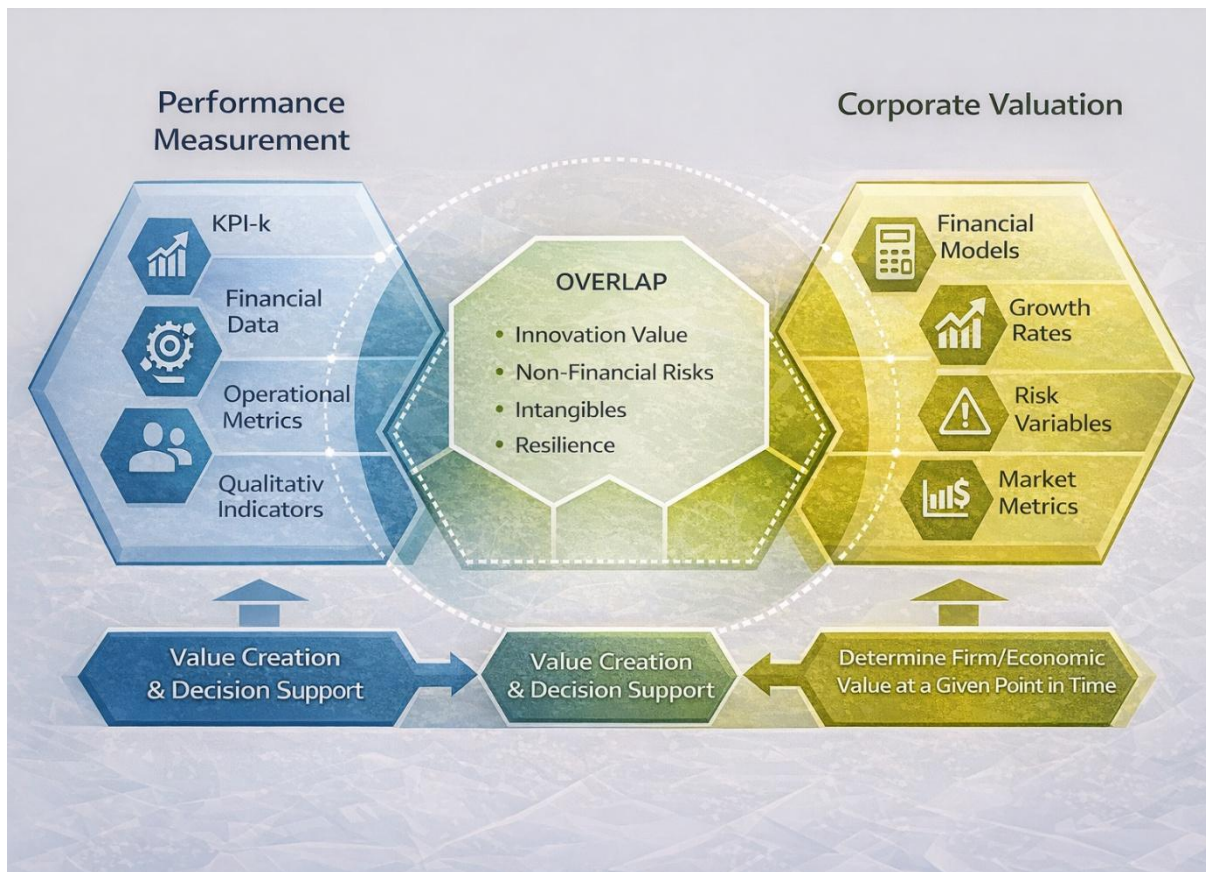


Figure 9: The relationship between corporate performance measurement and corporate evaluation

Source: author's own compilation

From a valuation perspective, performance management provides the internal infrastructure that makes future-oriented valuation assumptions measurable and controllable. Revenue growth assumptions, margin targets, working capital discipline, capital expenditure planning, and risk mitigation strategies are not independent valuation inputs; they are outcomes of management systems, strategic planning routines, and KPI-based control mechanisms. Therefore, the quality of performance management directly affects the reliability of valuation models, because it influences both the expected cash flow generation capacity of the firm and the perceived risk profile embedded in the discount rate. A well-developed performance management system reduces uncertainty, improves forecast accuracy, and supports the credibility of long-term strategic projections, thereby strengthening valuation validity. Consequently, corporate valuation can be interpreted as the financial projection of a firm's performance management capability.

V. Financial Reports as an Information Base for Business Valuation

This chapter examines how financial reports serve as a key information base for business valuation by providing structured data on a company's financial position, performance, and cash flow generation. It highlights the information content of financial statements and explains how accounting figures must be analyzed and interpreted to reflect the underlying economic reality of business operations.

5.1. Information Content of Financial Reports

Financial reporting is one of the most important areas of corporate information provision. Its purpose is to present the financial position and performance of an economic entity in a structured, controlled, and interpretable form. A financial report is not merely a summary of accounting data, but the result of a process that extends from the recording of economic transactions through closing and verification procedures to the preparation of final financial statements. During the reporting process, the reliability, internal consistency, and verifiability of data play a central role, as these characteristics form the basis of the decision-support function of financial statements. An integral part of this process consists of reconciliations and summary control schedules, which ensure consistency between the general ledger and subsidiary records. Financial reporting therefore serves both the information needs of external users and the requirements of corporate control and accountability.

5.1.1. The Objectives and Types of Financial Reporting

The primary objective of financial reporting is to provide structured, regulated, and reliable financial information about an entity, supporting economic decision-making and presenting a true and fair view for all stakeholders. International accounting thinking—also reflected in the IFRS Conceptual Framework—emphasizes that financial statements are not documents prepared for their own sake, but rather serve as information tools. One of the key objectives of financial reporting is to provide relevant and reliable financial information about an entity for its users. This information assists investors, lenders, and other stakeholders in making well-founded economic decisions regarding the company's future prospects, financial position, and performance. Another important objective of financial reporting is to provide a clear picture of a company's financial, asset, and income position, including the development of assets, liabilities, and equity. Financial reporting also ensures transparency and accountability by disclosing information about the financial outcomes of corporate operations and the management's stewardship of resources. Financial statements support the assessment of a company's financial health and liquidity by presenting revenues, expenses, cash flows, and balance sheet items. Proper financial reporting contributes to enabling external users to compare the company with other entities and across different periods, thereby supporting market efficiency and trust. Financial reporting not only presents past performance but also provides a basis for analyzing trends and future prospects.

Financial statements can therefore become essential tools for strategic decision-making, financial planning, and risk management. Ultimately, the objective of financial reporting is to build stakeholder trust, improve transparency in corporate governance, and strengthen the flow of information among economic actors. Financial reporting has both retrospective and forward-looking characteristics. It is retrospective in the sense that it evaluates the company's past economic performance and presents the development of financial position and results over a given reporting period. At the same time, it also serves a forward-looking function, as the information contained in financial statements provides a basis for future economic decisions. The preparation of financial reports is governed by accounting standards and legal regulations, which require companies to prepare financial statements at least once a year after the end of the financial year. However, this obligation is not merely an administrative requirement for stakeholders, but a structured source of information that enables a comprehensive evaluation of the company's operations. Financial information can fulfill its decision-support role only if it is useful to users. The fundamental conditions of usefulness are relevance and faithful representation, as well as comparability, understandability, and timeliness. If these qualitative characteristics are not met, the informational content of financial statements becomes distorted and their decision-support value is significantly reduced. Stakeholders, as the key users of financial statements, consider the most important function of financial reporting to be its role in supporting decisions related to providing, maintaining, or withdrawing resources.



Figure 10: Corporate Stakeholders

Source: author's own compilation

The range of stakeholders is diverse; therefore, financial statements serve different information needs depending on how each stakeholder is connected to the company: investors focus primarily on profitability and value creation, creditors emphasize solvency and liquidity, while regulators and employees are more concerned with compliance, stability, and the sustainability of operations:

- **Owners and investors** primarily use financial statements to assess the company's profitability, capital efficiency, and value creation capability. For them, key information includes the income statement, changes in equity, dividend-paying capacity, and the company's long-term financial stability. The transparency and reliability of financial statements fundamentally influence investor confidence and capital investment decisions.
- **Company management** uses financial statements as decision-support tools. Financial reports provide information about cost structure, profitability trends, liquidity position, and the efficient use of resources. For managers, it is particularly important that financial statements provide a reliable basis for planning, control, and performance evaluation.
- **Suppliers and service providers** primarily seek information from financial statements regarding the company's solvency and liquidity. Based on the balance sheet and the cash flow statement, they assess the risk of whether their receivables will be paid on time. For them, financial reporting serves as a key indicator of financial stability and the reliability of long-term business relationships.
- **Creditors and financial institutions** evaluate the company's creditworthiness, debt-servicing capacity, and risk profile based on financial statements. They pay special attention to the level of indebtedness, collateral coverage, cash flow generation, and the sustainability of profitability. For them, financial statements form the foundation for financing decisions and for determining loan terms and conditions.
- **Employees**, as internal stakeholders, use financial statements to extract information about the company's stability, future operations, and growth prospects. Profitability and financial position provide signals about job security, wage potential, and long-term employment opportunities.
- **Government institutions and regulatory authorities** use financial statements to monitor compliance with legal requirements, particularly regarding tax obligations and the lawful use of subsidies and public support. For them, financial reporting is one of the most important instruments of accountability and transparent financial management.
- **Local communities and social stakeholders** may indirectly draw conclusions about the company's economic and social impact from publicly available financial statements. Based on information related to revenues, employment, investments, and tax contributions, they evaluate the company's role in regional development and sustainability.
- **Competitors** use publicly available financial statements to conduct industry benchmarking and to analyze the company's market position and performance. In this way, financial reporting contributes to market transparency and the establishment of objective competitive conditions.

The objective of financial reporting is broadly similar across the world; however, the content, structure, and valuation logic of financial statements may differ depending on the accounting framework applied:

- **International financial reporting – IFRS (International Financial Reporting Standards)** is the most widely used global reporting framework. It is primarily applied by companies with capital market presence, especially in the European Union, where it is mandatory for listed entities. The purpose of IFRS-based reporting is explicitly to support international investor decision-making; therefore, it emphasizes an accrual-based approach, applies stronger fair value and market-based measurement principles, and focuses on the economic substance of transactions rather than their legal form. According to the IFRS perspective, the primary role of financial reporting is to provide a comparable, transparent, and globally interpretable view of a company's financial position and performance.
- **American financial reporting – US GAAP (Generally Accepted Accounting Principles)** is the accounting system applied in the United States. It is also investor-oriented, but its approach differs from IFRS. The objective of financial reporting under US GAAP is likewise to support investment decisions; however, the system places stronger emphasis on legal compliance and risk limitation, which is particularly important in the specific legal and regulatory environment of the US capital market.
- **National financial reporting systems**, such as Hungarian accounting regulation, primarily serve domestic economic and legal purposes. These financial statements often focus on taxation, creditor protection, government supervision, and meeting the information needs of owners. As a result, national reporting frameworks are typically less investor-oriented and place greater emphasis on regulatory compliance, the prudence principle, and the realization of profit. Nevertheless, national financial statements remain the foundation of financial information provision for a large share of companies, particularly among small and medium-sized enterprises.

Different financial reporting systems are based on a common set of objectives, regardless of whether they operate within an international or a national regulatory environment. The fundamental purpose of all reporting frameworks is to provide reliable, relevant, and comparable information about an entity's financial position, performance, and cash flows. Financial statements always serve to support economic decision-making, whether related to investment, financing, lending, or managerial decisions. Another shared characteristic is that financial reporting aims to ensure accountability and transparency for stakeholders, while presenting financial data in a standardized structure and regulated format that makes them interpretable and useful. This distinction significantly influences the structure, content, and interpretability of financial statements; therefore, understanding the type of reporting framework applied is essential for evaluating financial performance and for the correct application of corporate valuation methods.

5.1.2. The Role of Financial Reporting within the Corporate Information System

The purpose of the corporate information system is to provide reliable, structured, and timely information about the organization's operations to support decision-making at different managerial levels. This system consists of several closely interconnected subsystems that satisfy different information needs, while relying on a common database and a consistent accounting logic. One of the central elements of the system is financial reporting, which is based on the recording, aggregation, and presentation of economic transactions. The financial reporting process ensures the structured generation of financial data, control functions strengthen reliability and accountability, while financial statement analysis supports decision-making through the interpretation of information and the identification of underlying relationships. In this way, the corporate information system—through the interconnected processes of financial statement preparation, verification, and analysis—ensures that financial information is not merely recorded, but also serves corporate governance and financial management in an interpretable and useful form.



Figure 11: The Role of Financial Reporting in the Corporate Information System
Source: author's own compilation

Financial accounting is one of the central elements of the corporate information system, as its function is the regulated, documented, and verifiable recording of economic transactions and their aggregation into financial statements. Financial reporting represents the output of this system: a structured information product that presents the company's asset position, financial situation, and profitability to both external and internal stakeholders. Management accounting and controlling are based on the data foundation of financial accounting, but they further break down, analyze, and interpret this information. These subsystems primarily support internal decision-making, typically over a shorter time horizon, with a more detailed structure and a forward-looking approach. By examining costs, contribution margins, variances, and performance outcomes, they create a bridge between operational activities and strategic objectives. Performance measurement represents an integrative dimension of the corporate information system, as it links financial and non-financial data to make the company's value creation capability measurable. Within this system, financial reporting is not an independent objective but rather a reference point: it ensures the financial grounding, feedback, and comparability of performance indicators. Together, these elements form the informational foundation of financial management, enabling the company not only to comply with statutory reporting requirements but also to actively use financial information in planning, control, and strategic decision-making. Financial reporting therefore fulfills multiple roles within the corporate information system, serving accountability, decision support, and performance feedback functions simultaneously (Figure 11).

The distinction between financial accounting and management accounting is highly important from a corporate valuation perspective, because valuation requires both externally reliable financial data and internally decision-oriented performance information. Financial accounting provides standardized and regulated financial statements that serve as the primary basis for valuation models, including the balance sheet, income statement, and cash flow statement. These reports ensure comparability across firms and time periods, which is essential for benchmarking and relative valuation methods. In addition, financial accounting data support the reconstruction of historical profitability, capital structure, and liquidity, which are fundamental inputs for estimating future cash-generating capacity. Corporate valuation methods such as Discounted Cash Flow (DCF) rely heavily on financial accounting outputs, particularly in the calculation of free cash flow and the assessment of working capital and investment needs. However, financial accounting alone is often insufficient for valuation purposes, because it is primarily backward-looking and may not fully reflect the economic drivers of future performance. Management accounting provides more detailed, forward-looking, and operationally structured information, such as cost behavior, contribution margins, budgets, and forecasts, and can also provide non-financial indicators related to customer retention, production efficiency, and innovation, which are increasingly relevant for understanding long-term value creation. Consequently, corporate valuation integrates financial accounting as the formal and reliable reporting base, while management accounting provides the analytical depth and forward-looking assumptions necessary for accurate valuation (Table 50).

Table 50. Key Aspects of Financial Accounting and Management Accounting

Aspect	Financial Accounting	Management Accounting
Purpose	Providing external stakeholders with reliable and true information about business operations and financial performance.	Providing internal stakeholders with information to support managerial decision-making, planning, and internal control.
Target group	External and internal stakeholders.	Internal stakeholders.
Regulation	Regulated by laws and accounting standards (e.g., Accounting Act, government decrees, IFRS/GAAP standards).	Not regulated by law; developed internally within the company according to management needs.
Time orientation	Primarily records past events and transactions.	Uses past data to support forward-looking planning (e.g., budgets, forecasts).
Reporting horizon	Annual, semi-annual, quarterly mandatory reporting.	As needed: daily, weekly, monthly reporting.
Level of detail	Aggregated, standardized financial statements.	Detailed, tailored information for decision-making.
Type of reports	Balance sheet, income statement, cash flow statement.	Cost analysis, contribution margin analysis, budgets, managerial and operational reports.
Audit	External audit may be mandatory.	No statutory audit requirement; internal control and verification apply.
Nature of data	Primarily financial data based on the general ledger, subsidiary ledgers, and financial statements (in monetary terms).	Combination of financial and non-financial data, including performance indicators, customer satisfaction, operational metrics, etc.
Scientific approach	Distinct accounting discipline with its own regulatory and methodological framework.	Multidisciplinary approach integrating various management and business disciplines to meet managerial information needs.

Source: : Own compilation based on Csepreginé–Török (2019), Róth et al. (2023), Takács–Márkus (2024)

5.1.3. Types and Components of Financial Statements

Financial statements provide a summarized presentation of a company's economic activities, and their main purpose is to deliver information about the entity's financial position, financial performance, and profitability at the end of the reporting period. Financial reporting is not merely a statutory obligation, but also an essential information tool that supports decisions made by owners, managers, creditors, and regulatory authorities. Several types of financial statements exist, as companies differ in size, business activities, ownership structure, and economic significance, and therefore their information needs are not uniform. Accounting regulation has developed a differentiated reporting system accordingly, allowing smaller entities to prepare simplified financial statements, while larger and more complex organizations are required to provide more detailed reporting. Differences among reporting formats mainly appear in the level of detail and structure of the disclosed information, while the fundamental accounting principles apply in all cases.

The Hungarian Accounting Act (Act C of 2000 on Accounting), reflecting the economic diversity of enterprises, defines several types of financial statements. The legislator assumes that companies differ in size, operational complexity, market role, and stakeholder environment; therefore, it is not justified to impose the same level of reporting detail on all entities. Accordingly, the Act establishes a differentiated reporting framework that ensures proportionate information disclosure. Under the Accounting Act, the purpose of financial statements is always to provide a true and fair view of the company's financial position, financial situation, and profitability. This objective must be fulfilled by all types of financial statements, regardless of whether the entity prepares simplified annual financial statements for micro-entities, simplified annual financial statements, annual financial statements, or—if operating as a parent company—consolidated annual financial statements. The preparation of financial statements follows a unified logic and consists of defined main components. These components present the company's operations and economic performance from different perspectives. The balance sheet presents the company's financial position at a specific point in time by revealing the composition of assets and the sources of their financing. The income statement reflects the entity's performance over a given period by presenting the development of revenues, costs, and expenses, as well as the resulting profit or loss. Additional parts of the financial statements—such as the notes to the financial statements and, in certain cases, the business report—interpret and supplement the primary statements. Their purpose is to provide detailed explanations of the applied accounting policies, valuation methods, significant risks, and the economic substance behind the reported figures. As a result, financial reporting becomes more than a set of numerical data: it becomes an interpretable and comparable source of information.

The system of financial statement types and components ensures that proportionate, relevant, and reliable information is available about the company's operations, in accordance with fundamental accounting principles. The following sections of this chapter further elaborate on this general framework by presenting the specific financial statement types and the key characteristics of their preparation.

Table 51. Financial Statement Preparation Requirements (Hungarian Law)

Type of Financial Report	Entities	Content
Simplified Annual Financial Statement for Micro-Entities	Entities not subject to statutory audit that remain below at least two of the following thresholds for two consecutive years: • Total assets $\leq$ HUF 150 million • Net revenue $\leq$ HUF 300 million • Average number of employees $\leq$ 10	• Micro-entity balance sheet • Income statement
Simplified Annual Financial Statement	Double-entry bookkeeping entities that remain below at least two of the following thresholds for two consecutive years: • Total assets $\leq$ HUF 2,000 million • Net revenue $\leq$ HUF 4,000 million • Average number of employees $\leq$ 50 Not applicable to public limited companies, parent companies, or entities of public interest.	• Simplified balance sheet • Simplified income statement • Simplified notes to the financial statements
Annual Financial Statement	All double-entry bookkeeping entities that do not meet the criteria for the simplified annual financial statement.	• Balance sheet • Income statement • Notes to the financial statements
Consolidated Annual Financial Statement	Parent companies that, together with subsidiaries subject to consolidation, exceed at least two of the following thresholds for two consecutive years: • Total assets $>$ HUF 10,000 million • Net revenue $>$ HUF 20,000 million • Average number of employees $>$ 250	• Consolidated balance sheet • Consolidated income statement • Consolidated notes to the financial statements • Business report

Source: : Own compilation based on Act C of 2000 on Accounting (2026)

Differences among financial statements primarily appear in the level of detail and the structure of the disclosed information. In the case of smaller enterprises, Hungarian regulation allows the use of simplified reporting formats, while larger and more complex entities are required to prepare more detailed financial statements. Micro-entity financial statements and simplified annual financial statements contain less detailed information, whereas annual and consolidated financial statements provide a broader range of disclosures for market participants (Table 51). At the same time, it is important to emphasize that the technical process of preparing financial statements is fundamentally the same for all reporting types. All financial statements are based on the same accounting foundations: double-entry bookkeeping records, the period-end closing process, reconciliations, valuation tasks, and inventory procedures. The preparation of the balance sheet and the income statement always starts from general ledger and subsidiary accounting records and relies on correct valuation as of the balance sheet date. The main components of financial statements also follow a consistent logic. In every reporting format, the balance sheet presents the stock of assets and liabilities of the entity at a given point in time. The income statement reflects the economic performance of the financial year by presenting the process through which profit or loss is generated. In the case of more detailed financial statements, the notes to the financial statements are also included, providing explanations of the applied accounting policies, valuation procedures, and significant economic events. In certain cases, the Accounting Act also requires the preparation of a business report, which presents the company's future outlook and major risks.



Figure 12: The Types and Components of Financial Statements

Source: author's own compilation

The primary characteristic of quantitative financial statement elements is that they contain data expressed in monetary terms and present the economic position of the company in a structured, tabular format. These include the **Balance Sheet** and the **Income Statement**. The Balance Sheet presents the company's asset and financial position at a specific point in time.

The Income Statement presents the company's profitability and financial result for the given financial year. These elements are based on measurable factual data derived from the double-entry bookkeeping system and provide a comparable and objective picture of the company's operations. However, on their own, they are often not sufficient to fully understand underlying economic processes.

The preparation of the balance sheet is the result of a controlled accounting process supplemented by valuation and classification procedures. The basis for preparing the financial statements is the post-closing trial balance, which already includes:

- all economic transactions affecting the reporting period,
- accruals and deferrals,
- impairment losses and value adjustments,
- provisions,
- as well as the recognition of corporate income tax and the determination of profit after tax.

At this stage, the trial balance serves a dual function: on the one hand, it provides the basis for preparing the income statement, and on the other hand, it represents the starting point for finalizing balance sheet accounts. The income statement is prepared from the profit and loss accounts of the trial balance (revenue, expense, and cost accounts), structured according to the applied method (nature of expense method or function of expense method). After closing the profit and loss accounts, profit after tax is transferred to equity, which then appears as part of the balance sheet. In contrast, the balance sheet contains only balance sheet accounts and presents the asset and liability structure of the entity as of the reporting date.

When preparing the balance sheet, the following aspects require special attention:

- Inventory support: every balance sheet item must be supported by physical inventory records or reconciliation procedures.
- Compliance with valuation requirements: as part of the reporting date valuation of assets and liabilities, impairment losses, reversals, and extraordinary depreciation must be recognized where applicable.
- Accuracy of accruals and deferrals: only revenues and expenses relating to the given financial year may be included in the financial statements.
- Consistency of equity: profit after tax, dividend recognition, and changes in retained earnings must be consistent and properly reconciled.
- Accuracy of maturity classification: the separation of long-term and short-term liabilities and receivables must comply with legal requirements.

- Structural compliance: the balance sheet structure and line-item format must follow Annex 1 of the Hungarian Accounting Act, ensuring comparability.
- Final control point: the final verification point in balance sheet preparation is the equality of total assets and total liabilities. This reflects not only a mathematical balance but also the completeness and substantive accuracy of accounting recognition. Achieving this confirms that the financial statements prepared from the trial balance comply with the Accounting Act both in structure and content.
- Link to the chart of accounts: the balance sheet is based on the closed trial balance, where the balances of account groups 1–3 are presented on the asset side, while the balances of account group 4 are presented on the liabilities and equity side. During the classification of general ledger accounts into balance sheet line items, consistency with subsidiary records must be ensured. This structure establishes the link between bookkeeping and financial reporting and is also a fundamental requirement for fulfilling the balance sheet equality principle.

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- **Consistency of equity:** profit after tax, dividend recognition, and changes in retained earnings must be consistent and properly reconciled.

- **Accuracy of maturity classification:** the separation of long-term and short-term liabilities and receivables must comply with legal requirements.
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The income statement is the component of the financial report that presents the company's profitability and performance for a given financial year. Its function is to reveal what revenues were generated by the company's activities, what costs and expenses were incurred in order to achieve these revenues, and how the combined effect of these elements determined the profit or loss of the financial year. The income statement is a period-based report built on the matching principle and the accrual principle; therefore, the recognition of revenues and expenses is linked not to cash movements but to the economic performance of transactions.

Hungarian accounting regulation allows two alternative methods for preparing the income statement: the **total cost method (Type A)** and the **cost of sales method (Type B)**. The company records the selected method in its accounting policy and is required to apply it consistently. The choice of method is not merely a formal issue, as it determines the internal structure of the income statement, the logic of cost presentation, and the level of detail in the disclosed information. Under the total cost method, the income statement presents costs by nature (such as material costs, personnel costs, and depreciation), while the cost of sales method presents costs in a functional approach, based on their relation to sales activity (direct and indirect costs of sales). Two methods produce income statements with different structures, the amount of profit before tax and profit after tax remains the same, since the difference lies only in the classification of the same economic transactions. The preparation of the income statement during the closing process is based on the arrangement and classification of profit and loss accounts in the trial balance. In this process, the first step is the determination of net sales revenue, which is recognized according to the performance principle, regardless of the timing of invoicing or cash settlement. This is followed by the recognition of capitalized own performance, which adjusts the result by reflecting changes in inventories of self-produced goods and the capitalized value of internally generated assets.

5.1.4. Main Components of Financial Statements under US GAAP and IFRS

Financial statements are among the most important documents within the corporate reporting system, as their purpose is to provide a comprehensive view of an entity's financial position, performance, and cash flows. Under US GAAP, a complete set of financial statements consists of several complementary reports which together ensure comprehensive financial disclosure:

- **Balance Sheet (Statement of Financial Position / Balance Sheet)** presents the company's financial position at a specific point in time. Under US GAAP, the balance sheet is composed of three main elements: assets, liabilities, and shareholders' equity. Assets represent the resources expected to generate future economic benefits, while liabilities reflect the company's present obligations. Shareholders' equity represents the owners' residual interest in the company's assets after deducting liabilities. The structure and content of the balance sheet allow users to assess liquidity, financial stability, and capital structure.
- **Income Statement (Income Statement)** presents the company's revenues, expenses, and net income for the reporting period. The purpose of the income statement is to clearly demonstrate how profitable the company's operations were during the period. Revenues and expenses may be presented according to either a functional classification (cost of sales method) or a natural classification (total cost method), depending on the reporting format applied. US GAAP allows the use of different presentation structures, but emphasizes consistency and comparability.
- **Statement of Comprehensive Income (Statement of Comprehensive Income)** is an extension of the income statement, as it includes not only net income but also other comprehensive income items. These are gains and losses that are recognized directly in equity rather than in net income, such as fair value changes of certain securities, foreign currency translation adjustments, or actuarial gains and losses related to pension plans.
- **Statement of Cash Flows (Statement of Cash Flows)** presents cash movements classified into three main categories: operating activities, investing activities, and financing activities. This statement may be prepared using either the direct or indirect method. US GAAP provides detailed guidance regarding the classification of cash flows within each category.
- **Statement of Changes in Shareholders' Equity (Statement of Changes in Shareholders' Equity)** provides detailed information about the composition and changes in shareholders' equity over time. It includes transactions such as share issuances, share repurchases, dividend payments, and changes in retained earnings.
- **Notes to the Financial Statements (Notes to the Financial Statements)** form an integral part of financial reporting and provide detailed disclosures regarding accounting policies, significant estimates, and the breakdown of specific balance sheet and income statement items. US GAAP requires companies to clearly present key accounting principles and to disclose all information necessary for the interpretation of financial figures.

The International Financial Reporting Standards (IFRS) are a set of accounting principles and rules developed and maintained by the International Accounting Standards Board (IASB). Their main purpose is to ensure that companies in different countries prepare comparable, transparent, and high-quality financial statements. IFRS regulations are widely applied worldwide, and in many jurisdictions they are mandatory for listed companies. The objective of IFRS is to ensure that financial reports provide information that is relevant and reliable, supporting the decision-making of investors, lenders, and other stakeholders. The key principles and the structure of IFRS financial statements are primarily determined by IAS 1 Presentation of Financial Statements.

The main components of an IFRS financial report and their key characteristics are as follows:

- **Statement of Financial Position (Statement of Financial Position)** is the IFRS term generally used for the balance sheet. It presents the company's assets, liabilities, and equity at a specific reporting date. Under IFRS, assets and liabilities must be presented either in order of liquidity or classified into current and non-current categories. IFRS emphasizes that the purpose of the statement of financial position is to provide information about the company's financial stability and capital structure.
- **Statement of Profit or Loss and Other Comprehensive Income** is required by IFRS and may be presented in two alternative formats: as a single statement or as two separate statements (one showing profit or loss and another presenting other comprehensive income). The income statement presents revenues, expenses, and profit or loss for the reporting period. Comprehensive income includes, in addition to profit or loss, the elements of other comprehensive income (OCI), such as revaluation surpluses, foreign currency translation differences, and fair value changes related to hedging instruments.
- **Statement of Changes in Equity (Statement of Changes in Equity)** presents the opening and closing balances of equity, transactions with owners (such as share issuances, share repurchases, and dividend payments), as well as the components of comprehensive income. This statement explains how the company's equity structure changed during the reporting period.
- **Statement of Cash Flows (Statement of Cash Flows)** is a mandatory part of IFRS financial statements and is divided into three main sections: operating activities, investing activities, and financing activities. IFRS allows both the direct and indirect methods, but it encourages the use of the direct method. The purpose of this statement is to present the company's cash flows and explain changes in cash and cash equivalents during the reporting period.
- **Notes to the Financial Statements (Notes)** provide supplementary disclosures that include a description of accounting policies, explanations of the items presented in the financial statements, and all other relevant information. These notes are essential for interpreting the financial statements, as they provide detailed context behind the reported figures.

Table 52. Financial Statements and International Reporting Standards

Financial Statement / Topic	US GAAP – FASB ASC	IFRS – IAS/IFRS
General presentation requirements	ASC 205 – Presentation of Financial Statements	IAS 1 – Presentation of Financial Statements
Balance Sheet / Statement of Financial Position	ASC 210 – Balance Sheet	IAS 1 – Statement of Financial Position
Income Statement	ASC 225 – Income Statement	IAS 1 – Statement of Profit or Loss and Other Comprehensive Income
Statement of Changes in Equity	ASC 215 – Statement of Shareholders' Equity	IAS 1 – Statement of Changes in Equity
Statement of Cash Flows	ASC 230 – Statement of Cash Flows	IAS 7 – Statement of Cash Flows
Accounting policies, estimates and errors	ASC 250 – Accounting Changes and Error Corrections	IAS 8 – Accounting Policies, Changes in Accounting Estimates and Errors
Financial instruments disclosures	ASC 825 – Financial Instruments	IFRS 7 – Financial Instruments: Disclosures
Operating segments	ASC 280 – Segment Reporting	IFRS 8 – Operating Segments
Events after the reporting period	ASC 855 – Subsequent Events	IAS 10 – Events after the Reporting Period
Related party disclosures	ASC 850 – Related Party Disclosures	IAS 24 – Related Party Disclosures
Earnings per share	ASC 260 – Earnings per Share	IAS 33 – Earnings per Share

Source: based on www.iasb.org and www.fasb.org, author's own compilation.

International financial reporting frameworks such as IFRS and US GAAP require highly detailed disclosure because they are designed to support capital market transparency and investor confidence. Listed companies operate in complex economic environments, therefore stakeholders need comprehensive and comparable financial information to evaluate performance, risk exposure, and future prospects. The detailed structure of international reporting standards ensures that financial statements explain the underlying accounting policies, valuation methods, and key assumptions. This is essential because the interpretation of profitability and financial position strongly depends on measurement rules, such as fair value estimation, impairment testing, or revenue recognition principles. International financial statements provide critical information to investors regarding profitability, earnings sustainability, and expected future cash flow generation. Creditors and lenders rely on the detailed disclosures to assess liquidity, solvency, debt servicing capacity, and the overall risk profile of the company. Regulators and supervisory authorities use the reporting system to monitor compliance, financial stability, and the integrity of financial markets. Employees and local communities may also benefit indirectly, as financial reporting provides signals about corporate stability, growth potential, and long-term viability.

5.1.5. Fundamental Accounting Concepts in the Context of Hungarian Accounting and International Financial Reporting

Each key accounting concept is introduced based on its definition in the Hungarian Accounting Act (Act C of 2000), the IFRS Conceptual Framework, and US GAAP (SFAC No. 6 and SFAC No. 8). The presentation of the concepts of assets, liabilities, equity, revenue, costs, and expenses forms the foundation of financial reporting, as these elements ensure a transparent representation of an entity's financial position, performance, and changes over time. The recognition of assets reveals what economic resources are available to the company and what future benefits can be expected from them.

The presentation of liabilities provides information about the company's existing obligations arising from past events, which involve a future outflow of resources. Equity represents the owners' interest, meaning the difference between assets and liabilities, and therefore indicates the company's net worth. The recognition of revenues demonstrates the inflow of economic benefits generated by the entity, which increases equity, excluding contributions made by owners. Costs and expenses reflect the consumption of resources and the outflow or reduction of economic benefits, which lead to a decrease in equity, excluding distributions to owners. The systematic presentation of these concepts enables users of financial statements—whether investors, creditors, regulatory authorities, or other stakeholders—to evaluate the company's financial stability, performance, and future prospects. These elements can be considered the fundamental building blocks of financial reporting, ensuring comparability and providing reliable information necessary for decision-making.

- **Asset:**

Hungarian Accounting: Act C of 2000 on Accounting, Section 3 (4), point 1: An asset is any tangible or intangible item or receivable that is under the control of the entity at the balance sheet date, which serves the business activity for more than one accounting period or is intended for generating revenue, and whose value can be measured reliably.

IFRS: Conceptual Framework (2018), paragraph 4.3: An asset is a present economic resource controlled by the entity as a result of past events.

US GAAP: SFAC No. 6, paragraph 25: Assets are probable future economic benefits obtained or controlled by a particular entity as a result of past transactions or events.

Hungarian regulation emphasizes legal control and operational usefulness, IFRS focuses on rights and economic potential, while US GAAP introduces a probability requirement regarding future economic benefits.

- **Liability:**

Hungarian Accounting: Act C of 2000 on Accounting, Section 3 (4), point 3: A liability is an amount payable by the entity to external parties, arising from past transactions or events, based on contractual or legal obligations, which reduces the company's assets.

IFRS: Conceptual Framework (2018), paragraph 4.26: A liability is a present obligation of the entity to transfer an economic resource as a result of past events.

US GAAP: SFAC No. 6, paragraph 35: Liabilities are probable future sacrifices of economic benefits arising from present obligations of a particular entity to transfer assets or provide services to other entities in the future as a result of past transactions or events.

The Hungarian definition emphasizes the contractual and legal form of obligations, while IFRS includes both legal and constructive obligations, and US GAAP focuses on probable future sacrifices of economic benefits. IFRS therefore interprets liabilities more broadly, as it places economic substance above mere legal form. These different approaches influence the scope and magnitude of liabilities recognized in the balance sheet, which also affects the comparability of companies.

- **Equity:**

Hungarian Accounting: Act C of 2000 on Accounting, Section 3 (4), point 4: Equity is the portion of the company's assets that remains after deducting liabilities. It includes, for example, registered capital, capital reserves, retained earnings, and profit or loss for the year.

IFRS: Conceptual Framework (2018), paragraph 4.63: Equity is the residual interest in the assets of the entity after deducting all its liabilities. Equity is not measured independently, but is calculated as the difference between assets and liabilities.

US GAAP: SFAC No. 6, paragraph 49: Equity is the residual interest in the assets of an entity that remains after deducting its liabilities. Under US GAAP, equity includes contributed capital and retained earnings, and reflects the ownership rights and obligations within the entity.

All three accounting systems define equity as a residual interest, meaning the difference between assets and liabilities. Hungarian accounting primarily emphasizes the legally defined capital structure, while IFRS and US GAAP focus more on ownership interest and on changes in equity resulting from performance and other transactions. The structure and detailed breakdown of equity are particularly important for financial analysis.

- **Revenue:**

Hungarian Accounting: Act C of 2000 on Accounting, Section 3 (4), point 6: Revenue includes income arising from core activities, financial operations, and other activities, thereby clearly separating the sources of revenue.

IFRS: Under IFRS, revenue is primarily defined and regulated by IFRS 15, based on the fulfillment of performance obligations in contracts with customers, regardless of the timing of cash movements. The standard requires the separation of operating and other income and places strong emphasis on the accurate identification of performance obligations that form the basis of revenue recognition.

US GAAP: SFAC No. 6, paragraphs 78–82: Revenue is an inflow from primary operations that increases equity, excluding transactions with owners. Revenue is recognized in line with the timing of satisfying performance obligations, and in financial reporting it is often presented separately for revenues arising from core business activities and other sources.

Hungarian accounting classifies revenues into three categories (core activities, financial operations, and other activities), while IFRS and US GAAP primarily define revenue as inflows arising from the main business activity and distinguish it according to the nature of operations.

- **Costs and Expenses:**

Hungarian Accounting: A cost is an expenditure incurred during business activities, including material costs, personnel expenses, and depreciation. Hungarian regulation no longer includes a separate “extraordinary” category; items previously classified as extraordinary are now allocated to the appropriate operating or financial categories.

IFRS: Conceptual Framework (2018), paragraph 4.69: Expenses are decreases in assets or increases in liabilities that result in decreases in equity, excluding distributions to owners. Under IFRS, expenses include both costs and losses, and no separate “extraordinary” category is applied.

US GAAP: SFAC No. 6, paragraphs 83–84: Expenses are outflows or using up of resources arising from the entity’s primary operations that decrease equity, excluding owner-related transactions. Losses represent decreases arising from peripheral or unusual transactions. US GAAP, similarly to IFRS, does not classify extraordinary items as a separate category in financial reporting.

The main difference between Hungarian accounting and international frameworks lies in classification logic: Hungarian regulation defines cost categories and classifications in detail, while IFRS and US GAAP focus more strongly on the economic substance and financial impact of transactions.

5.2. Analysis and Interpretation of Financial Reports

Financial statements provide a summarized overview of a company's operations for a closed financial period and record the entity's asset position, financial condition, and profitability in accordance with accounting rules. Therefore, financial reporting primarily documents past performance; however, financial statement analysis creates an opportunity to draw conclusions from past developments regarding the stability of the company's operations, the efficiency of resource utilization, and its financial risks. In contrast, market indicators and capital market valuations are based on current investor perceptions and often reflect expectations about the future.

Corporate valuation and investment appraisal apply an explicitly forward-looking approach, as they are primarily based on the company's future cash-generating capacity. Within this logical chain, financial statements represent the reliable starting point from which past performance and financial position can be objectively assessed and upon which further analyses and forecasts can be built. At the same time, it is important to emphasize that financial statement figures are prepared within the framework of accounting regulation; therefore, although they provide credible information about corporate operations, they are not able to fully capture the company's market value, future potential, or the impact of non-financial factors (such as innovation, human resources, and sustainability). For this reason, financial statement analysis provides a solid foundation for evaluating corporate performance, while also requiring conscious consideration of the limitations of accounting-based information.

5.2.1. Analysis and Interpretation in Financial Statement Evaluation

Financial statement analysis refers to the systematic examination of data from the balance sheet, income statement, and cash flow statement with the objective of assessing the company's asset position, financial condition, and profitability. During the analysis process, relationships between financial statement line items are identified and changes over time are examined, while interpretation focuses on exploring the causes and consequences of these changes. The primary objective of financial statement analysis is to provide reliable information about the company's operating performance, financial stability, and risk position. The information obtained forms the basis for shareholder, creditor, and managerial decisions, as well as for the objective evaluation of corporate performance.

When processing financial statements, two sequential but fundamentally different activities must be distinguished. **Analysis** involves transforming financial statement data into measurable and comparable information (ratios, trends, variances). **Interpretation** refers to explaining the results of the analysis, identifying cause-and-effect relationships, and drawing decision-support conclusions. In high-quality financial statement evaluation, analysis is a necessary but not sufficient condition: analysis shows what happened, while interpretation explains why it happened and what it means (Table 53).

Table 53. Analysis and Interpretation in Financial Statement Evaluation

Aspect	Analysis	Interpretation	Typical Question
Objective	Structuring financial statement data, producing ratios and trends, identifying variances.	Explaining cause-and-effect relationships behind indicators and drawing decision-support conclusions.	What do we see in the numbers? Why did it happen and what does it mean?
Focus	Calculation, comparison, measurement (ratio changes, variations, breakdowns).	Explanation, narrative context (business model, market, strategy, accounting policy).	How large is the variance? What caused the variance?
Method	Horizontal/vertical analysis, financial ratios, benchmarking, charts and graphs.	Causal analysis, sensitivity analysis, incorporating qualitative information.	Trend calculation vs. linking results to business drivers.
Data source	Primarily financial statement figures (balance sheet, income statement, cash flow).	Financial statements + notes + business report + industry and macroeconomic context.	Which numbers changed? What environmental/strategic factors are behind them?
Outcome	List of ratios, variance list, trend tables.	Decision-support findings, risks, conclusions and recommendations.	ROCE increased vs. ROCE increased because asset turnover improved and capital tied up decreased.
Limitation	May easily become mechanical and misleading without context.	More subjective; quality depends on professional judgment and completeness of information.	Numbers are ready vs. interpretation is risky if there is insufficient information.

Source: based on Alexander et al. (2020); Kresalek–Puscek (2024); Siklósi et al. (2025), author’s own compilation.

The purpose of analysis is to structure the figures presented in financial statements and make them comparable. During financial statement analysis, a company's balance sheet and income statement data can be examined using various methods in order to derive meaningful conclusions from accounting information. These methods can be applied individually or in combination. Financial statement line items in themselves do not provide explanations of corporate performance; therefore, the objective of analysis is to make changes, structural shifts, and financial risks visible within the data.

In practice, the most common tools for this purpose are horizontal analysis, vertical analysis, ratio analysis, and benchmarking:

- **Horizontal analysis** examines changes in financial statement line items over time, meaning how specific balance sheet and income statement items have developed from one financial year to another. This method is primarily suitable for identifying growth or decline trends. Calculating absolute and percentage changes helps reveal which items have changed significantly and where unfavorable developments may occur. For example, if revenue increases but operating profit declines, this may indicate a deterioration in contribution margin, rising operating costs, or an unfavorable change in product or customer mix. Horizontal analysis therefore mainly highlights symptoms and indicates the areas where deeper interpretation is required.
- **Vertical analysis** examines the structure of financial statements and shows the proportion of each item relative to a defined base figure. In the income statement, this base is typically net sales revenue, while in the balance sheet it is total assets. Vertical analysis makes the company's cost structure and asset structure easier to interpret and supports comparability even between companies of different sizes. For example, if the proportion of inventories increases significantly within the balance sheet, this may indicate production or sales problems, excessive stock accumulation, or even deliberate strategic inventory building. In the case of the income statement, vertical analysis clearly demonstrates how the company's cost level relates to revenue and how effectively it is able to generate margin to cover operating expenditures.
- One of the most frequently applied tools in financial statement analysis is **ratio analysis**, which connects different financial statement items to create relative indicators. The advantage of ratios is that they simultaneously make visible multiple dimensions of corporate performance and financial condition, such as profitability, liquidity, efficiency, and capital structure. However, ratios cannot be considered an evaluation on their own; they must always be analyzed in trends and within a broader context. For example, a deterioration in the liquidity ratio does not by itself explain whether the reason is inventory accumulation, an increase in trade receivables, or higher short-term borrowing. Ratio analysis therefore provides a more structured picture of the company's condition, but meaningful interpretation is only possible if the changes in the underlying financial statement items are also examined.

The interpretation and practical usefulness of the above methods can be significantly strengthened by **benchmarking**, i.e., comparative analysis. In benchmarking, a company's indicators are not only compared to its own historical performance, but are also evaluated against planned targets, industry averages, or competitor data. This is particularly important because the "good" or "bad" value of a ratio cannot be interpreted in an absolute sense: across industries, there are substantial differences in what is considered normal profitability levels, turnover rates, or optimal leverage ratios. Benchmarking therefore ensures that financial statement analysis is not merely an internal trend assessment, but a performance evaluation based on real external comparison.

These analytical tools serve the purpose of ensuring that financial statement data do not remain a simple collection of accounting figures, but become structured and meaningful information. In practice, the typical outputs of analysis appear in the form of tables, ratios, charts, and variance reports, which highlight the main trends and problem areas in the company's operations. However, these results only become truly decision-supporting information if the analyst interprets the underlying causes and relationships behind the numbers and places the changes into the context of the company's operations, financing structure, and economic environment.

In the examination of financial statement content, the objective of interpretation is to connect the phenomena identified by analysis with business logic and to provide answers to questions such as:

- Why have the ratios and financial statement line items changed?
- Are we dealing with a one-time effect or a long-term structural impact?
- What risks or opportunities arise from this change?
- What decision implications does it have (for management, banks, investors)?
- Which specific financial statement items drive the change, and how are they linked to each other?
- Does the change originate from operations (operational), or is it mainly financing- or accounting-related?
- Is the change the result of internal managerial decisions, or is it driven by external market factors?
- Does the change improve or weaken the company's cash flow generating capacity?
- Is the change a sign of growth, or rather a symptom of operational instability?
- How sustainable is the company's performance given its current resource and financing structure?
- What is the impact of the change on the company's capital structure and financial stability?
- Can the deviation be explained by industry characteristics, or does it indicate a company-specific problem?

Financial statement data cannot be fully interpreted without considering the company's external environment, since corporate performance is significantly influenced by market and macroeconomic developments. Therefore, calculating financial ratios represents only the starting point of analysis: in order to interpret the results properly, additional examinations are required to reveal the underlying causes and relationships behind the numbers. Industry cycles, changes in demand, as well as developments in input costs and financial conditions have a direct impact on the company's revenue, cost level, and profitability; therefore, analyzing these factors provides further explanatory information for financial statement figures. Context analysis helps determine whether changes in financial indicators originate from internal operational performance or are primarily the consequence of shifts in the external economic environment. During the analysis of the industry and market environment, the following questions may be raised:

- How has demand in the given industry developed, and what impact has this had on the company's revenue and sales volume?
- To what extent have input prices (e.g., energy, raw materials) changed, and how far can these cost increases be passed on into selling prices?
- How have inflation and exchange rate fluctuations affected costs, revenues, and profitability?
- Has the company's competitive position changed within the industry (e.g., loss of market share, new entrants, intensified price competition)?
- Have there been any regulatory or legal changes that have affected the company's operations, cost structure, or profitability?

Methodological tools for analyzing the industry and market environment:

(a) Industry benchmarks: In order to interpret corporate performance, it is advisable to compare results with industry average ratios or directly with the financial statements of key competitors. Based on such comparisons, it can be determined whether changes in financial indicators reflect a general industry trend or rather indicate a company-specific issue.

(b) Incorporating macroeconomic indicators: The interpretation of corporate financial statement data also requires the analysis of the macroeconomic environment, since inflation, interest rate conditions, GDP trends, or exchange rate movements can directly influence the company's cost level, financing burden, and demand opportunities. Industrial production statistics, export market trends, or consumption indices help assess to what extent corporate performance reflects the business cycle and how effectively the company is able to adapt to external shocks.

(c) Narrative sources: Market reports, analyst briefings, sector forecasts, as well as the company's business report and management commentary may provide additional information that goes beyond financial statement numbers and explains the reasons behind performance changes. These sources can support the identification of factors such as demand developments, intensified price competition, supply chain disruptions, or the effects of regulatory changes.

5.2.2. Purpose of Financial Statement Analysis and Its Role in Corporate Decision Making

Financial statement analysis is a systematic analytical activity aimed at organizing and interpreting information derived from a company's balance sheet, income statement, and cash flow statement in order to support decisions related to corporate operations and future prospects. Financial statements provide accounting-based information about the company's performance for a closed reporting period; however, these figures alone are not sufficient to evaluate the company's overall performance and financial condition. Therefore, the purpose of analysis is to derive conclusions from financial statement data regarding the company's profitability, financial stability, liquidity, financing risks, and operational efficiency.

Financial statement analysis plays a key role in corporate decision-making, since financial statements represent the most important information base produced within a regulated framework, upon which corporate stakeholders—owners, investors, creditors, management, and business partners—base their decisions. For owners and investors, financial statement analysis primarily supports the evaluation of the company's value creation capability and long-term profit-generating potential. For creditors, it provides reliable information for assessing solvency, financing risks, and debt-servicing capacity. For management, financial statement analysis is an essential tool for monitoring and steering corporate operations, contributing to performance evaluation, identifying efficiency problems, and supporting strategic and operational decision-making.

Another important objective of financial statement analysis is to identify processes and variances that signal favorable or unfavorable developments in corporate performance. Through analysis, it becomes possible to reveal the causes of declining profitability, detect early signs of liquidity problems, assess risks arising from increasing indebtedness, and evaluate factors affecting working capital management and asset utilization efficiency. Financial statement analysis therefore not only supports the evaluation of past performance, but also contributes to forecasting the company's future financial stability and sustainable operation.

The basis of financial statement analysis lies in the reliability and regulated nature of accounting information; however, the information contained in financial statements also has limitations. Financial reports largely record past events and often rely on estimates and accounting policy decisions, meaning that interpretation of analytical results always requires professional judgement.

Consequently, the role of financial statement analysis goes beyond simply calculating financial ratios, and requires the identification of underlying causes behind economic events as well as the examination of business relationships within corporate operations. Financial statement analysis is therefore a key informational foundation for corporate decision-making, supporting performance evaluation, risk identification, and the preparation of future decisions. It provides a comprehensive assessment of corporate operations and contributes to evaluating the company's long-term sustainability and value creation capability.

5.2.3. The Process of Financial Statement Analysis

Financial statement analysis is a structured and methodologically developed process aimed at providing a comprehensive evaluation of a company's financial position, profitability, liquidity, and operational efficiency. Financial statement analysis does not merely involve interpreting balance sheet and income statement data, but also includes drawing conclusions about the underlying processes, managerial decisions, and risks that shape corporate performance. Accordingly, financial statement analysis cannot be considered a single calculation step, but rather a sequence of interrelated analytical phases that together ensure a reliable interpretation of financial information.

The starting point of financial statement analysis is always the collection and systematic organization of relevant information. In addition to the core financial statements—balance sheet, income statement, and cash flow statement—the notes to the financial statements and the business report represent important sources of information, as they provide explanations regarding accounting policies, estimates, significant events, and risk factors. During financial statement analysis, it is particularly important to examine the accounting decisions and valuation principles underlying financial data, since financial reporting does not only present objective factual data, but in many cases also includes values based on estimates. Therefore, the first step of the process is a preliminary assessment of the reliability and comparability of the financial statements, including the identification of any changes in accounting policy or significant one-off items that may distort the interpretation of trends.

The next stage of financial statement analysis is the structured rearrangement and preparation of financial data. In practice, it is often necessary to reclassify balance sheet and income statement items into formats that better support analytical objectives. This may include restructuring the balance sheet according to liquidity order, separating current assets and short-term liabilities, or transforming the income statement into a contribution margin-oriented format. The purpose of these steps is to ensure that financial statement data are not only presented in reporting form but can also be interpreted according to analytical logic. A central part of the process is the comparative analysis of financial statement figures, which typically begins with horizontal (time-series) and vertical (structural) analysis. Horizontal analysis shows changes in individual financial statement line items across multiple periods, while vertical analysis examines the proportion of each item within the total for a given period. These methods help identify shifts in financial structure, changes in resource allocation, and movements in the cost and expense structure. However, identifying variances is only a starting point, as figures alone do not explain the reasons behind changes.

The next step in financial statement analysis is the calculation and interpretation of financial ratios, which allows a standardized evaluation of corporate performance. Ratio analysis is particularly important because financial statement data are expressed in absolute values, which are only limitedly comparable across companies or across time. One of the critical elements of the financial statement analysis process is the summarization of results and the formulation of conclusions (Table 54).

Table 54: Process of Financial Statement Analysis

Step	Purpose	Applied Method
1. Defining the analytical objective and stakeholders	Identifying the focus of the analysis (investor, bank, management).	Stakeholder analysis, formulation of the decision question, defining the time horizon.
2. Clarifying the reporting framework and limitations	Assessing comparability and reliability.	Review of IFRS/US GAAP/local GAAP framework, consolidation scope, audit status, and accounting policies.
3. Collecting and standardizing data	Creating the database required for analysis.	Processing balance sheet, income statement, cash flow statement, and notes; calculating average balances.
4. Horizontal and vertical analysis	Identifying major changes and structural shifts.	Time-series comparison, percentage changes, common-size analysis.
5. Selecting key performance indicators	Identifying ratios aligned with the decision question.	Grouping ratios (profitability, liquidity, leverage, efficiency, cash flow).
6. Calculating financial ratios	Producing measurable indicators from financial statement data.	Ratio calculation; benchmarking and industry comparison; trend charts.
7. Interpretation (driver-based cause-and-effect analysis)	Identifying the underlying drivers behind ratio changes.	DuPont logic, margin–turnover decomposition, working capital driver analysis (DSO/DIO/DPO).
8. Assessing risks and sustainability	Identifying financial stability issues and future risks.	Liquidity stress signals, leverage, interest coverage, covenant risks, cash flow sustainability.
9. Documenting limitations, distortions, and missing information	Presenting the reliability boundaries of the analysis.	One-off items, accounting policy effects, consolidation distortions, seasonal effects.
10. Conclusions and decision-oriented summary	Formulating recommendations based on stakeholder objectives.	Executive summary, performance and financial position assessment.

Source: author's own compilation based on Paár et al. (2021) and Kresalek–Pucsek (2024).

5.2.5. Classification of Financial Ratios by Source of Information

The interpretation of financial ratios is fundamentally influenced by the type of financial statement or supplementary information source from which the underlying data are derived. Some ratios are primarily based on the balance sheet, others rely on income statement figures, while cash flow-based ratios enable the analysis of cash movements and liquidity dynamics. For the reliable interpretation of certain indicators, it is also essential to incorporate information from the notes to the financial statements particularly in order to understand the impact of accounting policies, estimates. Classification by information source therefore contributes to a more accurate assessment of the meaning, limitations, and decision-supporting relevance of financial ratios (Table 55). The informational value of publicly available financial statement data used for ratio calculation is limited, as such data are typically presented in aggregated form and do not contain detailed information about the company's internal operations. Due to the lack of internal controlling data, cost center breakdowns, contractual conditions, or detailed information on customer and product structure, external analysts often can only draw indirect conclusions about the underlying drivers behind financial ratios.

Table 55: Classification of Financial Ratios by Source of Information

Indicator Group	Primary Data Source	Financial Statement	Analytical Note
Absolute indicators	Income statement, cash flow statement	Income statement / Cash flow statement	Strongly dependent on accounting policies
Ratios (e.g., ROE, gearing)	Balance sheet + income statement	Balance sheet + income statement	Suitable for comparison, but may be distorted by one-off items
Margin indicators	Income statement	Income statement	Reflects cost structure
Turnover ratios (days)	Balance sheet + income statement	Balance sheet + income statement	Excellent for driver-based analysis
Working capital indicators	Balance sheet	Balance sheet	Direct impact on liquidity
Cash flow indicators	Cash flow statement	Cash flow statement	Shows financial sustainability
Normalized indicators	Notes to the financial statements	Notes + business report	Requires subjective professional judgement
Value creation indicators	Financial statements + market information	Financial statements + capital market data	Valuation-oriented perspective

Source: author's own compilation based on Alexander et al. (2020), Subramanyam (2020), Pár et al. (2021), and Siklósi et al. (2025).

5.2.6. Financial Ratio System

During the analysis of financial statements, the information available on a company's asset structure, financial position, and profitability is often difficult to interpret when presented only in the form of balance sheet and income statement line items. In order to assess corporate performance in a comprehensive manner, analytical tools are required that allow comparability, time-series evaluation, and a standardized assessment of the company's financial performance. Financial ratios are relative indicators that express the mathematical relationship between two or more financial figures. The purpose of ratio analysis is to extract diagnostic information about corporate operations from financial statement data. The use of ratios makes it possible to evaluate the company's:

- liquidity position (short-term solvency),
- capital structure and level of indebtedness,
- profitability,
- asset and resource efficiency,
- and market perception.

The results of ratio analysis are particularly important for corporate management, owners, creditors, and investors, as they provide a condensed and comparable overview of corporate performance. The literature also emphasizes that ratios offer a quick overview of a company's financial condition, which is why ratio analysis is among the most frequently applied methods in financial statement analysis.

The main categories of financial ratios include:

1. Asset and capital structure ratios
2. Financial position ratios
3. Efficiency ratios
4. Profitability ratios
5. Market ratios

These ratio groups cover the most important dimensions of corporate financial performance and are suitable for revealing meaningful relationships by linking data from different parts of the financial statements. Asset and capital structure ratios primarily indicate the company's financial stability and long-term risk profile, while financial position ratios support the assessment of short-term solvency and liquidity. Efficiency ratios evaluate the company's resource utilization and turnover rates, which are directly connected to working capital investment and cash flow performance.

Profitability ratios make the company's earnings capacity, margin structure, and profitability trends interpretable, while market ratios reflect investor judgement and the company's capital market perception. The combined analysis of these ratio groups is particularly important because a comprehensive evaluation of corporate performance is only possible when financial stability, operational efficiency, and profitability are analyzed in their interrelationships.

Corporate assets refer to the totality of tangible resources owned by the company and the related rights; in the balance sheet, assets appear in the form of balance sheet items. The balance sheet reflects what types of assets constitute the company's wealth and also shows the financing sources behind those assets. The specific forms of wealth are represented by assets, while liabilities and equity illustrate the origin and sources of funding required to finance those assets. The analysis of a company's assets and capital structure is critically important, as it provides stakeholders with insight into the firm's resource base, financial stability, and growth potential. In the analysis of assets and capital structure, the composition, proportions, and time-based changes of balance sheet items on both the asset and liability sides are examined, which is illustrated in Table 56 through the most important financial ratios. The purpose of asset-side analysis is to assess how the company allocates and utilizes its resources to finance operations and ensure long-term value creation. Examining the proportion of current assets and non-current assets highlights whether the company's asset structure fits its business model: for example, an excessively high share of current assets may indicate unnecessary inventory accumulation or slowly collected receivables, while an overly fixed-asset-oriented structure may signal high capital intensity and a greater burden of fixed costs (Table 56).

Table 56: Key Ratios for Asset and Capital Structure Analysis

Ratio Name	Formula / Calculation
Debt-to-equity ratio	Total liabilities / Equity
Equity ratio	Equity / Total liabilities and equity
Liabilities ratio	Total liabilities / Total liabilities and equity
Debt ratio	Total liabilities / Total assets
Long-term leverage ratio	Long-term liabilities / Total assets
Capital structure ratio	Long-term liabilities / Equity
Equity multiplier	Total assets / Equity
Current assets ratio	Current assets / Total assets
Non-current assets ratio	Non-current assets / Total assets
Working capital ratio	(Current assets – Current liabilities) / Total assets
Provisions ratio	Provisions / Total liabilities and equity
Equity growth rate	Equity / Share capital
Net gearing ratio	(Long-term debt – Cash and cash equivalents) / Equity
Interest coverage ratio	EBIT / Interest expense
Debt service coverage ratio (DSCR)	Operating cash flow / (Debt principal repayments + Interest payments)

Source: author's own compilation based on Takács–Márkus (2020), Brealey–Myers (2023), and Kresalek–Pucsek (2024).

Financial position analysis includes the assessment of a company's overall financial condition by examining its assets, liabilities, equity, cash flows, and capital structure. The primary purpose of financial position ratios is to determine whether the company is able to meet its short-term and long-term obligations, maintain operational stability, and support sustainable growth. This analysis provides critical information about solvency, liquidity, financial flexibility, and risk exposure, helping stakeholders—such as management, investors, and creditors—to evaluate the company's financial strength and resilience. Financial position analysis typically focuses on key areas such as liquidity, leverage, and profitability.

Table 57 summarizes the most important ratios used to evaluate a company's financial position and liquidity, focusing on its ability to meet short-term and long-term obligations. The current ratio provides a general measure of short-term solvency by comparing current assets to current liabilities, while the quick ratio refines this assessment by excluding inventories, which may not be easily convertible into cash. The cash ratio is an even stricter indicator, showing whether the company could cover its short-term liabilities immediately using only cash and cash equivalents. Net working capital expresses the absolute liquidity buffer available for daily operations and reflects the company's short-term financial stability. The operating cash flow coverage ratio highlights whether the company's core business activities generate sufficient cash to cover current liabilities, making it more reliable than purely balance-sheet-based liquidity measures. The working capital adequacy ratio shows how much of the company's asset base is tied up in current assets, which may indicate liquidity strength but can also signal inefficiency if excessive. The debt ratio and long-term leverage ratio provide insight into the company's financial risk and the extent to which its assets are financed by liabilities, especially long-term obligations.

Table 57: Key Ratios for Financial Position and Liquidity Analysis

Ratio Name	Formula / Calculation
Current ratio	Current assets / Current liabilities
Quick ratio	(Current assets – Inventories) / Current liabilities
Cash ratio	(Cash and cash equivalents) / Current liabilities
Net working capital	Current assets – Current liabilities
Operating cash flow coverage ratio	Operating cash flow / Current liabilities
Working capital adequacy ratio	Current assets / Total assets
Debt ratio	Total liabilities / Total assets
Long-term leverage ratio	Long-term liabilities / Total assets
Interest coverage ratio	EBIT / Interest expense
Debt service coverage ratio (DSCR)	Operating cash flow / (Debt principal repayments + Interest payments)

Source: author's own compilation based on Takács–Márkus (2020), Brealey–Myers (2023), and Kresalek–Pucsek (2024).

In the context of financial statement analysis, economic efficiency refers to how effectively a company uses its resources—such as assets, equity, and capital—to generate outputs such as revenue, profit, and cash flow. It measures the relationship between inputs and outputs, highlighting whether the company maximizes its potential return from the resources available to it.

A company is considered more efficient if it achieves the same result with lower expenditures, or if it generates a higher result using the same level of input; therefore, efficiency reflects the economic utilization of resources. Economic efficiency can be defined as the ratio of performance (result) to the production resources used (input), indicating how well the company transforms its resources into productive outcomes. This relationship reflects the fundamental principle that higher efficiency is achieved when a company produces more output with fewer or equal inputs. Economic efficiency is linked to several areas of financial analysis (Table 58)

Table 58: Key Ratios for Efficiency Analysis

Ratio Name	Formula / Calculation
Total Asset Turnover (TATO)	Net sales / Total assets
Inventory turnover	Annual sales / Inventory
Average collection period (days)	Average trade receivables / Daily sales
Equity turnover	Net sales / Equity
Accounts payable turnover period (days)	Average trade payables / Daily purchases
Revenue per employee	Net sales / Number of employees
Revenue-to-cost ratio	Net sales / Total costs
Profit margin ratio	Net profit / Net sales
Labor efficiency ratio	Net sales / Payroll costs
Asset efficiency ratio	Net sales / Book value of assets
Return on equity (ROE)	Net profit / Equity
Wage efficiency ratio	Net sales / Payroll costs
Material efficiency ratio	Net sales / Material costs
Material cost ratio	Material costs / Net sales
Productivity ratio	Production output / Production input
Payroll cost ratio	Payroll costs / Net sales
Labor productivity ratio	Net sales / Total hours worked
Depreciation ratio	Depreciation / Net sales
Energy efficiency ratio	Net sales / Energy consumption
Marketing efficiency ratio	Net sales / Marketing expenses
Project efficiency ratio	Project result / Project costs
Innovation efficiency ratio	Revenue from new products / Total revenue

Source: author's own compilation based on Takács–Márkus (2020), Brealey–Myers (2023), and Kresalek–Pucsek (2024)

When interpreting profitability ratios, it is particularly important that the analyst focuses not only on the absolute values, but also on their trend and stability over time. A company's financial performance can be considered sustainable if margins and profit indicators remain balanced across several financial years and are not distorted by one-off or extraordinary factors (such as asset disposals or the reversal of an impairment loss). The gross margin and the EBIT margin are especially useful indicators of the efficiency of the company's core operations: in general, a consistently stable EBIT margin above 5–10% may indicate favorable operating performance, although this can vary significantly depending on industry characteristics. When analyzing operating profit margin and net profit margin, it is necessary to examine changes in the cost structure as well as the impact of taxation and the financing environment. Profitability analysis is further complemented by dividend policy indicators such as the dividend payout ratio (DPO) and the retention ratio, which show what proportion of earnings is distributed to shareholders and what share is reinvested to support growth. An excessively high dividend payout ratio may be attractive for investors in the short term; however, in the long run it can limit the company's investment and development opportunities. The sustainable growth rate (SGR) strengthens the strategic dimension of profitability analysis, as it indicates the growth path the company can maintain without raising external financing. The interest coverage ratio expresses the relationship between profitability and financing risk: it is generally accepted that a value below 3 indicates increased risk, while a value above 5 may suggest a more stable ability to bear interest expenses. Profitability ratios therefore not only measure the company's current earnings capacity, but also indirectly indicate the sustainability of operations, financial security, and long-term value creation potential. Profitability analysis can be considered well-founded only if ratios are interpreted over time (trend analysis), compared to industry benchmarks, and evaluated in line with the company's strategy and dividend policy.

Table 59: Key Profitability and Dividend Policy Ratios

Ratio Name	Formula / Calculation
Average contribution margin	Gross profit / Net sales revenue
Operating profit margin	EBIT / Net sales revenue
Dividend payout ratio (DPO)	Dividends paid / Net profit
Net profit margin	Net profit / Net sales revenue
EBIT margin	EBIT / Net sales revenue
Gross margin	(Net sales revenue – Cost of goods sold) / Net sales revenue
Profit retention ratio	1 – Dividend payout ratio (%)
Interest coverage ratio	EBIT / Interest expense
Net profit to total liabilities ratio	Net profit / Total liabilities
Dividend yield	Dividend per share / Share price
Sustainable growth rate (SGR)	Net profit / Equity

Source: author's own compilation based on Alexander et al. (2020), Takács–Márkus (2024), Brealey–Myers (2023), and Kresalek–Pucsek (2024).

The DuPont ratio system is a structured approach to analyzing a company's financial performance by decomposing Return on Equity (ROE) into its fundamental components. This method helps businesses and analysts understand how different factors contribute to profitability and overall financial efficiency. The system was developed by the DuPont Corporation in the early 20th century and remains one of the most widely used financial analysis tools today. The primary objective of DuPont analysis is to provide insight into the key drivers of a company's ROE, which is one of the most important indicators of financial performance. Instead of evaluating ROE as a single number, the DuPont framework allows analysts to identify whether profitability, operational efficiency, or financial leverage is responsible for a company's strong or weak performance. DuPont analysis is closely linked to profitability ratios, but it is more than a simple profitability measure. It breaks down ROE into several components, enabling a deeper understanding of how profitability, asset efficiency, and financial leverage jointly determine overall returns. DuPont ratios are also widely applied as relative measures in corporate valuation. Since ROE is expressed as a percentage rather than an absolute figure, it can be used effectively to compare companies within the same industry. Investors and analysts rely on DuPont components to evaluate operating efficiency, profitability, and financial leverage, all of which are critical factors in company valuation.

The equity multiplier within the DuPont framework is directly related to the firm's capital structure. Higher leverage increases ROE (but also increases risk), and a higher equity multiplier (total assets / equity) indicates that the company uses more debt financing relative to equity. This can enhance ROE as long as the company's Return on Assets (ROA) exceeds the cost of debt. However, excessive leverage increases financial risk, which may lead to higher bankruptcy costs and reduced financial flexibility. If a company relies too heavily on debt, interest expenses—captured in the interest burden component of the extended DuPont formula—reduce net income and ultimately lower ROE. Therefore, an optimal capital structure balances profitability and risk by ensuring that the cost of debt does not outweigh its benefits. Investors generally favor companies with strong ROE, but they also analyze whether ROE is driven by true profitability (Net Profit Margin) or by excessive leverage (equity multiplier). A company that improves ROE through operational efficiency and higher asset turnover, rather than simply increasing debt, is more likely to have a sustainable capital structure. Overall, the DuPont ratio system is primarily a profitability measurement framework, but it also incorporates elements of operating efficiency and financial leverage. Since it is a relative ratio, it is especially useful in corporate valuation when comparing firms. The optimal capital structure is influenced by how leverage (the equity multiplier) affects ROE—excessive debt may artificially increase ROE, but it can also significantly increase financial risk. In valuation practice, this risk is reflected in the company's cost of capital, as higher leverage typically increases the required return demanded by both creditors and equity investors. As a result, an ROE improvement driven by leverage may not necessarily translate into higher firm value if it is accompanied by rising financial distress risk and declining cash flow stability. Consequently, DuPont analysis is most informative when it is combined with liquidity, solvency, and cash flow indicators to assess whether profitability is supported by sustainable financial fundamentals.

Table 60: DuPont Ratio System

Indicator	Formula	What does it measure?	Interpretation
ROA (Return on Assets)	$ROA = (\text{Net Profit} / \text{Total Assets}) \times 100$	Measures the efficiency of assets in generating profit.	The higher the ROA, the more effectively the company uses its assets to generate profit.
ROS (Return on Sales)	$ROS = (\text{Net Profit} / \text{Net Sales Revenue}) \times 100$	Shows the profitability of the company's revenue.	A high ROS indicates that the company generates profit efficiently relative to its revenue.
ROE (Return on Equity)	$ROE = (\text{Net Profit} / \text{Equity}) \times 100$	Measures the profitability of the capital invested by shareholders.	The higher the ROE, the greater the return provided to investors.
ROI (Return on Investment)	$ROI = (\text{Net Profit} / (\text{Equity} + \text{Long-term Liabilities})) \times 100$	Measures the efficiency and profitability of investments.	A high ROI indicates that the investment was profitable.
ROCE (Return on Capital Employed)	$ROCE = (\text{EBIT} / (\text{Equity} + \text{Long-term Liabilities})) \times 100$	Measures the efficiency of capital invested in business operations.	A high ROCE indicates that the company uses invested capital more efficiently to generate profit.

Source: Based on Takács–Márkus (2020), Paár et al. (2021), Takács (2021), Brealey & Myers (2023), Kresalek–Pucsek (2024).

The ratios in the table are presented using **net profit (profit after tax)**, because net profit is the category that directly increases the company's value and enables dividend payments. However, net profit may be replaced by **profit before tax** or **operating profit (EBIT)** if the objective of the analysis justifies it.

The classic three-component DuPont formula expresses ROE as the product of three key financial ratios:

$$ROE = \text{Net Profit Margin} \times \text{Asset Turnover} \times \text{Equity Multiplier}.$$

Main components of ROE:

- **Net profit margin (net income / revenue)** → Measures profitability and shows how much profit the company generates from one dollar of revenue.

- **Asset turnover (sales / total assets)** → Measures efficiency, indicating how effectively a company uses its assets to generate revenue.
- **Equity multiplier (total assets / equity)** → Measures financial leverage, showing what portion of the company's assets is financed by equity.

This breakdown helps answer critical questions such as:

- Is the company's ROE driven mainly by profitability or by efficiency?
- Does high leverage artificially increase ROE while also increasing financial risk?
- How does the company's performance compare to its industry peers?

DuPont analysis is a framework used to evaluate a company's **return on equity (ROE)** by decomposing it into three components: net profit margin, asset turnover, and the equity multiplier. This decomposition enables analysts and investors to understand which factors influence the company's profitability. The approach can be extended further by breaking financial performance into additional elements:

- **Tax burden (net income / EBT)** → Shows how much of pre-tax income remains after taxes.
- **Interest burden (EBT / EBIT)** → Reflects the impact of interest expenses on profitability.
- **Operating profit margin (EBIT / revenue)** → Indicates operating efficiency.

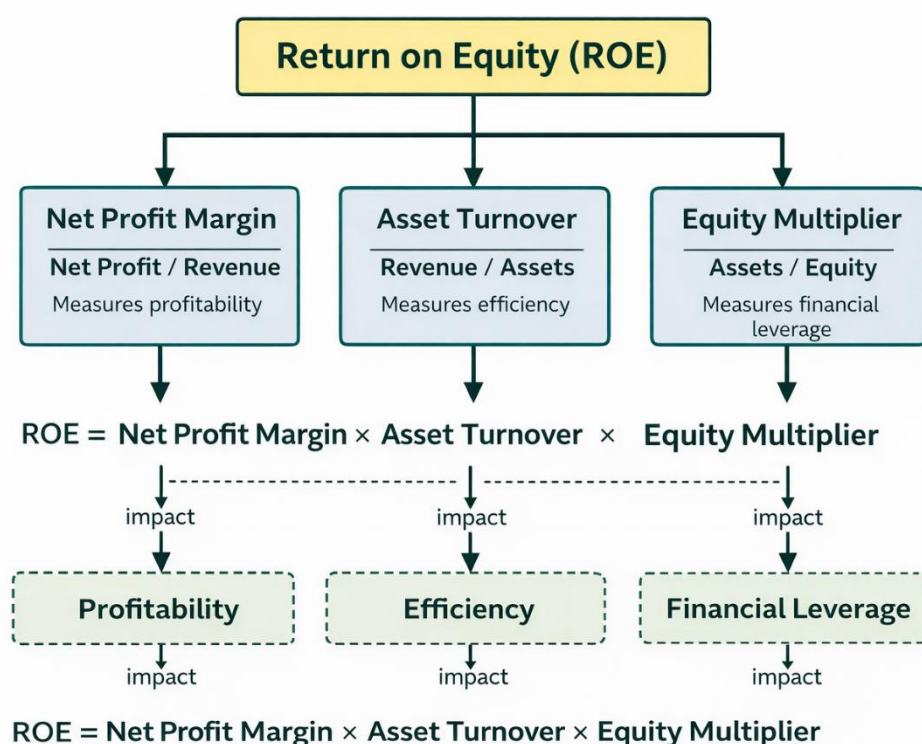


Figure 13: DuPont Ratio System (ROE Decomposition Model)
Source: author's own compilation

VI. Corporate Valuation Concepts and Methods

6.1. Basic Concepts of Business Valuation

The purpose of business valuation is to determine how much a company – or an ownership interest in a company – is worth at a given point in time. Business valuation is not merely a computational task, but a complex decision-support process that integrates the analysis of financial data, the interpretation of the business model, the identification of risk factors, and the evaluation of forecasts regarding future performance.

The application areas of business valuation are highly diverse. Common purposes include:

- mergers and acquisitions (M&A) and transaction decision support,
- ownership restructuring and the purchase or sale of equity interests,
- investor valuation (venture capital, private equity),
- financing decisions (creditworthiness, capital structure),
- litigation, ownership disputes, and buyouts of minority shareholders,
- valuations for taxation and inheritance purposes,
- financial reporting (e.g., IFRS fair value measurement, goodwill impairment testing).

Business valuation therefore plays an important role in financial management, accounting, investment analysis, and strategic decision-making.

6.1.1. Value as an Economic and Financial Concept

Value is fundamentally a relative concept: it does not exist independently, but is always interpreted within a specific purpose, perspective, and set of conditions. The value of a company is not identical to its book value, and it does not necessarily correspond to the price at which the company is actually exchanged in a transaction. From a financial perspective, the value of a company represents the present value of the economic benefits that can be realized in the future. This idea is consistent with the principle that a company is valuable to investors because it is capable of generating future cash flows.

It is important to distinguish between:

- **price:** the transaction price agreed upon in a specific deal,
- **value:** a theoretical value conclusion based on professional estimation.

The price of a transaction may be influenced by market distortions, negotiation power, information asymmetry, synergy expectations, time pressure, or strategic objectives. Value, in contrast, is an estimate based on the company's earnings capacity, risk profile, and market comparability.

Enterprise Value and Equity Value In business valuation, a distinction must be made between:

- **enterprise value:** the value of the entire operating business, reflecting the combined interests of both debt providers and equity holders,
- **equity value:** the value attributable to the owners (shareholders), which is derived by subtracting net interest-bearing debt from the enterprise value.

Additional Value Concepts in Business Valuation (Extended Version):

- **Market Value and Intrinsic Value:** In valuation theory, two broad and integrative value dimensions are commonly distinguished: market value and intrinsic value. Market value refers to the price at which an asset or a company would change hands between a willing buyer and a willing seller, both having sufficient knowledge of relevant facts and neither being under compulsion to transact. Market value therefore reflects the consensus of market participants under typical market conditions. In practice, it may be interpreted either as an actually observed transaction price (realized market value) or as an estimated value based on hypothetical market assumptions (estimated market value). Intrinsic value, in contrast, is the value derived from the company's underlying economic fundamentals. The role of the valuation analyst is typically to estimate this intrinsic value based on the company's assets, earnings potential, and risk profile. In efficient markets, market value and intrinsic value may converge in the long run, but in the short run deviations may occur due to information asymmetry, speculation, or temporary market distortions.
- **Asset Value Concept vs. Income Value Concept:** The intrinsic value of a company can be interpreted through two fundamental approaches: the asset value concept and the income value concept. The asset value concept defines intrinsic value as the value of the company's accumulated tangible and intangible assets. It primarily relies on accounting-based information and focuses on the wealth embedded in the company's balance sheet. The income value concept, on the other hand, derives intrinsic value from the future economic benefits that the company is capable of generating. According to this approach, company value is determined by discounting expected future earnings or cash flows to present value. This distinction is essential because it reflects two different interpretations of what constitutes "value": the value of accumulated past resources versus the value of future earning capacity.
- **Going Concern Value vs. Liquidation Value:** A key valuation assumption concerns whether the company is expected to continue operating in the future. Based on this, two major value premises can be distinguished: going concern value, which assumes that the company will continue its operations as an ongoing business entity, liquidation value, which assumes that the company will cease operations and its assets will be sold off. The going concern assumption is typically associated with income-based valuation models, while liquidation value is linked to asset-based valuation. Liquidation value represents a net amount, as it must reflect not only the realizable value of assets but also the settlement of liabilities and the costs of liquidation.

- **Book Value and Adjusted Book Value:** In asset-based valuation, several balance-sheet-related value categories appear frequently. Book value is the accounting value of equity as reported in the financial statements. It is calculated as the difference between total assets and total liabilities measured according to accounting rules. Book value is easy to obtain, but it rarely reflects the company's market value due to historical cost accounting, depreciation policies, prudence, and other accounting limitations. To address these limitations, analysts may calculate an adjusted book value, which corrects the balance sheet by revaluing assets and liabilities closer to their current market values. In practice, liabilities are often kept at book value if their market value cannot be reliably determined. Adjusted book value is typically higher than book value, largely due to conservative accounting rules that recognize losses more quickly than gains.
- **Reconstruction (Replacement) Value:** Another asset-based value category is the reconstruction value, also referred to as replacement value. This represents the amount of capital that would be required to reproduce the company's operating capacity and asset structure under current conditions. Reconstruction value is particularly relevant in cases where valuation is not primarily based on expected earnings but on the cost of rebuilding the business, including essential intangible assets such as brand, licenses, or intellectual property.
- **Capitalization (Market Capitalization):** For publicly traded companies, the market value of equity is often referred to as market capitalization, calculated as: $\text{Market Capitalization} = \text{Number of Shares Outstanding} \times \text{Market Price per Share}$. This concept reflects the market-based value of shareholders' equity and is therefore closely related to the equity value category in valuation models, while also serving as a key benchmark for comparing the company's valuation to its book value and to peer firms within the same industry.
- **Fair Business Value:** The valuation literature also refers to the concept of fair business value, which represents the estimated value of the company based on expected future earning potential under normal conditions. Fair business value can be interpreted as a value that would be accepted by informed and unconstrained parties at the valuation date. However, the estimated fair business value may differ from the final transaction price, depending on negotiation outcomes, market conditions, or strategic considerations.
- **Fair Value in Accounting Regulation:** The term fair value is also used in financial reporting, but its meaning may differ slightly from the valuation perspective. In accounting regulation, fair value is defined as the amount for which an asset could be exchanged or a liability settled between knowledgeable and willing parties in an arm's length transaction. Accounting frameworks often specify different measurement techniques for determining fair value, such as quoted market prices, negotiated prices, or valuation models designed to approximate market conditions. Therefore, while the term fair value appears in both valuation practice and accounting regulation, it is important to clarify whether it is applied as an economic valuation concept or as a financial reporting measurement basis.

6.1.2. Standards and Core Concepts in Business Valuation

The results of a business valuation can be considered professionally reliable and acceptable only if the valuation process is transparent, reproducible, methodologically justified, and consistent with relevant valuation standards. Valuation standards ensure that the conclusion of value is not merely a subjective opinion, but rather a professionally documented and structured analysis based on an established methodological framework. They also enhance comparability across valuation assignments and improve the credibility of valuation reports in both business practice and legal environments. In addition, valuation standards provide clear guidance on the appropriate selection of valuation approaches, key assumptions, and reporting requirements. They reduce the risk of methodological inconsistencies and help ensure that valuation conclusions are supported by transparent evidence and sound professional judgment. Ultimately, the application of valuation standards strengthens stakeholder confidence by improving the reliability and defensibility of valuation outcomes.

Several standards of value may be applied in business valuation, depending on the purpose of the assignment. The most commonly used standards include the following:

(1) Fair Market Value (FMV): Fair Market Value refers to the value that would be determined in a hypothetical transaction between a willing and well-informed buyer and a willing and well-informed seller, where neither party is under compulsion to buy or sell.

(2) Investment Value: Investment value is the value of a company to a specific investor. It reflects the investor's individual objectives, expected synergies, financing structure, and risk-return expectations. As a result, investment value often differs from fair market value.

(3) Intrinsic / Fundamental Value: Intrinsic (or fundamental) value represents the value derived from the company's underlying fundamentals. It aims to approximate the "true value" of the business based on its expected economic performance and risk profile. In practice, intrinsic value is most frequently estimated using discounted cash flow (DCF) methodology.

(4) Fair Value: The meaning of fair value is context-dependent.

- Under **IFRS**, fair value is primarily interpreted as a market-based measurement concept applied in financial reporting.
- In **legal disputes** (e.g., minority shareholder buyouts), fair value may be defined differently depending on the legal framework and jurisdiction, and may reflect equity considerations rather than purely market-based assumptions.

Every business valuation is based on an underlying assumption regarding the company's future status, commonly referred to as the premise of value. The two main premises are going concern and liquidation premises. Going concern premise is that the company is expected to continue its operations, and future cash flows are assumed to be generated in a normal business environment.

Liquidation premise mean that the company is assumed to discontinue its operations, and its assets are expected to be sold, either in an orderly liquidation or under forced-sale conditions.

Most valuations are performed under the going concern premise. However, in distressed situations, crisis periods, or near-bankruptcy conditions, the liquidation premise may become more appropriate and may provide a more realistic basis for estimating value.

The value of a company is not independent of the ownership rights attached to the interest being valued. From this perspective, two extreme ownership positions can be distinguished:

- **Control interest:** an ownership position that provides decision-making authority and the ability to influence corporate strategy, governance, dividend policy, and operational direction.
- **Minority interest:** an ownership position with limited influence, typically lacking the ability to control management decisions or strategic direction.

The presence of control rights may increase the value of an ownership interest. Therefore, valuation practice often applies **control premiums** or, conversely, **minority discounts**, depending on the valuation context and the standard of value.

The value of an ownership interest is strongly influenced by its **marketability**, meaning the ease and speed with which it can be sold. Publicly traded shares are generally liquid, while ownership interests in closely held companies (e.g., private limited companies) are often difficult to sell due to the absence of an active market.

As a result, business valuations frequently incorporate a specific adjustment known as a Discount for Lack of Marketability (DLOM). This discount reflects the additional risk and opportunity cost associated with holding an illiquid ownership interest, and it is particularly relevant in the valuation of privately held companies.

The central idea of business valuation is that the value of a company is determined by its future performance. Historical data provide information only about the level of performance achieved in the past and the business model that has operated so far. Business valuation is therefore a forward-looking analytical framework that seeks to answer the following key questions:

- How much future cash flow is the company able to generate?
- Under what risks and uncertainties can this cash flow be realized?
- Over what time horizon and along what growth path is the company expected to operate?
- How sustainable is the business model in the long run?

Based on this logic, value can be expressed in a simplified form as follows:

Value = the present value of expected future benefits, adjusted for risk and ownership rights.

6.1.3. The Relationship Between Risk and Value

From an investor's perspective, risk means that future cash flows are uncertain: they may not be realized at all, or they may deviate significantly from expectations. The higher the uncertainty associated with future cash flows, the higher the return required by investors as compensation for bearing risk. Consequently, the present value investors are willing to pay for a business decreases as risk increases. In business valuation, risk is most commonly reflected through an increase in the **discount rate**, which reduces the present value of expected future benefits. This relationship is consistent with the fundamental valuation principle that value is inversely related to the required rate of return. However, it is important to emphasize that risk affects value not only through discounting, but also through the cash flow estimates themselves. Higher risk may lead to more conservative forecasts, lower expected growth, weaker profitability assumptions, or shorter forecast horizons. Thus, risk influences both the numerator (expected cash flows) and the denominator (discount rate) of valuation models. In practice, this dual impact highlights the importance of maintaining consistency between cash flow projections and the selected discount rate, as mismatches may lead to biased valuation results. Moreover, the interaction between risk and cash flows reinforces the need for sensitivity and scenario analysis to capture the range of possible valuation outcomes under uncertainty.



Figure 14: Key Sources of Risk in Business Valuation
Source: author's own compilation

In business valuation, risk appears in multiple dimensions (Figure 14). The most common categories include:

- **Business risk:** industry cyclicality, demand volatility, competitive intensity, and the sustainability of the company's competitive advantage.
- **Financial risk:** leverage, debt repayment capacity, liquidity risk, and capital structure stability.
- **Operational risk:** supply chain disruptions, production inefficiencies, capacity constraints, and dependency on key suppliers.
- **Regulatory risk:** changes in laws, taxation, reporting requirements, and compliance-related costs.
- **Country risk:** political stability, macroeconomic uncertainty, currency volatility, and institutional quality.
- **Management risk:** dependency on key individuals, quality of decision-making, governance structure, and succession planning.

A critical distinction in valuation theory is the difference between **systematic risk** and **unsystematic (company-specific) risk**:

- **Systematic risk** represents market-wide risk factors that affect all companies, such as economic cycles, inflation, interest rate movements, and overall market volatility. This type of risk cannot be eliminated through diversification and is therefore priced by capital markets.
- **Company-specific risk** refers to risks that are unique to the individual firm, such as customer concentration, product dependency, key-person risk, or weak internal controls. These risks may be reduced through diversification, operational improvements, and managerial decisions.

This distinction is particularly important because capital market models generally assume that investors are diversified. Therefore, systematic risk is reflected in market-based discount rates, while company-specific risks are often incorporated through additional risk premiums, scenario analysis, or adjustments in expected cash flows. In valuation practice, risk is often translated into a required rate of return, which represents the minimum return expected by investors for providing capital. The required rate of return is influenced by:

- the risk-free rate of return,
- the expected market risk premium,
- the firm's exposure to market risk,
- and additional risk components such as size risk, liquidity risk, and country risk.

In practical valuation, the discount rate therefore captures not only pure market volatility, but also the broader risk characteristics of the company and its environment. This is especially relevant when valuing privately held firms, where market data may be limited and risk estimation requires professional judgment.

6.2. Information system of company valuation

6.2.1. Data Collection and Information Gathering in Business Valuation

A business valuation is only as reliable as the information on which it is based. Even the most sophisticated valuation model will produce misleading results if the input data are incomplete, inconsistent, or not properly interpreted. Therefore, data collection represents a critical phase of the valuation process and should be approached as a structured and documented professional activity rather than an administrative task.

The primary objective of company-specific data collection is to obtain a clear and comprehensive understanding of the firm's:

- financial performance and historical trends,
- business model and value creation logic,
- operating structure and cost drivers,
- capital structure and financing arrangements,
- asset base and working capital dynamics,
- contractual obligations and contingent liabilities.

In practice, the analyst must distinguish between **accounting information** and **economic information**. Financial statements provide standardized historical data, but they often require adjustment to reflect the economic reality of the business. Such adjustments may include normalization of earnings, elimination of non-recurring items, and reclassification of certain transactions to ensure comparability. Company-specific information should be collected not only from the published financial statements, but also from internal management reports, budgets, forecasts, operational statistics, and key contractual documentation. In closely held firms, internal documentation and management explanations often provide essential insights that are not visible in external reports.

Business valuation is not purely quantitative. While valuation models are expressed through numerical inputs (cash flows, discount rates, multiples), the underlying assumptions are driven by qualitative factors. These include management capability, operational efficiency, market positioning, strategic flexibility, and organizational resilience.

A site visit and management interview serve as key tools for collecting qualitative information. They enable the analyst to evaluate whether the company's reported figures are supported by operational reality and whether the firm's business plan is realistic (Table 61).

Qualitative assessment is particularly important in cases where:

- the company is privately held and disclosures are limited,
- management forecasting plays a major role in valuation,
- the business depends heavily on key customers, suppliers, or key individuals,
- the company operates in a rapidly changing or highly regulated environment.

Table 61. Management Interview Guide – Business and Operational Topics

Interview Area	Key Questions	Valuation Relevance
Business Model & Strategy	What is the company's core value proposition? What are the main revenue streams? How has the strategy changed over the last 3–5 years? What are the key strategic priorities for the next period?	Supports sustainability assessment of cash flows and growth assumptions.
Products / Services & Pricing	Which products/services generate the highest margins? How is pricing determined? Is pricing power increasing or decreasing?	Impacts revenue forecast and margin assumptions.
Customer Structure	Who are the key customers? What is the customer concentration? Are there long-term contracts? How stable is demand?	Customer concentration increases business risk and affects discount rate or scenario assumptions.
Sales & Market Position	What is the company's market share? Who are the main competitors? What differentiates the company from competitors?	Supports competitive advantage analysis and long-term growth expectations.
Supply Chain & Procurement	Who are the key suppliers? Are there alternative suppliers? Are there supply disruptions or dependency risks?	Affects operational risk and working capital stability.
Operations & Capacity	What is the current capacity utilization? Are there bottlenecks? Is the company planning expansion or restructuring?	Impacts CAPEX assumptions and future operating efficiency.
Cost Structure	Which costs are fixed vs variable? What are the main cost drivers? Have cost pressures increased recently (energy, labor, materials)?	Supports normalized EBITDA/EBIT estimation and margin forecasting.

Source: author's own compilation based on Damodoran (2012), Palepu et al. (2020)

Company performance cannot be evaluated in isolation. A firm's financial outcomes and strategic position are shaped by the broader macroeconomic environment, industry structure, and competitive landscape. Consequently, external research provides the context necessary for interpreting historical performance and forecasting future prospects (Table 62)

Table 62.: Management Interview Guide – Financial, Governance, and Risk Topics

Interview Area	Key Questions	Valuation Relevance
Working Capital Management	How are receivables and payables managed? What are typical payment terms? Has inventory policy changed?	Directly impacts free cash flow (FCFF/FCFE) forecasts.
Investments (CAPEX)	What investments were made recently and why? What is the planned CAPEX for the next 3–5 years? Are investments maintenance or growth-driven?	Determines reinvestment rate and long-term growth potential.
Financing & Capital Structure	What are the major loans and financing terms? Are there covenants? Is refinancing expected?	Impacts WACC and financial risk evaluation.
Management & Governance	Who are the key decision-makers? Is there succession planning? How stable is the management team?	Key-person dependency affects risk assessment and may require specific adjustments.
Legal & Regulatory Issues	Are there ongoing lawsuits, disputes, or contingent liabilities? Are there major regulatory compliance challenges?	May require valuation adjustments for contingent liabilities and risk premiums.
ESG & Sustainability	Are there ESG-related obligations or reporting requirements? Are sustainability investments planned?	May influence cost structure, risk profile, and long-term competitiveness.
Forecasting & Business Plan Credibility	What are the key assumptions behind the forecast? How sensitive are results to changes in demand, costs, or interest rates?	Supports scenario analysis and validates the credibility of management projections.

Source: author's own compilation based on Damodaran (2012), Palepu et al. (2020)

6.2.2. Key elements of external analysis

External analysis is a critical preparatory step in valuation, because the value of a business is ultimately determined by its future cash flow generating capacity, and future performance is strongly shaped by the external economic and competitive environment. Even the most sophisticated valuation model may produce misleading results if the analyst does not properly understand the macroeconomic conditions, industry structure, and external risk factors influencing the company. Therefore, external research should provide a structured framework for interpreting historical results and building realistic forward-looking assumptions.

A comprehensive external analysis typically begins with the assessment of key macroeconomic trends. Indicators such as GDP growth, inflation, interest rates, exchange rates, unemployment, and consumer confidence determine the overall business climate in which firms operate. Macroeconomic cycles influence demand conditions, investment activity, financing costs, and purchasing power. For example, rising inflation may increase input costs and weaken consumer demand, while higher interest rates may reduce corporate investment and increase the cost of capital, directly affecting valuation through both lower cash flow expectations and higher discount rates. Beyond macroeconomic variables, the analyst must evaluate the industry environment in which the company competes. Industry growth prospects and cyclical sensitivity are especially important, since firms operating in cyclical industries (e.g., automotive, construction, heavy manufacturing) typically face more volatile cash flows compared to firms in defensive sectors (e.g., utilities, healthcare, essential consumer goods). Industry analysis should therefore identify whether the sector is in an expansionary phase, maturity, or decline, and how sensitive revenues and margins are to economic downturns. This provides an essential foundation for forecasting growth rates, profitability patterns, and long-term sustainability.

Another key dimension of external analysis is the identification of cost drivers and input price dynamics. Many industries are heavily dependent on commodity prices, energy costs, logistics expenses, or labor market pressures. Input price volatility may significantly affect operating margins and working capital requirements. For instance, in manufacturing industries, changes in raw material prices (steel, plastics, semiconductors) or energy costs can quickly erode profitability if the company is unable to pass these costs on to customers. Therefore, valuation models must incorporate realistic assumptions about cost inflation, supply chain constraints, and the company's pricing power. The regulatory environment and structural changes also play a crucial role in shaping the long-term outlook of the business. Regulation may directly influence profitability through compliance costs, taxes, price controls, environmental standards, or labor market requirements. Structural changes such as trade restrictions, ESG-related reporting obligations, carbon pricing, or industry-specific licensing requirements may create new barriers to entry or alter competitive dynamics. Consequently, external analysis should identify regulatory risks and assess whether they represent temporary disruptions or long-term structural constraints.

Competitive dynamics are equally important, because they determine how much economic value a company can capture within its industry. The analyst should assess market concentration, the presence of dominant players, entry barriers, customer bargaining power, supplier dependence, and the threat of substitutes. Highly concentrated industries may offer stronger pricing power and more stable margins, while fragmented markets often lead to price competition and lower profitability. Entry barriers—such as capital intensity, patents, strong brands, distribution networks, or regulatory licenses—also influence whether excess returns can be sustained over time. In modern valuation practice, technological disruption and innovation trends must also be analyzed systematically. Technological change may strengthen a company's competitive position if it is an innovation leader, but it may also threaten the sustainability of the business model if competitors introduce more efficient processes, digital platforms, or substitute products. The analyst should therefore evaluate whether the industry is undergoing transformation due to automation, digitalization, artificial intelligence, platform-based business models, or new production technologies. These factors may affect not only growth potential but also reinvestment needs and long-term profitability.

From a valuation perspective, one of the most important conclusions of external analysis is determining whether the company's performance is driven mainly by firm-specific capabilities or by favorable/unfavorable industry conditions. This distinction is critical for assessing the sustainability of results. If a company's strong profitability is primarily explained by a temporary industry boom, cyclical demand, or external market conditions, future performance may normalize once the environment changes. In contrast, if superior results are supported by company-specific competitive advantages—such as strong management, unique know-how, superior operational efficiency, strong customer relationships, or proprietary technology—then the firm may be able to sustain above-average returns even under weaker market conditions. This assessment has direct implications for forecasting and valuation modeling. Industry-driven performance typically requires more conservative long-term assumptions and higher risk adjustments, while firm-specific value creation may justify higher growth projections, stronger margins, and a lower perceived business risk. Therefore, external analysis does not merely provide background information: it is a fundamental input into the construction of credible cash flow forecasts, the estimation of terminal value assumptions, and the selection of an appropriate discount rate.

To support the structured implementation of external analysis, the following tables summarize the key analytical dimensions that should be considered in valuation practice. The framework combines macro-level assessment (PESTEL), industry-level competitive evaluation (Porter's Five Forces), and a strategic interpretation of whether performance is driven by industry conditions or firm-specific capabilities. These elements provide a systematic basis for understanding the external drivers of business performance and for interpreting the sustainability of growth and profitability. The tables also highlight how external factors translate into valuation-relevant implications, thereby strengthening the analytical consistency of the overall valuation process.

The PESTEL analysis is an important preparatory tool in business valuation because it helps identify the key external environmental factors that shape a company's long-term operating conditions and financial performance. A firm's value is not determined solely by internal managerial decisions, but also by the political, economic, regulatory, and social context in which it operates. Macroeconomic factors such as GDP growth, inflation, and interest rate levels directly influence market demand, cost structures, and financing conditions, thereby affecting profitability and the sustainability of growth. Political and legal developments may represent significant external risks that influence valuation uncertainty and the required rate of return. Social and demographic trends impact consumer preferences, labor market availability, and long-term market potential, which are all relevant for assessing revenue stability and growth prospects. The technological dimension is increasingly critical, as innovation and digital transformation can either strengthen competitive advantage or threaten existing business models, while also affecting reinvestment requirements. Environmental factors have gained strategic relevance in valuation due to rising ESG expectations, climate-related risks, and sustainability regulations, which may generate additional compliance costs and capital expenditures (Table 63).

Table 63.: Macro-level analysis (PESTEL / Macroeconomic context)

External factor	Typical topics	Valuation relevance (link to value drivers)
Political / Geopolitical	trade policy, tariffs, sanctions, government stability	affects market access, supply chain stability, operational continuity risk
Economic (Macroeconomy)	GDP, inflation, interest rates, exchange rates, unemployment	influences demand, purchasing power, cost inflation and financing costs → affects growth assumptions and WACC
Social / Demographic	demographic trends, consumer behavior, labor availability, income distribution	affects long-term demand, labor cost dynamics, and workforce stability
Technological	innovation intensity, digitalization, automation, AI, R&D trends	affects productivity, reinvestment needs (CAPEX), competitive advantage sustainability
Environmental	ESG regulation, carbon taxation, climate risks, energy transition	increases compliance and investment needs; affects long-term risk profile
Legal / Regulatory	taxation, reporting requirements, licensing rules, industry regulation	affects profitability, cost structure, risk premium, and long-term operating constraints

Source: author's own compilation based on Damodoran (2012), Palepu et al. (2020)

Industry-level analysis based on Porter's Five Forces provides a critical foundation for business valuation because it explains how the competitive structure of an industry determines a firm's long-term profitability and value creation potential. Valuation is not only driven by company-specific performance, but also by the economic characteristics of the sector in which the firm operates. Before conducting a detailed company-level analysis, the analyst must understand whether the industry environment is likely to support sustainable cash flow generation or whether it is characterized by structural pressures that erode margins over time. Industry economics determine the degree of pricing power, the intensity of cost competition, and the stability of demand, all of which influence the reliability of financial forecasts. A key objective of this analysis is to assess whether above-average profitability can be sustained or whether competitive forces will gradually drive returns toward the industry average. Industry-level analysis also supports the interpretation of historical performance, because strong financial results may reflect temporary market conditions rather than true competitive advantage. In addition, understanding industry dynamics helps identify major external risks such as technological substitution, regulatory changes, or shifts in customer behavior that may threaten the firm's business model. This type of analysis is especially important for evaluating the sustainability of growth assumptions and the credibility of long-term value expectations (Table 64).

Table 64.: Industry-level analysis (Porter's Five Forces / Industry economics)

Competitive force	Key questions	Direct impact on value creation
Rivalry among competitors	How intense is price competition? Are products differentiated? How stable is market share?	affects operating margin sustainability and volatility of earnings
Threat of new entrants	Are there high entry barriers? Is the industry capital-intensive? Is regulation restrictive?	determines whether above-average profitability can be sustained
Bargaining power of customers	Is customer concentration high? Are switching costs low? How strong is buyer price pressure?	affects pricing power, revenue stability, and margin resilience
Bargaining power of suppliers	Are key inputs scarce? Are suppliers concentrated? Is the firm exposed to commodity cycles?	affects cost drivers, margin volatility, and cost pass-through ability
Threat of substitutes	Are alternative products or technologies emerging? Is customer preference shifting?	affects long-term growth, product relevance, and terminal value risk

Source: author's own compilation based on Porter (1980, 1985), Damodaran (2012), Palepu et al. (2020)

The firm-specific versus industry-driven performance test is an essential element of valuation because it helps determine whether a company's financial results are sustainable in the long run. Strong profitability may be explained either by temporary favorable industry conditions (such as cyclical demand growth or sector-wide pricing trends) or by durable firm-specific capabilities (such as operational efficiency, innovation, or competitive advantages). This distinction is critical because valuation depends not only on current performance, but on the expected persistence of future returns. If performance is mainly industry-driven, forecasts should incorporate a higher likelihood of normalization and margin decline once external conditions change. In contrast, firm-specific drivers may justify stronger long-term assumptions and a longer competitive advantage period. Therefore, this analysis directly supports more realistic growth and profitability expectations and strengthens the credibility of valuation conclusions (Table 65).

Table 65.: Strategic positioning analysis (Firm-specific vs industry-driven performance test)

Performance driver type	Typical characteristics	Valuation implication
Industry-driven performance (external tailwinds/headwinds)	cyclical demand growth, commodity cycles, sector-wide pricing environment, temporary regulatory advantage	implies higher normalization risk → conservative long-term assumptions and higher uncertainty in terminal value
Firm-specific performance (competitive advantage / capabilities)	strong management execution, brand strength, cost efficiency, patents, technology leadership, unique distribution channels	implies higher sustainability of excess returns → stronger margin persistence and potentially lower perceived business risk

Source: author's own compilation based on Damodaran (2012), Palepu et al. (2020)

The purpose of the external analysis → value driver bridge is to translate broad environmental observations into valuation-relevant assumptions in a structured and consistent way. In business valuation, external analysis is only useful if it can be connected to the key drivers of corporate performance, such as revenue growth, profitability, reinvestment needs, and risk exposure. This bridge ensures that macroeconomic and industry-level factors are not treated as general background information, but as measurable influences on the company's ability to generate future economic benefits. It also supports the analyst in identifying which external factors are likely to have the strongest impact on the firm's value creation mechanism. By linking external trends to value drivers, the analyst can develop forecasts that are more realistic and aligned with economic conditions. This approach is especially important because valuation models are highly sensitive to assumptions, and even small errors in growth, margins, or reinvestment rates can lead to significant valuation distortions (Table 66).

Table 66. External analysis → Value driver bridge (link to valuation inputs)

External analysis output	Value driver affected	Valuation model input
GDP growth, demand outlook	revenue growth	top-line forecast, long-term growth rate (g)
Inflation, wage growth, input prices	operating costs	EBIT/EBITDA margin assumptions
Industry cycle and cyclical sensitivity	cash flow stability	scenario analysis, probability-weighted forecasts
Competitive structure, entry barriers	sustainability of excess returns	ROIC persistence, competitive advantage period
Regulatory environment, ESG obligations	reinvestment and compliance cost	CAPEX forecast, working capital needs
Interest rate trends, credit conditions	financing cost	cost of debt, WACC assumptions
Technological disruption	reinvestment + risk	reinvestment rate, risk premium, terminal value stability
Supplier/customer power	pricing power	margin stability, cash conversion cycle
Geopolitical risk	operational continuity	risk adjustment, sensitivity/scenario stress tests

Source: author's own compilation based on Damodaran (2012), Palepu et al. (2020), Brealey-Myers (2023)

6.2.3. Linking external data to valuation assumptions

External research is not an independent academic exercise; it must be linked directly to valuation inputs. For example:

- expected growth rates should be aligned with industry outlook,
- profit margin assumptions should be benchmarked against industry averages,
- reinvestment requirements should reflect industry capital intensity,
- risk premiums should incorporate sector volatility and country-specific factors.

This ensures that the valuation model is consistent with economic reality and market expectations.

In practice, the external analysis is often supported by a structured Business Valuation Data Request Checklist, which helps the analyst collect all relevant macroeconomic, industry, regulatory, and competitive information in a systematic way. Such checklists ensure that no critical external factor is overlooked and that the valuation assumptions are based on consistent, well-documented data sources rather than subjective judgment (Table 67 and Table 68).

Table 67.: Business Valuation Data Request Checklist - Financial and Operating Information

Category	Requested Documents / Data	Purpose in Valuation
Financial Statements	Audited annual financial statements (3–5 years); interim financials; notes to the financial statements.	Historical performance analysis, trend evaluation, normalization base.
General Ledger & Trial Balance	Trial balance, general ledger export, detailed account breakdowns.	Verification of reported figures and identification of non-recurring items.
Tax Information	Corporate tax returns, tax reconciliation, tax loss carryforwards (if applicable).	Assessment of effective tax rate, deferred tax impacts, and sustainability of earnings.
Management Reporting	Monthly management reports, KPI dashboards, segment reporting, budget vs actual analysis.	Understanding operational drivers and supporting forecast credibility.
Business Plan & Forecasts	3–5 year business plan, revenue forecast assumptions, cost plans, sensitivity scenarios.	DCF cash flow projection and scenario analysis.
Revenue Documentation	Sales breakdown by product/service, customer list with revenue share, contract pipeline.	Revenue forecasting, concentration risk assessment.
Customer Contracts	Major customer contracts, pricing agreements, long-term framework contracts.	Revenue stability assessment and risk evaluation.
Procurement & Supplier Information	Supplier list, purchasing contracts, key supplier dependency analysis.	Operational risk assessment and cost stability evaluation.
Cost Structure	Cost center reports, payroll and headcount data, outsourcing contracts.	Normalization of operating expenses and margin forecasting.
Working Capital	Aging schedules (AR/AP), inventory reports, payment terms, bad debt history.	Working capital modeling and free cash flow estimation.

Source: author’s own compilation based on Damodaran (2012), Palepu et al. (2020), Brealey-Myers (2023)

Table 68.: Business Valuation Data Request Checklist – Assets, Financing, and Risk Information

Category	Requested Documents / Data	Purpose in Valuation
Fixed Assets & CAPEX	Fixed asset register, depreciation schedules, planned CAPEX projects, asset valuations (if available).	CAPEX assumptions, asset-based valuation, replacement value estimates.
Leases & Off-Balance-Sheet Items	Lease agreements, contingent obligations, guarantees, commitments.	Adjustment of debt-like items and enterprise value consistency.
Debt & Financing	Loan agreements, interest rate terms, covenants, refinancing plans.	Assessment of cost of debt, leverage risk, WACC calculation.
Equity Structure	Shareholder register, ownership structure, shareholder agreements, options or convertible instruments.	Identification of ownership rights and potential valuation discounts/premiums.
Legal Matters	Litigation documentation, contingent liabilities, regulatory investigations.	Risk assessment and possible valuation adjustments.
Insurance	Insurance policies, claims history, coverage limits.	Assessment of risk mitigation and potential exposure.
Intangible Assets	IP documentation (patents, trademarks), R&D reports, brand assets, licenses.	Identification of intangible value drivers and potential separable asset values.
Human Resources	Organizational chart, key personnel list, compensation structure, retention risks.	Key-person risk assessment and sustainability of operational capability.
Industry & Market Data	Internal market studies, competitor analysis, pricing benchmarks (if available).	Benchmarking, market approach peer selection, growth justification.
ESG / Sustainability Data	ESG reports, compliance documents, sustainability investment plans.	Long-term risk assessment and strategic positioning.

Source: author's own compilation based on Damodaran (2012), Palepu et al. (2020), Brealey-Myers (2023)

VII. Company Valuation

Company valuation is generally based on three main methodological approaches: the Asset-Based Approach, the Income Approach, and the Market (Relative) Approach. These approaches represent different perspectives on how corporate value can be interpreted and measured. The asset-based approach derives value from the company's net asset position, focusing on the fair market value of assets and liabilities. The income approach estimates value based on the company's expected future cash flow generating capacity and the risk associated with those cash flows. The market approach, in contrast, relies on observed market prices of comparable companies or precedent transactions and therefore reflects relative market valuation. In modern valuation practice, it is increasingly important to distinguish between tangible assets and intangible assets, since both categories contribute to corporate value in different ways. Tangible assets—such as real estate, machinery, and inventory—are usually easier to identify and are more directly reflected in asset-based valuation methods. Intangible assets—such as brand value, patents, know-how, customer relationships, and organizational capabilities—are often not fully recognized in financial statements, yet they play a decisive role in long-term competitiveness and value creation. Under the income approach, intangible value typically appears implicitly through higher expected cash flows, stronger growth potential, and sustainable profitability. Similarly, in the market approach, intangible assets are often embedded in valuation multiples, as investors may price companies based on innovation capacity or strategic positioning. Therefore, a comprehensive valuation requires an integrated interpretation of both tangible and intangible value components, ensuring that corporate value is assessed not only as accounting-based net worth but also as future economic potential.

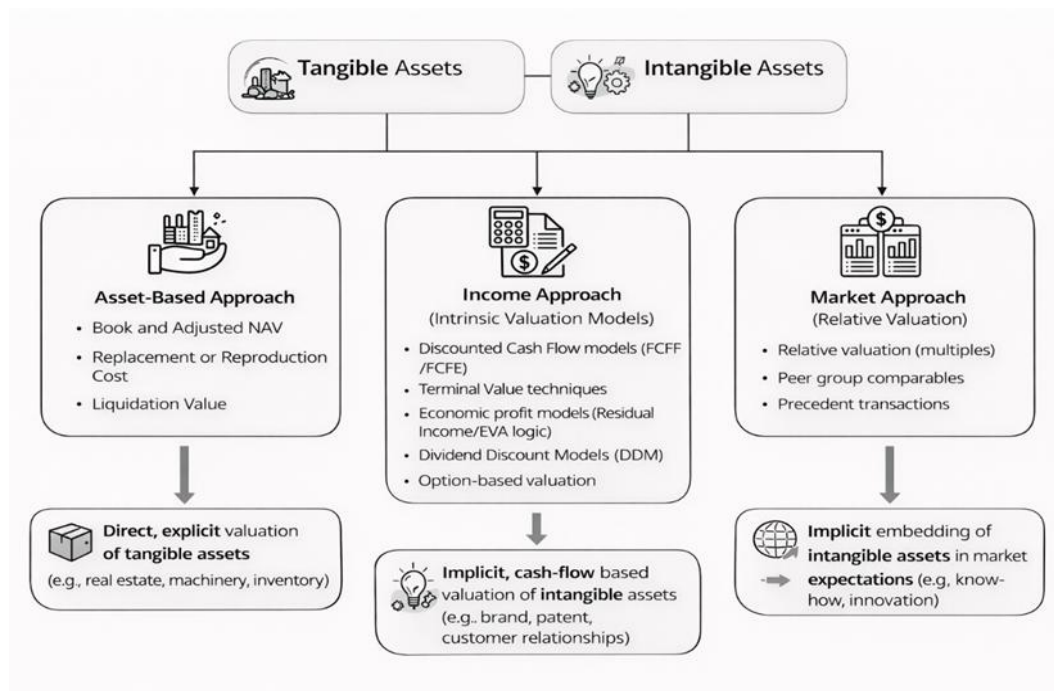


Figure 15: Company Valuation Models
Source: author's own compilation

The Table 69 summarizes the three classical methodological approaches to business valuation, each of which captures corporate value based on a different underlying logic. The Income Approach derives value from the company's expected future economic benefits, typically expressed through future cash flows or income streams, adjusted for risk. This approach represents the core framework of fundamental (intrinsic) valuation and includes models such as DCF, economic profit models (EVA/Residual Income), and dividend discount models. In contrast, the Market Approach does not estimate value from internal fundamentals, but infers value from the market pricing of comparable companies and precedent transactions, making it the primary basis of relative valuation. The Asset-Based Approach focuses on the company's net asset position and defines value as the market value of assets minus liabilities. This approach is especially relevant for asset-intensive businesses, holding companies, and liquidation scenarios. The models listed in the table highlight that valuation is not a single technique but a structured set of alternative perspectives.

Table 69.: Valuation Approaches and Related Model Groups

Valuation approach	Main logic	Related valuation models / methods
Income Approach	Value is derived from the future economic benefits (cash flow / income) generated by the business, adjusted for risk.	• Discounted Cash Flow (DCF) models (FCFF / FCFE) • Terminal Value techniques (Gordon Growth, exit multiple) • Economic Profit models (Residual Income / EVA) • Dividend Discount Models (DDM) • Option-based valuation (Real Options)
Market Approach	Value is inferred from market prices of comparable companies or comparable transactions.	• Comparable company multiples (P/E, EV/EBITDA, EV/Sales, P/B) • Precedent transactions / transaction multiples • Guideline public company method
Asset-Based Approach	Value is derived from the market value of assets minus liabilities (net asset value logic).	• Book value approach • Adjusted Net Asset Value (ANAV) • Replacement / reproduction cost • Liquidation value

Source: author's own compilation based on Damodoran (2012), Palepu et al. (2020),

7.1. Market Based Company Valuation (Relative Valuation)

The market-based approach (market approach) is one of the three fundamental valuation approaches and is based on the principle that the value of a company can be inferred from the observed pricing of comparable businesses in the market. In other words, instead of estimating value primarily from internal cash flow projections (as in the income approach), the market approach uses external market evidence: prices and valuation multiples derived from similar companies and transactions. The underlying valuation logic is that market prices reflect the collective expectations of investors regarding future profitability, growth potential, and risk. Therefore, market multiples incorporate not only accounting-based performance but also investor sentiment, market conditions, and forward-looking expectations. This makes the market approach a particularly important method in valuation practice, because it provides empirical reference points that are often persuasive in professional valuation reports. The market approach is typically implemented through two major methods:

- **Guideline Publicly Traded Company Method (Public Comparables Method)**
This method is based on publicly traded companies whose financial characteristics, industry profile, and business model are reasonably comparable to the subject company. The analyst selects an appropriate group of guideline companies and derives valuation multiples from their stock market prices. Because stock market transactions represent minority ownership interests under full marketability, the value conclusion derived from public comparables typically reflects a marketable minority value. If the subject company is privately held, additional adjustments (e.g., discount for lack of marketability) may be required.
- **Guideline Merged and Acquired Company Method (Transaction Comparables Method):** This method derives valuation multiples from observed M&A transactions. Unlike stock market transactions, acquisition prices typically represent the purchase of controlling ownership interests, and therefore they often reflect control value. However, transaction prices may include synergy effects and strategic premiums. As a result, transaction multiples may sometimes reflect investment value rather than fair market value. For this reason, deal structure, transaction timing, and economic context must be carefully interpreted.

In the market approach, valuation is performed through multiples, which link a market price (or enterprise value) to a relevant financial variable. The most frequently used multiples include:

- P/E (Price-to-Earnings)
- P/BV (Price-to-Book Value)
- P/CF (Price-to-Cash Flow)
- EV/EBITDA
- EV/EBIT
- EV/Revenue

The selection of multiples is not arbitrary. The analyst must ensure that the multiple is consistent with the type of value being estimated (equity value or enterprise value), and that the numerator and denominator are defined on a comparable basis. A frequent methodological error in market-based valuation is the mismatch between numerator and denominator (for example applying an after-tax multiple to pre-tax earnings, or using adjusted earnings for the subject company but unadjusted guideline data). Such mismatches may significantly distort the value conclusion and undermine the credibility of the valuation report. The guideline public company method follows a structured sequence of steps. The analyst must identify guideline firms, collect and adjust financial statements, compute comparable ratios, derive multiples, and select the most appropriate multiple for the subject company based on comparative analysis. A key professional principle is that the analyst should not rely mechanically on the average or median multiple. Instead, the selected multiple must be justified by comparing profitability, growth, risk, size, and capital structure differences between the guideline companies and the subject company. This requirement is essential because even within the same industry, valuation multiples can vary widely depending on company-specific characteristics.

In transaction-based valuation (merged and acquired company method), valuation multiples often reflect the acquisition of the full capital structure. Therefore, transaction analysis commonly focuses on market value of invested capital (enterprise value logic), and the implied equity value is derived after adjusting for debt and cash. The method is highly useful when the valuation objective is to estimate a control interest value or to support M&A negotiations. At the same time, transaction databases often contain incomplete information, and deal terms (earn-outs, employment agreements, non-compete clauses) may influence the observed price. As a result, transaction multiples require careful interpretation and adjustment. Investor return and dividend policy indicators provide an important analytical bridge between market valuation and financial statement performance. These ratios explain how corporate profitability and cash generation are translated into shareholder returns and market pricing. Indicators such as Earnings per Share (EPS) express how after-tax profit is attributable to each share, and therefore EPS is a key signal of income-generating capacity. However, EPS must always be interpreted carefully because changes in share count (capital increases, share buybacks) may distort comparability.

Dividend policy indicators, such as dividend yield and the dividend payout ratio, reflect how the company distributes its earnings between shareholders and reinvestment needs. Dividend yield expresses the annual dividend relative to market price and is a direct measure of shareholder income generation. The payout ratio, in contrast, reflects whether the company follows a mature stability-oriented strategy or a growth-oriented reinvestment strategy. In market-based valuation, these investor indicators provide important interpretative support because they connect accounting results to market price behavior. For example, earnings yield (the inverse of the P/E ratio) shows the earnings return implied by the market price, while P/CF provides a more stable benchmark in cases where net income is heavily affected by accounting estimates, depreciation policy, impairment losses, or one-off events.

Relative valuation is one of the fundamental tools of financial analysis, enabling the estimation of a company's market value based on the current stock market pricing of comparable companies. This method is closely linked to the analysis of financial statements, since the calculation of relative valuation ratios requires the combined use of income statement and balance sheet data from the financial reports, together with capital market price information (Table 70).

Table 70: Share Price- and Enterprise Value-Based Valuation Multiples

Multiple	Formula	Interpretation	Remarks
P/E (Price-to-Earnings)	Share price / EPS	High value: growth expectations; low value: undervaluation or higher risk.	Industry-dependent; not meaningful for loss-making companies.
P/B (Price-to-Book)	Share price / Book value per share	P/B > 1: the market expects value creation; P/B < 1: undervaluation or weak prospects.	More relevant in capital-intensive industries; accounting policies may distort book value.
P/S (Price-to-Sales)	Market capitalization / Net sales (revenue)	Lower value: cheaper valuation; higher value: premium valuation.	Does not reflect profitability; often used for loss-making companies.
EV/Sales	Enterprise Value (EV) / Annual revenue	Low value: potential undervaluation; high value: growth premium.	Better comparable even with differences in capital structure.
EV/EBITDA	EV / EBITDA	Low value: cheaper company; high value: growth premium.	Does not consider CAPEX requirements and working capital changes.
Market Capitalization	Share price × Number of shares outstanding	Higher value: greater market weight and investor confidence.	Highly sentiment-driven; not equal to fundamental value.

Source: Based on Brealey & Myers (2023), Kresalek–Pucsek (2024), Damodaran (2024); own compilation.

Market price- and enterprise value-based valuation multiples reflect the company's market perception by relating capital market value (share price, market capitalization, or enterprise value) to financial performance indicators reported in the financial statements (net profit, EBITDA, revenue, and equity). These ratios enable the relative valuation of a company, meaning they help assess whether the firm appears overvalued or undervalued compared to its competitors or the industry average based on market prices. When interpreting valuation multiples, it is essential to consider the company's profitability, growth prospects, and capital structure, as these factors fundamentally influence investor expectations. Therefore, the application of these indicators is particularly useful in financial statement analysis, as it provides an estimate of the company's current market value and valuation position based on past performance (Table 71).

Table 71: Investor Return and Dividend Policy Ratios

Ratio Name	Formula	Interpretation	Comment
EPS (Earnings per Share)	Net Income / Number of Shares Outstanding	Higher EPS indicates stronger profit-generating ability.	Can be distorted by equity transactions (share buybacks, share issuance).
Dividend Yield	Annual Dividend per Share / Share Price	Higher value indicates a more attractive income-generating stock.	A falling share price may artificially increase the ratio; does not indicate sustainability.
Dividend Payout Ratio	Dividends Paid / Net Income × 100	High value: stable dividend policy; low value: reinvestment-oriented growth strategy.	Not meaningful in loss-making years; too high value may reduce funds available for development.
Earnings Yield	(EPS / Share Price) × 100 (or 1 / P/E)	Higher value may indicate a more favorable investor return.	Reciprocal of P/E; useful for comparison but does not replace risk analysis.
P/CF (Price to Cash Flow)	Share Price / Cash Flow per Share	Lower value may indicate more favorable valuation.	Cash flow definition may differ across firms; accounting and operating distortions may occur.

Source: Based on Based on Brealey–Myers (2023), Kresalek–Pucsek (2024), Damodaran (2024) own compilation.

The investor return and dividend policy indicators presented in Table 71 show how the company's profitability and dividend payment practice provide direct returns to shareholders. These ratios represent an important complement to financial statement analysis, because they link the after-tax profit, cash flow, and equity reported in the financial statements to the share price, thereby making the company's shareholder value creation capability more interpretable. Earnings per Share (EPS), for example, expresses how the company's profit is "distributed" across outstanding shares, and therefore it is a key indicator for investors when assessing the firm's income-generating capacity. Changes in EPS may also signal the company's growth dynamics; however, it must be taken into account that changes in the number of shares (e.g., share buybacks or capital increases) may distort the interpretation of this ratio.

Dividend policy indicators—such as dividend yield and the dividend payout ratio—reflect the shareholder impact of the company's profit allocation decisions. Dividend yield expresses the annual dividend relative to the share price, making it one of the most important measures of investor income generation. In contrast, the dividend payout ratio indicates what proportion of the company's after-tax profit is distributed to shareholders and what portion is retained for development, investment, or the stabilization of the firm's capital position. A high payout ratio is typically characteristic of stable, mature companies, while a lower ratio often reflects a growth strategy in which the firm reinvests a larger share of its profits.

In the analysis of investor returns, earnings yield is particularly useful, as it can be interpreted as the reciprocal of the P/E ratio and shows in percentage terms what earnings return the company's performance represents relative to the current share price. The P/CF (Price-to-Cash Flow) ratio is also an important complementary indicator because cash flow is often more stable and less affected by accounting estimates than net profit. This is especially true for companies where reported profit is significantly influenced by depreciation policies, impairment losses, or one-off items. Therefore, cash flow-based indicators may provide a closer approximation of the company's actual financing capacity and dividend-paying ability.

However, when interpreting investor return and dividend policy ratios, it is important to consider that these measures are strongly influenced by stock market price movements and investor expectations. A company's dividend yield, for example, may increase simply because the share price declines, which in itself may be a negative market signal. In addition, the level of dividend payments depends not only on profitability but also on strategic decisions and financing needs: a profitable company may pay a low dividend because it is retaining earnings for growth investments, while other firms may use high dividend payments to maintain investor confidence. The ratios presented in Table 70 are indispensable supplements to financial statement analysis, as they make it possible to assess how corporate performance is reflected in shareholder value creation and what return expectations are implied by market valuation.

Market-based (relative) valuation is an approach in which the value of a company is not derived directly from its internal cash flow generating capacity, but is inferred from observable market prices and transaction data. The underlying assumption is that market prices reflect investors' collective expectations regarding a firm's future growth potential, profitability, and risk profile. Therefore, valuation multiples provide an external reference point and allow the analyst to interpret a company's market position in relation to comparable firms.

In relative valuation, the focus is not on a single ratio in isolation, but on the comparability of the target company to other businesses with similar economic characteristics. The purpose is to assess whether the firm is priced at a premium or discount relative to industry benchmarks or peer groups. The selection of appropriate comparable companies is therefore critical, and comparability should be evaluated based on key value drivers such as profitability, expected growth, capital intensity, and overall business risk. Comparability does not require identical companies, but rather firms whose performance is influenced by similar underlying economic forces.

The application of valuation multiples should not be mechanical, because financial data and ratios may be distorted by cyclical effects, one-off events, or accounting differences. For this reason, it is advisable to examine multiple time periods and interpret multiples in a trend-based context. It is also not sufficient to simply apply the industry average or median multiple; the analyst must justify why the target company should be positioned in the upper or lower part of the valuation range. This positioning is typically influenced by differences in profitability, growth prospects, size, risk exposure, and capital structure.

One of the most common methodological weaknesses in relative valuation is the lack of consistency between the numerator and denominator of valuation ratios. Distortions occur, for example, when after-tax earnings are combined with pre-tax multiples, or when adjusted earnings are used for the target company but not for peer firms. Such inconsistencies reduce comparability and may lead to misleading valuation conclusions. Another important consideration is that publicly traded comparable company multiples typically reflect a minority, marketable value perspective, while transaction-based multiples often include control premiums and, in some cases, synergy expectations. As a result, transaction multiples may indicate higher valuation levels than public market multiples. Therefore, the interpretation of transaction data requires careful consideration of deal conditions, timing, and the broader economic environment.

Overall, the primary purpose of relative valuation multiples is to provide an empirical benchmarking framework for interpreting corporate value based on market evidence. The strength of this approach lies in its reliance on actual market pricing and transaction information. However, its reliability depends heavily on the appropriate selection of comparable firms, consistent data adjustments, and the economically justified application of valuation multiples.

7.2. Income Based Company Valuation (Fundamental Valuation)

7.2.1. Fundamental business valuation and the logic of fundamental analysis

Fundamental business valuation (intrinsic valuation) is a valuation approach based on the assumption that a company has an internal “true” value (intrinsic value) that can be estimated through the analysis of its economic and financial fundamentals. According to this perspective, market prices or relative valuation multiples do not necessarily reflect the company’s actual value accurately, since market prices may be influenced in the short run by cyclical effects, investor expectations, information asymmetries, and psychological factors. Therefore, the objective of fundamental analysis is to identify whether there is a gap between the market price and the company’s intrinsic value, and to draw well-founded investment conclusions based on this difference.

The logic of fundamental valuation is that the value of a company is primarily determined by the amount of future cash flows the business can generate and by the risk associated with those cash flows. In this approach, company value is not a mechanical projection of past results, but rather a financial “imprint” of future operations. Fundamental valuation is therefore forward-looking and based on forecasting: the analyst estimates the company’s expected revenues, cost structure, profitability, investment and working capital needs, as well as its financing structure, and derives future cash flows from these assumptions.

The central theoretical foundation of fundamental valuation is the time value of money principle, according to which future cash flows cannot be directly compared with current monetary values. Therefore, expected future cash flows must be discounted, meaning they must be converted into present value using a discount rate that reflects the company’s business risk and the return required by investors. In this way, fundamental valuation creates a direct link between company value, risk, and return: higher risk implies a higher required return, which results in a lower present value.

Fundamental analysis and fundamental valuation can be interpreted as a decision-support framework. The analyst compares the intrinsic value estimated from company fundamentals with the current market value and evaluates whether the company appears undervalued or overvalued. If the market price is lower than the intrinsic value, the company may be considered undervalued; if the market price is higher, it may reflect excessive optimism. Therefore, fundamental valuation is not merely a calculation technique, but an analytical process that assesses to what extent the company’s future value creation potential justifies the market price.

One of the most important characteristics of fundamental valuation is that it does not rely solely on historical financial data, but aims to capture the company’s future strategic path and value creation mechanism. For this reason, it is particularly important in mergers and acquisitions, investment decisions, credit evaluations, and strategic value planning. The advantage of the fundamental approach is that it interprets company value within a logical and transparent framework; however, it is highly sensitive to assumptions.

Even a small change in growth rate, profitability, or discount rate may lead to significant differences in the estimated value. Consequently, fundamental valuation is not a simple calculation but a model-building process, in which the central task is to develop a system of assumptions consistent with economic reality and to interpret the company's future cash flow generating capacity in a well-founded manner. Another important principle of fundamental (intrinsic) valuation is that company value should always be interpreted as the combined result of expected future cash flows and the risk associated with those cash flows. In this framework, value is not an observable market fact, but an analytical estimate based on the company's fundamental performance, value creation ability, and long-term prospects. Therefore, the most important questions in determining company value are the following: what is the company's cash flow generating capacity, at what rate can it grow, how much reinvestment is required to sustain growth, and what level of risk must investors bear in order to obtain these cash flows.

Based on the logic of fundamental valuation, company value is not determined by growth alone, but by the return generated by that growth. If the company can implement the investments required for growth at a return exceeding its cost of capital, growth creates value; otherwise, growth may even become value-destructive. As a result, profitability and capital efficiency (such as return on invested capital) are at least as important in valuation as the estimation of growth rates. Fundamental valuation also highlights that a gap between market price and intrinsic value is a natural phenomenon, since market prices may reflect excessive optimism or pessimism in the short term. Intrinsic value, in contrast, can be interpreted as a benchmark derived from the company's long-term economic performance, toward which market price may converge over time as investor information and expectations gradually adjust to fundamentals. This perspective reinforces that fundamental valuation is not merely a technical calculation method, but a decision-support framework that makes the economic logic of corporate operations and the company's value creation mechanism transparent and interpretable.

It is important to emphasize that in the literature of business valuation and investment analysis, the term "fundamental" is used in two related but distinct meanings. On the one hand, fundamental (intrinsic) business valuation refers to a specific methodological category aimed at determining intrinsic value through the discounting of expected future cash flows. On the other hand, in investment decision-making, the analysis of companies is often based on two major analytical approaches: fundamental analysis and technical analysis. In this broader sense, fundamental analysis does not necessarily imply a full valuation model, but rather a comprehensive approach that includes the examination of the company's financial performance, business model, industry environment, and competitiveness. Technical analysis, in contrast, does not focus on internal corporate fundamentals, but analyzes historical price movements, trends, and market patterns, primarily to support short-term investment decisions. In practical valuation applications, fundamental valuation as a modeling framework and fundamental analysis as an investment approach may complement each other, but it is essential to recognize that these concepts are not identical and serve different functions within the analytical process.

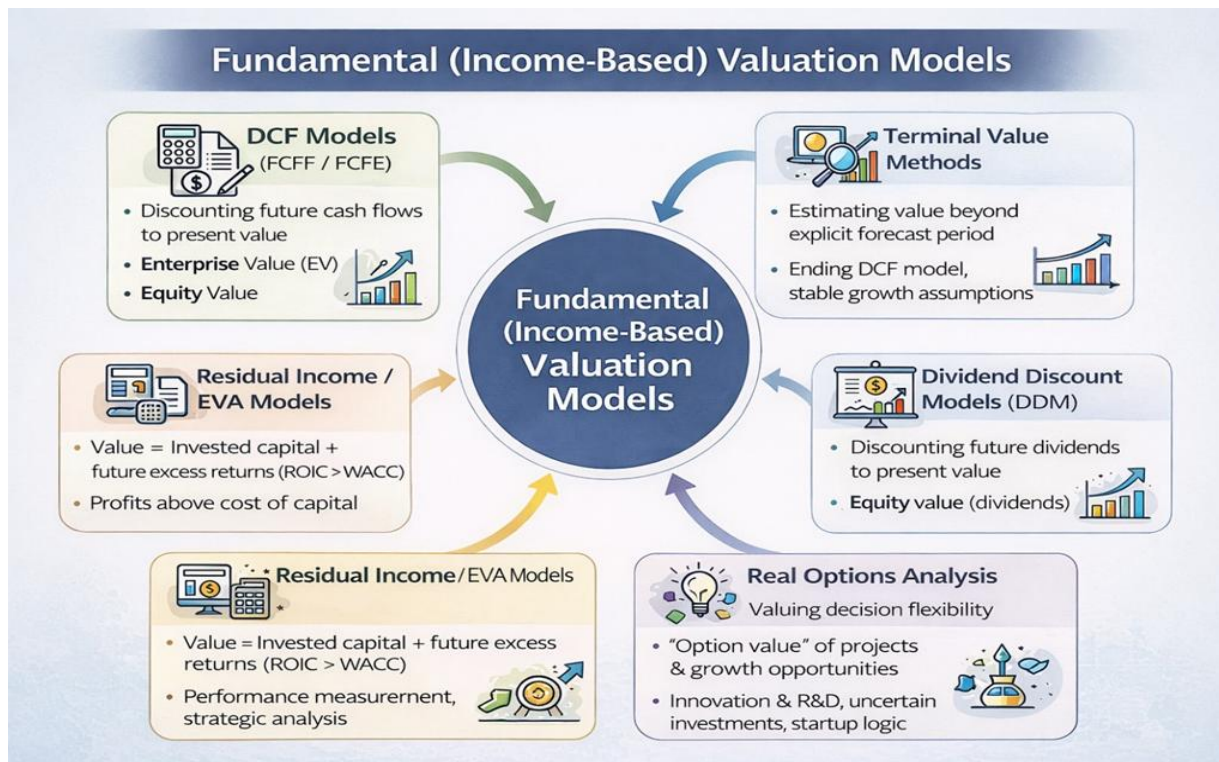


Figure 15: Fundamental Company Valuation Models

Source: author's own compilation

The Figure 15 summarizes the main fundamental (income-based) valuation models, all of which share the common assumption that the value of a company can be derived from its expected future economic benefits (cash flows, dividends, or excess returns). The relationship among the model groups can be interpreted as follows: each approach aims to estimate the same underlying corporate value, but they differ in the financial variable they treat as the primary "carrier" of value. Some models focus on cash flows, others on dividends, and others on economic profit (returns above the cost of capital). DCF models (FCFF/FCFE) represent the most widely used fundamental valuation framework, in which expected future cash flows are discounted to present value. Within the DCF family, the FCFF model estimates the value of the entire firm (Enterprise Value), while the FCFE model directly estimates equity value. A key component of the DCF approach is the estimation of the terminal value, which captures the company's value beyond the explicit forecast period. Terminal value is usually based on stable growth assumptions and often represents a significant portion of the total valuation result, making the closing of the DCF model a critical step in practical valuation work. The figure also highlights Residual Income / EVA models, which derive company value not directly from cash flows, but from the firm's ability to generate economic profit, meaning profits above the cost of capital. These models are built on the principle that value is created only if the return on invested capital (ROIC) exceeds the weighted average cost of capital (WACC). As a result, this valuation approach creates a strong conceptual link between business valuation and performance measurement, since it directly focuses on measuring value creation through excess returns. Dividend Discount Models (DDM) are also fundamental valuation models, but they estimate value based on the present value of expected future dividends.

DDM models are particularly applicable for firms with stable dividend policies and predictable shareholder payouts. There is a close conceptual relationship between DDM and the FCFE approach, as both focus on equity value, but they define shareholder benefits differently: DDM uses dividends, while FCFE is based on cash flow available to equity holders. Finally, the figure includes Real Options valuation, which can be interpreted as an extension or complement to traditional discounted valuation methods. Real options analysis incorporates the value of managerial flexibility into valuation, such as the ability to delay, expand, abandon, or modify investment projects. This approach is especially relevant in innovation-driven industries, R&D-intensive companies, and uncertain environments, where growth opportunities and strategic flexibility may represent a significant portion of total corporate value. Overall, the figure illustrates that fundamental valuation consists of several interrelated model families that do not exclude each other, but rather complement one another. DCF provides the most general valuation framework, terminal value is its essential long-term component, EVA/Residual Income strengthens the value creation logic, DDM focuses on shareholder distributions, and real options valuation integrates uncertainty and flexibility into the valuation process.

Table 72.: Summary of Fundamental (Income-Based) Valuation Models

Model group	Core logic	What is valued?	Typical application
DCF models (FCFF / FCFE)	Discounting expected future cash flows to present value.	FCFF: Enterprise Value (EV) / FCFE: Equity value.	General business valuation, M&A, investment decisions.
Terminal Value techniques	Estimating value beyond the explicit forecast period, assuming a stable growth stage.	The long-term value component of the company.	Closing the DCF model, stable growth assumptions.
Economic profit models (Residual Income / EVA)	Value = invested capital + future excess returns (ROIC – WACC).	Value creation based on profits exceeding the cost of capital.	Linking performance measurement with valuation, strategic analysis.
Dividend Discount Models (DDM)	Discounting expected future dividends to present value.	Equity value (based on dividends).	Stable dividend-paying firms, financial sector valuation.
Option-based valuation (Real Options)	Valuing managerial flexibility (delay, expand, abandon).	Option value of projects and growth opportunities.	Innovation, R&D, uncertain investments, startup logic.

Source: Based on Brealey–Myers (2023), Kresalek–Pucsek (2024), Damodaran (2024) own compilation.

7.2.2. Discounted Cash Flow (DCF) Models

A Discounted Cash Flow (DCF) model is the most widely used approach in fundamental valuation. The core idea of the DCF model is that the value of a company is determined as the present value of its expected future cash flows. When forecasting cash flows, the primary focus is not on accounting profit, but rather on how much cash the company is actually able to generate from its operations, and how much of that cash is available to investors.

Two main types of DCF models can be distinguished:

- Firm valuation approach: estimates the total value of the company, regardless of how this value is distributed between creditors and shareholders.
- Equity valuation approach: directly estimates shareholder value, i.e., the value of equity.

Under the firm valuation approach, the discounted cash flow is the Free Cash Flow to the Firm (FCFF), which represents the cash remaining after covering the investments necessary to sustain operations, and indicates how much cash is available to the company's capital providers (both equity holders and debt holders).

The typical FCFF logic is:

$$\text{FCFF} = \text{EBIT} \times (1 - \text{tax rate}) + \text{depreciation} - \text{capital expenditures} - \text{change in working capital}$$

One of the most important elements of cash flow forecasting is estimating the company's capital expenditure needs and working capital requirements. A growing firm typically requires higher investments and greater working capital absorption; therefore, growth often reduces free cash flow in the short term. For this reason, growth is not valuable by itself—it increases firm value only if the return on investments exceeds the cost of capital. In the firm valuation model, the discount rate is typically the WACC (Weighted Average Cost of Capital), which is the weighted average of the cost of equity and the cost of debt.

WACC reflects the return required by the firm's financiers as compensation for the risk associated with the company's operations. In DCF valuation, the explicit forecast period is typically 5–10 years, followed by a terminal value. Terminal value represents the aggregated present value of cash flows beyond the explicit forecast horizon, and in many cases constitutes the largest portion of total firm value. Therefore, the calculation of terminal value is a critical step: long-term growth assumptions must be realistic and consistent with the long-term growth potential of the economy. The main advantage of the DCF model is that it is directly based on the company's cash-generating capacity and can be applied effectively across various industries. However, the model is highly sensitive to assumptions; therefore, in practice, scenario analysis, sensitivity analysis, and the deliberate management of risk factors are essential components of a reliable valuation.

The most commonly applied methodology of fundamental business valuation is the Discounted Cash Flow (DCF) approach, which derives the value of a company from its expected future cash-generating capacity. A central question in DCF valuation is which type of cash flow should serve as the basis for determining firm value. In practice, two fundamental approaches are widely used: Free Cash Flow to the Firm (FCFF), which refers to the cash flows available to the entire group of capital providers, and Free Cash Flow to Equity (FCFE), which refers only to the cash flows available to shareholders. The difference between the two cash flow concepts lies in the financing perspective and leads to different valuation logic.

FCFF – Free Cash Flow to the Firm: FCFF represents the cash flow generated by the company that remains available to its capital providers after accounting for the investments and working capital requirements necessary to sustain operations. Since the firm's capital providers include both shareholders and creditors, FCFF is used to estimate the total value of the firm. Thus, FCFF does not measure shareholder cash flow directly, but rather the firm's economic cash-generating capacity, regardless of how the value will later be distributed between debt holders and equity holders.

A typical calculation logic of FCFF is the following:

$$\text{FCFF} = \text{EBIT} \times (1 - \text{tax rate}) + \text{depreciation} - \text{CAPEX} - \Delta \text{ working capital}$$

In this formula, EBIT (Earnings Before Interest and Taxes) reflects the profitability of the company's core operating activity. After adjusting for taxes, we obtain the after-tax operating profit (NOPAT). Depreciation, which is a non-cash expense, is added back, and then capital expenditures (CAPEX) and changes in working capital are deducted. An increase in working capital typically results in a decrease in cash flow, as the company must finance higher inventory levels or carry larger accounts receivable balances. FCFF is generally discounted using the WACC (Weighted Average Cost of Capital), which represents the weighted average of the cost of equity and the cost of debt. The valuation result derived from discounting FCFF is the company's Enterprise Value (EV). By subtracting net debt from enterprise value, the value of equity can be determined.

FCFE – Free Cash Flow to Equity: In contrast, FCFE measures the cash flow available to shareholders. FCFE shows how much of the cash generated from the firm's operations remains available for equity holders after considering debt service (interest payments and principal repayments) and the effects of changes in debt financing. Therefore, this cash flow concept serves as a direct basis for equity valuation, meaning it directly estimates the value of the company's equity. One typical calculation method of FCFE is:

$$\text{FCFE} = \text{Net income} + \text{depreciation} - \text{CAPEX} - \Delta \text{ working capital} + \text{net borrowing}$$

Net borrowing (new debt issued minus debt repayments) is included because the cash flow available to shareholders is significantly influenced by the extent to which the company relies on external financing. If the company takes on new debt, it increases the cash flow available to equity holders, while debt repayment reduces it.

FCFE is discounted using the cost of equity, since it represents cash flows available exclusively to shareholders. The result of an FCFE-based valuation is therefore a direct estimate of the market value of equity. The fundamental difference between FCFF and FCFE is that FCFF presents the cash flow generated by operations independently of financing decisions, whereas FCFE incorporates the effects of financing policy. Accordingly, FCFF is generally considered a more stable and “cleaner” valuation basis, because it is less distorted by changes in capital structure. In contrast, FCFE is highly sensitive to changes in debt levels and financing strategy. In valuation practice, FCFF-based valuation is more broadly applicable, since it can be used even for firms with unstable capital structures or significant leverage.

The FCFE model is more appropriate when the company’s capital structure is stable and predictable over the long term, as this increases the reliability of shareholder cash flow forecasts. In fundamental valuation, it is important to distinguish between Enterprise Value (EV) and Equity Value. Discounting FCFF results in EV, which represents the value attributable to all capital providers.

Equity value can then be derived by subtracting net debt:

Equity Value = Enterprise Value – Net Debt

In contrast, discounting FCFE directly provides equity value, meaning no further adjustment for debt is required.

FCFF and FCFE are two different but closely related cash flow concepts that form the foundation of fundamental business valuation. FCFF reflects the company’s overall cash-generating capacity independent of financing decisions and therefore serves as the basis for estimating enterprise value. FCFE measures the cash flow available to shareholders and can be used to directly estimate equity value. The choice between the two approaches depends on the purpose of the valuation, the firm’s financing structure, and the reliability of the underlying forecasts. Both models can be applied in DCF valuation; however, in practice, FCFF-based valuation is generally considered a more stable and widely applicable valuation method.

The Table 73 summarizes the key differences between FCFF-based and FCFE-based Discounted Cash Flow valuation approaches. While FCFF represents cash flows available to all capital providers and leads to the estimation of Enterprise Value, FCFE focuses only on cash flows available to equity holders and directly produces Equity Value. The two approaches also differ in their discount rates: FCFF is discounted using WACC, whereas FCFE is discounted using the cost of equity. In practice, FCFF-based valuation is more widely applied because it is less sensitive to capital structure changes and provides a more stable basis for firm valuation. In contrast, the FCFE approach is typically preferred only when the company’s capital structure is stable and debt financing can be forecast reliably over the long term. In addition, analysts often use both approaches as a consistency check, since under correct assumptions the FCFF-based enterprise value and the FCFE-based equity value should lead to equivalent valuation results after applying the appropriate EV-to-equity adjustments.

Table 73.: Comparison of FCFF- and FCFE-Based DCF Valuation

Aspect	FCFF-Based Valuation (Firm Valuation)	FCFE-Based Valuation (Equity Valuation)
Cash flow concept	Free Cash Flow to the Firm (FCFF)	Free Cash Flow to Equity (FCFE)
Cash flow available to	All capital providers (debt + equity)	Equity holders only
Main valuation output	Enterprise Value (EV)	Equity Value
Discount rate	WACC (Weighted Average Cost of Capital)	Cost of Equity (Ke)
Financing effects included?	No (financing-neutral)	Yes (includes debt financing effects)
Typical formula	$FCFF = EBIT(1-T) + \text{Depreciation} - \text{CAPEX} - \Delta WC$	$FCFE = \text{Net Income} + \text{Depreciation} - \text{CAPEX} - \Delta WC + \text{Net Borrowing}$
Suitable when	Capital structure is unstable or changing	Capital structure is stable and predictable
Interpretation	Values the operating business	Values shareholder wealth directly
Conversion needed?	Yes (EV → Equity Value)	No

Source: Based on Koller et al. (2015), Gupta (2023), Damodaran (2024) own compilation.

Table 73 provides a structured comparison of the two most widely applied Discounted Cash Flow valuation frameworks: the FCFF-based (firm valuation) and the FCFE-based (equity valuation) approach. The FCFF method focuses on cash flows available to all capital providers, therefore it requires operating-level inputs such as EBIT, tax rate, depreciation, capital expenditures, and changes in working capital, which are typically derived from the firm's income statement and balance sheet. Since FCFF is calculated before financing effects, it reflects the company's operating performance independently of capital structure decisions. In practical valuation work, FCFF is usually preferred because it provides a cleaner measure of the firm's cash-generating capacity and can be applied even when leverage levels are unstable or expected to change over time. The FCFF approach leads to the estimation of Enterprise Value, which then must be converted into Equity Value by subtracting net debt and applying potential balance sheet adjustments. In contrast, the FCFE approach measures the cash flows that remain available specifically for shareholders after debt-related cash flows are taken into account. Therefore, FCFE requires not only operating data, but also information on the firm's financing policy, including interest-bearing debt levels, debt repayments, and new borrowing, which are typically obtained from the balance sheet, cash flow statement, and debt-related disclosures. FCFE is discounted using the cost of equity, and it directly produces an estimate of Equity Value without the need for an EV-to-equity bridge. This approach is particularly useful when the valuation objective is strictly shareholder-focused, such as stock valuation or equity investor decision-making. However, FCFE is more sensitive to assumptions regarding debt financing and is therefore most reliable when the firm's capital structure is stable and predictable.

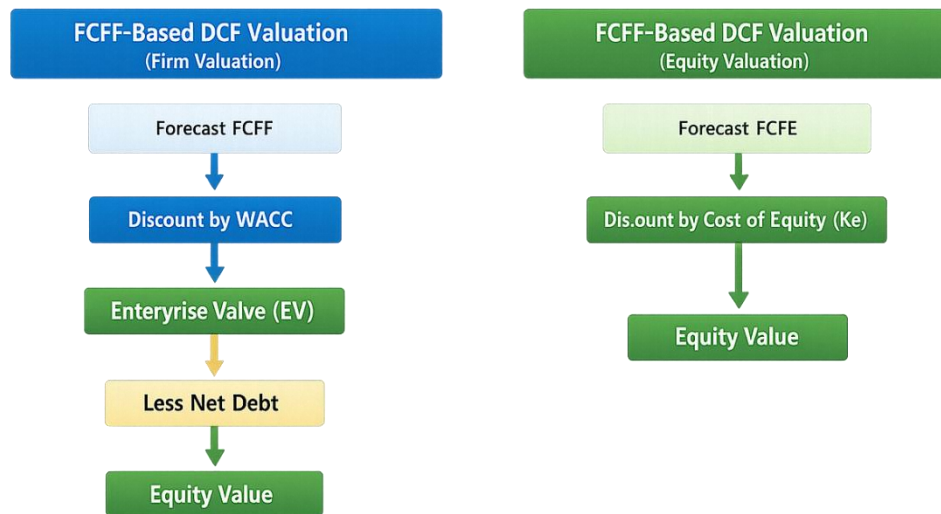


Figure 16: Two main approaches to discounted cash flow (DCF) valuation
Source: author's own compilation

The Figure 16 illustrates the two main approaches of Discounted Cash Flow (DCF) valuation: the FCFF-based (firm valuation) approach and the FCFE-based (equity valuation) approach. Both methods share the same fundamental principle: the value of a company is determined as the present value of expected future cash flows. However, they differ in the type of cash flow that is considered as the “value basis” of the valuation. Under the FCFF-based approach, the first step is to estimate the firm’s Free Cash Flow to the Firm (FCFF), which represents the cash flow available to the company’s entire group of capital providers, including both equity holders and debt holders. This cash flow is discounted using the WACC, resulting in the value of the company’s operating business, i.e., the Enterprise Value (EV).

Since EV still includes the portion attributable to creditors, the value of equity must be determined by subtracting net debt from EV, which leads to the Equity Value. In contrast, the FCFE-based approach directly estimates the cash flow available to equity holders, i.e., the Free Cash Flow to Equity (FCFE). This cash flow already incorporates the effects of financing decisions, meaning that it includes debt issuance and debt repayment. Therefore, FCFE is discounted using the cost of equity (K_e), and the valuation result is directly the Equity Value, without the need for an EV → Equity Bridge adjustment.

A key practical question is what “Forecast FCFF” and “Forecast FCFE” actually mean in real valuation work. In practice, cash flow forecasting requires data from three main financial statements:

1) Income Statement

The following inputs are typically obtained from the income statement:

Revenue
EBIT (Operating profit)
Profit before tax
Net Income

2) Balance Sheet

The following inputs are typically obtained from the balance sheet:

Current assets
Current liabilities
Debt
Cash

3) Cash Flow Statement

The following inputs are typically obtained from the cash flow statement:

Investment cash outflows (CAPEX)
Financing cash flows (debt issuance and debt repayment)

However, in many DCF applications, analysts do not start directly from the cash flow statement, but instead calculate cash flows based on projected income statements and balance sheets.

FCFF Calculation (What Does It Consist Of?):

FCFF is an operating cash flow measure, therefore its calculation always starts from operating performance.

A typical formula is:

$$\text{FCFF} = \text{EBIT} \times (1 - \text{tax rate}) + \text{depreciation} - \text{CAPEX} - \Delta \text{working capital}$$

What do these components represent?

EBIT

- Derived from the income statement.
- Represents the operating performance of the company.

$$\text{EBIT} \times (1 - \text{tax rate}) = \text{NOPAT}$$

- Represents the after-tax operating profit (NOPAT).
- The tax rate refers to corporate income tax (in Hungary typically 9%, but it may be higher for international firms).

Depreciation

- Appears as an expense in the income statement but does not involve a cash outflow.
- Therefore, it must be added back to cash flow.

CAPEX (Capital Expenditures):

Can be derived from the cash flow statement or estimated based on balance sheet projections. Represents a cash outflow and must therefore be deducted.

Δ Working Capital (Change in Working Capital):

Working Capital = Current Assets – Current Liabilities

Its change is calculated as:

$$\Delta WC = WC(t) - WC(t-1)$$

If working capital increases, it reduces cash flow (e.g., due to higher inventory levels or increased accounts receivable).

FCFE Calculation, typical formula is:

FCFE = Net Income + depreciation – CAPEX – Δ working capital + net borrowing

Net Income

Derived from the income statement.

Already includes interest expenses, therefore financing effects are reflected in the figure.

Net Borrowing

Can be derived from the balance sheet or the cash flow statement.

The typical formula is:

Net Borrowing = New Debt – Debt Repayment

If the company raises new debt, it increases the cash flow available to shareholders, while debt repayment reduces it.

The difference in discount rates shown in the figure is critical:

FCFF $\rightarrow$ WACC - because FCFF represents cash flow available to both debt holders and equity holders.

FCFE $\rightarrow$ K_e (cost of equity) - because FCFE represents cash flow available only to equity holders.

Simple Numerical Example (Illustrating the Logic)

Assume the company has the following annual data:

EBIT = 1,000

tax rate = 20%

depreciation = 200

CAPEX = 300

Δ working capital = +100

FCFF Calculation:

$FCFF = 1,000 \times (1 - 0.20) + 200 - 300 - 100$

$FCFF = 800 + 200 - 300 - 100$

$FCFF = 600$

This means that 600 units of cash remain available for the firm's capital providers.

Now assume for FCFE:

Net Income = 500

Net borrowing = +150

FCFE Calculation:

$FCFE = 500 + 200 - 300 - 100 + 150$

$FCFE = 500 + 200 - 300 - 100 + 150$

$FCFE = 450$

This indicates that 450 units of cash flow are available to shareholders.

What Does the Figure Tell Us?

The figure therefore highlights the following key messages:

FCFF is used to value the company's overall operating business → it produces Enterprise Value (EV)

FCFE directly focuses on shareholder value → it produces Equity Value

the two approaches apply different discount rates

after an FCFF-based valuation, an EV → Equity conversion is required, whereas after an FCFE-based valuation it is not

7.2.3. Enterprise Value vs Equity Value – EV to Equity Bridge

In fundamental business valuation, one of the most important issues in Discounted Cash Flow (DCF) models is what exactly the valuation result represents: the total value of the firm or only the value attributable to shareholders. For this reason, valuation practice requires a clear distinction between Enterprise Value (EV) and Equity Value. The differentiation between EV and Equity Value is not merely a theoretical consideration, but one of the most critical practical steps in valuation, since errors in converting between these two values may lead to significant misunderstandings in investment decisions, mergers and acquisitions, and financial analysis. In many cases, analysts and investors are primarily interested in the value of equity, even though the DCF model—particularly when based on FCFF—typically produces enterprise value as its direct output. In DCF valuation, the key question is therefore not only which type of cash flow is discounted, but also what type of value the model output actually reflects.

Under the FCFF-based approach, the valuation result is usually Enterprise Value, which represents the value attributable to the company's entire group of capital providers, including both debt holders and equity holders. In contrast, the FCFE-based approach directly produces Equity Value, since it focuses exclusively on cash flows available to shareholders. As a result, it is essential to understand the relationship between Enterprise Value and Equity Value and to apply a consistent methodology for converting enterprise value into shareholder value. The following subsection introduces this conversion logic through the EV → Equity Bridge methodology, which ensures that DCF valuation results are interpreted correctly and aligned with the concept of shareholder wealth.

Enterprise Value (EV) represents the total economic value of the firm, i.e., the value attributable to the company's entire group of capital providers. This includes:

- the value attributable to shareholders (equity holders), and
- the value attributable to creditors (debt holders).

In DCF valuation, EV typically arises when the firm's FCFF cash flows are discounted using the WACC. In this case, the model evaluates the cash-generating capacity of the company's overall operations, independent of its financing structure. Thus, EV reflects the value of the company's operating business, derived from cash flows generated by the firm's core activities. Equity Value represents the value of the company's equity, i.e., the value attributable exclusively to shareholders. This value reflects the wealth of equity owners and, in the case of publicly listed companies, is closely related to the company's market capitalization. Equity Value typically arises when:

- the company's FCFE cash flows are discounted using the cost of equity, or
- Equity Value is derived from Enterprise Value through an adjustment process.

In valuation practice, one of the most fundamental relationships is:

Equity Value = Enterprise Value – Net Debt

Net Debt is typically defined as:

Net Debt = Interest-bearing debt – Cash and cash equivalents

The economic logic behind this relationship is the following:

- Enterprise Value reflects the total value of the firm,
- creditors must be satisfied first (through repayment of debt obligations),
- and the remaining value belongs to shareholders.

Therefore, debt must be deducted from EV. At the same time, cash is effectively added back, since cash represents an asset that is ultimately available to shareholders. In valuation practice, determining net debt is not always straightforward. It is therefore important to clarify what should be treated as interest-bearing debt. Typical components of interest-bearing debt include:

- long-term bank loans,
- short-term loans and credit facilities,
- bonds,
- finance lease liabilities (especially relevant under IFRS),
- other interest-bearing liabilities.

Typical components of **cash and financial assets** include:

- cash on hand,
- bank deposits,
- liquid short-term securities (cash equivalents).

It is important to emphasize that subtracting cash is only justified if these cash balances are truly available and not restricted by regulatory requirements or operational obligations.

In practice, valuation often requires extending the simple EV – Net Debt relationship. This is because the balance sheet may contain items that:

- are not part of core operations, or
- are not fully captured within the cash flow model.

The extended equity bridge logic can be expressed as:

Equity Value = EV – Net Debt + Non-operating assets – Non-operating liabilities ± other adjustments

Typical adjustments include the following:

- Non-operating Assets: These are assets that are not part of the firm's core business operations but still represent value. Examples include:
 - investment property,
 - financial investments,
 - ownership stakes in subsidiaries (if not consolidated),
 - excess or unused real estate and equipment.

The value of such assets should be added to the equity value derived from EV, because the DCF model typically values only operating cash flows.

- Non-operating Liabilities: These are liabilities that are not directly related to core business operations but reduce shareholder wealth. Examples include:
 - expected obligations from lawsuits,
 - environmental liabilities,
 - pension liabilities,
 - certain specific forms of provisions.

These items must be deducted because they reduce the value attributable to equity holders. If the company prepares consolidated financial statements, EV reflects the value of the entire consolidated group. However, if the group includes subsidiaries that are not fully owned, then EV also includes value attributable to minority shareholders.

Therefore, minority interest must be considered in the equity bridge process and is typically deducted when determining equity value. If the company's financing structure includes preferred shares, these instruments fall between debt-like and equity-like financing. In practice, preferred equity is often treated as a separate component when deriving equity value from EV.

The distinction between EV and Equity Value is essential because the objective of valuation is often to determine shareholder value, particularly in cases such as:

- equity valuation,
- mergers and acquisitions (M&A),
- investor decision-making,
- credit assessment or capital structure planning.

Errors typically occur when analysts confuse EV with Equity Value and interpret EV as the value available to shareholders. This is especially misleading in highly leveraged companies, where the difference between EV and Equity Value may be substantial. In fundamental valuation, discounting FCFF results in the company's total value, i.e., Enterprise Value. To determine shareholder value (Equity Value), it is necessary to subtract net debt and, when required, apply additional adjustments (non-operating assets and liabilities, minority interest, and preferred equity). The EV → Equity bridge logic ensures that the value derived from a DCF model is interpreted correctly and that the valuation outcome is consistent with the concept of shareholder wealth (Figure 17).

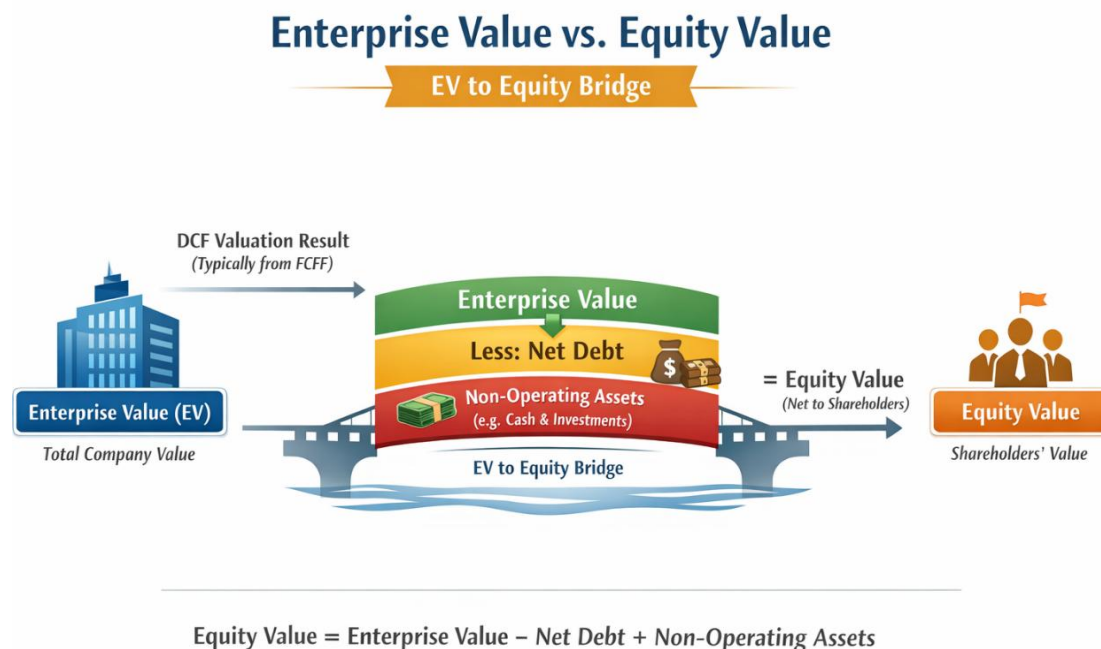


Figure 17: Enterprise Value vs. Equity Value
Source: author's own compilation

7.2.4. Terminal Value Estimation Methods

One of the most critical issues in fundamental business valuation is the quantification of the company's value beyond the explicit forecast period. Since a firm is theoretically assumed to operate for an indefinite time horizon, the Discounted Cash Flow (DCF) model requires the estimation of a value that captures the company's cash-generating capacity after the explicit projection period (typically 5–10 years). This value is referred to as the Terminal Value (TV).

In practice, terminal value often represents the largest portion of total firm value, which makes it especially important that its calculation is methodologically sound. Determining terminal value essentially answers the question of what “value-generating condition” the firm is in at the end of the explicit forecast period, and how sustainable this value creation is in the long run.

Two classical approaches are commonly applied to estimate terminal value:

- Perpetuity-based approach (Gordon Growth model)
- Market multiple-based approach (Exit Multiple method)

Gordon Growth Terminal Value (Perpetuity Model) the most frequently applied terminal value method is called Gordon Growth perpetuity model. Its key assumption is that after the explicit forecast period, the company enters a stable growth phase, where cash flows grow at a constant and sustainable long-term rate. The basic formula is:

$$TV = FCFF(t+1) / (WACC - g)$$

where:

- TV = terminal value at the end of the explicit forecast period
- $FCFF(t+1)$ = Free Cash Flow to the Firm projected for the next year (t+1)
- WACC = Weighted Average Cost of Capital
- g = long-term sustainable growth rate

According to the logic of the formula, the firm's value at the end of the explicit forecast period is equivalent to the value of a growing perpetuity generated from that point forward. A key requirement of the model is:

$$WACC > g$$

If this condition is not satisfied, the formula becomes mathematically invalid and economically unrealistic, because it would imply that the firm grows indefinitely faster than its cost of capital or even faster than the overall economy.

One of the most sensitive parameters in terminal value estimation is the long-term growth rate g . At the textbook level, it is important to emphasize that long-term growth is subject to realistic limitations:

- in the long run, it cannot sustainably exceed the growth rate of the overall economy (GDP growth),
- it cannot remain persistently higher than the mature growth potential of the given industry,
- it must be consistent with the firm's competitive position.

In practice, the long-term growth rate typically falls in the range of 1–3% in developed economies, reflecting both inflation and real growth.

The Gordon Growth model is advantageous because it:

- fits logically into DCF valuation theory,
- is based on internal fundamentals,
- is relatively easy to interpret.

However, its limitations include the fact that it:

- is highly sensitive to the difference between g and WACC,
- may produce significant valuation changes even from small parameter adjustments,
- assumes stable and sustainable long-term cash flow generation.

Another widely used method for estimating terminal value is based on applying market valuation multiples. In practice, this approach is referred to as the exit multiple method, because it assumes that at the end of the explicit forecast period the firm could be valued by the market using a specific valuation multiple. A typical formula is:

$$TV = EBITDA(t) \times EV/EBITDA \text{ multiple}$$

or alternatively: $TV = EBIT(t) \times EV/EBIT \text{ multiple}$

or: $TV = \text{Net Income}(t) \times P/E \text{ multiple (in equity valuation)}$

The exit multiple approach is based on multiplying the firm's expected financial performance at the end of the explicit forecast period (e.g., EBITDA, EBIT) by a market multiple estimated from comparable companies.

The exit multiple approach is considered more reliable when:

- there is a sufficient number of comparable firms within the industry,
- relative market valuation levels are stable,
- the firm is expected to reach a mature and sustainable operating profile by the end of the explicit forecast horizon.

Advantages and Limitations of the Exit Multiple Method:

- Advantages:
 - links terminal value to market-based valuation reality,
 - easy to communicate,
 - particularly useful in M&A and investment transactions.
- Limitations:
 - market multiples may be distorted by cyclical market conditions,
 - the method is less purely “fundamental” and more benchmark-based,
 - the result strongly depends on the selection of comparable companies.

It is important to emphasize that terminal value is defined at the end of the explicit forecast period (at year t), therefore it must also be discounted back to present value:

$$PV(TV) = TV / (1 + WACC)^t$$

Thus, enterprise value is calculated as the sum of the discounted explicit forecast cash flows and the discounted terminal value:

$$EV = \sum [FCFF(t) / (1 + WACC)^t] + TV / (1 + WACC)^t$$

Terminal value is the component of valuation with the highest degree of uncertainty. According to both academic literature and practical valuation experience, total firm value often derives 50–80% from terminal value. Therefore, the key parameters of terminal value estimation (g, multiples, WACC) cannot be selected mechanically; instead, they must be justified based on the firm’s industry characteristics and strategic position. From a fundamental valuation perspective, terminal value is not a “residual item,” but rather one of the most important indicators of the company’s long-term competitiveness and its sustainable value creation potential. Overall, in fundamental business valuation, growth cannot be interpreted as a value-creating factor by itself; it contributes to increasing firm value only if it is economically justified. Therefore, estimating the long-term sustainable growth rate (g) is not merely a forecasting exercise, but requires a deeper understanding of the company’s strategic and financial fundamentals. The relationship between ROIC and the reinvestment rate clearly demonstrates that growth is the combined outcome of capital efficiency and the firm’s ability to reinvest resources into future expansion. A company can create value through growth only if the return on invested capital exceeds the cost of capital, i.e., if $ROIC > WACC$. In contrast, excessive or poorly allocated growth can easily become value-destroying when the cost of capital is higher than the return generated by new investments. The value driver perspective ensures that growth assumptions are derived from internal financial logic rather than being introduced as arbitrary parameters in the DCF model. This approach is particularly important when estimating the terminal value, which is referred to as a “residual value” because it captures the present value of all cash flows generated beyond the explicit forecast period and effectively “closes” the valuation of a firm assumed to operate over an infinite horizon. Since terminal value often represents the largest portion of total firm value, growth estimation based on ROIC and reinvestment logic ensures that the long-term valuation outcome is realistic, defensible, and economically consistent.

7.2.5. Weighted Average Cost of Capital (WACC) in DCF Valuation

One of the most important technical issues in fundamental business valuation is determining which discount rate should be applied to convert expected future cash flows into present value. The discount rate is not merely a mathematical parameter; it represents the investors' required rate of return, i.e., the minimum return expected by the firm's capital providers as compensation for risk. In valuation practice, the most commonly applied rate for discounting the company's total cash flow (FCFF) is the WACC (Weighted Average Cost of Capital).

WACC expresses the average cost at which the firm's financing sources—equity and debt—provide the capital necessary to support the company's operations. Since shareholders and creditors bear different levels of risk, they also require different returns. WACC combines these two required return expectations into a single weighted measure.

The Basic Formula and Logic of WACC:

$$\text{WACC} = (E / (D + E)) \times R_e + (D / (D + E)) \times R_d \times (1 - T)$$

where:

- **E** = market value of equity
- **D** = market value of interest-bearing debt
- **R_e** = cost of equity
- **R_d** = cost of debt
- **T** = corporate tax rate

The logic of the formula is that the firm's overall cost of capital is the weighted average of the cost of equity and the after-tax cost of debt, where the weights reflect the company's capital structure proportions. In WACC calculation, it is important that the weights are based on market values rather than book values, because financial markets price the firm's financing risk on the basis of market valuation.

The cost of equity represents the return required by shareholders on their invested capital. Shareholders bear higher risk than creditors, because equity holders are entitled to profits only after all obligations to creditors have been satisfied, and in case of losses they typically absorb the largest portion of downside risk. Therefore, the cost of equity is generally higher than the cost of debt.

In business valuation, the most widely applied method for estimating the cost of equity is the **CAPM (Capital Asset Pricing Model)**:

$$R_e = R_f + \beta \times (R_m - R_f)$$

where:

- **R_f** = risk-free rate of return
- **β (beta)** = the stock's systematic market risk
- **(R_m – R_f)** = market risk premium

According to CAPM, the required return on equity is the sum of the risk-free rate and a risk premium that is proportional to market risk. The model is based on the assumption that investors require compensation only for systematic (market) risk, because firm-specific risk can be reduced through diversification.

Beta measures the sensitivity of a company's stock returns relative to the overall market:

- If $\beta = 1$, the stock moves in line with the market on average.
- If $\beta > 1$, the stock is more volatile and riskier than the market.
- If $\beta < 1$, the stock is less volatile and more stable than the market.

Beta is also influenced by the firm's capital structure: higher leverage increases the risk borne by shareholders, which typically results in a higher beta value.

The cost of debt represents the interest rate at which the firm is able to obtain financing through loans or bond issuance. R_d typically reflects the firm's long-term borrowing cost, which is determined by the market or the banking system based on the company's risk profile.

The cost of debt can generally be estimated using:

- corporate bond yields,
- bank loan interest rates,
- credit spreads derived from the firm's credit rating.

When estimating R_d , it is advisable to use interest rates that reflect the current market environment, since historical borrowing rates may not represent the firm's current financing costs. The Role of the Tax Shield = $(1 - T)$: In the WACC formula, the cost of debt appears in after-tax form:

$$R_d \times (1 - T)$$

The reason is that interest expense is typically tax-deductible in most tax systems, meaning that debt financing provides a tax advantage. This is known as the interest tax shield, which reduces the effective cost of debt. For example, if a company can borrow at a 10% interest rate and the corporate tax rate is 20%, then the after-tax cost of debt is: $10\% \times (1 - 0.20) = 8\%$. This tax effect is one of the key reasons why companies often use debt financing. However, excessive leverage increases financial risk and the probability of bankruptcy, therefore capital structure optimization remains a strategic decision.

WACC plays a crucial role in FCFF-based valuation because the discount rate directly determines the present value of future cash flows. The higher the WACC, the lower the present value of expected cash flows, and therefore the lower the estimated value of the firm. This means that WACC is both a valuation input and an indicator of the firm's risk perception.

WACC is particularly important for companies with a stable and sustainable capital structure, because in such cases the discount rate can be applied consistently over the long term. However, if the company's leverage changes significantly over time, it may be justified to adjust WACC dynamically in the valuation model.

The application of WACC in fundamental valuation is widely accepted; however, it has several limitations. The model assumes that the company's capital structure is relatively stable in the long run and that the cost of capital components can be estimated reliably. The estimation of beta may be particularly problematic for non-listed companies, where no direct market data is available. Another limitation is that market risk premiums and risk-free rates change over time, making WACC highly sensitive to macroeconomic conditions.

A common source of error in WACC calculation is the use of book values for weighting, even though market values reflect investor perception more accurately. The results may also be distorted if the cost of debt is not estimated based on current market interest rates, or if the applied tax rate does not reflect the firm's actual effective tax rate.

WACC is one of the most important discount rates in fundamental business valuation, as it expresses the required return of the firm's capital providers based on the company's financing structure. The cost of equity reflects the risk premium required by shareholders, while the cost of debt represents the interest burden associated with creditor financing. Due to the tax shield effect, the cost of debt is included in after-tax form. The application of WACC allows the analyst to determine the present value of FCFF-based cash flows and therefore directly determines the estimated value of the firm. However, the practical use of the model requires careful and professionally justified estimation of capital structure assumptions and risk-related parameters.

Additional Topics for WACC in Business Valuation:

- Target Capital Structure vs. Current Capital Structure

One of the most important methodological questions in WACC calculation is whether the weighting should be based on the company's current capital structure or on a long-term sustainable "target" capital structure. In theory, WACC represents the weighted average cost of the firm's financing sources, therefore using the current debt-to-equity ratio may seem logical. However, in business valuation practice, the current capital structure is often not the most relevant input. Instead, analysts frequently apply a target capital structure that reflects a stable, sustainable long-term financing policy. The reason is that DCF valuation does not only assess the company's current financial position, but rather estimates the present value of future cash flows generated by the firm's long-term operations. If the company's leverage is expected to change significantly in the future (e.g., due to debt issuance, deleveraging, equity injection, or acquisition financing), then using current capital structure weights may distort the WACC. For example, a temporarily high debt ratio may artificially reduce WACC due to the tax shield effect, even though the firm may not be able to maintain such leverage in the long run.

For this reason, valuation standards and professional practice often recommend the use of a target capital structure, which can be determined based on industry benchmarks. For example, if typical leverage in a given industry is 30–40%, it may be reasonable to apply a similar range in valuation, even if the firm’s current structure differs. Target capital structure assumptions are especially important in:

- mergers and acquisitions (M&A),
- restructuring cases,
- fast-growing firms,
- cyclical industries.

Overall, the capital structure used in WACC weighting is not merely an accounting input, but a strategic assumption strongly influenced by market expectations, and it can significantly affect estimated firm value.

- Levered and Unlevered Beta (β_L and β_U): Using Industry Beta for Private Companies:

In estimating the cost of equity (R_e), the CAPM model relies on beta (β), which measures the firm’s sensitivity to market risk. For publicly traded companies, beta can be estimated statistically from historical stock price data. However, for private companies there is no observable market beta, therefore valuation practice commonly relies on industry beta derived from comparable publicly traded firms.

It is important to note that beta reflects not only business risk, but also the financial risk arising from leverage. Therefore, it is necessary to distinguish between:

- levered beta (β_L): beta including the impact of debt financing,
- unlevered beta (β_U): beta adjusted for leverage, reflecting pure business risk.

In valuation practice, the typical process is the following:

1. select comparable publicly traded firms,
2. obtain their levered betas,
3. calculate unlevered betas (“unlevering”) to remove the effect of capital structure,
4. calculate the firm-specific levered beta (“relevering”) based on the target capital structure.

A commonly applied formula (adjusted for taxes) is:

$$\beta_U = \beta_L / [1 + (1 - T) \times (D/E)]$$

and then:

$$\beta_L = \beta_U \times [1 + (1 - T) \times (D/E)]$$

The key advantage of this method is that the beta of a private company is derived not from historical stock volatility, but from the systematic risk profile of the industry. This significantly improves the reliability of CAPM-based cost of equity estimation.

This approach is particularly relevant when:

- the company is privately held,
- the firm’s capital structure differs significantly from industry norms,
- business risk is strongly industry-dependent.

Thus, the levered/unlevered beta framework is not merely a technical detail, but one of the most important elements ensuring consistency and robustness in WACC estimation and valuation results.

- Country Risk Premium and Emerging Market Adjustments

One key assumption of the CAPM model is that the market risk premium ($R_m - R_f$) adequately reflects the additional return investors require for taking market risk. In developed markets, this premium can be estimated relatively reliably. However, in emerging markets or in countries with higher geopolitical and macroeconomic uncertainty, the standard market risk premium is often insufficient. For this reason, valuation practice frequently includes a Country Risk Premium (CRP), which reflects the additional risk of investing in a specific country compared to a developed benchmark market. Country risk may arise from:

- political instability,
- currency and exchange rate risk,
- legal and regulatory uncertainty,
- high inflation,
- structural economic vulnerabilities.

CRP can be estimated using several approaches. The most common method is based on the sovereign bond yield spread relative to a benchmark risk-free government bond (such as US Treasury or German Bund yields). Another approach uses credit ratings and their implied default spreads. In valuation models, CRP is typically incorporated into the cost of equity:

$$R_e = R_f + \beta \times (R_m - R_f) + CRP$$

This means that investors require not only a market risk premium, but also additional compensation for country-specific risks. However, it is essential to apply country risk adjustments consistently. If the risk-free rate is already based on domestic government bond yields, the country risk may already be embedded in the model, which could lead to double counting. For this reason, international valuations often apply a global risk-free rate (e.g., US Treasury yield) and then add CRP explicitly. Country risk premium adjustments are especially relevant in:

- valuation of subsidiaries of multinational firms,
- Central and Eastern European markets,
- export-oriented firms with significant foreign currency exposure.

- WACC vs. APV (Adjusted Present Value): When Is APV More Appropriate?

A key assumption behind WACC-based valuation is that the firm's capital structure remains relatively stable over time, or at least fluctuates around a long-term equilibrium. If leverage changes significantly over the forecast period, WACC-based valuation becomes problematic because the discount rate should also change. In such cases, valuation practice often applies the APV (Adjusted Present Value) approach.

The APV framework decomposes firm value into two main components:

1. the value of the firm assuming it is entirely equity-financed (unlevered value),
2. plus the present value of financing benefits (primarily the tax shield),
3. minus the present value of financing-related costs (e.g., financial distress costs).

The basic APV formula is:

$$\text{APV} = \text{Unlevered Firm Value} + \text{PV}(\text{Tax Shield}) - \text{PV}(\text{Financial Distress Costs})$$

The main advantage of APV is that it explicitly incorporates changes in capital structure and does not require the assumption of a constant WACC. This makes it particularly useful in:

- leveraged buyouts (LBO),
- project finance,
- restructuring cases,
- rapid deleveraging or heavy debt-financing phases.

APV also provides a clearer separation between operating value creation and financing effects. From a teaching perspective, this is highly beneficial because it helps students understand that firm value depends not only on operating cash flows, but also on the tax and risk consequences of financing policy. The main limitation of APV is that it requires more assumptions and additional calculation steps, making the model more complex. Nevertheless, in situations where leverage changes significantly over time, APV often produces a more accurate and methodologically defensible valuation result than a fixed WACC approach.

A WACC (Weighted Average Cost of Capital) is one of the most important elements of fundamental business valuation, because in an FCFF-based DCF model it represents the required discount rate used to convert future cash flows into present value. WACC essentially reflects the weighted average required return of the company's capital providers—both equity holders and debt holders—and therefore incorporates the firm's business and financial risk. Since the discount rate directly determines the present value of the firm, WACC estimation is one of the most sensitive components of the valuation process. In practice, the use of a target capital structure is particularly important, because the DCF model assumes long-term operations, meaning that the current capital structure does not always represent sustainable long-term financing proportions. When estimating the cost of equity, the application of levered and unlevered beta helps separate business risk from the financial risk created by leverage, which is especially relevant in the valuation of private companies. In emerging markets, WACC estimation often requires the inclusion of a country risk premium, since the standard CAPM framework may not fully capture macroeconomic and political risks. The use of WACC is methodologically most reliable when the firm's capital structure is relatively stable over the long term. If leverage is expected to change significantly over time, the APV (Adjusted Present Value) approach may be more appropriate, as it separately values operating performance and the tax benefits of debt financing. Additional technical accuracy can be achieved through the use of the mid-year convention, since cash flows in reality are generated throughout the year rather than only at year-end. From an interpretation perspective, it is important to emphasize that WACC is not an objective number, but a parameter built on several market- and company-specific assumptions. Therefore, the model can be considered professionally justified only if risk premiums, beta, capital structure, and borrowing costs are estimated carefully and supported by industry and market logic (Table 74).

Table 74.: WACC supplementary topics and their practical application

Supplementary theme	Reporting and the role of company valuation	When is it particularly relevant?	Typical mistakes / risks
Target capital structure	The WACC is weighted not with the current capital structure, but with the long-term sustainable capital structure.	M&A, restructuring, rapid growth, unstable indebtedness	Use of a current capital structure that can distort WACC and enterprise value.
Levered vs. Unlevered beta (β_L és β_U)	Beta is leverage-dependent, so unlevering and relevering are required based on industry beta.	Valuation of private companies, industry benchmark, different capital structure	Choosing the wrong comparable companies, ignoring the wrong D/E ratio and tax effect.
Country Risk Premium	In emerging markets, the CAPM is supplemented with a country risk premium because investors expect extra returns.	Central and Eastern Europe, unstable economic environment, multinational subsidiaries	Double risk accounting (R_f and CRP bias), applying too high a premium.
WACC vs. APV Approach	APV separates the operating value and the tax shield of debt, so it can be more accurate than a fixed WACC in the case of a variable capital structure.	LBO, project financing, significant borrowing or deleveraging	Fixed use of WACC with variable leverage, overvaluation or undervaluation of tax shield.
Mid-year convention	Cash flows are not generated at the end of the year, but during the year, so mid-year discounting can provide a more accurate EV estimate.	Precise company valuations, M&A, long forecast period	Simple year-end discounting, which can distort the present value.

Source: Based on Koller et al. (2015), Gupta (2023), Damodaran (2024) own compilation.

7.2.6. Applying the CAPM model to estimate the cost of equity capital

In fundamental business valuation, determining the appropriate discount rate is a key issue, since the present value of the company's future cash-generating ability depends directly on the return required by investors. One of the most important components of the company's cost of capital is the **cost of equity (Re)**, which expresses the minimum return shareholders expect on the capital invested in the firm. The cost of equity is particularly significant because shareholders are the company's riskiest capital providers: unlike creditors, they are entitled to the company's profits only after all obligations have been fulfilled, and in the case of losses they are the first to bear the risk of wealth reduction. The cost of equity is not a specific accounting figure, but rather a market-based required rate of return that reflects the company's risk profile. According to both financial theory and valuation practice, the most widely applied model for estimating the cost of equity is the **CAPM (Capital Asset Pricing Model)**.

CAPM is based on the idea that the required return on equity is determined by two key factors:

- the **risk-free rate of return**, which an investor can earn even without taking risk,
- the **market risk premium**, which represents the additional return required for bearing risk.

The model assumes that investors can reduce firm-specific risks (such as project failure, management issues, or product defects) through diversification. Therefore, only systematic risk (market risk) influences the required return. Systematic risk refers to the company's exposure to risk factors that cannot be eliminated through portfolio diversification, since economic cycles, inflation, interest rate conditions, or geopolitical events affect all companies to some extent.

The CAPM Formula, the CAPM model:

$$R_e = R_f + \beta \times (R_m - R_f)$$

where:

Re = cost of equity (required return for shareholders)

Rf = risk-free rate of return

β (beta) = sensitivity to market risk (systematic risk exposure)

(Rm – Rf) = market risk premium (equity risk premium, ERP)

According to the formula, investors require at least the risk-free return, and in addition they demand a risk premium that is proportional to the firm's level of systematic risk.

In theory, the risk-free rate is the return on an investment with no default risk and no reinvestment uncertainty. In practice, it is usually linked to government bond yields, since these instruments are considered to provide the highest level of payment security.

In valuation practice, the following aspects must be considered when selecting the risk-free rate:

- **currency matching:** if the valuation is conducted in EUR, a euro-based government bond yield should be used (e.g., German government bonds), while USD-based valuation requires U.S. Treasury yields.
- **maturity matching:** since business valuation is typically long-term, it is advisable to apply long-term yields (10–30 years), because the company's cash flows also extend over a long horizon.

Using a short-term yield as the risk-free rate may distort the discount rate, because it projects short-term interest rate conditions into a long-term valuation model.

The equity risk premium expresses the additional return that the stock market provides on average compared to the risk-free rate. This premium is not fixed, but rather estimated based on historical and current market data.

The market risk premium can be determined in several ways:

- **historical premium:** long-term average return of stock indices minus government bond yields,
- **implied premium:** a premium derived from current stock prices that reflects market expectations.

In fundamental valuation, the choice of equity risk premium is particularly important because the estimated value of the same company may differ significantly depending on whether a 4% or a 7% premium is applied. Therefore, selecting the equity risk premium always requires sensitivity analysis.

The most important element of the CAPM model is beta, which measures how sensitive the return of a company's stock is to changes in market returns. Beta is therefore a measure of the firm's systematic risk.

Interpretation of beta:

$\beta = 1$: the stock tends to move in line with the market

$\beta > 1$: the stock is riskier and more volatile than the market

$\beta < 1$: the stock is less volatile and more stable than the market

$\beta < 0$: the stock moves in the opposite direction of the market (rare)

For example, if $\beta = 1.5$, the stock reacts approximately 50% more strongly to market movements. If the market increases by 10%, the stock is expected to increase by around 15% (and the same logic applies in the opposite direction).

For publicly traded companies, beta is estimated statistically using historical stock return data. However, for private companies such data is not available, therefore analysts must rely on industry beta estimates based on comparable listed firms.

Typical challenges in beta estimation include:

- the selected historical time period influences the result,
- beta is not constant (company strategy and capital structure may change),
- low stock liquidity may distort statistical estimation.

For this reason, beta is often treated as an estimated range rather than a single fixed number in valuation practice.

Beta reflects not only operating risk derived from the business model, but also financial risk resulting from financing decisions. In a highly leveraged company, shareholder risk is higher because debt service represents a fixed obligation, making shareholder returns more volatile. Therefore, beta can be expressed in two forms:

- **Levered beta (β_L):** beta adjusted for leverage, reflecting shareholder risk
- **Unlevered beta (β_U):** beta without leverage, reflecting pure business risk.

Unlevered beta enables the comparison of companies with different capital structures.

In valuation practice, the following formulas are commonly applied to remove leverage from beta and then reapply leverage based on the target capital structure:

Unlevered beta:

$$\beta_U = \beta_L / [1 + (1 - T) \times (D/E)]$$

Levered beta:

$$\beta_L = \beta_U \times [1 + (1 - T) \times (D/E)]$$

where:

D/E = debt-to-equity ratio

T = corporate tax rate

The logic is that the higher the D/E ratio, the higher the financial risk borne by shareholders, and therefore the higher the levered beta. This adjustment is particularly important when applying a target capital structure in valuation rather than the company's current financing structure, which may reflect only a temporary situation.

The cost of equity calculated through CAPM is directly applied in:

- **FCFE-based valuation models:** as the discount rate for equity cash flows,
- **WACC calculation:** as a key component of the firm's overall discount rate.

The cost of equity is typically higher than the cost of debt, therefore changes in capital structure can have a major impact on valuation results. If a company relies more heavily on equity financing, the discount rate becomes higher, which reduces present value. If the company relies excessively on debt financing, bankruptcy risk increases, which can also negatively affect firm value.

Although CAPM is widely used, it has several limitations. The model assumes that investors are rational, hold diversified portfolios, and that markets efficiently price risk. In reality, investor behavior is often biased, markets may overvalue or undervalue companies irrationally, and risk premiums may vary significantly over time.

Another critical limitation is that beta is calculated from historical data and therefore reflects past risk patterns, meaning it may only partially capture future risk. In practice, CAPM often requires adjustments through company-specific premiums, country risk premiums, or size premiums.

The cost of equity is one of the most important inputs in fundamental valuation because it represents shareholders' required return and directly influences the results of discounted cash flow models. CAPM estimates this rate based on the risk-free rate, the equity market risk premium, and beta. Due to the central role of beta, industry benchmarking and the treatment of leverage effects (unlevering/relevering) are essential for reliable valuation. However, CAPM is not a perfect model, therefore its application always requires professional judgment, justification of parameter selection, and sensitivity analysis.

One of the most important technical issues in fundamental business valuation is the determination of the discount rate, which serves as the basis for converting future cash flows into present value. The discount rate reflects the firm's risk profile and links company value to the risk–return relationship. In valuation practice, the most widely applied model for estimating the cost of equity is the **CAPM (Capital Asset Pricing Model)**, in which the central parameter is **beta (β)**.

Beta expresses how strongly the company's stock return reacts to changes in market returns, meaning how risky the company is from the perspective of shareholders. However, beta cannot be treated as a constant parameter, because its value depends not only on the firm's business risk, but also on its financing structure—especially the level of debt.

The Role of Beta in the CAPM Model - The CAPM formula is:

$$R_e = R_f + \beta \times (R_m - R_f)$$

where:

R_e = cost of equity

R_f = risk-free rate of return

β = beta (systematic market risk indicator)

$(R_m - R_f)$ = market risk premium

Beta therefore expresses the risk sensitivity of a stock. If **$\beta = 1$** , the stock has the same risk level as the overall market. If **$\beta > 1$** , the stock is more volatile and riskier than the market. If **$\beta < 1$** , the stock is more stable and less sensitive to market movements.

Two fundamental risk factors lie behind beta:

- **business (operating) risk**, which originates from the firm's industry characteristics, market position, cost structure, and competitive environment;
- **financial risk**, which results from the firm's capital structure, particularly the level of debt.

A company's debt increases shareholder risk because debt represents a fixed obligation (interest payments and principal repayments). As a result, fluctuations in operating income are amplified when measured relative to equity. This phenomenon is known as the effect of **financial leverage**. From a valuation perspective, it is therefore important to distinguish between:

- beta reflecting the firm's business risk (**unlevered beta**), and
- beta adjusted for the effect of capital structure (**levered beta**).

Unlevered beta (also referred to as **asset beta**) reflects the firm's business risk, meaning the risk level arising from the company's operations regardless of whether it is financed with equity or debt. Unlevered beta is therefore a "cleaned" risk indicator that is suitable for industry comparisons. This is particularly important in cases where the company is not publicly traded and therefore no directly observable market beta is available.

Levered beta (equity beta) expresses the level of risk that is relevant from the shareholders' perspective. It shows how sensitive the company's stock return is to market movements while taking the firm's capital structure into account. Levered beta is higher than unlevered beta when the firm uses debt financing, because leverage increases shareholder risk.

In valuation practice, the relationship between levered and unlevered beta is described by the **Hamada equation**:

$$\beta_L = \beta_U \times [1 + (1 - T) \times (D/E)]$$

where:

β_L = levered beta (equity beta)

β_U = unlevered beta (asset beta)

T = corporate tax rate

D/E = debt-to-equity ratio (based on market values)

This formula expresses that financial leverage increases shareholder risk, while the tax shield effect (tax savings from interest deductibility) reduces this impact. This is why the factor $(1 - T)$ is included.

The formula can also be rearranged to calculate unlevered beta:

$$\beta_U = \beta_L / [1 + (1 - T) \times (D/E)]$$

This transformation is useful when the analyst wants to estimate an industry beta by converting the levered betas of several comparable public firms into unlevered values. In fundamental valuation, it is common that the company being valued is not publicly traded, meaning that its beta cannot be directly observed. In such cases, analysts typically rely on comparable listed firms.

The methodology follows this logic:

- collect the levered betas of comparable publicly traded companies,
- convert these into unlevered betas by removing the effect of leverage,
- calculate the average unlevered beta for the industry,
- re-lever the industry beta based on the target capital structure of the company being valued,
- calculate the cost of equity using CAPM.

This procedure ensures that beta does not reflect the random capital structure characteristics of a specific company, but rather the underlying business risk of the industry, adjusted to the target capital structure of the company being valued.

Levered beta affects WACC directly through the cost of equity:

$$\text{WACC} = (E / (D + E)) \times R_e + (D / (D + E)) \times R_d \times (1 - T)$$

If the firm's leverage increases (D/E rises), levered beta also increases, which increases the cost of equity (R_e), and consequently WACC may also change. This means that changes in capital structure are not only financing decisions but also critical valuation drivers. Increasing leverage may reduce WACC in the short term due to the tax shield effect. However, if leverage becomes excessive, risk may increase to such an extent that both the cost of equity and the cost of debt rise, ultimately causing WACC to increase. This phenomenon is closely related to the concept of the firm's optimal capital structure.

Beta is a key parameter in fundamental business valuation, as it expresses the company's sensitivity to market risk within the CAPM framework. However, beta depends not only on business risk but also on the firm's capital structure. Unlevered beta reflects the company's operating risk, while levered beta captures the additional shareholder risk created by financial leverage. The Hamada equation enables beta to be adjusted across different capital structures, which is particularly important in the valuation of private companies where industry beta estimation is required. As a result, the analysis of beta and capital structure is directly linked to the methodology of estimating the cost of equity and calculating WACC.

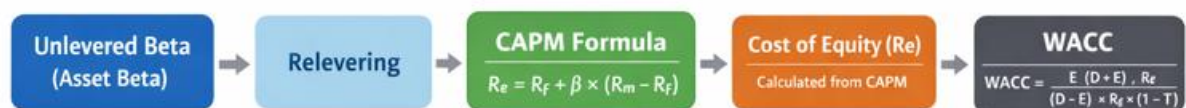


Figure 18: Enterprise Value vs. Equity Value

Source: author's own compilation

The Figure 18 illustrates how beta (β), capital structure, and the cost of equity are linked to the final WACC used in fundamental valuation. The process starts with the unlevered beta (asset beta), which reflects the company's pure business risk without the effect of debt financing. This unlevered beta is typically derived from comparable firms and represents the systematic risk of the firm's operations. In the next step, the analyst applies relevering, meaning that the unlevered beta is adjusted to reflect the company's target capital structure. As leverage increases, shareholder risk rises, therefore the levered beta (equity beta) becomes higher than the unlevered beta. This adjusted beta captures both business risk and the additional financial risk created by debt.

Once the levered beta is determined, it is inserted into the CAPM formula, which estimates the cost of equity (R_e). CAPM assumes that investors require the risk-free rate plus an additional risk premium proportional to the company's systematic market risk. As a result, a higher beta leads directly to a higher cost of equity. Finally, the calculated cost of equity (R_e) becomes one of the key inputs of the WACC formula, where it is combined with the cost of debt (R_d), weighted by the firm's capital structure. Since WACC represents the overall required return demanded by both equity holders and debt holders, it becomes the appropriate discount rate for valuing FCFF-based cash flows in a DCF model. In summary, the figure highlights that the WACC used in valuation is not an isolated parameter: it is built step-by-step from the firm's operating risk (unlevered beta), adjusted for leverage (levered beta), converted into shareholder return expectations through CAPM (R_e), and finally integrated into the company's overall cost of capital (WACC).

7.2.7. NOPAT, Invested Capital, ROIC in Economic Profit-Based Valuation Models

One important group of fundamental business valuation approaches consists of economic profit-based valuation models. These models are based on the idea that the value of a company is not determined solely by its accounting profit, but rather by whether the firm is able to generate a return on invested capital that exceeds its cost of capital. Accordingly, a company can be considered value creating only if its operating performance is sufficient to cover the minimum required return expected by its capital providers. The most well-known form of economic profit-based valuation is the EVA (Economic Value Added) framework, along with the closely related Residual Income (RI) model. However, the application of these methods requires the clarification of several key concepts that form the fundamental building blocks of the calculation logic: NOPAT, Invested Capital (IC), and ROIC.

One of the key concepts of economic profit models is NOPAT (Net Operating Profit After Taxes), which expresses the company's after-tax operating performance.

The definition of NOPAT is:

$$\text{NOPAT} = \text{EBIT} \times (1 - T)$$

where:

EBIT = Earnings Before Interest and Taxes (operating profit)

T = corporate tax rate

The purpose of NOPAT is to capture the company's operating performance independently of financing decisions. Therefore, the calculation is based on EBIT, which excludes financial income and expenses (such as interest income and interest expense) and is thus suitable for measuring the company's operating profitability at the business level. It is important to emphasize that NOPAT is not equal to net income. Net income already includes:

- the effects of the financing structure (interest costs),
- the results of financial operations and non-operating items,
- and in some cases additional tax effects or extraordinary items.

In contrast, NOPAT is a “cleaned” operating profit measure, showing how much profit the company’s core operations generate after taxes, but before the effects of capital structure are considered.

The second key element of economic profit-based valuation is the determination of the amount of capital tied up in the company’s operations. This is referred to as Invested Capital (IC). Invested capital essentially shows how much capital is required to operate the business, and therefore how much capital must earn a return that satisfies the expectations of investors and lenders.

Invested capital can be defined using two main perspectives:

- Asset-side approach

$IC = \text{Net Working Capital} + \text{Net Invested Fixed Assets}$

where:

Net Working Capital (NWC) = operating current assets – operating current liabilities

Net invested fixed assets = property, plant and equipment + intangible assets (adjusted for accumulated depreciation and amortization)

- Financing-side approach

$IC = \text{Equity} + \text{Interest-bearing debt}$

This approach reflects the logic that the company’s operations are financed by sources that have an explicit cost of capital: equity provided by shareholders and interest-bearing debt provided by lenders.

A key principle in defining invested capital is that only those sources should be included that are associated with a real required return. Therefore, non-interest-bearing operating liabilities (such as trade payables) are typically treated as part of net working capital rather than as invested capital.

The third core concept of the economic profit framework is ROIC (Return on Invested Capital), which measures the company’s operating return relative to the capital invested in the business.

The ROIC formula is:

$ROIC = NOPAT / \text{Invested Capital}$

ROIC indicates how much after-tax operating profit the company generates per unit of invested capital. This measure is particularly important because value creation does not depend only on the absolute level of profit, but rather on how efficiently the company utilizes the capital tied up in its operations.

When interpreting ROIC, it should be emphasized that:

- ROIC represents the return generated by operating performance, it is not distorted by financing structure (unlike ROE), and it allows comparison between companies with different levels of capital intensity.
- ROIC therefore serves as a fundamental indicator of whether the company’s business model generates adequate returns relative to the resources employed.

NOPAT (Net Operating Profit After Taxes) represents the company's after-tax operating profit, meaning the profit generated by the core business activities after corporate taxes, but before considering financing decisions such as interest expenses. NOPAT is a key input in economic profit-based valuation models (such as EVA and ROIC analysis) because it measures operating performance independently of the firm's capital structure. The most common way to calculate NOPAT is:

$$\text{NOPAT} = \text{EBIT} \times (1 - T)$$

where **EBIT** is earnings before interest and taxes and **T** is the corporate tax rate. Unlike net income, NOPAT excludes the effects of interest payments and other financial items, making it a “clean” measure of operating profitability that is suitable for evaluating whether the company generates returns above its cost of capital.

The fundamental idea of economic profit-based valuation models is that value creation can be captured through the difference between ROIC and the company's cost of capital (WACC). A company creates value if:

$$\text{ROIC} > \text{WACC}$$

In this case, the firm generates a return on invested capital that exceeds the minimum required return expected by capital providers. If, however:

$$\text{ROIC} < \text{WACC}$$

then the company destroys value, because its operating performance is not sufficient to cover the cost of capital. One of the most important advantages of the economic profit framework is that it provides a clear and interpretable link between operating performance and value creation. It does not only show whether the company is profitable, but whether the company is profitable in an economic sense, meaning whether it generates returns above the opportunity cost of capital. This logic provides the conceptual foundation for the calculation of Economic Value Added (EVA) and Residual Income (RI), where the economic profit is typically measured as the excess return earned over the required return on invested capital. The most widely known indicator within economic profit-based valuation is EVA (Economic Value Added).

The formula for EVA is:

$$\text{EVA} = \text{NOPAT} - (\text{WACC} \times \text{Invested Capital})$$

EVA measures how much the company's operating profit exceeds the required return on invested capital. In other words, EVA represents the amount of surplus operating profit generated above the minimum return expected by the company's capital providers.

The model can also be expressed in a ROIC-based form:

$$\text{EVA} = \text{Invested Capital} \times (\text{ROIC} - \text{WACC})$$

This form is particularly illustrative, because it clearly shows that value creation depends on two key factors:

- the amount of capital employed in the business (Invested Capital),
- and the extent to which the company can generate returns above its cost of capital (ROIC – WACC).

The logic of the Residual Income (RI) model is similar; however, it is often applied in an equity-based form, focusing on shareholder value creation. Economic profit-based models play an important role in fundamental valuation because they clearly highlight that a company's value is not determined solely by growth or the absolute level of profit, but rather by the efficiency with which capital is utilized. One of the key messages of this framework is that growth creates value only if the company is able to undertake the investments required for expansion at a rate of return that exceeds the cost of capital. Otherwise, growth—although it may increase revenue or accounting profit—can become value destroying in the long run. For this reason, the economic profit-based approach is closely connected to the logic of Value-Based Management (VBM), because it directly links managerial decision-making to firm value through the relationship between ROIC and WACC. Economic profit-based models of fundamental business valuation capture firm value by assessing whether the company is able to generate returns on invested capital that exceed the cost of capital. The key concepts of this approach include NOPAT (after-tax operating profit), Invested Capital, and ROIC, which expresses the operating return on invested capital. The core idea of the EVA model is that value creation is reflected in the difference between ROIC and WACC, and a company can be considered value creating only if its operating return exceeds the cost of capital.

The starting point of economic profit-based fundamental valuation models is that accounting profit alone is not sufficient to assess a company's value, because it does not reflect the cost of capital. A company may be profitable in accounting terms, but if the return generated on invested capital does not exceed the cost of capital, the firm does not create value in an economic sense. The core idea of the economic profit approach is that the value of a company can be interpreted as the sum of its invested capital and the present value of its expected future economic profits. The most common form of economic profit is EVA (Economic Value Added):

$$\text{EVA} = \text{NOPAT} - (\text{WACC} \times \text{Invested Capital})$$

where **NOPAT** represents the after-tax operating profit.

According to the interpretation of the model, a company creates value only if its after-tax operating profit exceeds the minimum return required by investors on the capital employed in the business. This approach is particularly important in strategic performance measurement, because it directly links firm value to the logic of the cost of capital. A key advantage of residual income-type models is that they better address the problem that cash flows may be distorted in the short run due to investments.

For example, a major growth investment reduces short-term cash flow, but if the return on that investment exceeds the cost of capital, economic profit will increase, and value creation can still be clearly identified. An important implication of economic profit-based valuation is that, in the long run, competitive forces tend to reduce extraordinary profits. Due to new entrants and industry adjustment, returns gradually converge toward the cost of capital. Therefore, a significant portion of firm value depends on how long the company can sustain returns above the cost of capital, which ultimately reflects the strength and durability of its competitive advantage.

Table 75.: EVA vs. SVA (Shareholder Value Added) – Comparative Overview

Aspect	EVA (Economic Value Added)	SVA (Shareholder Value Added / Shareholder Value Analysis)
Primary focus	Economic profit generated in a period (value creation above the cost of capital).	Value created for equity holders (shareholders) in market-value terms.
Type of measure	Flow measure (annual / period-based performance indicator).	Stock measure (value-based outcome, often cumulative or market-based).
Core question	Did the company earn more than its required return on invested capital?	How much value was created for shareholders compared to the capital invested?
Typical formula	$EVA = NOPAT - (WACC \times \text{Invested Capital})$.	$SVA \approx \text{Equity Value} - \text{Book Value of Equity (or equity invested)}$.
Value driver logic	Driven by ROIC – WACC spread and the level of invested capital.	Driven by equity value creation through expected cash flows and market expectations.
Main inputs	EBIT, tax rate, invested capital, WACC.	DCF outputs, equity value bridge, market capitalization, cost of equity assumptions.
Link to valuation models	Alternative representation of DCF through economic profit logic.	Derived from equity valuation (DCF or market-based approaches).
Interpretation in practice	Mainly used for internal performance measurement and management control.	Mainly used for shareholder-focused value creation analysis.
Strengths	Highlights true economic profitability; separates operating performance from financing effects.	Directly reflects shareholder wealth creation and market value outcomes.
Limitations	Sensitive to accounting adjustments and invested capital definition.	Sensitive to market cycles and valuation assumptions.
Typical use cases	Value-based management, incentive systems, divisional evaluation, capital allocation.	Investor reporting, equity valuation, M&A value creation analysis.

Source: Based on Koller et al. (2015), Gupta (2023), Damodaran (2024) own compilation.

Economic profit-based valuation frameworks provide a powerful bridge between corporate finance theory and practical performance measurement. Among these approaches, EVA (Economic Value Added) is widely recognized as a robust operational metric that measures whether a company generates returns above its cost of capital. The key strength of EVA lies in its ability to transform accounting profit into an economically meaningful performance indicator by explicitly charging the firm for the capital employed in operations. In contrast, SVA (Shareholder Value Added) is primarily an investor-oriented concept that focuses on the value created for equity holders. SVA is often interpreted as the difference between the market value of equity (or the DCF-derived equity value) and the book value of equity invested. As a result, EVA is more frequently applied as an internal management tool, while SVA is commonly used to interpret value creation from a shareholder perspective.

The relationship between EVA and SVA becomes clearer when EVA is interpreted as a flow variable and SVA as a stock variable. EVA captures annual economic profit, while SVA reflects the cumulative value created over time. From a valuation standpoint, this implies that the present value of expected future EVA values can explain the company's enterprise value above invested capital. Modern valuation literature emphasizes that discounted economic profit models and discounted free cash flow (FCFF) models are mathematically equivalent, provided that consistent assumptions are applied. This equivalence is critical, because it confirms that EVA does not contradict DCF valuation but rather represents the same valuation logic through an alternative lens. In practical corporate valuation, this equivalence can be used as a consistency check. Analysts may compute enterprise value through both the FCFF-based DCF approach and the discounted EVA approach, and compare the resulting valuations. If the two results differ significantly, it typically indicates an inconsistency in the definition of invested capital, the tax assumptions, or the treatment of reinvestment and depreciation. From a managerial perspective, EVA provides a direct mechanism for linking strategic decisions to shareholder value creation. If management improves ROIC while maintaining or reducing WACC, EVA will increase. In turn, increasing EVA over time contributes to higher equity value and thus greater shareholder wealth, which is the essence of SVA. This highlights a crucial insight for valuation: growth does not automatically create value. A firm can increase its size, revenues, and accounting earnings, yet still destroy value if ROIC remains below WACC. Therefore, the key determinant of sustainable value creation is the firm's ability to invest capital at returns exceeding its opportunity cost. In practice, firms often use EVA as part of value-based management systems, where business units are evaluated based on their economic profit contribution rather than accounting earnings. This approach supports better capital allocation decisions, because it discourages investment projects that increase revenue but fail to generate adequate economic returns. SVA, on the other hand, provides a clear link to capital markets and investor expectations. It is frequently used in M&A contexts, where the question is whether an acquisition increases shareholder value. An important practical implication is that EVA is often more suitable for internal decision-making, because it can be calculated at divisional or project level. SVA is more suitable for corporate-level value creation analysis, because shareholder value is defined at the level of the entire company's equity (Table 75).

7.2.8. Dividend Discount Models

The Dividend Discount Model (DDM) is one of the classic equity-based approaches within fundamental valuation. The model is based on the assumption that the return for shareholders is primarily generated through dividends and capital gains. However, capital gains ultimately reflect the company's ability to generate distributable profits and pay dividends in the future. Therefore, the core logic of the DDM is that the intrinsic value of a share equals the present value of all expected future dividends.

The importance of the DDM lies in the fact that it directly links share value to shareholder cash flows, making it a pure equity valuation approach. In theory, the valuation horizon is infinite, since the company is assumed to operate as a going concern and shares do not have a maturity date. In practice, however, investors often hold shares only for a limited period and then sell them. For this reason, the DDM is sometimes interpreted as the present value of dividends received during the holding period plus the present value of the expected selling price.

The basic DDM formula is:

$$P_0 = \sum_{t=1}^{\infty} \frac{D_t}{(1+r)^t}$$

where:

(P₀) = current intrinsic value of the share

(D_t) = expected dividend in period (t)

(r) = required return on equity (cost of equity)

According to this formula, the share price is the discounted present value of future dividends paid to equity holders.

The Gordon Growth Model (Constant Growth Dividend Model)

The simplest and most widely used form of the DDM is the **constant growth dividend model**, also known as the **Gordon Growth Model**. This model assumes that dividends grow indefinitely at a constant and sustainable rate (g). Under this assumption, the intrinsic value of the share can be expressed as:

$$P_0 = \frac{D_1}{r - g}$$

where:

(D₁) = expected dividend in the next period

(r) = required return on equity

(g) = long-term sustainable growth rate of dividends

A key condition of the model is that the growth rate must remain lower than the discount rate ($r > g$). Otherwise, the formula becomes mathematically invalid and economically unrealistic. The Gordon Growth Model is primarily applicable to mature and stable companies with predictable dividend policies and sustainable long-term growth. One of the most sensitive parameters in the Gordon model is the growth rate (g). Growth cannot be selected arbitrarily, since sustainable dividend growth is closely linked to profitability and reinvestment capacity. In practice, the sustainable growth rate is often approximated by:

$$g = ROE \times \text{retention rate}$$

where:

(ROE) = return on equity

retention rate = proportion of earnings reinvested in the business ($1 - \text{payout ratio}$)

This relationship highlights that dividend growth depends on both the profitability of equity and the company's ability to retain and reinvest earnings.

The DDM framework includes several extensions beyond the Gordon Growth Model, allowing it to reflect different corporate life cycle stages. The most common variations include:

- **Zero Growth Model** (dividends remain constant)
- **Constant Growth Model** (Gordon Growth Model)
- **Two-stage Dividend Discount Model**
- **Three-stage Dividend Discount Model**
- **H-Model** (gradually declining growth)

The two-stage model assumes that the company experiences an initial period of high growth, followed by a transition to a stable long-term growth phase. This approach is particularly useful for firms that currently grow rapidly but are expected to mature over time.

However, the two-stage model often oversimplifies reality, because it typically assumes an abrupt change from high growth to stable growth, which rarely occurs in practice. The three-stage model introduces an intermediate transition period, allowing growth to decline gradually until reaching a stable long-term level. This approach is more realistic in capturing the gradual nature of corporate maturation, although it requires more complex forecasting assumptions.

A specific extension of the DDM is the H-Model, which assumes that growth declines linearly over time from an initially high rate to a stable long-term rate. This method may provide a more realistic representation of declining growth dynamics, although it still assumes a relatively consistent dividend policy (Table 76).

Table 76.: Dividend Discount Model (DDM) Variants – Overview

DDM Variant	Assumption	Formula	Best Use	Limitations
Zero-Growth DDM	Dividends remain constant over time ($g = 0$).	$P_0 = D / r$	Mature firms with stable dividend payouts; utilities in steady-state.	Unrealistic for most firms; ignores inflation and business growth.
Constant Growth DDM (Gordon Growth Model)	Dividends grow at a constant rate forever (g constant).	$P_0 = D_1 / (r - g)$	Stable dividend-paying companies with predictable long-term growth.	Highly sensitive to g and r ; requires $r > g$; not suitable for growth firms without dividends.
Two-Stage DDM	High growth period followed by stable constant growth.	PV(dividends during high growth) + PV(terminal value using Gordon model)	Firms expected to transition from above-average growth to maturity.	Assumes sudden shift to stable growth; forecasting early-stage dividends is difficult.
Three-Stage DDM	High growth → transition phase → stable growth.	PV(dividends across 3 phases) + PV(terminal value)	More realistic life-cycle modeling; firms with gradual slowdown in growth.	Requires many assumptions; high model complexity and parameter sensitivity.
H-Model	Dividend growth declines linearly from high growth to stable growth.	g declines gradually over time; semi-closed form valuation	Firms with gradually declining growth; smoother transition than two-stage model.	Still depends heavily on growth assumptions; not appropriate if dividends are irregular.
Implied Cost of Equity DDM	Market price reflects PV of dividends; solve for r .	r implied from P_0 , D_1 , and g	Estimating cost of equity when CAPM inputs are unreliable.	Requires stable dividend policy and credible growth estimate

Source: Based on Koller et al. (2015), Gupta (2023), Damodaran (2024) own compilation.

The main limitation of the DDM is that the valuation result depends directly on the company's dividend policy, which is influenced not only by financial performance but also by strategic decisions. A company may generate significant cash flows but still choose not to distribute dividends, instead reinvesting earnings into growth opportunities or holding excess liquidity. Another limitation is that many growth companies do not pay dividends at all, which makes the DDM difficult or impossible to apply in a meaningful way. As a result, in modern valuation practice, the DDM is often used less frequently than FCFF-based DCF models, which capture the firm's total cash-generating capacity more comprehensively. Nevertheless, the DDM remains an important valuation tool because it provides a clear conceptual interpretation of shareholder value: in the long run, shareholders can earn returns only if the company is able to generate sustainable profits and transfer value back to equity holders through dividends, share repurchases, or rising share prices. The model is particularly applicable in industries where dividend payments are stable and predictable, such as utilities, banks, and mature industrial companies. An additional practical application of the DDM is that it can be used to estimate the cost of equity, since the relationship between dividends, growth, and the share price can be reversed to derive the required return implied by the market. This approach may be useful when CAPM-based estimates are uncertain or when beta estimation is problematic. Dividend Discount Models represent one of the most classical equity valuation approaches in fundamental company valuation. They determine the value of a share as the present value of expected future dividends. The Gordon Growth Model is simple and intuitive, but it is mainly applicable to mature and stable companies with predictable dividend policies. Multi-stage DDM approaches—such as the two-stage model, three-stage model, and H-model—allow for more realistic life-cycle-based valuation by capturing changing growth dynamics over time. However, DDM results are highly sensitive to dividend policy assumptions, which limits their use for firms with uncertain payout strategies.

Dividend Discount Models are primarily applied to the valuation of mature companies with stable and predictable dividend policies, where future dividend forecasts can be made with reasonable reliability. In practice, they are most frequently used in industries such as utilities, banking, insurance, and other mature industrial sectors with strong and stable cash flow generation. DDM-based valuation is often applied as a supplementary cross-check method alongside FCFF-based DCF valuation or EVA/Residual Income models, in order to validate the consistency of the estimated intrinsic equity value. Multi-stage DDM variants (two-stage, three-stage, and H-model) are particularly useful when a firm is currently in a transitional growth phase but is expected to evolve into a stable dividend-paying company over time. DDM models are especially appropriate when the primary objective of valuation is to determine Equity Value, such as in stock valuation, investment decision-making, or shareholder-focused analysis. The required inputs typically come from the company's historical dividend payments, management guidance regarding dividend policy, and forward-looking assumptions about profitability and sustainable growth. Key inputs include the dividend payout ratio, the retention ratio, and the long-term growth rate (g), which is often supported by the relationship $g = \text{ROE} \times \text{retention rate}$. The discount rate applied is the cost of equity, which in valuation practice is most commonly estimated using the CAPM model.

7.2.9. Option-Based Valuation - Real Options

Traditional fundamental corporate valuation methods—such as Discounted Cash Flow (DCF) valuation—typically interpret investments and strategic projects within a static decision framework. Under the DCF logic, a project is considered value-creating if the present value of its expected future cash flows exceeds the investment cost, meaning that the net present value (NPV) is positive. However, this approach often fails to reflect how corporate decision-making actually works in practice, because firms rarely make “one-time and irreversible” decisions. Instead, they continuously react to market information and adjust their decisions to changes in the business environment.

Real Options Valuation (ROV) is based on the idea that managerial flexibility represents value in itself. In many cases, companies possess opportunities that operate similarly to financial options: once additional information becomes available in the future, management can decide whether to continue a project, expand capacity, postpone an investment, or even exit a market. These opportunities can increase the value of the project because the firm can limit downside losses while capturing upside potential. Real options valuation is therefore considered a supplementary fundamental methodology that examines corporate value not only through the discounted present value of expected cash flows, but also through the additional value derived from decision flexibility.

A financial option is a contractual right that gives the investor the ability to buy or sell an underlying asset at a predetermined price (the exercise price) on or before a specified date. The key feature of an option is that the holder has the right to make the decision, but no obligation to execute the transaction. Real options apply the same logic to real corporate investments and strategic decisions. For example, a company may decide to:

- initiate an investment project,
- postpone the investment,
- implement it in multiple stages,
- expand the project,
- or terminate the activity in the case of unfavorable outcomes.

In real options analysis, the “underlying asset” is not a financial instrument, but rather an investment project, a business unit, or a strategic market position. The value of a real option arises from the fact that management has the ability to reassess and modify the project in the future, which reduces risk and may increase the firm’s value. One of the core assumptions of the DCF model is that the project path is predetermined: the analyst forecasts revenues, costs, investment requirements, and then discounts expected cash flows to estimate value. In reality, however, project outcomes are often uncertain, and firms continuously receive new information about demand, prices, competition, technological progress, and regulatory changes. As a result, classical NPV-based valuation frequently underestimates the value of projects characterized by high uncertainty but significant future potential. A typical example is research and development (R&D), where initial cash flows are often negative, but successful outcomes may generate substantial future profits.

A key message of real options theory is that uncertainty does not necessarily reduce corporate value. If the firm has decision flexibility, higher volatility may actually increase the option value, because the company will only “exercise” the investment option if future conditions become favorable. Real options valuation distinguishes several standard option types that frequently appear in corporate decision-making:

- **Option to Wait (Timing Option):** A firm may decide not to invest immediately but instead wait until uncertainty declines. This option is especially valuable when investments are irreversible and market conditions are volatile. For example, a company may postpone building a new production plant until demand becomes more predictable.
- **Expansion Option:** If a project proves successful, the company may expand production capacity, increase investment, or enter additional markets. This resembles a call option: the firm invests further only when the project value becomes sufficiently high.
- **Abandonment Option:** A company may have the ability to terminate a project, sell assets, or withdraw from a market. This resembles a put option: management can limit downside risk by stopping the project if outcomes turn unfavorable.
- **Flexibility or Switching Option:** A firm may have the flexibility to switch products, technologies, or input factors (such as energy sources) when relative prices change. For instance, a power plant that can switch between gas and coal has an embedded option that creates value.
- **Growth Option:** Some investments may not be immediately profitable but create strategic opportunities for future expansion. For example, entering a new market or developing a platform technology can provide the foundation for future products and revenue streams.

Real options valuation is often incorporated into fundamental corporate valuation by adding the value of managerial flexibility to the static DCF-based project value:

$$\text{Project Value} = \text{DCF (NPV)} + \text{Real Option Value}$$

This approach implies that corporate value is derived not only from forecasted cash flows, but also from the firm’s ability to adjust its decisions in response to uncertainty.

Real options are particularly relevant in cases where:

- investments are large and long-term,
- the market environment is highly volatile,
- technological conditions evolve rapidly,
- or regulatory frameworks are uncertain.

For this reason, real options analysis is often associated with innovation projects, digital transformation, sustainability investments, and strategic market entry decisions.

Several valuation techniques exist for real options, but they are generally more complex than traditional DCF methods:

- **Decision Tree Analysis:** Decision trees represent possible future project outcomes and management decision points. Financial results (cash flows or NPVs) are assigned to end nodes, and expected values are calculated using probability-weighted outcomes.
- **Binomial Option Pricing Model:** The binomial model applies a simplified option pricing logic in which project value can move either “up” or “down” over discrete time periods. It is particularly useful for capturing flexibility across multiple stages.
- **Black–Scholes Model:** The Black–Scholes model is a classical option pricing formula that can sometimes be adapted for real options under specific assumptions. However, estimating input parameters such as volatility is difficult in real investment settings, so this method is often used more as a theoretical benchmark than a practical valuation tool.

Although real options valuation is theoretically powerful, it faces several practical limitations. One major issue is the estimation of key input parameters. For example, it is difficult to measure the “volatility” of an investment project or to assign realistic probabilities to future decision outcomes. Another limitation is that managerial flexibility is not always unlimited: market constraints, technological restrictions, and regulatory factors may reduce the firm’s ability to exercise its options. Moreover, real options valuation models are often too complex to be widely applied in standard valuation reports, especially in smaller companies or less developed capital market environments. In Hungary and in many Central and Eastern European markets, valuation practice typically relies on traditional DCF, market multiples, and EVA-based methods. Therefore, real options valuation often appears primarily as an advanced conceptual extension rather than a mainstream valuation technique.

Real options valuation represents one of the most advanced supplementary methodologies in fundamental corporate valuation, as it captures the value of uncertainty and managerial flexibility. Its key message is that investment decisions are not static but adaptive, and therefore corporate valuation should incorporate the future decision opportunities available to management. Real options are particularly relevant in the valuation of innovation projects, technology investments, market entry strategies, and sustainability transitions. Although practical implementation is limited, the real options perspective contributes to a more realistic understanding of corporate value by reflecting the dynamic nature of strategic decision-making.

7.3. Asset-Based Valuation Methods

Business valuation methodology is built on the recognition that a company's value is not a single objective number; rather, it depends on the decision context, the purpose of the valuation, and the conceptual perspective applied. Accordingly, valuation models are not merely technical calculation procedures, but interpretive frameworks designed to answer different valuation questions. The central question of fundamental (income-based) valuation is: how much cash-generating capacity the firm will have in the future, and what the present value of that capacity is. By contrast, market (relative) valuation seeks to answer: how much the market pays for comparable companies, and what that implies for the value of the firm being valued. This approach benchmarks the firm against external reference points and relies on market comparisons such as valuation multiples and transaction prices. The starting point of asset-based valuation, however, differs from both of the above logics. Its key question is: what is the value of the company's assets today if we revalue them and aggregate them at realizable values, and then deduct the company's liabilities. In this view, the firm is interpreted not primarily as a future cash-generating unit, but as an asset base (wealth), and the company's value is derived from the value of its existing asset portfolio. Asset-based valuation is therefore fundamentally balance-sheet oriented and asset/wealth focused, with particular emphasis on the market value and realizability of the firm's assets.

The essence of asset-based valuation can be expressed by the following relationship:

$$\text{Company value} = \text{Adjusted value of assets} - \text{Value of liabilities}$$

Under this logic, the company's value is determined from the asset side: it depends on the price at which assets can be sold or economically utilized, and on the obligations that must be settled out of those values. This approach highlights that a company's value is not always embodied in future profitability prospects. In many cases, the firm's economic significance lies in the wealth behind it—for example, real estate, machinery, inventories, production equipment, equity interests, or other assets. Asset-based valuation therefore represents a valuation perspective that focuses primarily on the company's existing resources and their value, and relies less on uncertain forward-looking forecasts. Asset-based valuation is not a single standardized model, but a broader valuation approach encompassing multiple techniques and methods. The reason is that the realizability, market value, and marketability of assets can differ substantially depending on the asset type (e.g., real estate, machinery, intangible assets, inventories, financial investments) and on the decision situation in which the valuation is performed. As a result, applying an asset-based approach always requires professional judgment. In each case, the analyst must determine whether the valuation purpose is primarily:

- continuation of operations (going concern),
- determination of collateral value,
- reorganization or asset optimization,
- liquidation or forced sale,
- transaction-oriented asset assessment (e.g., asset review prior to an acquisition),
- or strategic asset portfolio restructuring.

Asset-based valuation is particularly important when future cash flow estimation is uncertain, or when operating performance does not adequately reflect the value of the assets behind the company. Typical applications include:

- Valuation of SMEs with uncertain cash flows: In many SME environments, it is common that firms do not have stable and reliable business plans or long-term cash flow forecasts. Financial statements may also be distorted (e.g., tax optimization, owner withdrawals, informal costs), so a DCF-based fundamental valuation may not always produce reliable outcomes. In such cases, an asset-based valuation can provide a more realistic starting point.
- Valuation of asset-intensive companies: For firms whose value is largely embodied in tangible assets (e.g., industrial manufacturers, logistics companies, real-estate-oriented businesses), the asset base is a critical value component. While future profitability may fluctuate, asset market values often serve as a more stable valuation anchor.
- Liquidation and reorganization situations: If a company is approaching dissolution, liquidation, or reorganization, fundamental valuation (based on earning capacity) becomes less relevant, and value primarily derives from the saleability and realizable value of assets. In such contexts, the asset-based approach is typically primary.
- Collateral valuation and security coverage: A central question in bank financing is collateral adequacy. Lenders typically focus not on the firm's theoretical long-term value, but on the value that can be realized from assets in the event of default. Consequently, collateral valuations often rely on an asset-based perspective.

A further practical importance of the asset-based approach is that it often provides a lower bound for company value, frequently referred to as a “floor value” in the literature. The logic is straightforward: if the firm has an asset base that can be realized, its value cannot persistently fall below the net realizable value of those assets (adjusted for liabilities). This is particularly relevant when operating results are temporarily weak or when market conditions are temporarily unfavorable. Accordingly, asset-based valuation does not necessarily identify the company's “true” long-term value; however, it helps determine a minimum value level that is justified by the asset base alone. Asset Based valuation is an asset/wealth-oriented valuation approach that derives company value from the adjusted value and realizability of the existing asset portfolio, net of liabilities. The key question is what value the firm's assets could be sold or economically utilized for today, and what net company value this implies after settling obligations. The approach is particularly relevant when future cash flows are uncertain, profitability is volatile, the firm is asset-intensive, or the valuation purpose is collateral assessment, reorganization, or liquidation analysis. A practical advantage of asset-based valuation is that it can provide an objective asset-based anchor and often serves as a floor value for the company's estimated worth. Asset-based valuation techniques can be classified into two major groups according to the logic of the table. The first group includes going concern-based asset valuation approaches, and the second group consists of liquidation or realization-based approaches, which determine value based on the assets' saleability and their realistically recoverable market prices (Table 77, Table 78).

Table 77.: Asset-based valuation focus areas under the Going Concern perspective

Focus (valuation purpose)	What do we measure / interpret?	Typical method / model	Main data sources (inputs)
Going Concern Asset Value (Operating business)	The realistic economic value of the company's assets assuming continuous operations, after adjusting book values to market/fair values.	Adjusted Net Asset Value (ANAV) / Revalued Balance Sheet (Adjusted NAV)	Balance sheet, notes to the financial statements, fixed asset register, property valuations, market price benchmarks, depreciation policy
Replacement / Reconstruction Value	The estimated cost of rebuilding or replacing the operating asset base (production capacity) at current prices.	Replacement Cost Approach / Depreciated Replacement Cost (DRC)	Technical asset inventory, supplier price lists, engineering estimates, industry benchmarks, inflation indices, asset condition assessment
Asset-intensive business valuation (real estate, manufacturing)	Asset-driven enterprise value where operating performance is strongly linked to tangible asset base and capacity.	ANAV with specific asset revaluations (property, plant, equipment)	Balance sheet, real estate appraisals, machinery valuation, market comparables, lease contracts, maintenance/technical documentation
Holding-type companies / investment structures	Value of equity interests and non-operating investments where operating cash flows are not the primary value driver.	Sum-of-the-Parts (SOTP) / Adjusted NAV of holdings	Investment portfolio data, subsidiary valuations, financial statements of investees, market prices of listed holdings, dividend/ownership data

Source: Based on Prat et al. (2010), Koller et al. (2015), Damodaran (2024) own compilation.

Under the going concern perspective, asset-based valuation does not assume liquidation, but rather examines the company's asset base as an operating system that supports future business activity. In this approach, the key objective is to estimate the current economic value of the assets employed in operations, adjusted to realistic market-based values, while maintaining the logic of a continuing business. The valuation focuses on how effectively assets are utilized, whether the balance sheet reflects the true economic resource base, and whether hidden asset values or inefficiencies can be identified. This perspective is especially useful in cases where cash flow forecasting is uncertain, but the firm holds significant tangible or identifiable asset value.

Table 78.:Asset-based valuation focus areas under the Liquidation / Asset Protection perspective

Focus (valuation purpose)	What do we measure / interpret?	Typical method / model	Main data sources (inputs)
Asset Protection / Floor Value (Collateral perspective)	A conservative minimum value representing the asset coverage available to creditors (secured value).	Conservatively Adjusted NAV / Collateral-based valuation	Balance sheet, collateral appraisals (property, machinery), loan agreements, liens/pledges, insurance values
Liquidation Value (Orderly liquidation)	Estimated cash proceeds from selling assets under an orderly process, net of selling and liquidation costs.	Orderly Liquidation Value model	Asset inventory lists, expected selling prices, liquidation expenses, broker fees, auction benchmarks,
Forced Liquidation Value (Distressed sale)	Estimated value in a short timeframe under financial distress, including significant discounts.	Forced Liquidation Value model	Distressed transaction benchmarks, auction market data, discount assumptions, legal costs, time-to-sale estimates
Break-up Value / Piece-by-piece sale	Value of the firm if its business units and assets are sold separately rather than as a going concern.	Break-up valuation / Sum-of-asset liquidation approach	Segment-level asset values, transaction comparables, restructuring cost estimates, legal separation feasibility
Net realizable value of current assets (working capital focus)	Recoverable value of inventories and receivables after write-downs, bad debt provisions, and discounts.	Net Realizable Value (NRV) adjustments	Aging schedules, inventory turnover data, write-down policies, impairment tests, expected collection rates

Source: Based on Prat et al., (2010), Koller et al. (2015), Damodaran (2024) own compilation.

VIII. Valuation of Intangible Assets

The tangible assets of companies, which are shown in the financial statements, are practically the accounting value. In various cases such as change of ownership, issuance of bonds and shares, and liquidation, it is necessary to determine the current and future value of companies, which also requires taking into account the value of intangible assets. The market value of companies often significantly exceeds their book value. One of the main reasons for this difference is that a substantial portion of the intangible (invisible) assets created by companies does not appear on the balance sheet. Accounting rules treat many expenditures that in reality generate long-term value as immediate expenses, and therefore these investments are not capitalized as assets. Invisible assets typically arise from investments such as research and development (R&D), brand building and advertising activities, investment in human capital (training and recruitment), as well as know-how, patents, and technological developments. These expenditures contribute to the company's future earnings-generating capacity over multiple years and can therefore be considered capital investments in an economic sense. However, accounting regulations often classify them as operating expenses, which prevents them from being recognized as assets on the balance sheet.

As a result, book equity is lower than the value the company actually represents. Market value, by contrast, reflects investors' expectations regarding future returns and therefore implicitly incorporates the value of intangible capital. The difference between book value and market value thus largely stems from internally developed intangible assets that remain off-balance sheet. The accounting treatment of intangible assets is problematic in several respects. First, it distorts reported earnings because investments that generate long-term returns are expensed immediately, thereby reducing current profit. Second, it distorts return measures such as ROE and ROIC, since the capital base in the denominator is understated. Third, it complicates comparability across firms, particularly in industries where value creation is predominantly knowledge- and innovation-driven. In summary, invisible assets appear as the gap between book value and market value because the accounting system is unable—or only partially able—to capture internally generated intangible capital, while capital markets incorporate these future earning expectations into prices.

By the end of the twentieth century, the focus of corporate value creation in advanced economies had gradually shifted from physical assets to knowledge-based resources. Competitive advantage is now less and less rooted in production equipment, inventories, or real estate, and increasingly derived from innovation capabilities, brand strength, technological expertise, customer relationships, data assets, and organizational competencies. The rise of digital business models, platform-based economies, and global branding strategies has further reinforced this trend: today, companies' market values are often determined by factors that are not directly tangible, yet have a decisive impact on their ability to generate future cash flows.

8.1. The concept and importance of intangible assets in modern corporate value

The value of modern companies increasingly derives from non-physical resources that are not directly tangible, yet they fundamentally determine the firm's future cash flow generating capacity. The academic literature uses several partly overlapping terms to describe these resources, such as invisible wealth, intellectual capital, intangible capital, knowledge capital, and intangible resources. A key methodological distinction is that “invisible wealth” is not identical to the category of “intangible assets” recognized in financial statements (e.g., capitalized development costs, licenses). In a broader sense, invisible wealth typically includes internally generated value drivers that remain largely unobservable in accounting reports due to recognition limitations (e.g., brand value, reputation, relational networks, organizational knowledge, and human competencies). The economic significance of invisible wealth is often illustrated in the literature through the persistent gap between a company's market value and its book value (the market-to-book gap). This gap indicates that a substantial portion of corporate value is not embodied in balance sheet-recognized assets, but rather in resources that are priced by the market while accounting is unable to capture them fully. This phenomenon is especially visible in knowledge-intensive industries and in companies operating digital business models. Invisible wealth should not be treated as a supplementary element, but as one of the core carriers of corporate value creation. Therefore, in business valuation it is not sufficient to rely mechanically on financial statement data; it is necessary to identify hidden value drivers and—depending on the valuation purpose—to measure and assess them. The primary reason behind the “invisibility” of invisible wealth lies in the underlying logic of financial reporting. Accounting standards (e.g., IAS 38) typically allow the recognition of an intangible asset only if it is:

- identifiable (either separable or arising from contractual/legal rights),
- controlled by the entity,
- expected to generate future economic benefits,
- and measurable with sufficient reliability.

These recognition criteria are not clearly met in the case of many internally generated intangible resources (e.g., brand value, organizational culture, knowledge, customer loyalty, data assets). As a result, a significant part of a company's value creation capacity remains off-balance-sheet. The literature uses several partially overlapping terms to describe these resources: invisible assets, intellectual capital, intangible capital, knowledge capital, and intangible resources. An important methodological distinction is that “invisible assets” are not identical to the category of “intangible assets” reported in financial statements. Intangible assets represent an accounting category and include only those assets—such as capitalized development costs, licenses, acquired software, or patents—that meet the recognition criteria. In contrast, invisible assets in a broader sense also encompass internally developed value drivers that are either only partially recognized or not recognized at all in financial reporting, such as brand value, reputation, relational networks, organizational knowledge, corporate culture, and human competencies.

8.1.1. Theoretical Frameworks for the Valuation of Intangible Assets

A key starting point in the valuation of intangible assets is the recognition that the accounting perspective and the valuation perspective are fundamentally different. Financial reporting is primarily designed to provide a reliable and verifiable representation of a company's financial position and performance, and therefore it is strongly shaped by prudence, recognition criteria, and historical cost logic. In contrast, business valuation focuses on economic substance and aims to capture the firm's future return-generating capacity, even if this value is not directly observable in the financial statements. From this viewpoint, the persistent difference between a company's market value and its book value should not be interpreted as an "accounting error." Instead, it is a consistent and logical consequence of accounting rules, which limit the recognition of internally generated intangible resources. At the same time, this market-to-book gap is highly informative from a valuation perspective, because it signals the presence and potential significance of hidden intangible value drivers that are priced by investors but remain largely invisible in the balance sheet. The most important starting point in the valuation of invisible wealth is that the value of intangible resources is not directly observable. In most cases, intangible assets do not have an active market, they are not easily tradable, and their future economic benefits are highly uncertain. As a consequence, the valuation of intangible wealth is always based on assumptions, and the selected valuation method has a decisive influence on the final outcome. For this reason, the academic literature widely emphasizes that the assessment of intangible wealth does not necessarily mean monetary valuation only, but may involve different measurement logics depending on the specific objective. In methodological decision-making, the key question is what the company (or the analyst) defines as the purpose of measurement:

- determining firm value (valuation),
- supporting management control (internal decision-making),
- stakeholder reporting (external communication),
- or organizational learning and development (learning).

International research highlights that the greatest risk in measuring intangible wealth is misinterpretation: if the chosen method does not fit the decision-making purpose, the results may not support but rather distort managerial judgement and decision-making. In accounting, intangible assets refer to identifiable non-physical assets that:

- are controlled by the entity,
- generate future economic benefits,
- and can be measured reliably at cost.

A key point is that intangible assets can be recognized in financial statements because the company typically paid for them (e.g., through acquisition, license fees, or identification in a business combination), or because accounting regulation allows capitalization under specific conditions (e.g., development costs). Examples include software, patents, licenses, trademarks, know-how, acquired brands, and goodwill (which is a separate category but closely related).

Thus, intangible assets represent an accounting-based concept: they are the elements we “see” in the balance sheet because they meet formal recognition criteria. Intangible assets: Non-physical, identifiable assets that are controlled by the entity, expected to generate future benefits, and can be recognized as assets in the financial statements. Intellectual capital represents the total set of a company’s knowledge-based resources that provide competitive advantage, but typically do not appear as recognized assets in financial reporting. The classical three-part structure of intellectual capital includes:

Human capital: employees’ knowledge, competencies, experience, creativity

Structural capital: processes, systems, IT infrastructure, organizational culture, databases, internal know-how

Relational (customer) capital: customer relationships, supplier networks, reputation, brand strength

The key point is that intellectual capital primarily describes the sources from which the company’s value creation capability emerges. Therefore, intellectual capital is not an accounting concept, but rather a strategic and management controlling concept.

Intellectual capital: The system of a company’s knowledge-based resources (human, structural, and relational capital) that determines its competitiveness and value creation capability. Invisible wealth refers to the total set of value components that:

- effectively contribute to the company’s market or fundamental value,
- but are not recognized in the balance sheet, or only partially,
- and therefore appear as “hidden” value elements in business valuation.

Invisible wealth typically originates from intangible-type resources that were not acquired through direct market transactions and therefore cannot be capitalized under accounting rules. Typical examples include internally developed brand value, organizational knowledge, corporate culture, customer loyalty, innovation capability, and data assets.

Invisible wealth: The part of corporate value that derives from intangible value-creating factors but is not, or only to a limited extent, reflected in financial statements.

Intangible assets $\neq$ intellectual capital: Intangible assets represent only a small part of the company’s knowledge-based value. Most intellectual capital is not capitalized, and therefore remains “invisible.”

Invisible wealth $\neq$ intellectual capital: Intellectual capital is primarily an input (a resource base). Invisible wealth is more an output: accumulated value created within the firm that remains hidden from accounting reports. In other words:

- Intellectual capital $\rightarrow$ what the company operates and develops
- Invisible wealth $\rightarrow$ what accumulates from this over time and becomes value
- Intangible assets $\rightarrow$ what formally becomes an asset under accounting recognition rules

8.1.2. Methodological Foundations of Intangible Assets Valuation

A fundamental principle in selecting a method for measuring invisible wealth is that the purpose of measurement determines the appropriate methodology. One of the most important lessons from international academic literature is that there is no universally “best” method for measuring intangible wealth. In every case, the methodological choice depends on the specific decision-making context in which the measurement is applied:

- Valuation purposes: DIC methods, ROA-based approaches, and standardized fair value methods
- Capital market comparison: MCM (Market Capitalization Methods)
- Internal development and strategic management: scorecard-based systems
- Reporting and legitimacy purposes: scorecard-based reporting frameworks
- Structured presentation of intellectual capital: structured IC (Intellectual Capital) reports / IC statements.

This perspective implies that the valuation of invisible assets should not be interpreted exclusively as a monetary estimation exercise. In corporate practice, indicator systems and internal monitoring often provide the “visibility” that is relevant for controlling and strategic decision-making. The valuation of invisible wealth is closely linked to fundamental business valuation models. According to the DCF logic, the value of a company is determined by its future cash flows, which are driven by value-creating factors such as innovation, brand strength, knowledge, organizational efficiency, and relational capital. These drivers are typically intangible in nature. Therefore, in business valuation practice, adjusting for intangible investments (e.g., capitalizing R&D expenditures) is not merely an accounting technique, but a prerequisite for the reliability of value driver-based valuation.

The analysis of invisible assets becomes particularly important when a significant portion of firm value is derived from growth expectations and knowledge-intensive resources. Several methodological approaches have been developed in international literature for measuring invisible wealth. These methods can be classified into four main groups (DIC, MCM, ROA, SC). These approaches differ in the extent to which they are able to determine a monetary value and/or make the components of intellectual capital visible through indicator-based systems. In all cases, the key issue in method selection is the decision-making context in which the measurement is applied, such as valuation, management control, reporting, or organizational learning purposes. In addition, the selection of an appropriate method must consider the availability and reliability of data, since many intangible value drivers are difficult to quantify and are often captured only indirectly. Methodological transparency is therefore essential, because the valuation of invisible wealth typically involves subjective assumptions regarding future benefits, risk factors, and the sustainability of competitive advantage. Furthermore, intangible resources rarely generate value independently; instead, they create value through interaction effects and synergies with tangible assets, organizational processes, and market conditions. As a result, the valuation of invisible wealth requires a holistic perspective that integrates strategic analysis with financial modelling.

8.1.3. Methodological Foundations of Intangible Asset Valuation

One of the most important conclusions of international literature regarding the measurement and valuation of invisible wealth (intellectual capital) is that there is no universally applicable “best method.” Due to the specific characteristics of intangible resources, measurement outcomes strongly depend on the purpose for which the company or the analyst intends to examine them. Therefore, methodological decisions must always be aligned with the function of measurement. In practice, measurement objectives can typically be classified into five main categories, each requiring different approaches. If the objective is to monitor company operations and improve performance, the most appropriate solution is the application of non-financial indicators and KPI systems. These measures can provide tangible performance tracking in areas such as human resources, innovation, organizational efficiency, customer relationships, and knowledge sharing. In such cases, scorecard-type systems (e.g., the Balanced Scorecard, the Skandia Navigator) are the most commonly applied frameworks.

If the objective is transaction-related (e.g., acquisition, sale, or investor negotiations), methods that can estimate the monetary value of intangible wealth either directly or indirectly become particularly relevant. These typically include:

- industry rules of thumb,
- customer value-based estimates,
- brand valuation procedures,
- transaction-based multiples.

In this context, the primary purpose of monetary valuation is to support negotiation positions and provide a basis for pricing decisions.

If the goal is to strengthen external legitimacy and stakeholder communication, reporting tools that make the company’s intangible resources “visible” tend to be emphasized. These include:

- intellectual capital supplementary reports (IC supplements),
- value-based performance measures (e.g., EVA),
- sustainability reporting and triple bottom line approaches.

These methods do not necessarily provide precise monetary valuation; rather, they serve to communicate the company’s future value creation potential.

If the objective is to support investment decision-making, international literature emphasizes that the most stable and widely accepted tool remains discounted cash flow (DCF)-based valuation. The DCF logic allows the impact of invisible wealth to be captured indirectly through its effect on future cash flows. In this context, measuring intangible assets does not replace fundamental valuation, but supports its key inputs (for example, by improving estimates of growth rates, profitability, or reinvestment needs).

8.1.4. Classification of Intangible Assets

In interpreting invisible assets, it is necessary to distinguish between two different but complementary logics. One approach starts from the internal structure of corporate value creation and examines which intangible resources constitute the company's hidden value-generating system. The other approach follows a transactional and valuation-oriented perspective: it focuses on which of these elements can be identified, separated, and expressed in monetary terms, particularly in the context of acquisitions or financial valuation.

The first approach examines the internal components of invisible assets. Within this framework, invisible assets represent the totality of a company's knowledge-based resources that determine its future cash flow-generating capacity but do not appear, or appear only to a limited extent, in financial reporting.

According to this structural logic, invisible assets consist of three main components:

- **Human capital**, which encompasses employees' knowledge, experience, creativity, and innovation capabilities. This includes professional competencies, managerial skills, problem-solving abilities, and the organization's learning potential. From an economic perspective, human capital forms the foundation of value creation. However, from an accounting perspective, it is not considered an asset owned and controlled by the company and therefore does not appear on the balance sheet.
- **Structural capital**, which refers to knowledge embedded within the organization. This includes technological solutions, patents, development results, software, databases, internal processes, and organizational routines. Structural capital ensures that human knowledge is not only utilized at the individual level but also institutionalized at the organizational level. Certain elements of structural capital may be recognized as accounting intangible assets, while others remain hidden.
- **Relational or market capital**, which reflects the company's relationships with its external environment. This includes brand value, reputation, customer relationships, distribution networks, and long-term partnerships. This component directly influences revenue stability and the ability to achieve price premiums, thereby becoming a key determinant of market value.

Within this logic, invisible assets represent a structural description of the company's internal value-generating capacity. The emphasis is not on immediate monetary valuation, but on the functioning of resources and their interconnections.

The second approach starts from the premise that, in specific economic situations—such as investment decisions or acquisitions—the value of a company must be expressed in monetary terms. From this perspective, the key question is not what constitutes intellectual capital, but rather which intangible resources can be identified as separate assets and how monetary value can be assigned to them.

Under this logic, intangible assets are typically grouped into three categories:

- **Marketing-related assets**, such as brands, trademarks, trade names, and certain customer relationships. These assets are linked to market presence and the ability to command price premiums, and in certain cases can be separated from the company's other assets.
- **Technology and intellectual property-related assets**, including patents, know-how, development results, and software. These assets form the technical foundation of products and services and are often protected by legal rights.
- **Contract-based and relational assets**, such as long-term customer contracts, licensing rights, or franchise agreements. These assets provide legally defined revenue entitlements over a specified period and are therefore relatively well suited for valuation.

Within this framework, the value of intangible assets is based on their association with future cash flows. The objective is to separate identifiable intangible elements from corporate goodwill and determine their monetary value independently.

The two approaches are not contradictory but rather represent different perspectives on the same phenomenon. The value-creation logic reveals the internal structure and functioning of invisible assets, while the transactional logic focuses on their financial measurability and monetary expression. Human, structural, and relational capital thus form the foundational structure of invisible assets, whereas marketing, technological, and contract-based intangible assets represent those components of this structure that can be identified and valued in specific economic contexts. From a corporate valuation perspective, understanding both logics is essential: one helps explain what constitutes the company's hidden value-generating capacity, while the other enables this capacity to be translated into monetary terms in concrete decision-making situations. From a broader theoretical perspective, the dual logic of invisible asset analysis also reflects a deeper tension between static accounting representation and dynamic value creation. Traditional financial reporting is inherently backward-looking and transaction-based, capturing value only once it becomes legally enforceable, reliably measurable, and economically separable. However, in knowledge-driven economies, value is increasingly generated through adaptive capabilities, innovation cycles, network effects, and data accumulation processes that evolve continuously rather than emerge in discrete transactions. This discrepancy suggests that invisible assets cannot be fully understood within a purely static measurement framework. Instead, they require a dynamic interpretation aligned with adaptive accounting and performance management concepts. In such a framework, intangible resources are not viewed merely as assets to be measured at a point in time, but as evolving value drivers embedded in organizational processes. Their contribution to firm value materializes gradually through learning effects, technological diffusion, customer retention dynamics, and strategic repositioning. From this perspective, valuation becomes not only a question of estimating future cash flows, but also of understanding the firm's adaptive capacity—its ability to renew, recombine, and leverage intangible resources in response to environmental change.

8.2. Measurement and Valuation Methods of Intangible Assets

The logic of the five-category classification can be clearly explained: it does not organize methods according to the types of intangible wealth (human–structural–relational), but rather according to the informational logic of measurement and valuation. The guiding principle of the classification is: “Where does the information about value come from?” Invisible wealth is difficult to measure because it does not have a unified and directly observable market price. Therefore, different methods attempt to capture value from different “observation points.” The core logic of the typology is that the methods reflect the data sources and interpretative frameworks through which the value of invisible wealth is derived. Accordingly, the methodological families represent a set of stepwise levels of abstraction.

Logical Axes Behind the Five-Category Classification:

- Market Value Premium (I.): The market “prices” invisible wealth. Here, the starting point is the external market price, such as the market-to-book ratio or Tobin’s q. The logic of the method is that invisible wealth is reflected in the market premium. ➡ Source: capital market data.
- Adjustments for Intangible Investments (II.): Financial statements may distort economic reality, therefore adjustments are required for fundamental valuation. Here, the starting point is the accounting-based financial statement, but it is rewritten from an economic perspective. ➡ Source: accounting data + economic reinterpretation.
- Asset-Level Fair Value Valuation (III.): Invisible wealth can be decomposed into components and valued as separate assets. The objective is no longer to use proxies, but to estimate the fair value of specific intangible assets (e.g., brand, technology, customer relationships). ➡ Source: asset-level cash flows + transaction-based logic.
- Value-Based Financial Proxies (IV.): Invisible wealth “leaves a footprint” in excess profitability. Here, the starting point is neither market price nor fair value, but the assumption that intangible drivers generate performance above the normal level (e.g., EVA, residual income, KCE). ➡ Source: performance data + benchmarking.
- Indicator and Scorecard Systems (V.): Invisible wealth is not value itself, but rather capacity and potential, therefore it should be measured through indicators. In this case, the logic is not valuation but controlling and strategic management: KPIs, trends, and development trajectories. ➡ Source: internal organizational data + strategic monitoring.

The typology highlights that measuring invisible wealth involves two major challenges:

- it has no direct market price, therefore proxies are required,
- it is not a single asset, but a complex value creation system.

The five methodological families address these challenges by offering different “approaches” to the same phenomenon:

- from the outside (market-based perspective),
- from financial statements (adjustment-based perspective),
- at the asset level (fair value estimation),
- from performance outcomes (excess return logic),
- from organizational operations (indicator-based monitoring).

The methods used to value invisible wealth are highly diverse because intangible resources typically have no direct market price, and therefore their value can only be captured indirectly. The logic of methodological classification is not based on the types of intangible wealth, but rather on the information sources from which the methods derive the role and value of invisible wealth. Some approaches start from capital market pricing and treat the market premium as a proxy for hidden value. Other methods are based on adjusting financial statements and aim to improve fundamental business valuation by incorporating intangible investments. A third group identifies the components of intangible wealth at the asset level and values them using fair value principles. The fourth methodological family infers the excess return generated by intellectual capital from the company’s above-normal financial performance. Finally, indicator and scorecard systems make intellectual capital measurable and manageable through non-monetary KPIs. Overall, the typology illustrates that the valuation of invisible wealth can be approached from multiple perspectives, and that method selection always depends on the valuation objective, the availability of data, and the specific decision-making context.

8.2.1. Value-Based (Monetary) Valuation Methods

The value-based (monetary) valuation method families (I–III.) share the common characteristic that they aim to express the role and significance of invisible wealth primarily in monetary terms. These approaches are based on the assumption that intangible resources—although often not recognized in financial statements—strongly influence a company’s future cash flow generating capacity. Therefore, in business valuation, they can be incorporated into the firm’s monetary value either indirectly or directly. The key difference between the method families lies in the information source from which the monetary value of hidden intangible value drivers is derived. The first group is based on capital market pricing logic and treats the market premium (e.g., the market-to-book gap or Tobin’s q) as an aggregate indicator of invisible wealth. The second group relies on adjustments to financial statements and aims to improve the accuracy of fundamental valuation models by incorporating the economic substance of intangible investments. The third group identifies intangible value components at the asset level and applies fair value-type estimation techniques to individual intangible assets (e.g., brand valuation, technology valuation, or customer relationship valuation). Overall, value-based method families aim to represent the impact of invisible wealth as a monetary value, which makes them particularly relevant for investment decisions, corporate transactions, mergers and acquisitions, and strategic valuation contexts (Table 79).

Table 79.: Value-Based (Monetary) Valuation Methods

Method group	Typical tools / methods	What does it measure?	Purpose of application
I. Market value premium methods	Market-to-book ratio; Tobin's q; market value – book value gap; Market Capitalization Methods (MCM)	The market premium as an aggregated indicator of hidden value.	Capital market analysis; industry benchmarking; empirical research
II. Intangible investment adjustment methods	Capitalization of R&D (Damodaran); intangibles-adjusted ROIC; intangibles-adjusted DCF	The company's fundamental value based on adjusted financial statement data.	Investment decision-making; value driver analysis; strategic evaluation
III. Asset-level fair value valuation methods	Relief-from-royalty; MPEEM; with-and-without method; replacement/reproduction cost approach; Direct Intellectual Capital valuation (DIC)	The value of specific intangible assets (brand, technology, customer relationships).	M&A; purchase price allocation (PPA); license valuation; transfer pricing; tax valuation

Source: Based on Prat et al., (2010), Sveiby (2014), Koller et al. (2015), Sveiby (2018), Damodaran (2024) own compilation

The **Market value premium methods** (market gap / market-based proxy methods) examine to what extent a company's market value exceeds the book value reported in its financial statements, particularly the level of equity (net asset value). The underlying assumption of this approach is that a persistent gap between market capitalization and book equity indicates a form of "hidden value" that is not, or only partially, reflected in accounting reports, and which is typically related to the company's invisible wealth (intellectual capital). Thus, market value premium methods do not value specific intangible assets directly, but rather provide an aggregated proxy indicator that measures the excess value reflected in market pricing. In this framework, market value expresses the price investors are willing to pay to acquire ownership in the company, thereby indirectly signaling, how strongly the market prices the firm's future value creation capability. The premium is typically driven by intangible factors such as brand and reputation, technological advantage, human competencies, organizational knowledge, customer relationships, as well as scalable business models and growth expectations. However, a key limitation of this approach is that the market premium is not explained solely by invisible wealth, since capital market cycles, investor sentiment, interest rate conditions, and temporary overvaluation or undervaluation of the company may also significantly influence the observed gap. Market Capitalization Methods (MCM) derive the value of invisible wealth from the company's market capitalization. The logic is straightforward: the difference between the firm's market value and its book value of equity may indicate an "excess value" that is linked to intangible factors not recognized in the balance sheet.

Typical indicators applied in this approach include the market-to-book ratio, Tobin's q , the difference between market value and book value. The main advantage of MCM methods is that they are easy to calculate and can be compared across large samples, which is why they are frequently used in capital market research. However, a key limitation is that they do not provide an asset-level breakdown, and market prices may be strongly influenced by business cycles, investor sentiment, and market expectations.

The **Intangible investment adjustment methods** (intangibles-adjusted fundamental valuation methods) represent an approach to valuing invisible wealth that links the estimation of a company's fundamental value to the economic reinterpretation and adjustment of financial statement data. The underlying assumption of these methods is that traditional accounting reports treat many intangible-type expenditures (such as R&D, software development, marketing, or training) as immediate expenses, even though in economic terms they can be considered long-term investments that generate benefits over multiple periods. Therefore, the core idea of this approach is to treat such expenditures in a "capitalized" form for valuation purposes, and to calculate adjusted earnings, invested capital, and capital efficiency indicators (e.g., ROIC). As a result of these adjustments, the inputs of discounted cash flow (DCF) valuation become more realistic and better reflect the company's actual value creation capability. A major advantage of this approach is that it fits well into the logic of fundamental valuation models and is particularly useful for knowledge-intensive firms where value creation is largely driven by intangible investments. However, a key limitation is that it can only be applied to items that are financially identifiable and quantifiable, meaning that truly "invisible" value components (such as those derived from internal culture, reputation, or relational capital) can only be captured indirectly.

The **Asset-Level Fair Value Valuation** (Fair Value Methods / Intangible Asset Valuation Methods) method family represents an approach to analyzing invisible wealth in which intangible value drivers are not treated as an aggregated corporate value premium, but are instead identified and valued as separate, distinguishable assets. The underlying assumption of these methods is that certain intangible resources—such as brands, technology, software, customer relationships, patents, or franchise rights—can be valued independently if they can be clearly defined and separated, since they directly contribute to the company's future cash flow generating capacity. The essence of this approach is that the value of intangible wealth is not derived from market capitalization or from distortions in financial reporting, but rather is estimated based on the cash flows generated (or costs saved) by the specific asset.

Asset-level fair value valuation methods typically apply the logic of classical valuation approaches (income-based, market-based, and cost-based methods) to intangible assets. Among the most frequently used techniques are the relief-from-royalty method, which estimates how much royalty the company would have to pay if it did not own its brand or technology; the MPEEM (Multi-Period Excess Earnings Method), which discounts the excess earnings attributable to the asset; the with-and-without method, which examines the difference between projected company cash flows with and without the given intangible asset; and the replacement or reproduction cost approach, which is based on the cost of recreating or replacing the intangible asset.

These methods are most commonly applied in contexts where intangible assets must be separated and valued in a transactional environment, such as during mergers and acquisitions (purchase price allocation, PPA), in the valuation of licensing and franchise agreements, in transfer pricing documentation, or for tax-related valuation purposes. In practical application, the relief-from-royalty method is typically calculated by forecasting the revenues associated with the intangible asset, applying an appropriate market-based royalty rate, and estimating the royalty payments that would have been required under a licensing arrangement. The implied royalty savings are then adjusted for corporate taxes and discounted to present value using an asset-specific discount rate. The method is primarily applied in trademark, brand, and technology valuation, especially in purchase price allocation and transfer pricing contexts.

The core logic of Direct Intellectual Capital (DIC) methods is that a company's intangible resources are first decomposed into identifiable components, and then a monetary value is assigned to each component based on identified or estimated values. Therefore, the purpose of DIC methods is not merely to determine the aggregated firm value, but rather to ensure that intangible value drivers can be separated and interpreted at the asset level. The DIC approach can be particularly useful in situations where:

- a business acquisition or corporate transaction takes place,
- the valuation of intellectual property is required,
- a licensing agreement or technology transfer must be assessed,
- or the company aims to interpret its knowledge and innovation portfolio from a strategic perspective.

A key limitation of DIC methods is that they rely heavily on expert judgement, and it is often difficult to define the boundaries of intangible assets precisely (for example, to what extent the value of a brand can be separated from reputation or customer relationships). In the case of Direct Intellectual Capital (DIC) valuation, the practical objective is to identify the main intangible components (such as patents, know-how, customer capital, or organizational knowledge) and assign monetary values to them using a combination of estimation techniques. DIC valuation often integrates expert-based assessment, benchmark-based approximations, and simplified income projections. These methods are particularly useful for strategic decision-making and intellectual capital mapping, but their results are highly sensitive to assumptions and therefore should be interpreted as structured estimates rather than exact market values.

The greatest advantage of the asset-level fair value approach is that the elements of invisible wealth can be quantified in a detailed, component-based manner, meaning that intangible value is not only reflected as a “hidden premium” but can be presented as a set of specific value components. However, a major limitation of these methods is that they are highly data-intensive and require significant expert judgement, and they are strongly sensitive to key valuation assumptions (such as useful life, growth rates, discount rates, royalty rates, and contributory asset charges). As a result, asset-level intangible valuation rarely produces a single “objective” number; rather, it generates an assumption-based valuation range that must always be interpreted within the context of the decision-making situation and the purpose of the valuation.

8.2.2. Performance-Based (Indicator-Based) Measurement Methods

The performance-based (indicator-driven) measurement method families (IV–V.) share the common characteristic that they do not aim to determine the value of invisible wealth through direct monetary valuation, but rather seek to make its economic impact, performance footprint, and value creation capacity measurable. These approaches are based on the assumption that intellectual capital and intangible resources cannot always be interpreted as separable “assets” with an objectively identifiable monetary value; however, they can be observed through their effects on corporate performance and organizational functioning. Performance-based methods therefore typically apply a proxy logic, meaning that they measure invisible wealth indirectly by analyzing outcomes and signals that reflect its presence. They examine the extent to which a firm is able to achieve above-normal profitability, efficiency, or excess returns, and they identify indicators that suggest sustainable knowledge-based and innovation capabilities. One group of methods relies on financial performance measures (such as EVA, residual income, and other economic profit-based indicators) to infer the excess value generated by invisible wealth, while the other group applies non-financial indicators and scorecard frameworks to make the components of intellectual capital (human, structural, and relational capital) “visible” for controlling and strategic management purposes. The main advantage of these methods is that they are strongly management-oriented, directly supporting internal decision-making, strategic monitoring, and the identification of development priorities. At the same time, their limitation is that the output is rarely a single objective value; instead, it is typically a conclusion derived from indicators, benchmarks, and trends, and its interpretation depends heavily on the company context, industry characteristics, and the logic of the chosen measurement framework (Table 80).

Table 80.: Performance-Based (Indicator-Based) Measurement Methods

Method group	Typical tools / methods	What does it measure?	Purpose of application
IV. Value-based financial proxy methods	EVA; Residual Income; ROA/ROIC benchmark; KCE; VAIC	Excess return and economic profit, which may be driven by intangible factors.	Performance measurement; value-based controlling; empirical research
V. Intellectual capital indicator and scorecard systems	Skandia Navigator; Intangible Assets Monitor; Balanced Scorecard; IC reporting	The condition and development of human, structural, and relational capital.	Strategic controlling; HR; innovation management; organizational learning

Source: Based on Prat et al., (2010), Sveiby (2014), Koller et al. (2015), Sveiby (2018), Damodaran (2024) own compilation

The **Value-Based Performance Proxy Methods** represent an approach to analyzing invisible wealth that does not attempt to value intangible resources directly at the asset level, but instead infers the role and approximate magnitude of hidden wealth from the company's excess financial performance and value creation capability. The fundamental assumption of this method family is that if a firm is able to achieve profitability, capital efficiency, or returns persistently above the industry average, this performance is typically driven by intangible factors such as technological advantage, brand strength, organizational knowledge, human competencies, or stable customer relationships. These drivers are usually not recognized as assets in financial statements; however, they leave a measurable "footprint" in the firm's profit-generating capacity. The logic of value-based proxy methods is therefore closely linked to the residual approach: the company's achieved earnings are compared to the required return on invested capital, and the difference—i.e., performance above the normal level—is interpreted as the effect of invisible wealth. The best-known tools within this family include EVA (Economic Value Added), which subtracts the cost of capital from operating profit to calculate economic profit; Residual Income models, which estimate income above the normal required return; ROA- or ROIC-based benchmark calculations, which compare firm performance to industry averages; and the Knowledge Capital Earnings (KCE) approach, which explicitly attributes profits above the normal level to knowledge-based capital. A common feature of these methods is that they do not use market price as the primary starting point, but instead rely on financial statement data and performance indicators to draw conclusions about intangible value creation. ROA-based methods assume that a company's asset efficiency (Return on Assets, ROA) partly reflects the profit-generating capability of intangible resources. According to the logic of this approach, if a firm's ROA persistently exceeds the industry average, this excess return may be linked to invisible factors such as technological advantage, brand strength, organizational knowledge, or highly efficient internal processes. ROA-based methods often apply a residual logic, which typically includes:

- estimating the excess profit above the normal industry return,
- and discounting this excess return in order to derive an estimated value of intangible wealth.

An advantage of ROA-based methods is that they can be derived relatively easily from financial statement data. However, the approach is highly sensitive to the selection of the industry benchmark, business cycle effects, and potential distortions in the firm's asset base (e.g., leases, goodwill, or capitalized development expenditures).

Economic Value Added (EVA) is a value-based financial performance indicator that measures a company's economic profit. Its core logic is that a firm creates value only if its operating profit exceeds the cost of the capital employed. EVA is closely linked to the valuation of intangible wealth because corporate earnings can be adjusted through accounting corrections that reflect the long-term value creation impact of intangible investments (such as R&D, marketing, or employee training). Therefore, EVA can be used to analyze the extent to which a company's intellectual capital contributes to shareholder value creation.

An important advantage of this method family is that it can be applied even in cases where no active market exists for intangible assets and where the firm does not maintain a detailed internal database on the components of intangible wealth. Since proxy methods are largely based on standardized financial information, they are also widely applicable in empirical research and comparative analysis. However, a key limitation of this approach is that excess returns may not be driven exclusively by invisible wealth: cyclical market conditions, temporary price premiums, a favorable cost structure, or even a short-term monopoly position may also generate outstanding performance. In addition, these methods are highly sensitive to benchmark selection, the estimation of the cost of capital, and potential distortions in accounting data. Therefore, conclusions regarding the magnitude of invisible wealth should always be interpreted as estimates rather than exact values.

The **Intellectual Capital Indicator and Scorecard Systems** (Intellectual Capital Scorecard Methods) represent an approach to analyzing invisible wealth in which the primary objective is not to determine a single monetary “value,” but rather to make intangible value drivers visible, to measure them in a structured way, and to transform them into manageable elements. These methods are based on the assumption that invisible wealth—such as human competencies, organizational knowledge, process maturity, innovation capability, customer relationships, and reputation—typically has no active market, its value cannot be directly observed through transaction prices, and it often cannot be reliably expressed as one single monetary amount. Therefore, instead of a valuation logic, the scorecard approach follows a measurement–monitoring–development logic: it captures the dimensions of intellectual capital through a system of indicators (KPIs) and interprets them along time-based trends, target values, and cause-and-effect relationships.

A common characteristic of scorecard systems is that they typically break intellectual capital down into multiple components and assign indicators to each of them. The classical structure is often based on the three-part classification of intellectual capital: human capital (skills, competencies, turnover, training), structural capital (processes, IT systems, data assets, innovation pipeline), and relational capital (customer retention, NPS, brand strength, partner networks). Among the most well-known models is the Skandia Navigator, which presents a company’s intangible value creation capability across several focus areas (e.g., financial, customer, process, renewal/development, and human dimensions); the Intangible Assets Monitor (IAM), which tracks human competence, internal structure, and external structure using indicators of growth/renewal, efficiency, and stability; and the Balanced Scorecard (BSC), which links non-financial value drivers to financial objectives through strategic perspectives (financial, customer, internal processes, learning and growth). These systems integrate the measurement of invisible wealth into strategic management: KPIs do not exist for their own sake, but serve to make the company’s value creation logic (value creation story) more transparent. The primary objective of Scorecard (SC) methods is not necessarily to determine a monetary value, but rather to identify the components of intangible wealth and monitor them through structured indicator systems.

This approach treats intellectual capital as a strategic corporate resource that must be developed and actively managed. The most well-known examples of scorecard-based approaches include the Skandia Navigator, the Intangible Assets Monitor, and intellectual capital-related indicator systems within the Balanced Scorecard framework. An important advantage of scorecard methods is that they are closely linked to internal organizational processes, making them highly applicable for controlling and strategic management purposes. However, their limitation is that they are highly company-specific, which restricts comparability across firms. An additional risk is that if indicators are tied to incentive and reward systems, they may become subject to manipulation and may lose their informational value. The primary objective of the Skandia Navigator is therefore to provide a comprehensive picture of the company's performance and future value creation potential that goes beyond the informational content of traditional financial statements. The model does not aim to determine a single monetary value; instead, it builds an indicator-based framework that makes intellectual capital "visible" in a structured manner. The Skandia Navigator analyzes corporate operations and value creation across multiple dimensions. This dimension presents the company's past and current financial performance. Within the model, the financial dimension is primarily result- and output-oriented, meaning that it reflects how corporate performance has materialized in financial outcomes. The second pillar of the model examines intangible value related to customer relationships. This includes, for example:

- customer satisfaction,
- customer retention,
- market share,
- brand awareness,
- ratio of customer complaints,
- stability of contractual portfolio.

A key methodological feature of the Skandia Navigator is that it relies on a system of indicators (KPIs). The model typically assigns to each dimension a set of measures that are:

- partly financial in nature,
- partly non-financial,
- and jointly describe corporate performance.

The strength of the method lies in the fact that it makes measurable not only outcomes, but also the underlying drivers of value creation. The Skandia Navigator is therefore built on the logic of a "management dashboard," in which financial results are complemented by indicators capturing the factors of future value creation. The Skandia Navigator does not necessarily provide a direct monetary value; however, it can serve as an important input for business valuation because it helps to identify the key drivers of the company's growth potential, the stability of future cash flows, the sources of competitive advantage, and the dynamics of intangible value drivers. Therefore, the model is particularly useful for providing qualitative support for DCF-based valuation and for identifying key risk factors.

The Intangible Assets Monitor (IAM) is associated with Karl-Erik Sveiby and is one of the most well-known scorecard-type approaches for measuring intellectual capital. The purpose of the model is to present a company's intangible wealth through a structured indicator system that supports strategic decision-making and organizational learning. According to the core logic of the IAM, intangible wealth cannot be interpreted as a single aggregated value; instead, it can be divided into three major components that jointly determine the company's long-term value creation capability. These components typically include human competence, internal structure, and external structure, each representing a distinct dimension of intangible value creation. The IAM framework evaluates these dimensions through indicators related to growth, efficiency, and stability, thereby making the dynamics of intellectual capital observable over time.

IAM three Main Components of Intangible Capital:

- Human Competence (Competence / Human Capital) refers to employees' knowledge, skills, and experience. Human competence is one of the company's most critical resources; however, its key characteristic is that it cannot be "owned" by the firm, because it is inherently linked to the employees. It includes:
 - professional expertise,
 - managerial and organizational capabilities,
 - creativity,
 - innovation capability,
 - problem-solving skills.
- Internal Structure Internal structure refers to intangible assets accumulated within the organization that are owned by the company. This component reflects the extent to which the company is able to embed human knowledge into organizational structures and thereby stabilize and institutionalize its operations. This category includes:
 - IT systems,
 - databases,
 - organizational processes and routines,
 - corporate culture,
 - documented know-how,
 - patents and internally developed innovations.
- External Structure includes intangible value elements related to the company's market relationships. External structure reflects the firm's ability to establish and maintain long-term and sustainable market relationships. It covers:
 - customer capital,
 - supplier networks,
 - brand and reputation,
 - market position,
 - partnership relationships.

The methodological essence of the Intangible Assets Monitor (IAM) lies in its structured indicator-based logic. The model measures the three major components of intellectual capital—human competence, internal structure, and external structure—through a set of carefully selected indicators. These indicators are grouped into three time-oriented categories, which together allow the organization to evaluate not only the current state of its intangible resources but also their development trajectory and long-term sustainability:

- The first category consists of growth and renewal indicators, which reflect whether the company is able to develop, renew, and strengthen its intellectual capital over time. Typical measures in this group include the proportion of employee training programs, the share of new products or services introduced, the number of innovation projects, R&D expenditures, and the extent of digital development initiatives. These indicators highlight the organization's future-oriented investment in capabilities and knowledge development.
- The second group includes efficiency indicators, which focus on how effectively the company utilizes its intellectual capital in its operations. Examples include revenue per employee, value added per employee, customer service time, project cycle times, and defect rates. These indicators provide insight into how well intangible resources are transformed into operational performance and productivity outcomes.
- The third category is composed of stability indicators, which measure the sustainability and long-term reliability of intellectual capital resources. Such indicators include employee turnover rates, retention rates of key employees, customer retention, the proportion of long-term contracts, and supplier stability. This dimension is particularly important because intangible wealth can rapidly lose value if key competencies, relationships, or organizational knowledge cannot be maintained over time.

Overall, the IAM should not be interpreted as a simple list of KPIs. Instead, it represents a coherent conceptual framework that makes the condition, dynamics, and sustainability of intellectual capital measurable, thereby enabling management to monitor and interpret intangible value creation in a structured way.

One of the key advantages of the IAM model is that it does not present intellectual capital in a purely static manner, but also makes the direction and intensity of change observable. This is crucial, because the value of intangible wealth often derives not only from its current level, but from its development potential and future capability-building processes. By capturing renewal, efficiency, and stability dimensions simultaneously, the IAM provides decision-makers with a forward-looking monitoring tool that supports long-term strategic management. As a result, the model is particularly useful in the controlling systems of knowledge-intensive organizations. It can support innovation management by monitoring capability development and renewal activities, contribute to the evaluation of human resource strategies by tracking competence-related indicators, and enhance strategic decision-making by providing measurable signals about the firm's future competitiveness.

Although the IAM does not necessarily generate a direct monetary estimate of intangible wealth, it provides valuable qualitative and quantitative inputs for business valuation. The indicator framework helps analysts understand the underlying sources of competitive advantage, assess the sustainability of human and relational capital, evaluate the organization's renewal and innovation capacity, and interpret the stability of the company's knowledge base. In DCF-based valuation models, these insights are especially relevant when forming assumptions about future growth potential, long-term profitability and margin development, and the firm's overall risk profile. In this sense, the IAM supports valuation not by directly pricing intangible assets, but by strengthening the credibility and interpretability of the value driver assumptions that determine long-term cash flow generation.

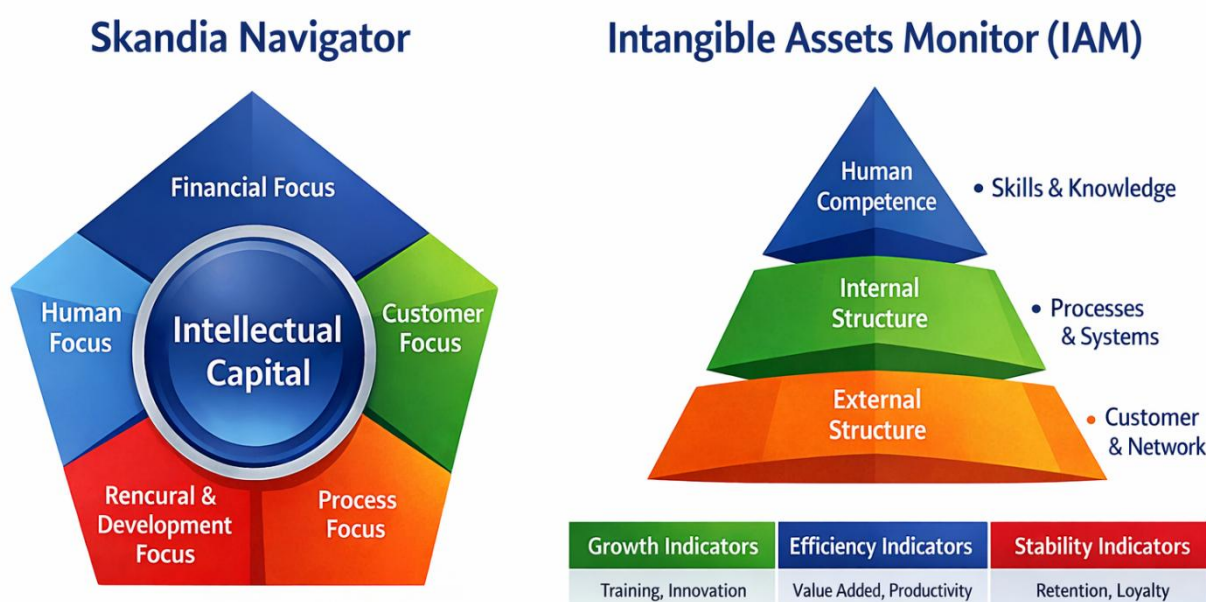


Figure 19: Skandia Navigator and Intangible Assets Monitor Models
Source: author's own compilation

The **Skandia Navigator** and the **Intangible Assets Monitor** are both scorecard-type approaches; however, their focus differs. The Skandia Navigator provides a broader corporate perspective by presenting company performance and future value creation capability across multiple dimensions, while the IAM is explicitly built on the three components of intellectual capital (human competence, internal structure, and external structure) and tracks them through growth, efficiency, and stability indicators. Both models have the advantage of making the non-financial drivers of intangible wealth measurable and manageable; however, they support monetary valuation only indirectly, mainly through improving the key inputs of business valuation models (Figure 19).

Table 81.: Skandia Navigator – Key Dimensions and Typical Indicators

Focus Area	Main Purpose	Typical Indicators (Examples)	Main Valuation / Management Role
Financial Focus	Measures past and current financial performance	Revenue growth, EBITDA, profitability ratios, ROIC, cash flow indicators	Captures output/results; provides financial baseline for valuation models
Customer Focus	Assesses customer-related intangible value and relational capital	Customer satisfaction, customer retention, market share, brand awareness, complaint ratio	Signals future cash flow sustainability and customer-based competitive advantage
Process Focus	Measures efficiency and quality of internal operations	Cycle time, defect rates, productivity, IT system reliability, internal control maturity	Represents structural capital; links operational excellence to profitability
Renewal & Development Focus	Evaluates innovation potential and long-term renewal capability	R&D expenditure, training investments, share of new products, digitalization projects, market expansion	Supports growth assumptions and innovation-driven value creation potential
Human Focus	Measures human capital quality and organizational competence base	Employee skills, education level, training hours, engagement, turnover, leadership quality	Identifies capability drivers and workforce stability impacting long-term value creation

Source: Based on Prat et al., (2010), Sveiby (2014), Koller et al. (2015), Sveiby (2018), Damodaran (2024) own compilation

The Skandia Navigator provides a comprehensive framework for capturing a company's value creation potential beyond traditional financial reporting. By combining financial indicators with customer, process, renewal, and human-focused measures, the model highlights the key intangible drivers that support long-term competitiveness. Its main strength lies in linking current financial performance to the underlying organizational capabilities that generate future cash flows. Therefore, the Skandia Navigator is widely used as a strategic monitoring and reporting tool, particularly in knowledge-intensive firms where intellectual capital plays a dominant role. In valuation practice, the model does not produce a direct monetary estimate, but it can significantly improve the credibility of DCF assumptions by making intangible value drivers more transparent (Table 81).

Table 82.: Intangible Assets Monitor (IAM) – Components and Indicator Logic

IC Component	Definition / Content	Growth & Renewal Indicators	Efficiency Indicators	Stability Indicators
Human Competence (Human Capital)	Knowledge, skills, experience, creativity, problem-solving capability of employees	Training hours per employee, competence development programs, hiring of key talent	Revenue per employee, value added per employee, productivity indicators	Employee turnover rate, retention of key staff, engagement index
Internal Structure (Structural Capital)	Organizational processes, IT systems, databases, culture, internal know-how, patents	IT development projects, process innovation initiatives, R&D investments	Process cycle time, defect rates, automation ratio, system efficiency	System reliability, documentation maturity, continuity of processes
External Structure (Relational Capital)	Customer relationships, supplier network, brand, reputation, partnerships	New customers acquired, brand development investments, new partnerships	Customer service time, conversion rates, sales efficiency indicators	Customer retention rate, long-term contract share, supplier stability

Source: Based on Prat et al., (2010), Sveiby (2014), Koller et al. (2015), Sveiby (2018), Damodaran (2024) own compilation

The Intangible Assets Monitor (IAM) is a structured scorecard-based framework developed by Karl-Erik Sveiby to measure and monitor the key components of intellectual capital. Its main contribution is that it treats intangible wealth not as a single monetary value, but as a system of capabilities that can be observed through indicators. The IAM distinguishes three major intellectual capital components—human competence, internal structure, and external structure—which together determine the organization’s long-term value creation potential. A key methodological feature of the model is that it evaluates these components through three time-oriented indicator groups: growth and renewal, efficiency, and stability. This structure makes it possible to assess not only the current condition of intellectual capital, but also its development dynamics and sustainability over time. The IAM is particularly useful for controlling and strategic decision-making in knowledge-intensive organizations, where intangible resources represent the dominant competitive advantage. Although the IAM does not directly generate a monetary valuation, it provides valuable inputs for business valuation (Table 82).

Hard-to-Value Intangibles (HTVI) represent a category of intangible assets whose valuation is particularly complex because their economic value cannot be reliably determined using standard valuation logic. In international academic literature and regulatory practice, HTVI refers to intangible resources that are typically unique, innovation-driven, strongly dependent on uncertain future market success, and characterized by the absence of sufficient comparable market transactions. As a result, HTVI assets often generate major valuation uncertainty and represent one of the most critical methodological challenges in modern business valuation, transfer pricing, and financial reporting.

The importance of HTVI has increased significantly in the digital economy, where value creation is increasingly based on data assets, platform-based network effects, software solutions, algorithms, artificial intelligence models, and organizational knowledge. These assets often generate value through scalability and rapid market expansion, meaning that their future cash flow potential may increase exponentially. At the same time, they are exposed to rapid technological disruption and short lifecycles, which makes forecasting highly uncertain. Therefore, HTVI valuation is not simply a technical valuation exercise but a risk-sensitive estimation process that requires scenario thinking and strong professional judgement.

From a practical perspective, the HTVI concept is mainly used in valuation contexts where intangible assets must be identified and valued separately, such as in mergers and acquisitions (purchase price allocation, PPA), licensing and franchise agreements, transfer pricing documentation, and tax audits. In these settings, the HTVI classification signals that the valuation outcome is highly sensitive to assumptions and that a higher level of documentation and justification is required. Regulatory frameworks often emphasize HTVI assets because they can be used to shift profits across jurisdictions through highly subjective intangible valuations, especially in cross-border transactions.

Although the three classical valuation approaches—income, market, and cost approaches—can still be applied in HTVI valuation, each method requires additional adjustments. In practice, the income approach is the most frequently used, because it is capable of incorporating expected future economic benefits. HTVI valuation typically begins with a detailed forecast of the cash flows attributable to the intangible asset (or the incremental cash flows generated by it), followed by the selection of an appropriate discount rate that reflects the asset-specific risk profile. Methods such as relief-from-royalty, MPEEM, with-and-without analysis, and incremental cash flow models are frequently applied. However, because HTVI cash flows are highly uncertain, the valuation is extremely sensitive to key assumptions such as growth rates, profitability margins, useful life, and terminal value calculation.

In the HTVI context, valuation is rarely based on a single deterministic forecast. Instead, the calculation process is usually strengthened through scenario-based modelling and sensitivity analysis. Analysts typically estimate a base case, an optimistic case, and a downside case, and then evaluate how changes in key drivers affect the estimated value. In some cases, probability-weighted expected cash flow models are applied, where different market success outcomes are assigned probabilities. This approach improves transparency and reflects the fundamental uncertainty of HTVI valuation (Table 83).

Table 83.: Typical Indicators and Valuation Inputs for HTVI (Hard-to-Value Intangibles)

Indicator Category	Typical Indicators / Proxies	Main Valuation Role
Cash flow-based metrics	Incremental cash flow; projected revenue growth rate; EBITDA/operating margin; free cash flow profile; terminal value sensitivity	Supports forecasting of future economic benefits and terminal value.
Customer and market metrics	Active users / user base; churn rate; retention rate; Customer Acquisition Cost (CAC); Customer Lifetime Value (CLV); market share growth	Explains revenue stability and customer-driven value creation potential.
Technology and innovation metrics	R&D intensity; number/quality of patents; innovation pipeline (projects, TRL); time-to-market; useful life / obsolescence risk	Captures innovation capacity and technological competitive advantage.
Platform and data asset metrics	Network effects indicators; data volume; data quality metrics; algorithm performance (accuracy, efficiency); scalability (marginal cost decline)	Measures scalability and data-driven value creation potential.
Risk and sensitivity metrics	Discount rate (WACC + asset-specific risk premium); scenario probabilities; valuation range; sensitivity analysis results	Quantifies uncertainty and supports value range estimation.
Royalty and licensing benchmark metrics	Implied royalty rate (relief-from-royalty); comparable royalty ranges; profit split indicators (transfer pricing context)	Provides external market validation for valuation assumptions.

Source: Based on Prat et al., (2010), Sveiby (2014), Koller et al. (2015), Sveiby (2018), Damodaran (2024) own compilation

8.3. Summary and Practical Implications of Intangible Asset Valuation

The valuation of intangible assets and invisible wealth has become one of the central challenges of modern corporate valuation, particularly in knowledge-intensive industries and digital business models. The main reason is that many critical value-creating resources—such as human capital, organizational knowledge, customer relationships, brand strength, and data-based capabilities—are not fully captured by traditional accounting recognition rules. As a result, a significant portion of corporate value remains “off-balance-sheet,” even though it is priced by investors and reflected in long-term profitability, competitive advantage, and growth expectations.

This chapter has demonstrated that there is no universally applicable “best method” for measuring invisible wealth. Instead, the selection of an appropriate approach must always be aligned with the purpose of measurement and the availability of reliable information. The five methodological families presented in the chapter represent different observation points and valuation logics: market-based proxy methods interpret intangible value through market premiums; financial statement adjustment methods refine fundamental valuation by capitalizing intangible investments; asset-level fair value approaches estimate the value of identifiable intangible assets based on classical income, market, and cost methods; excess return-based proxy models link intangible value to economic profit and performance above industry benchmarks; while scorecard-based systems focus on monitoring and managing intellectual capital through structured non-financial indicators.

In the valuation of digital intangible assets, income-based approaches are most frequently applied because they are capable of incorporating expected future economic benefits into the valuation process. Typical techniques include relief-from-royalty models (often used for brands and software), MPEEM or excess earnings methods (commonly applied to customer relationships and platform technologies), with-and-without scenario valuation (especially for technology-driven advantages), and incremental cash flow analysis (for data assets or AI models). The strength of the income approach lies in its direct connection to cash flow generation; however, in the HTVI context, valuation outcomes are highly sensitive to assumptions regarding growth rates, discount rates, useful life, and terminal value estimation.

Market-based approaches are often difficult to apply to HTVI assets because observable transactions are limited, intangible assets are highly unique, and transaction conditions are frequently non-transparent. Consequently, market evidence is typically used as a supplementary validation tool rather than as a primary valuation basis. Cost-based approaches may also be applied in certain cases, such as software development or database creation, but their limitation is that development cost is not necessarily equal to economic value. In digital markets, scalability and network effects can lead to extreme value creation even when reproduction costs are relatively low, while high investment expenditures may also be associated with projects that ultimately fail to achieve market success.

The increasing relevance of Hard-to-Value Intangibles (HTVI) highlights that intangible valuation in the digital economy requires scenario-based thinking, sensitivity analysis, and risk-aware modelling. HTVI valuation should therefore be interpreted not as a single objective number, but as an assumption-based valuation range that must always be evaluated in the context of the decision-making situation. Reliable valuation outcomes require transparent documentation of key assumptions, the use of alternative scenarios, and careful justification of discount rates and risk premiums.

From the perspective of business valuation as a whole, intangible asset valuation is not a separate analytical task, but an essential component of fundamental valuation logic. In DCF-based valuation, invisible wealth influences value through its impact on the company's long-term cash flow generation capacity, growth potential, profitability margins, and risk profile. In other words, intangible assets are key value drivers that shape the credibility of valuation inputs rather than merely additional balance sheet elements. Therefore, the most robust valuation conclusions are achieved when monetary valuation models are combined with performance-based proxy indicators and scorecard-type frameworks. This integrated approach allows analysts not only to estimate intangible value financially, but also to interpret the strategic sustainability of value creation capacity—thereby strengthening the overall reliability and explanatory power of corporate valuation.

Summary

This lecture note has demonstrated that corporate performance measurement and corporate valuation are not independent disciplines, but strongly interconnected components of modern financial and strategic decision-making. Performance measurement provides the internal information infrastructure through which firms make value creation processes visible, measurable, and manageable. By translating strategy into KPIs, targets, and managerial feedback loops, performance management supports organizational learning, resource allocation, and the continuous improvement of operational and financial performance. Corporate valuation represents the external synthesis of this internal value creation logic.

Valuation models condense expectations about future profitability, growth, risk, and cash flow generation into a single monetary estimate of firm value. In this sense, corporate valuation can be interpreted as the market-level reflection of the firm's performance management capability: companies with strong performance systems are more likely to produce credible forecasts, stable cash flows, and sustainable competitive advantages, thereby improving valuation reliability. The material also highlighted that in the digital economy the sources of corporate value are increasingly intangible. Knowledge, innovation capability, customer relationships, organizational culture, and data-driven business models have become dominant value drivers, yet they are only partially captured by traditional accounting frameworks. This explains why intangible asset valuation and the measurement of invisible wealth have become central challenges in both corporate finance and valuation practice.

Finally, the lecture note emphasized that no single valuation method can be considered universally superior. Instead, valuation should be interpreted as a methodological toolkit in which income-based, market-based, and asset-based approaches provide complementary perspectives. Reliable valuation outcomes are best achieved when monetary valuation models are supported by performance-based indicator systems and strategic analysis, ensuring that corporate value is interpreted not only as a financial number, but also as the result of a measurable and manageable value creation architecture. The Asset-based valuation is a balance sheet-oriented valuation approach that derives the value of a company from the current value of its assets net of liabilities. Unlike income-based valuation, which focuses on future cash flows, and market-based valuation, which relies on comparable pricing, this method answers the question of what the firm would be worth if its assets were revalued today. It is particularly relevant in asset-intensive businesses, restructuring cases, or situations where reliable cash flow forecasting is limited.

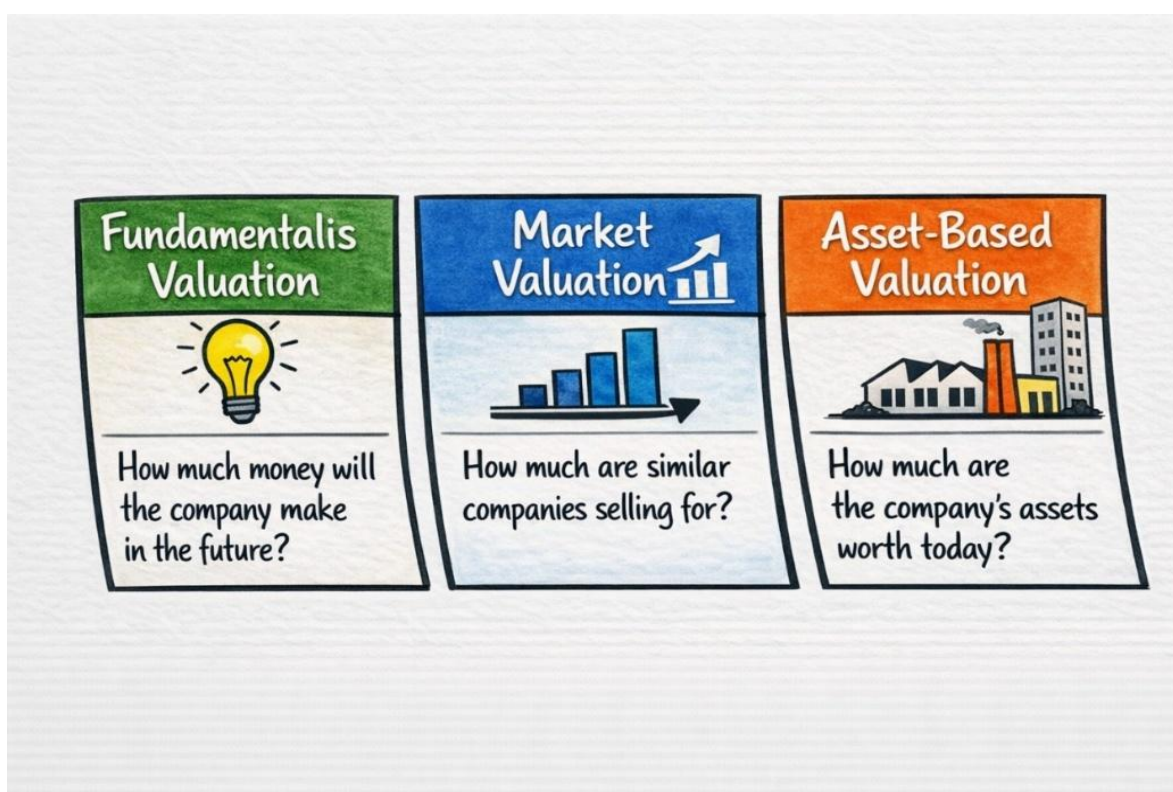


Figure 20: Business Valuation Models
Source: author's own compilation

Overall, corporate valuation is not a single calculation, but an integrated analytical framework that combines accounting-based information, strategic interpretation, and forward-looking financial modelling. The three major valuation approaches—income-based, market-based, and asset-based valuation—represent different perspectives on the same phenomenon: corporate value. While income-based valuation captures future return-generating capacity, market-based valuation reflects external pricing logic, and asset-based valuation provides a snapshot of current wealth embedded in the balance sheet.

The valuation of intangible assets highlights one of the most important limitations of traditional financial reporting: many critical value drivers are not fully recognized as balance sheet assets, despite their strong impact on long-term profitability, growth, and competitive advantage. Therefore, the gap between book value and market value is not simply an accounting anomaly, but a structural consequence of conservative recognition rules. As demonstrated in this chapter, intangible value can be approached through multiple methodological families, including market-based proxies, adjusted fundamental valuation models, asset-level fair value estimation techniques, performance-based residual return indicators, and indicator-driven intellectual capital scorecard systems. The growing importance of digital business models further reinforces the relevance of Hard-to-Value Intangibles (HTVI), where valuation uncertainty is high due to limited comparability, rapid technological obsolescence, and unpredictable cash flow patterns. In such contexts, reliable valuation increasingly requires scenario thinking, sensitivity testing, and the integration of qualitative strategic assessment with quantitative modelling. In conclusion, the valuation of intangible assets is not a separate niche topic, but a central element of modern corporate valuation. Intangible value drivers influence not only enterprise value, but also risk perception, discount rates, long-term growth assumptions, and strategic sustainability. For this reason, the most robust valuation outcomes are achieved when classical valuation techniques are combined with performance measurement frameworks and intangible monitoring systems, enabling analysts to interpret corporate value not only as a financial estimate, but also as an integrated value creation capability.

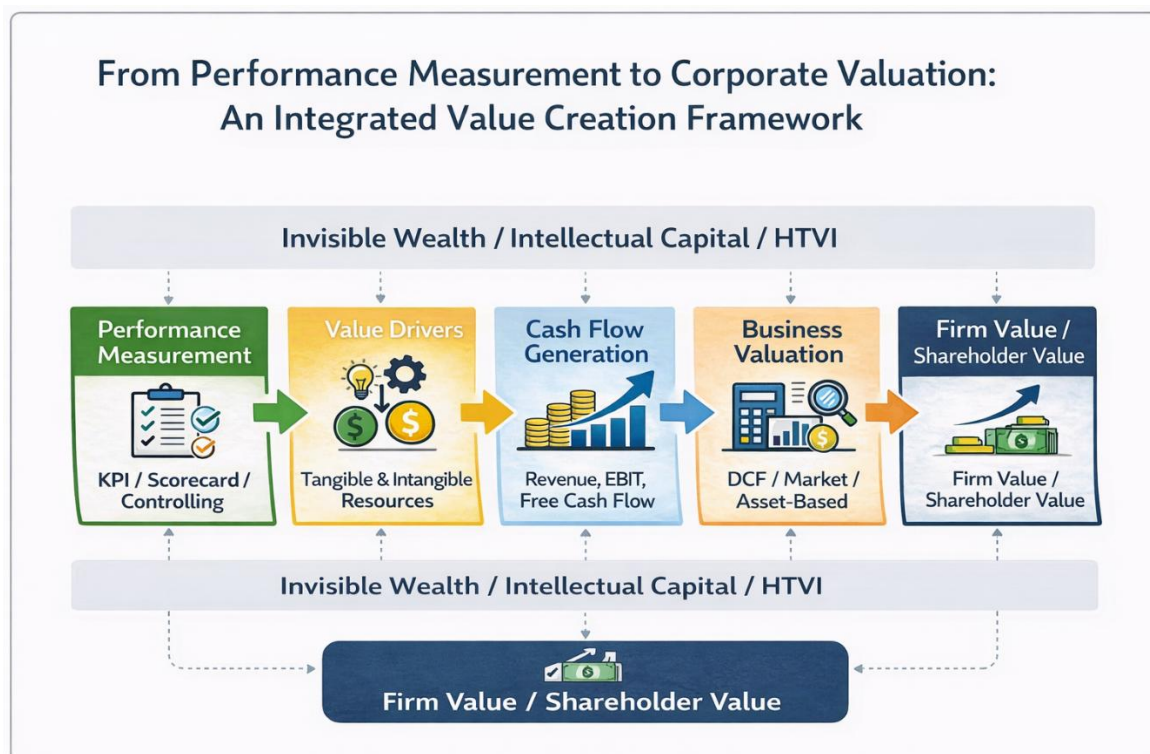


Figure 21: Performance Measurement and Corporate Valuation
Source: author's own compilation

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