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INVESTIGATING THE ROLE OF MANAGEMENT ACCOUNTING IN HUMAN RESOURCE MANAGEMENT: AN EMPIRICAL STUDY

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ABSTRACT

This study explores the intersection between Management Accounting (MA) and Human Resource Management (HRM) to understand whether and how management accounting practices and tools can support the management of human capital. First, this study presents fundamental concepts of management accounting, the characteristics of management accounting systems, and both traditional and advanced management accounting tools and practices. Similarly, it examines roles, tools and practices used in Human Resource Management. Then, through a qualitative case study of an Italian manufacturing firm the research analysis empirically investigates the interplay between MA and HRM, exploring whether and how management accounting can contribute to HR planning, control, and decision-making activities. The case analysis reveals that integration between MA and HR is primarily achieved through traditional management accounting tools, such as budgeting and variance analysis, which act as boundary objects between the two functions. In contrast, the adoption of more advanced tools, as proposed in the literature on MA-HRM interface, remains limited. The study therefore highlights the importance of traditional management accounting tools in bridging the gap between MA and HR, creating a fertile ground for knowledge sharing and fostering cross-functional collaboration. Finally, the study discusses the main challenges associated with the HR performance measurement, outlines future research directions, and proposes managerial implications.

Questo studio esplora se e come i sistemi di controllo di gestione possono supportare i processi decisionali e di controllo relativi alla gestione delle risorse umane all'interno delle organizzazioni. In primo luogo, lo studio presenta le fondamenta teoriche del controllo di gestione, le caratteristiche dei sistemi di controllo di gestione, nonché gli strumenti e le pratiche tradizionali e avanzate ad esso associati. Analogamente, vengono esaminati i ruoli, gli strumenti e le pratiche impiegati nell'ambito della gestione delle risorse umane. Successivamente, attraverso uno studio di caso qualitativo condotto presso un'azienda manifatturiera italiana, la ricerca analizza empiricamente se e in che modo il controllo di gestione possa contribuire alle attività di pianificazione, controllo e supporto alle decisioni in ambito risorse umane. L'analisi del caso rivela che l'integrazione tra controllo di gestione e risorse umane sia realizzata principalmente attraverso strumenti tradizionali di controllo di gestione, quali il budgeting e l'analisi degli scostamenti, che fungono da oggetti di confine (*boundary objects*). Lo studio mette pertanto in luce l'importanza degli strumenti tradizionali di controllo di gestione nell'interazione tra controllo di gestione e gestione delle risorse umane, creando un contesto favorevole alla condivisione delle conoscenze e alla promozione della collaborazione. Infine, il lavoro discute le principali sfide associate alla misurazione delle performance delle risorse umane, delinea possibili direzioni per la ricerca futura e propone alcune implicazioni manageriali.

INTRODUCTION

The contemporary economic landscape is characterised by a profound transition: the shift from an economy anchored in traditional manufacturing to a model centred on knowledge and intellectual capital (Becker et al., 2001; Yin & Xhu, 2025). In this constantly evolving scenario, organisations have begun to perceive human capital no longer as a mere operating cost to be minimised, but as the fundamental strategic pillar for generating a sustainable competitive advantage (Barney, 1991; Huselid, 1995; Raju et al., 2005; Ulrich, 1997). Individuals, with their unique skill sets, creativity, and motivation, represent the primary mechanism through which the corporate vision translates into operational reality (Aronmwan & Izedonmi, 2011). However, the central challenge for modern organisations lies in the capability to effectively measure and manage the value of such intangible assets, thereby bridging the existing gap between management accounting and human resource management practices (Asfahani, 2021).

The importance of studying the intersection between management accounting and Human Resource Management (HRM) stems precisely from the need to provide a quantitative language to the HR function, historically perceived as soft or purely administrative (Aprile, 2015; Garengo et al., 2021; Hannimitkulchai, 2019). While HRM focuses on maximising employee commitment and performance through frameworks such as the Ability-Motivation-Opportunity (AMO) model (Appelbaum et al., 2000), management accounting offers the technical architecture necessary to convert these initiatives into metrics suitable for supporting board-level decision-making (Ansari & Flamholtz, 1978). Despite the theoretical relevance of this integration, the literature frequently highlights a knowledge gap and identity tensions between management accountants and HR managers, making collaboration difficult (Amirul et al., 2020; Gupta, 2024; Vedd & Kouhy, 2005).

The present research work, entitled *"Investigating the role of Management Accounting in Human Resource Management: an empirical study"*, aims fundamentally to investigate whether and how management accounting can support human resource management, analysing the tools, practices, and relational dynamics that characterise this interface (Amirul et al., 2019; Goretzki & Messner, 2019; Vedd & Kouhy, 2005). The research seeks to move beyond pure abstract speculation to observe managerial practices "in action" (Hopwood, 1983, p. 303), exploring how numbers can provide meaning and legitimacy to investments in human capital (Asfahani, 2021; Barney, 1991; Wang, G., et al., 2024). To address this objective, the thesis is structured into three interconnected chapters.

The first chapter outlines the role of management accounting within organisations, focusing on its historical and functional evolution. The analysis begins with the classical definition of management accounting as a support for planning, control, and decision-making processes (Garrison et al., 2021), before diving deeper into the transition from traditional methods (such as budgeting and standard costing) to more sophisticated Strategic Management Accounting (SMA) practices (Cooper & Kaplan, 1988). A cornerstone of the discussion concerns the identity evolution of the management accountant: the transition from a traditional bean counter figure, focused on recording historical data, to that of a business partner, viewed as a strategic co-pilot to management (Granlund & Lukka, 1998). The chapter explores the professional aspirations and the struggles for jurisdictions that management accountants face in order to legitimise their role as strategic influencers beyond administrative boundaries (Marasca & Ascani, 2021).

The second chapter shifts the focus to the interplay between management accounting and human resources, examining the theoretical assumptions and technical tools that enable this integration. The evolution of the HR function from "policy police" (Ulrich, 1998, p. 2), to a strategic pillar is traced, analysing the challenges posed by globalisation and the digital revolution (Johnson & Kaplan, 1987). Through the framework of Human Resource Accounting (HRA), the chapter investigates how personnel costs can be capitalised as assets rather than being treated solely as current expenditures (American Accounting Association, 1973; Asfahani, 2021). It further examines the use of tools such as the HR Scorecard, Cost-Benefit Analysis (CBA), and Return On Investment (ROI) calculations applied to training, highlighting how coordination between the two functions is necessary to ensure that personnel policies are financially sustainable and aligned with the firm's long-term objectives (Becker et al., 2001; Vedd & Kouhy, 2001).

The third chapter constitutes the empirical core of the thesis and presents a qualitative case study conducted within an Italian manufacturing company operating in the textile sector. Through semi-structured interviews with the heads of management accounting and HR, this research explores the organisational dynamics between the two departments (Chiucchi, 2012; Corbetta, 2003; Saunders et al., 2007). The findings highlight how traditional management accounting tools act as boundary objects, facilitating constant functional integration despite the deliberate maintenance of autonomy, aimed at preserving objectivity. The analysis also demonstrates the use of qualitative KPIs for measuring human capital and discusses the positioning of both functions as technical support for top management. The chapter offers a critical discussion that highlights levers, barriers, and future prospects related to a business partnering approach (Amirul et al., 2020; Goretzki & Messner, 2019; Gupta, 2024).

The thesis ends presenting the main theorical contributions and managerial implications of this research. After outlining its main limitations, the work identifies several fruitful research opportunities to delve deeper into the interface between management accounting and HRM.

1. THE ROLE OF MANAGEMENT ACCOUNTING WITHIN ORGANISATIONS: FUNCTIONS, PRACTICES AND RESPONSIBILITIES

1.1 INTRODUCTION

This chapter analyses the fundamental role of management accounting and control within the modern organisation, beginning with an analysis of the changes that shaped the organisational environment in the last century. Despite technological innovation and economic turns, the core functions that sustain the field of management accounting remain unchanged: planning, controlling, and decision-making (Garrison et al., 2021).

Central to this discussion is the application of Anthony's (1965) seminal framework, which distinguishes between strategic planning, management control, and operational control (Anthony, 1965; Gatti & Chiucchi, 2021; Marasca & Ascani, 2021). According to Anthony's structure, control is defined as the systematic process of using information to align inputs and processes with established organisational goals (Anthony, 1965; Simons, 2000).

The discussion then moves to the historical evolution of management accounting practices and tools, a trajectory significantly shaped by the work of Johnson and Kaplan (1987). Their critique in *Relevance Lost* highlighted a decline in the effectiveness of traditional accounting, prompting a *return to relevance* that aimed to better serve operations and strategy (Kaplan, 2011). This section examines the transition from traditional practices, such as budgeting and standard costing (Bubbio, 2000a), that remain central within organisations, to advanced tools like Activity-Based Costing (ABC) and Strategic Management Accounting (SMA) (Cooper & Kaplan, 1988). These more sophisticated methods reflect a shift towards supporting long-term competitive decisions by integrating financial data with non-financial performance metrics, including cycle time and customer satisfaction (Atrill & McLaney, 2015; Kaplan & Norton, 1992).

Finally, the chapter investigates the changing role of the management accountant within organisations over time. The contemporary landscape has redefined this professional figure, moving away from the traditional bean counter stereotype toward the role of a change agent or business partner (Byrne & Pierce, 2007; Järvinen, 2009). This evolution involves not only a shift in daily tasks but also a fundamental change in professional identity and a struggle for recognition within the broader organisation (Ahrens & Chapman, 2000; Järvenpää, 2007). By examining these interactions and professional aspirations, the chapter provides a comprehensive overview of how management accountants came to function as key strategic partners within modern organisations.

1.2 THE ROLE OF MANAGEMENT ACCOUNTING WITHIN ORGANISATIONS

Organisations are defined as "systems of consciously coordinated activities or forces of two or more persons" (Barnard, 1938, p. 73) interacting with the external environment (Daft & Marcic, 2020). In the last half-century, organisations have experienced a never-ending stream of change in technological advances, competitive environments, and business structures (Burns & Vaivio, 2001; Marasca & Ciccola, 2021; Vial, 2019). Recent decades have seen a fundamental shift in organisational environments, characterised by the growth of service-based models, internationalised logistics, and the acceleration of operational cycles (Burns & Vaivio, 2001). These shifts have been further intensified by digital transformation, with innovations such as big data and artificial intelligence, which requires firms to constantly reinvent their operational strategies to remain competitive (Marasca & Ascani, 2021; Vial, 2019).

The challenging environmental context in which firms operate poses the need for adequate information systems to collect, analyse, and translate information to guide managerial decision-making (Burns & Baldvinsdottir, 2005; Burns et al.,1999; Byrne & Pierce, 2007). To this end, a fundamental discipline within organisations is accounting, which aims to "help people make informed business decisions" (Atrill & McLaney, 2015, p. 16). Under this umbrella fall two main forms of accounting: financial accounting and management (or managerial) accounting.

Financial accounting is concerned with the reporting of historical financial information about company performance to subjects external to the organisation, such as stockholders, creditors and regulators. These reports must be precise as well as being compliant with Generally Accepted Accounting Principles (GAAP) and International Financial Reporting Standards (IFRS) (Garrison et al., 2021).

Conversely, management accounting focuses on the internal collection and analysis of data to support strategic and operational managers in their decision-making processes (Asani & Veliu, 2025). It functions as a specialised Management Accounting Information System (MAIS)[1], facilitating the optimisation of limited resources through evidence-based decision-making (Atrill & McLaney, 2015)[2].

After providing a distinction between financial accounting and management accounting, the subsequent discussion will focus specifically on management accounting.

Robert Anthony (1965) is widely recognised as a foundational figure in management accounting for his groundbreaking work in formalising a systemic model of control (Marasca & Ascani, 2021; Merchant & Van der Stede, 2017; Truant et al., 2024;

[1] A Management Accounting Information System (MAIS) is a structured internal framework designed to transform raw operational data into strategic intelligence (Asani & Veliu, 2025; Atrill & McLaney, 2015).
[2] In the modern landscape, this system has evolved to integrate digital tools like big data, allowing for faster response times and more accurate performance evaluation (Hayati et al., 2024). Furthermore, this internal reporting increasingly includes non-financial metrics to guide organisations toward sustainable development and Environmental, Social and Governance (ESG) compliance (Vărzaru et al., 2023).

Zanibbi, 2011). His primary contribution was the conceptualisation of the management control system as a unified framework of elements and components designed to ensure organisational functionality (Anthony & Govindarajan, 2007; Gatti & Chiucchi, 2021). Anthony's framework is famously structured around three hierarchical levels of managerial activity: (1) strategic planning, (2) management control and (3) operational control (Gatti & Chiucchi, 2021; Marasca & Ascani, 2021).

Within the model, (1) strategic planning serves as the process by which top management defines the organisation's long-term objectives and determines the acquisition and allocation of resources necessary to achieve them (Anthony, 1965; Marasca & Ascani, 2021). This high-level vision is then translated through (2) management control, which is described as a rhythmic process (Anthony et al., 1965). At this level, managers ensure that resources are utilised both effectively and efficiently to meet the firm's goals (Marasca & Ascani, 2021). Finally, (3) operational control focuses on the execution of specific tasks, ensuring that individual actions are carried out with technical precision (Anthony, 1965; Marasca & Ascani, 2021).

As noted by Gatti and Chiucchi (2021), while these three functions are distinct in their purpose and scope, they must interact seamlessly within the same system to guarantee the correct functioning of the firm. Particularly, management control acts as the fundamental bridge, often operating on a yearly cycle to align short-term resource usage with the overall strategic plan (Anthony, 1965).

While Anthony's (1965) model provided a practical and revolutionary starting point (Gatti & Chiucchi, 2021), it has faced criticism for its rigid, linear nature, particularly as the speed of change in the digital era has increased (Vial, 2019). Marasca (1989) and Mintzberg (1994) argue that the rigid separation between strategy creation and execution rarely holds up in real-world scenarios. Instead, the lines between these organisational levels have become increasingly blurred (Gatti & Chiucchi, 2021). Furthermore, this traditional framework has been further criticised for an over-reliance on economic and financial metrics and the inherent difficulty in tracing clear cause-and-effect relationships between production inputs and outputs (Collini, 1993; Lynch & Cross, 1995; Silvi, 1995).

Despite these critiques, Anthony's model must be credited with establishing the foundations for a systemic conceptualisation of management accounting, considered the essential, capillary tool for organisational management (Bergamin Barbato, 1991; Marasca & Ascani, 2021). Consequently, the fundamental objectives of management accounting remain rooted in Anthony's logic, even as they have expanded to comprise several key dimensions (Paolini, 2021b). For instance, modern frameworks now provide a continuous flow of both ex-ante and ex-post data, which allows for the verification of chosen strategies and the implementation of timely corrective actions (Gatti & Chiucchi, 2021; Simons, 1995). Beyond mere monitoring, the system also functions as a key tool for coordination and accountability by allocating the activities of various organisational units (Merchant & Van der Stede, 2017) and ensuring that individual responsibilities are clearly defined and aligned with the broader company mission (Brunetti, 1992).

Finally, contemporary control systems facilitate organisational learning and meritocracy. By moving beyond simple oversight, they function as interactive tools that encourage an analytical culture focused on examining variances between planned and actual results (Paolini, 2021b; Simons, 1995). This analytical approach, in turn, promotes a meritocratic environment by establishing transparent criteria that directly link performance measurement to incentive mechanisms, thereby ensuring that rewards are based on demonstrated competence rather than unique factors (Morgan et al., 2012; Souza & Vasconcelos, 2021).

While over time, Anthony's (1965) framework has undergone significant refinement by various scholars (Brusa, 2000; Gatti & Chiucchi, 2021; Marchi, 1988; Riccaboni, 2004), the fundamental objective of management accounting remains the support of planning, controlling, and decision-making activities (Garrison et al., 2021). These three functions are widely recognised as the structural pillars of the discipline, with planning serving as the critical foundation to both control and decision-making (Asani & Veliu, 2025).

1.2.1 Planning

Planning in an organisation occurs at two primary levels: the strategic level and the operational level. Strategic planning is a high-level process led by top management to decide the long-term direction of the entire company (Andersen, 2000). As noted by Marasca and Ciccola (2021), the formalisation of this process is largely attributed to Ansoff (1965), who is widely considered the father of strategic planning for his pioneering work on systematic corporate strategy. This conceptual framework was subsequently expanded and refined by Hofer and Schendel (1978), who introduced more analytical accuracy to strategy formulation. Specifically, Hofer and Schendel (1978) enhanced this accuracy by decomposing the strategy formulation process into four distinct analytical components: scope, resource deployment, competitive advantage, and synergy. By distinguishing between corporate-level and business-level strategies, they moved beyond the more generalised approach of Ansoff (1965) to provide a detailed methodology for resource allocation based on the specific stage of a product's life cycle (Hofer & Schendel, 1978).

This evolution allowed for a more objective assessment of a firm's position by utilising environmental variables to dictate strategic choices, rather than relying solely on intuitive managerial judgment (Hofer & Schendel, 1978; Marasca & Ciccola, 2021).

Consequently, their model transformed strategic planning into a systematic discipline focused on the alignment between internal capabilities and external market opportunities (Hofer & Schendel, 1978). Within this evolution, the strategic and operational levels represent a continuous cycle where broad goals are translated into actionable programs. This ensures that individual responsibilities remain aligned with the broader company mission[3] to ensure that the chosen strategy is achieved (Brunetti, 1992; Gatti & Chiucchi, 2021).

Strategy is traditionally defined as "the determination of long-term goals and objectives" (Andersen, 2000, pp. 185-186) and the subsequent allocation of resources to achieve them (Chandler, 1962). The choice of a specific strategy results from environmental dynamics and the firm's interpretation and adaptation to external inputs (Chandler, 1962; Marasca & Ciccola, 2021).

However, modern perspectives expand this definition, viewing strategy as the search for a sustainable competitive advantage through the unique configuration of internal resources and capabilities of the firm (Barney, 1991; Marasca & Ciccola, 2021). At this stage, top management focus on the mission of the firm, which defines its purpose and core values (Simons, 2000). The mission also positions the company within its competitive environment to create superior value (Porter, 1996). While this often involves a top-down approach based on market analysis, the realisation of strategy is rarely linear (Simons, 2000).

As Mintzberg (1987) suggests, strategy can be viewed as a "pattern in a stream of actions" (Mintzberg, 1987, p. 12), where intended strategies (those planned) must coexist with emergent strategies that arise spontaneously from local experimentation or shifts in

[3] A business's mission defines its fundamental purpose and reason for being. While officially recorded in the firm's legal charter, senior management often develop their own versions to communicate their core values and ideals to the whole workforce. Ultimately, a well-stated mission provides both inspiration and a clear sense of direction for the firm's future (Simons, 2000).

the environment (Simons, 2000). Ultimately, strategy is not just a document but a continuous process of coordinating a firm's internal strengths with external opportunities to ensure long-term sustainability (Chandler, 1962; Drucker, 1954; Marasca & Ciccola, 2021).

Once the strategy is set, it must be turned into operational planning. The primary tool for this is the budget, defined as "a plan for the future expressed in formal quantitative terms" (Garrison et al., 2021, p. 3). While the strategic plan is a general road map, the budget is a formal document that expresses these plans in specific financial numbers (Simons, 2000). Most operational budgets cover a one-year period and list exactly what revenues are expected and what expenses are allowed (Anthony & Govindarajan, 2007; Henttu-Aho & Järvinen, 2013).

This operational stage is crucial because it links the big-picture economic goals to the daily activities of employees (Del Bene & Gatti, 2021; Garrison et al., 2021). Objectives are streamlined down the hierarchy, meaning they are broken into smaller, manageable pieces for different departments to follow. These smaller budgets act as a coordination system to ensure the company has enough cash and equipment to reach its targets (Simons, 2000).

Despite its foundational role, traditional annual budgeting is increasingly challenged by rapidly changing dynamic markets, leading firms to adopt rolling forecasts that provide a more realistic and fresh perspective of the future (Henttu-Aho & Järvinen, 2013). Furthermore, planning is most effective when it coexists with autonomous actions, allowing managers to make fast, responsive decisions under changing conditions (Andersen, 2000). In summary, while strategic planning sets the long-term destination, operational planning provides the discipline and the financial rules needed to get there (Andersen, 2000).

1.2.2 Control

Shifting the attention to the control function of management accounting, control is generally understood as the systematic process of using information to align organisational inputs, processes, and outputs with established goals (Anthony, 1965; Simons, 2000). In management accounting, control is often described as the measurement phase, which requires actual results to be compared against the planned budget to investigate the specific drivers behind performance gaps (Kusmiati, E., et al., 2020). By using performance reports, specifically the comparison of budgeted data versus actual results, businesses can gain insights into their operations and remove the causes of poor performance (Garrison et al., 2021; Simons, 2000). There are two fundamental categories of control mechanisms put in place within organisations, these are feedback and feedforward controls (Brusa, 2000; Marasca & Ciccola, 2021).

Organisational control is traditionally built upon feedback mechanisms, which provide information about actual results or outcomes after they have occurred and compare them against preset standards or benchmarks (ex-post evaluation)[4] (Demski, 1969; Marasca & Ascani, 2021; Merchant & Van der Stede, 2017). Feedback mechanisms are important because they provide reliable historical records for performance evaluation and allow for learning from past results (Merchant & Van der Stede, 2017). However, the main drawback of feedback mechanisms is that the information they provide is inherently reactive (Marasca & Ascani, 2021; Simons, 2000). As Maruta (2012) notes, this time lag between action and feedback can hinder an organisation's ability to respond to rapid environmental changes. By the time a variance is identified, the deviation has already occurred, which

[4] "Feedback is the return of variance information from the *output* of a process to the *input* or *process* stages so that adjustments can be made to maintain desired levels of performance or control the stability of a system" (Simons, 2000, p. 75)

may be too late to prevent economic loss in volatile markets (Henttu-Aho & Järvinen, 2013).

Conversely, control systems have evolved from reactive feedback loops to include proactive mechanisms (Andersen, 2000). As Simons (1995) suggests, by focusing on strategic uncertainties, managers can engage in feedforward control, a process of anticipating potential problems and environmental shifts before they occur to ensure strategic adaptation (Koontz & Bradspies, 1972). Strategic uncertainties are those emerging shifts in the business environment that could fundamentally challenge the assumptions upon which a firm has built its competitive strategy (Simons, 2000). Feedforward mechanisms compare objectives with expected results before these are produced (Marasca & Ascani, 2021). Instead of looking at past performance, managers analyse the environment for changes in market dynamics, competitor actions, or resource availability to adjust plans before problems arise (Andersen, 2000; Simons, 2000). The main advantage of feedforward is that it allows for agile responses and preventive action, helping the organisation adapt to rapid environmental shifts (Andersen, 2000; Marasca & Ascani, 2021; Widener, 2007).

The budget acts as the primary instrument for executing both feedback and feedforward control (Simons, 2000). This dual role is essential because it balances the need for historical accountability with the necessity of future-oriented adaptation (Merchant & Van der Stede, 2017). As a feedback tool, the budget functions as a formal performance standard for ex-post evaluation, where actual results are compared against preset benchmarks through variance analysis to correct operational deviations (Garrison et al., 2021). This reactive process allows managers to adjust inputs after a reporting period, ensuring accountability and learning from past performance gaps (Otley, 2016). At the same time, the budget facilitates feedforward control by requiring an ex-ante economic trajectory based on strategic uncertainties (Koontz & Bradspies, 1972). Horngren et al. (2021) emphasise that this proactive approach is vital in today's volatile markets, as it allows management to simulate different scenarios and prepare contingency plans before financial resources are committed. This aligns with the perspective of Del Bene and Gatti (2021), who argue that the budget should be viewed not as a rigid constraint, but as a flexible support tool that guides action toward long-term goals.

Furthermore, the budgeting system serves as the key link between strategic and operational planning. It ensures that the high-level objectives found in the strategic plan are translated into quantitative actionable programmes (Del Bene & Gatti, 2021). Therefore, in this modern context, the budget is no longer a simple accounting exercise but a declaration of will that grounds strategy in operational reality (Del Bene & Gatti, 2021).

Modern practices, such as rolling forecasts, further enhance budgeting systems by providing a continuous perspective of the business environment (Henttu-Aho & Järvinen, 2013). This improvement ensures that the management cycle remains dynamic, transitioning from the simple realisation of past profits to the active identification of future profit potential, ultimately helping managers understand where the company stands relative to its strategic economic trajectory (Bubbio, 1995; Del Bene & Gatti, 2021; Nishimura, 2003).

1.2.3 Decision-Making

Finally, management accounting supports managerial decision-making processes (Barends & Rousseau, 2018; Rumelt, 2011). Depending on the company's specific products and the competitive environment of its industry, managers must evaluate various competing choices to determine the best path forward (Garrison et al., 2021; Kusmiati, K., et al., 2020). Management accounting plays a critical role in this process by acting as an information system that reduces uncertainty and provides a structured basis for objective analysis (Bhimani et al., 2019). When making these decisions, managers are primarily guided by the principles of efficiency, maximising output relative to input, and effectiveness, ensuring that the chosen actions can achieve the organisation's strategic goals (Drury, 2020). Management accounting facilitates this process by transforming raw financial and operational data into information useful for decision-making (Garrison et al., 2021). For example, through techniques like relevant costing and cost-volume-profit analysis, it helps managers weigh the trade-offs of different scenarios, such as whether to outsource production or invest in new technology (Bhimani et al., 2019). Furthermore, the quality of managerial decision-making is often enhanced when management accounting information is integrated with non-financial performance metrics (Horngren et al., 2021). This holistic view allows managers to understand not just the immediate financial impact of a choice, but also its long-term effect on customer satisfaction and operational health (Hall, 2010). By providing this comprehensive data, management accounting ensures that strategic choices are not based on intuition alone but are grounded in rigorous assessment of how resources can be most effectively utilised (Ma et al., 2022).

Next section shall offer an overview of the main management accounting tools and practices, instrumental to support planning, control and decision-making processes, and their evolution over time.

1.3 THE EVOLUTION OF MANAGEMENT ACCOUNTING PRACTICES AND TOOLS

Among the most influential contributions to the study of management accounting evolution is the book *Relevance Lost: The Rise and Fall of Management Accounting* by Johnson and Kaplan (1987). It provides a comprehensive analysis of the management accounting function, tracing its evolution through different economic stages, and establishing the foundations for modern techniques (Kaplan, 2011).

The historical trajectory of management accounting is defined by a transition from internal innovation to a period of stagnant *relevance lost*. During the initial era, spanning from the mid-nineteenth century to the 1920s, accounting systems were developed internally by growing hierarchical organisations, such as railroads and steel mills, to monitor the conversion of raw materials and labour into finished products (Johnson & Kaplan, 1987). This development of specialised knowledge reflects a broader intellectual trend where professional disciplines began to define their own internal logic and boundaries, often at the risk of becoming isolated from wider organisational or social purposes (Collini, 1993).

By the end of this period, many fundamental practices, including standard costing, variance analysis, and Return on Investment (ROI), had been refined to support managerial oversight and capital allocation (Johnson & Kaplan, 1987). However, this progress arrested after 1925, as management accounting became a means to serve external financial statements, leading to distorted costs and short-termism (Johnson & Kaplan, 1987). To counter this decline and reconnect internal operations with corporate strategy, later frameworks emphasised that financial measures must be balanced with operational drivers (Kaplan & Norton, 1996). Specifically, the Performance Pyramid was introduced to ensure that day-to-day activities at the departments and work centres aligned directly with the high-level financial and strategic objectives of the firm (Lynch & Cross, 1995).

Finally, the Authors argue for an advanced stage, noting that while the computing revolution has removed technical barriers to data collection, many firms remain fixated on outdated 1920s models (Johnson & Kaplan, 1987). They suggest that modern systems must regain their relevance by providing accurate, real-time data that reflects the logical reality of sophisticated, high-tech production environments (Johnson & Kaplan, 1987). This requires a shift from purely vertical, siloed reporting toward a multi-dimensional approach that links customer requirements and internal flexibility to the bottom line (Lynch & Cross, 1995).

The last phase of this process culminates with the rise of modern management accounting. Johnson and Kaplan (1987) advocated for a return to relevance through a deeper understanding of organisational processes with the aim to serve operation and strategy. Instead of using volume-based metrics to assign overhead costs, they argued that accounting should focus on the specific activity drivers of those costs (Johnson & Kaplan, 1987). This reasoning eventually paved the way for modern accounting techniques, such as Activity-Based Costing (ABC), and Strategic Management Accounting (SMA) (Cooper & Kaplan, 1988), including the integration of traditional financial data with non-financial metrics to measure the actual performance of the organisation; for example, product quality, cycle times, customer satisfaction, and defect rates (Kaplan & Norton, 1992).

In this context, Strategic Management Accounting (SMA) emerged as a critical tool. As Simmonds (1981) first defined it, SMA involves the provision and analysis of management accounting data regarding a business and its competitors to develop and monitor business strategy. It serves as a support system for both the formulation of the strategic plan and its subsequent implementation (Bubbio, 2000b; Lorange, 1977). Modern perspectives on SMA highlight its role in bridging the gap between internal organisational variables and the external environment (Hadid & Al-Sayed, 2021). It is no longer just a tool to verify the level of strategy execution, but a guiding mechanism that monitors environmental threats and opportunities to determine if a strategy remains valid (Amigoni, 1988; Paolini, 2021a). Thus, SMA acts as an organisational behaviour tool, oriented toward the strategy itself rather than just a directional control of the internal structure (Amigoni, 1988), ensuring that the strategy can be reformulated in real-time as market conditions shift (Paolini, 2021a).

According to this evolution, new management accounting practices and tools have been developed (Amigoni, 1988; Simmonds, 1981). Alongside traditional management accounting methods, more advanced ones have been adopted and together play a key role in modern businesses (Chenhall, 2003). While traditional practices remain foundational for tracking costs and producing financial information, advanced techniques have emerged to provide the deeper, more strategic insights that managers need today (Abdel-Kader & Luther, 2008). The following sections outline these two approaches, showing how they have evolved to support organisational goals.

1.3.1 Traditional management accounting practices and tools

At its core, traditional management accounting is designed for internal financial control, providing the necessary insight into how a firm consumes its resources (Garrison et al., 2021). While some critics argue that these practices rely too heavily on historical data (Burns & Vaivio, 2001; Hope & Fraser, 2003; Kaplan & Norton, 1992), they remain the foundation of modern practice (Johnson & Kaplan, 1987). Examples of these tools are budgeting, full (absorption) costing and standard costing, to ensure the organisation's financial stability and the optimal allocation of limited resources (Brusa, 2000).

The budget constitutes the fundamental technical-informational pillar of the control structure, performing a key function in the planning, motivation, and integration of corporate objectives (Del Bene & Gatti, 2021). This process serves a dual purpose: it acts as a guide for future goals and as a benchmark for monitoring current performance, forcing managers to anticipate obstacles and allocate resources efficiently during the planning phase (Drury, 2020; Garrison et al., 2021). The efficacy of this system depends upon the coordination between the organisational dimension, which involves various functional units and specific responsibility centres, and the informational dimension, relating to specific time intervals and measurement units (Del Bene & Gatti, 2021).

Therefore, the budget represents a synthesis of historical and prospective data, translating qualitative measures into quantitative metrics such as sales volumes, operating margins, and efficiency indices (Del Bene & Gatti, 2021). To manage the multifaceted nature of modern businesses, this budgetary framework should be based on the integration of both quantitative and extra-accounting data (Del Bene & Gatti, 2021). Firms typically adopt one of two primary methodologies for budget construction (Garrison et al., 2021). A top-down approach empowers executive leadership to establish operational targets. While this ensures strategic alignment and speed, it may lead to decreased motivation if frontline staff perceive the objectives as unrealistic (Drury, 2020). Alternatively, more recent participative (or bottom-up) budgeting fosters a collaborative environment where managers at various levels contribute to the goal-setting process. This method generally enhances the accuracy of financial forecasts and promotes individual commitment to the targets. However, organisations must remain vigilant regarding budgetary slack, a phenomenon where managers intentionally underestimate revenue or overestimate expenses to create a safety net that protects their performance ratings (Garrison et al., 2021).

Everything eventually converges into the master budget, a net of interdependent targets across departments. It all starts with the sales budget; if this initial forecast is inaccurate, the error is reflected through every following calculation, as this primary input determines the scale of all subsequent operational activities (Atrill & McLaney, 2015; Drury, 2020; Garrison et al., 2021). From there, the production budget dictates the requirements for direct materials, labour, and manufacturing overhead. This stage is vital because it translates sales demand into physical resource requirements and associated costs

(Bhimani et al., 2019; Garrison et al., 2021). These operational requirements then feed into a cash budget to ensure the company maintains enough liquidity to survive. This financial plan is often considered the most critical component for short-term survival, as it highlights potential errors before they occur (Atrill & McLaney, 2015; Horngren et al., 2021). The cycle finally concludes with the budgeted financial statements, specifically the pro forma income statement and balance sheet, which provide a window into the company's expected profitability and financial position for the chosen period (Atrill & McLaney, 2015; Garrison et al., 2021; Weygandt et al., 2018).

Moving from the broad planning phase of the master budget into the actual measurement of product costs requires a shift in focus. While the budget sets the plan, full (absorption) costing serves as the practical bridge that moves the organisation from planning toward active control. It effectively captures those manufacturing overheads identified in the budget and assigns them to individual units (Drury, 2020).

Absorption costing, which is often referred to as full costing, represents a traditional approach to determining the total cost of a product by including every manufacturing expense incurred during production (Garrison et al., 2021). According to Atrill and McLaney (2015), this method involves assigning to each unit produced a portion of indirect costs, or overheads, which are necessary to sustain the production environment but cannot be easily tied to a single unit[5]. In addition, standard costing was developed in many

[5] The process generally starts by identifying direct costs that are easy to assign, such as the specific materials used or the hours of direct labour. For the trickier indirect costs, a predetermined overhead rate is established by dividing the total manufacturing overhead by an estimated allocation base, like machine hours (Horngren et al., 2021). This rate is then used to apply overhead to the work in process as production occurs. One of the main reasons this method is a staple of traditional accounting is its role in external financial reporting, as it complies with GAAP and IFRS, which require that fixed manufacturing overhead be treated as an inventoriable cost (Weygandt et al., 2019). By attaching fixed overheads to the product itself, these costs are reported on the balance sheet as part of inventory until the goods are sold (Drury, 2020). It is only at the point of sale that these costs are recorded as an expense on the income statement under cost of goods sold, which helps match the timing of expenses with the revenue they generate (Bhimani et al., 2019). This matching principle ensures that the costs of producing an item are not recognised until the economic benefit of the sale is realised, preventing distortions in short-term profit reporting (Bhimani et al., 2019).

companies as it introduces benchmarks against which actual performance can be measured (Horngren et al., 2021; Lanen et al., 2020). Standard costing is a financial framework that uses pre-established benchmarks to keep a business on track by setting cost expectations before production starts. Garrison et al. (2021) explain that this system breaks down spending differences into two parts: a price variance, which tracks if the firm paid more or less than planned for materials, and a quantity variance, which reveals if more or less of a resource was used than expected for the actual level of output. In simple terms, a variance is the calculated difference between what truly happened and what was supposed to happen according to the budget or standard (Horngren et al., 2021). If the actual cost is higher than the standard, it is called an adverse variance because it lowers profit. If it is lower, it is favourable because it boosts the bottom line (Horngren et al., 2021). Atrill and McLaney (2015) point out that this allows for management by exception, where managers only need to step in when these variances become significant. By comparing actual results to a flexed budget (which is just the original budget adjusted to show what costs should have been for the actual number of units produced) managers can identify exactly where the business is overspending or saving money (Drury, 2020). This whole process creates a clear path to coordinate the expected profit with the real profit made, helping to hold specific departments accountable for their performance (Horngren et al., 2021).

While these traditional methods were able to provide the structure necessary for mass production in the 20th century, the shift toward highly automated and customer-driven markets eventually exposed their limitations (Johnson & Kaplan, 1987). The reliance on simple allocation bases and purely financial, backward-looking data often failed to capture the complexity of modern business activities (Johnson & Kaplan, 1987). This gap favoured the creation of management accounting tools designed to offer more precision and strategic insight, moving the focus away from just recording history and toward actively driving future performance (Kaplan & Norton, 1996).

1.3.2 Advanced management accounting practices and tools

The demand for critical data to support long-term planning and competitive decisions ultimately led to the development of Strategic Management Accounting (SMA) (Atrill & McLaney, 2015; Bromwich, 1990; Cattaneo, 2021). As previously mentioned, unlike traditional systems that just looked backward at internal costs, this advanced approach monitors both what's happening inside the business and in the external environment (Cattaneo, 2021). The foundation for much of this progress was the application of Activity-Based Costing (ABC), which attributes costs to the actual activities that drive spending, thereby providing a more precise calculation of full costs (Cattaneo, 2021; Drury, 2020; Marasca et al., 2021). The fundamental premise of this model is that the production of a good or the provision of a service necessitates the execution of specific activities (Drury, 2020). These activities, governed by various drivers, consume company resources, which in turn generate costs (Cooper & Kaplan, 1988)[6]. This way of thinking gave birth to many specialised tools that management accountants use today, such as Life Cycle Costing and Target Costing for managing expenses throughout a product's life, and the Balanced Scorecard for measuring performance across the entire organisation (Cooper and Kaplan, 1988; Johnson & Kaplan, 1987).

Life-cycle costing (LCC) serves as a strategic framework designed to manage and evaluate profitability throughout the entire lifespan of a product (Gatti & Ascani, 2012).

[6] The Activity-Based Costing (ABC) methodology is particularly effective because it allows firms to trace costs back to their root causes, or drivers. This happens in two stages: first, resource drivers assign costs to specific internal activities based on consumption. Second, these activities are linked to the final cost object through activity drivers (Cattaneo, 2021). This dual-step approach provides a much clearer picture of how organisational resources are actually utilised compared to traditional accounting methods (Cattaneo, 2021).

Unlike traditional accounting methods that often focus on immediate production costs, LCC tracks expenditure from the initial research and development phase, through the active manufacturing cycle, and ultimately into post-production support and final disposal (Drury, 2020; Shields & Young, 1991). The necessity for LCC emerged from the limitations of conventional cost accounting, particularly for firms operating in unstable and complex global markets, as happened in the Japanese context, where LCC found its roots (Gatti, 2011a)[7]. This approach represents a move away from purely retrospective calculations towards a more proactive attitude, encouraging organisations to interrogate the primary drivers of product costs at the earliest possible stage to manage them effectively (Silvi, 2007). By monitoring these cumulative expenses over several years, managers can obtain a much more honest and realistic assessment of whether a product was truly profitable from start to finish (Korpi & Ala-Risku, 2008). Essentially, LCC transforms cost accounting from a simple accounting exercise into a comprehensive philosophy of strategic cost management that prioritises long-term financial accountability (Silvi, 2007).

While LCC provides a comprehensive long-term perspective, target costing (TC) adopts a more proactive, forward-looking stand by effectively inverting the traditional cost-plus pricing model (Cooper & Slagmulder, 1997, 1999). Developed within Japanese firms during the 1960s and 1970s (Hiromoto, 1988; Sakurai, 1989) to address the necessity for market orientation and high productive efficiency, TC has since become a staple of strategic accounting (Ansari et al., 2007; Kato, 1993; Tani et al., 1994). Rather than calculating a price based on production costs and a desired markup, this methodology begins with a competitive market price determined by external conditions and subtracts the

[7] The birth and evolution of LCC is rooted in Japanese management accounting practices developed between the 1960s and 1980s (Gatti, 2011a). Faced with intense competition and market volatility, Japanese firms pioneered tools that allow for the early determination and management of corporate costs rather than merely reacting to them (Monden, 1995; Sakurai, 1989). This represents a major departure from older methods, as it recognises that a large share of expenses, often as much as 80 per cent, is effectively locked in during the design stage before a single unit is even built (Horngren et al., 2021; Kumaran et al., 2001).

organisation's required profit margin (Kocsoy et al., 2009; Monden & Hamada, 1991). In this framework, the market price becomes the independent variable, while the cost is the dependent variable that must be managed to ensure profitability and economic viability (Cooper & Slagmulder, 1997). If the projected manufacturing cost exceeds this threshold, a cost gap is identified, necessitating cross-functional collaboration to eliminate non-essential features or innovate more efficient production methods (Ellram, 2006; Ibusuki & Kaminski, 2007). A distinctive element of TC is its focus on the earliest stages of the product development process, where most costs are effectively locked in long before physical production begins (Ansari et al., 1997). By shifting the management focus to the design phase, TC allows for preventative actions and continuous improvement through a philosophy of total organisational commitment toward stability and efficiency (Berry et al., 2005; Kim, 2011). Ultimately, because both life cycle costing and target costing concentrate on the planning phase, where the most significant financial commitments are made, they offer managers far greater influence over a product's commercial success than reactive measures taken once the assembly line is already in motion (Atrill & McLaney, 2015).

Lastly, the Balanced Scorecard (BSC) represents a sophisticated evolution in performance management, designed specifically to translate an organisation's high-level strategy into actionable operational objectives (Kaplan & Norton, 1992). Originally emerging in 1992 through the research of Robert Kaplan and David Norton, the framework was born from the recognition that traditional management accounting relied too heavily on retrospective financial data, which often failed to capture the complexities of modern business performance (Johnson & Kaplan, 1987). To address this, the BSC requires managers to balance these lagging financial indicators with leading non-financial measures across four distinct perspectives: financial, customer, internal business processes, and learning and growth (Atrill & McLaney, 2015; Kaplan & Norton, 1996; Kaplan & Norton, 2001a). This holistic structure operates on the premise that long-term profitability is not an isolated goal but the logical outcome of satisfying customer needs, optimising internal operations, and fostering an environment of continuous innovation (Gatti, 2011b).

A defining characteristic of this framework is its multidimensionality, which distinguishes it from older, narrow performance measurement systems by providing a comprehensive integration of organisational results (Silvi, 2007). This is often achieved through the establishment of clear cause-and-effect relationships between the different dimensions, frequently visualised via a strategy map (Kaplan & Norton, 2001b; Lucianetti, 2010). By integrating leading indicators that predict future success with lagging indicators reflecting past performance, management can identify systemic issues at an early stage and implement corrective actions (Hoque, 2014). Since its inception, the BSC has transitioned from a mere measurement tool to a robust system of strategic control and communication (Lucianetti, 2010; Malmi, 2001), serving as a key instrument for top management to actively formulate and reformulate strategy in response to evolving business demands (Kaplan & Norton, 2004).

It is worth noting that the evolution of strategic control systems is also linked to the advancement of Information and Communication Technologies (ICT), which have historically redefined how organisations process and communicate information (Bubbio, 2000b; Marchi, 1988). While early computerised systems in the 1970s laid the foundation, the subsequent adoption of Enterprise Resource Planning (ERP)[8] in the 1990s and the rise of Business Intelligence (BI) marked a shift towards more sophisticated analytical

[8] An ERP system serves as an integrated, cross-functional information infrastructure that unifies various business departments within a single, shared database (Järvenpää, 2007; Van der Lugt, 2024). This architecture enables companies to standardise data flows and significantly cut coordination costs, while simultaneously facilitating the extraction of deep analytical insights to support strategic decision-making (Matsalia & Kinyua, 2023).

frameworks (Marasca & Ascani, 2021). Today, this landscape is further transformed by digitalisation, where technologies such as Artificial Intelligence (AI), blockchain, and the Internet of Things (IoT) enable the management of Big Data (BD) within control systems (Knudsen, 2020). Integrating these advanced digital tools with management accounting tools signifies a functional transformation where management accounting is no longer merely an administrative cost-recording exercise but a strategic asset (Nik Abdullah et al., 2022; Shi, 2021).

To conclude the overview about the key role of management accounting within organisations, it becomes essential to examine the role of those in charge of orchestrating management accounting information, through the construction and maintenance of management accounting systems. They are referred to in the literature as "management accountants", "accounting managers", or "controllers" (Hutaibat, 2011; Schildbach, 2002; Wolf et al., 2015)[9]. Therefore, next section will illustrate the development of the management accountants' role.

1.4 MANAGEMENT ACCOUNTANTS WITHIN ORGANISATIONS: TASKS, ROLES AND INTERACTIONS WITH OTHER FUNCTIONS

1.4.1 Management accountants' role and role change

Within organisations, management accountants are organised as a staff function often overseen by the Chief Financial Officer (CFO) (Drury, 2020). They provide specialised support, advice, and information to the top management and line managers who are directly involved in the company's primary operations (Drury, 2020).

[9] For the sake of clarity, they will be referred to simply as "management accountants" for the remainder of this thesis.

The contemporary landscape has redefined the figure of the management accountant (Garzoni, 2004). This professional is no longer merely a number cruncher, but is tasked with building, managing, and maintaining the entire management control system (Garzoni, 2004). Brunetti (1992) suggests that the management accountant must take on two distinct yet complementary roles within the organisation: architect and educator. In the architect capacity, the management accountant handles the technical implementation and functional design of the control system. As educator, the management accountant facilitates the organisational understanding and acceptance of the system, ensuring that data is not just collected but interpreted and utilised by various departments (Brunetti, 1992; Marasca & Ascani, 2021).

Amigoni (1990) further expands this role, noting that the management accountant must act as a promoter of change, stimulating the adoption of new control instruments. This evolutionary shift is also extended in the literature, which defines the modern management accountant as a "change agent" (Granlund & Lukka, 1998, p. 187)[10]. Consequently, the modern management accountant must possess more than just technical accounting expertise; they require advanced relational and communicative skills to influence organisational behaviour and strategic direction (Marasca & Ascani, 2021).

In this regard, literature on management accountants often reports the so-called transition from bean counters to business partners (Byrne & Pierce, 2007; Granlund & Lukka, 1998). Historically, the bean counter archetype is characterised by a narrow focus

[10] Granlund and Lukka (1998) argue that the management accountant's role has evolved from a passive historian to a proactive change agent and strategic partner. This transition begins with the historian and watchdog roles, which focus on historiography (the accurate recording of financial history) and maintaining independent financial control as a sort of local guardian within the organisation. While these foundational roles ensure that the firm's interests are protected, the profession has moved toward an advisory function where accountants act as advisers or consultants. In this capacity, they utilise their business acumen and psychological seniority to ensure financial perspectives are understood by decision-makers. Ultimately, the management accountant reaches the peak of this evolution as a true member of the management team and a change agent. In this high-level role, they serve as the number two guy to the business head, leveraging future-oriented insights to lead system development, such as the Balanced Scorecard, and break down traditional hierarchical boundaries (Granlund & Lukka, 1998).

on data input, recording, and reporting, often described as a watchdog or scorekeeper who remains physically and mentally isolated from core business operations (Bougen, 1994; Friedman & Lyne, 2001; Järvinen, 2009). In contrast, the business partner archetype embodies a managerially active professional who participates in decision-making and seeks to add direct value to the firm's strategic objectives (Burns & Baldvinsdottir, 2005; Granlund & Lukka, 1998; Järvenpää, 2007; Kaplan, 1995; Malmi, 2001). According to this view, management accountants are valuable strategic advisors rather than mere compliance directors or bean counters (Goretzki & Messner, 2019; Järvenpää, 2007).

This evolution from historical bean counter to modern change agent was driven by several systemic factors (Järvinen, 2009). A key influence, as illustrated by Järvenpää (2007), includes technological advancement and the implementation of advanced software packages such as ERP systems, which have automated routine, low-value tasks. This shift diminishes the need for traditional number crunching, therefore freeing management accountants to focus on higher-level analysis and business support (Järvenpää, 2007). Advanced accounting tools and the adoption of relevant modern techniques, such as ABC, the BSC, and rolling forecasts, have increased the functional ability of accountants to provide sophisticated, proactive advice (Järvenpää, 2007). Moreover, organisational restructuring, where management accountants are physically placed within business units, rather than centralised finance offices, promotes greater decentralisation, fosters closer cross-functional cooperation and a better understanding of market needs (Järvenpää, 2007).

By moving from a centralised staff function to a decentralised team position, management accountants interact more directly with other departments (Lambert & Sponem, 2012). When management accountants are moved into new teams, they encode the operational values of those departments into their daily operations (Goretzki et al., 2018). Operating closely within these multifunctional teams makes developing strong relationships and mutual trust essential for identity success (Goretzki et al., 2018). However, this proximity also creates a significant involvement-independence dilemma for management accountants (Lambert & Sponem, 2012). Conflict may arise when an accountant's commitment to old, centralised rules contrasts with the distinct subculture of an operational team (Goretzki et al., 2018). Ultimately, accountants must find a balance between local cultures and their traditional watchdog role (Granlund & Lukka, 1998). This process captures the agency-structure relationship of the management accountant's role: working simultaneously as an independent actor and as a team member of a cross-functional management team (Burns & Scapens, 2000; Granlund & Lukka, 1998). Goretzki et al. (2018) suggest that management accountants rely on a spectrum of informational tactics to navigate the dual accountability they owe to both the finance function and operational management. These tactics involve the intentional and skilful management of information flows, specifically regarding when, how, and what information is shared, to address conflicting expectations without making the underlying tensions too visible (Goretzki et al., 2018)[11].

Against this background, it is worth noting that management accountants do not operate in a vacuum but interact with a suite of actors (Goretzki & Messner, 2019). As discussed above, the primary recipients of management accounting information are top management and operational managers, as they make decisions and have the responsibility to drive and maintain business success (Goretzki et al., 2018). Therefore, they represent

[11] For example, management accountants may use timing to delay reporting negative results to headquarters to protect the credibility of local management or use framing to contextualise accounting numbers in a way that protects the business unit from overly negative evaluations (Goretzki et al., 2018). In more extreme cases, they may resort to manipulation or withholding information to maintain a professional front of competence and reliability in face of the various internal stakeholders. By exhibiting this behaviour, management accountants can seemingly satisfy all parties involved, using informational tactics as a vital social skill to foster cooperation and ensure they are perceived as strong, effective actors within the organisation (Goretzki et al., 2018).

key stakeholders for management accountants (Goretzki et al., 2018; Goretzki & Messner, 2019).

In addition, they work closely with other staff functions, such as Human Resources (HR), Information Technology (IT) and sustainability departments (Garzoni, 2004; Marasca & Ascani, 2021). For instance, management accountants collaborate with the HR department by providing performance data and human capital metrics essential for aligning workforce productivity with organisational value creation (Delany, 2016; Van der Lugt, 2024). Management accountants also rely on and support the Information Technology (IT) department, ensuring that ERP systems and digital accounting infrastructures provide the high-quality, real-time data necessary for modern leadership decisions (Bhimani et al., 2019; Milacic, 2024). Recently, due to the digital transformation, they have also started collaborating with data analysts and data scientists, professional figures with competencies in processing large quantities of internal and external data using statistical and mathematical models (Bhimani & Willcocks, 2014; Marasca & Ascani, 2021; Moll & Yigitbasioglu, 2019). Finally, in line with sustainability related requirements, management accountants are also expected to increasingly collaborate with sustainability managers to support the company' sustainability agenda (Schaltegger & Zvezdov, 2015). Therefore, although business partnering represents an aspiration for management accountants, the stability of this role is often fragile within organisations, as it requires continuous verification from the various actors with which management accountants interact (Goretzki & Messner, 2019; Morales & Lambert, 2013). Next paragraph focuses on the struggles that management accountants face to gain recognition and legitimacy within organisations.

1.4.2 Management accountants' professional aspirations and struggles for recognition within organisations

The evolution of the management accounting profession is characterised by a fundamental shift in how these professionals understand themselves and are perceived by others, moving far beyond simple changes in daily tasks (Ahrens & Chapman, 2000; Järvenpää, 2007). As the field moves toward a strategic role, accountants must undergo complex identity work, which is defined as the continuous process of formulating and revising one's sense of self to bridge the gap between their current role and their professional aspirations (Goretzki & Messner, 2019). The transition is frequently turbulent, as management accountants face a persistent struggle for recognition within the organisation (Ala-Heikkilä & Järvenpää, 2023; Goretzki & Messner, 2019). This struggle is often complicated by the ambiguity surrounding what a business partner does in practice (Ahrens & Chapman, 2000; Burns & Baldvinsdottir, 2005).

Drawing on Goffman's (1959) theory, Goretzki and Messner (2019) argue that the business partner's identity is constructed through a dynamic interplay of frontstage performances for management and backstage interactions with fellow accountants. On the frontstage, accountants try to display their desired professional identity for operational managers in hopes of being perceived as strategic partners. Conversely, the backstage, typically comprising only their peers, serves as a protected space, where they can prepare for these performances, share strategies, and reflect on situations where their frontstage presentations may have failed (Goretzki & Messner, 2019).

A significant barrier to a positive identity is what Morales and Lambert (2013) describe as *moral division of labour*. Accountants are often forced to perform tasks associated with social shame or that contradict their professional aspirations of a more strategic role. They categorise such tasks as *dirty work*, which can be further classified into two types: *unclean work*, which comprises demeaning number crunching tasks (associated with the bean counter stereotype), such as manual data entry or transcribing managers' mistakes; and *polluted work*, consisting of activities usually regarded as prestigious, like participating in board meetings, but which are perceived as demeaning when managers blame accountants for their own failures. Management accountants try several coping strategies to maintain their self-esteem, such as delegating unclean tasks or hiding mistakes, in which case dirty work remains unseen by sweeping dust under the carpet (Morales & Lambert, 2013).

Identity conflicts are often worsened by organisational factors such as employer branding and recruitment practices (Ala-Heikkilä & Järvenpää, 2023). Ala-Heikkilä and Järvenpää (2023) observe that job advertisements often present a high-profile, action hero version of strategic roles, which contrasts deeply with the routine reporting and day-to-day operations that characterise the actual workplace. This creates a gap between the company's promoted ideal image and the perceived role of a number cruncher that operational managers expect, often to compensate for their own shortcomings. Such misalignment can result in role overload and frustration, ultimately leading accountants to leave the organisation (Ala-Heikkilä & Järvenpää, 2023). Historically, even when both managers and management accountants have expressed a desire for more service-oriented roles, they have often remained trapped in bookkeeping archetypes due to the high stress and rigid deadlines typical of management accounting responsibilities (Hopper, 1980).

Ultimately, the successful adoption of a business partner identity depends on more than just task reassignment; it requires a shift in the organisational accounting culture through formal and informal interventions like storytelling, role modelling, and targeted recruitment (Järvenpää, 2007). Without such cultural support, the management accounting function may remain stuck in purely financial or safeguarding roles (Granlund & Lukka, 1998). In these instances, the function lacks the authority to influence strategic decision-making and is instead confined to routine control (Lambert & Sponem, 2012). As Scapens (2006) reflects, the identity of the modern management accountant is an intersection of interrelated technical and social influences. Whether they are recognised as strategic contributors or remain in a traditional financial role depends on how the organisation's culture supports the institutionalisation of these different identities (Scapens, 2006).

In summary, the transition of the management accountant from traditional bean counter to strategic business partner is not merely a change in daily tasks, but a profound organisational shift (Järvenpää, 2007; Scapens, 2006). This journey is defined by a continuous tension between historical archetypes and modern strategic aspirations (Aver & Čadež, 2009; Hopper, 1980). As the literature suggests, achieving a coherent professional identity requires navigating the dirty work (Morales & Lambert, 2013) of routine tasks while simultaneously performing a strategic role within the organisational frontstage interactions (Goretzki & Messner, 2019).

1.5 CONCLUDING REMARKS

This chapter outlined the role played by management accountants within organisations, focusing on its evolution in terms of functions, practices and tools, as well as their main responsibilities. Particularly, after defining the support that management accounting provides to planning, control and decision-making processes, the chapter proposed an in-depth analysis of the evolution from traditional management accounting methods, like standard costing and budgeting, toward more sophisticated practices and tools, such as ABC and the BSC. Their integration within organisations reflects a need for deeper, more strategic insights (Horngren et al., 2021). The chapter ends discussing the role of management accountants within organisations, their role change and their struggles to gain recognition against other organisational groups (Goretzki & Messner, 2019; Morales & Lambert, 2013).

Overall, it is worth noting that existing literature has primarily focused on the intricate relationship between management accountants and their core stakeholders, namely top management and operational managers (Byrne & Pierce, 2018; Goretzki et al., 2018; Mack & Goretzki, 2017). However, far less attention has been paid to the support that the management accounting function provides to other staff departments, such as IT, HR, and sustainability, and the nature of their interaction (Goretzki & Messner, 2019). This is a significant oversight, as these departments must engage with management accountants for several critical reasons. Firstly, as these functions collectively support leadership across various business aspects, their intersection can foster both productive collaboration and professional competition (Ulrich & Rieg, 2020). Secondly, because staff functions are responsible for managing their own budgets and controlling their internal activities, the support of management accountants is often indispensable (Rashid et al., 2021). Whilst some research has explored the links between accounting and IT (Caglio, 2003) or sustainability (Kurki & Järvenpää, 2024; Wenzig et al., 2023), our understanding about the support of management accounting practices to HR activities and of the interplay between management accounting and the HR department remains limited (Goretzki & Messner, 2019; Vedd & Kouhy, 2005). This thesis seeks to address this gap by further investigating this relationship. The next chapter examines the literature regarding HR, tracing the evolving roles and tasks within the function and the specific accounting practices they adopt.

2. THE INTERPLAY BETWEEN MANAGEMENT ACCOUNTING AND HUMAN RESOURCES: TOOLS, PRACTICES AND ORGANISATIONAL CHALLENGES

2.1 INTRODUCTION

The contemporary business environment is increasingly defined by the transition from a traditional manufacturing-based economy to one centred on knowledge and intellectual capital (Becker et al., 2001; Yin & Xhu, 2025). In this landscape, the Human Resources (HR) function has undergone a significant metamorphosis, shifting from a peripheral administrative necessity, often depicted as the "policy police" (Ulrich, 1998, p. 2), to a core strategic pillar essential for organisations (Barney, 1991; Huselid, 1995; Ulrich, 1997). The fundamental premise of this chapter is that human resources represent the collective human capital of a firm, comprising the sum of all expertise, practical skills, and inherent talents possessed by the workforce (Raju et al., 2005). Since employees possess individual agency and personal motivation, they serve as the primary mechanism for translating the corporate vision into operational reality (Aronmwan & Izedonmi, 2011).

Accordingly, the recognition of the strategic value of human capital is only the first step. To achieve a sustainable competitive advantage, organisations must measure and manage the value of human resources and bridge the gap between human resource practices and financial outcomes (Asfahani, 2021). This requires a deep interplay between Human Resource Management (HRM) and management accounting practices, specifically through the discipline of Human Resource Accounting (HRA) (Asfahani, 2021; Moll & Yigitbasioglu, 2019). While HRM focuses on maximising organisational integration, employee commitment, and performance (Guest, 1987) through frameworks like the Ability-Motivation-Opportunity (AMO) model (Appelbaum et al., 2000), management accounting provides the language necessary to measure these contributions and make informed decisions (Ansari & Flamholtz, 1978).

This chapter explores the evolution of the HR function (Appleby, 2018; Choi & Wan Ismail, 2010; Gerpott, 2015; Ulrich, 1998) and examines the theoretical frameworks that justify investments in human capital, such as Social Exchange Theory (SET) (Homans, 1958) and the Resource-Based View (RBV) (Barney, 1991; Penrose, 1959; Wernerfelt, 1984). Then, the chapter specifically focuses on management accounting tools, information and measures that support the HR function in three core activities: planning, control and decision-making. It ends with a critical analysis about the interplay between management accounting and HR practices.

2.2 THE HUMAN RESOURCE FUNCTION WITHIN ORGANISATIONS: TASKS, ROLES AND EVOLUTION

The Human Resources (HR) function has transitioned from a historical administrative necessity to a strategic pillar of modern organisational architecture (Barney, 1991; Huselid, 1995; Ulrich, 1997). To understand the contemporary HR function, it is essential to define its fundamental tasks, the evolving role assumed by its professionals, and the emerging technological and social trends that define its future trajectory (Van Beurden et al., 2025; Wang, Z., et al., 2024).

The starting point of this argumentation is to define HR at large, before diving more deeply into Human Resources Management (HRM). Beyond simply being a headcount of employees, human resources are conceptualised as the aggregation of individuals' knowledge, skills, and abilities, which constitute a key source of value creation for organisations (Becker, 1964; Raju et al., 2005). Building on this perspective, human capital theory frames the workforce as a productive and strategic asset that contributes directly to organisational performance and goal attainment (Flamholtz, 1973; Huselid, 1995). Because individuals possess their own agency and personal motivation, they serve as the primary instrument for transforming the corporate vision into reality (Aronmwan & Izedonmi, 2011).

At its core, the HR function is tasked with managing the lifecycle of an organisation's human capital to maximise performance (Becker, 1964; Huselid, 1995). In fact, HRM is defined in the literature as "a set of policies designed to maximise organisational integration, employee commitment, flexibility and quality" (Guest, 1987, p. 503). Additionally, Asfahani (2021, p. 30) defined it as "tasks and activities that are beneficial in maximising the performance of employees in an organisation". According to these definitions, the main responsibilities of the function generally fall within three main strategic domains (Appelbaum et al., 2000).

The primary pillar of the HR department is the human capital development, a strategic process through which the organisation cultivates a proficient workforce through the systematic integration of recruitment, selection, and professional training (Antonelli et al., 2010; Schulze & Dada, 2024). These activities strive to develop employees' competencies and abilities necessary to perform tasks and ultimately achieve organisational goals (Jiang et al., 2012). The accumulation of superior human capital reserves has been statistically linked to improved performance outcomes across various organisational metrics (Felício et al., 2014). Within this context, Strategic Human Resources Development (SHRD) initiatives, including professional mentoring and structured organisational learning, transform latent employee potential into a strategic resource that is unique and inimitable (Chami-Malaeb & Garavan, 2013; Ulrich & Brockbank, 2005).

The second strategic domain of the HR function is to maintain motivation and engagement by improving employee effort through rewards, performance management, and career development (Shields et al., 2015). This involves creating a psychological contract (Argyris, 1960; Rousseau, 1995), which outlines the mutual rights and responsibilities between employer and employee (Fiorito et al., 2007). Effective engagement strategies move beyond monetary compensation to incorporate intangible rewards, which include autonomy, recognition, and work-life balance (Saks, 2006). Research suggests that, while financial incentives ensure basic compliance, it is the non-material components that drive long-term psychological attachment (Shields et al., 2015). For example, in a volatile labour market, providing mobility options acts as a retention mechanism, as it signals to employees that their long-term career growth can be realised within the organisation rather than seeking it externally (Kraimer et al., 2011). Moreover, organisations that invest in the employability of their staff often see a paradoxical increase in loyalty, as employees perceive the developmental investment as a fulfilment of the employer's side of the psychological contract (Rousseau, 2005).

The third key responsibility of HR regards organisational structuring, which involves designing the work environment to empower employees and support effective contributions (Ulrich, 1998). This is achieved through thoughtful job design, encouraging individual participation and collaboration within teams, and managing internal labour markets to provide opportunities for growth and development (Jiang et al., 2012). Scholars argue that decentralised organisational frameworks are a prerequisite for genuine employee empowerment (Lawler, 1986; Mintzberg, 1983; Spreitzer, 1995). By reducing hierarchical rigidity, these structures encourage employee participation, where staff feel free to exercise individual autonomy and to take initiative (Wong Humborstad & Perry, 2011). Furthermore, research by Santos et al. (2014) demonstrated that the alignment of HRM with the organisational structure is critical for promoting a business process-oriented environment, which ultimately drives organisational performance. Therefore, by supervising these aspects, HR creates an environment that promotes social support, interdependence, and empowerment, allowing motivated employees to make use of their skills in achieving specific operational goals (Appelbaum et al., 2000; Yim et al., 2024).

As with regards to the evolution of the HR profession, over time, this role has undergone a significant transformation, evolving from its historical roots in administrative and welfare tasks (Appleby, 2018; Becker et al., 2001) to becoming a high-status, strategic contributor to organisational success (Choi & Wan Ismail, 2010; Lemmergaard, 2009). In the early 20th century, in fact, HR professionals were primarily viewed as welfare workers or social secretaries (mostly women), placed in roles that were peripheral to core business functions and often regarded as administrative confidants handling personal employee issues (Appleby, 2018; Legge, 1995; Torrington et al., 2008). They were restricted to administrative controls or regulatory enforcement (Ulrich 1998), and their operations were frequently disconnected from business objectives (Choi & Wan Ismail, 2010).

For the profession to maintain organisational relevance, HR focus must make a radical move from its activities (the processes managed) to its deliverables (tangible value provided to the stakeholders) (Choi & Wan Ismail, 2010; Ulrich, 1998). The landscape shifted significantly with Dave Ulrich's (1998) seminal work, *A New Mandate for Human Resources*, which argued that HR must be defined not by what it does, but by what it delivers to the business. Accordingly, four strategic mandates were identified (Conner & Ulrich, 1996; Ulrich, 1997, 1998). These are intended as the roles that HR must achieve to gain organisational recognition and relevance (Keegan et al., 2018).

The first mandate is the role of the strategic partner, where HR professionals move beyond operational support and become the architects of organisational strategy (Gerpott, 2015). This implies the alignment of HR systems and business goals (Eichinger & Ulrich, 1995), together with the definition of a suitable culture, expected leadership behaviours, and required competencies (Ulrich, 1998). The second role identified is that of administrative expert, through the reengineering of administrative operations and technological integration (Ulrich, 1998). In this archetype, the goal for HR professionals is to improve efficiency (both within the HR function and throughout the whole firm) by reducing costs, while still delivering high-quality services (Choi & Wan Ismail, 2010). The third mandate is to become an employee champion: as intellectual capital becomes the primary value driver in modern economies, it is necessary that HR serves as the workforce's principal advocate to management (Csoka, 1995; Ehrlich, 1997). Thus, HR must also convey to line managers the importance of high employee morale and teach them how to achieve it (Csoka, 1995; Ulrich, 1998). This role guides employee engagement and commitment (Csoka, 1995; Ulrich, 1998), striving for high productivity and alignment with company goals (Choi & Wan Ismail, 2010). The last role identified by Ulrich (1998) is the change agent, where HR leads the firm through continuous change (Conner & Ulrich, 1996). By learning the art of adaptation, the company can navigate transitions effectively, ensuring that initiatives lead to sustainable behavioural shifts (Ehrlich, 1997). Moreover, according to Ulrich (1998), the evolving business environment imposes some challenges that demand the evolution of new corporate competencies. These comprise the globalisation of markets and the necessity for multinational presence, paired with rapid technological change and innovation (Becker et al., 2001; Christian, 2022; Ulrich, 1998; Walker & McDonald, 2001). Furthermore, the deregulation of previously protected sectors has advanced a turbulent and highly competitive environment characterised by intense price and product competition (Becker et al., 2001; Walker & McDonald, 2001). In this new economic environment, organisations must prioritise speed to market, short cycle times, and continuous innovation to satisfy increasingly price-sensitive customers who expect superior service and advanced support (Becker et al., 2001; Walker & McDonald, 2001).

Because responsibility for these developments is frequently fragmented across the organisation, a leadership void is created (Thite et al., 2014). This vacuum can serve as a primary incentive for HR to redefine its mandate, positioning the department as the central authority, responsible for preparing the firm to navigate global competition (Thite et al., 2014; Ulrich, 1998). These challenges are illustrated in the following section.

2.3 ORGANISATIONAL CHALLENGES FOR THE HUMAN RESOURCE FUNCTION

One of the main challenges that organisations encounter relates to globalisation, which, in the late 1990s, was mainly about moving the workforce and inputs across national borders (Ulrich, 1998). Today, globalisation involves managing a more contextual HRM, where global strategies must be hyper-localised to satisfy diverse cultural frameworks and volatile market conditions (Caroline et al., 2024). Hence, success is no longer just about efficiency but relates more to the ability of an organisation to move knowledge seamlessly across a global network to meet local client needs (Mendy et al., 2024; Ulrich, 1998).

Additionally, while 20th-century firms relied heavily on downsizing, intended as the planned reduction of employee headcounts to lower operational costs (Hamel & Prahalad, 1994), modern enterprises have realised that such “denominator management” (Hamel & Prahalad, 1994, p. 11) leads to diminishing returns (Becker et al., 2001; Ulrich, 1998). This strategy often provides only temporary gains as it fails to recognise human capital as a primary source of sustainable competitive advantage (Becker et al., 2001). Thus, to remain competitive, leadership must depend on revenue expansion sustained by innovation and agile customer connections (Serang et al., 2024). In this environment, HR must act as the architect of seamless knowledge sharing, ensuring that, for instance, mergers and partnerships result in integrated, high-performing corporate cultures rather than fragmented silos (Serang et al., 2024; Ulrich, 1998).

Another challenge faced by modern firms is technological advancement (Ulrich, 1998). The digital revolution has accelerated the pace of business, but the true test for leadership lies in understanding which tools can actually generate value (Caroline et al., 2024). Success depends on the managerial ability to filter large streams of data into actionable insights, ensuring that technical infrastructure supports productivity (Durth et al., 2022; Keegan et al., 2018; Ulrich, 1997). Organisations must strategically use integration to redefine where and how work is executed to remain competitive (Ulrich, 1998). Integration in this context refers to the alignment and coordination of human resources with other strategic functions, particularly, management accounting, to create a unified framework for planning and decision-making (Amirul et al., 2020). This process involves the synthesis of data and information transfer between different organisational sub-units to ensure that people management directly supports operational efficiency and long-term value creation (Amirul et al., 2020; Arseneault & Gagnon, 2024).

In this digital-focused landscape, HR acts as a critical integrator and change agent, tasked with aligning human capital with the firm's technical infrastructure (Christian, 2022; Van der Lugt, 2024; Vedd & Kouhy, 2001). HR professionals must evolve into data-minded consultants who use advanced analytics and predictive modelling to synthesise information across organisational sub-units, thereby transforming large data streams into actionable business insights (Christian, 2022; Van der Lugt, 2024; Walker & McDonald, 2001). Ultimately, the role involves optimising the synergy between human intelligence and automated systems, effectively redesigning work environments to maintain a sustainable competitive advantage, while ensuring that the workforce remains adaptable to constant technological shifts (Christian, 2022; Habiburrochman & Irawati, 2021; Hannimitkulchai, 2019).

Another challenge regards organisations' ability to attract and retain top-tier talent (Ulrich, 1998). In this context, modern HRM must ensure that human capital remains the driving force behind market responsiveness (Stone et al., 2024). Lastly, the status quo is no longer a safety zone but a significant business risk (Ulrich, 1998). Thriving in the current environment requires an agile culture that views change as a core internal competency rather than a disruptive external force (Ulrich, 1998). Therefore, HR might foster employee resilience to navigate environmental challenges, transforming the organisation into a continuous learning machine (Cahyadi et al., 2024; Ulrich, 1998).

Against this background, Ulrich (1998) argued that human resource transformation cannot occur in isolation; instead, it requires a deeply integrated, symbiotic relationship with the CEO and line management, who are ultimately responsible for the organisation's operational outcomes. Over the years, this partnership has evolved into a strategic necessity where HR managers and the CEO must cooperate to ensure successful strategy execution and ethical governance (Gaur et al., 2024; Schiemann & Ulrich, 2017). Therefore, to achieve organisational relevance the HR function must transition from an activity-centred department to a deliverable-based partner, held accountable through rigorous, outcome-based standards (Ulrich, 1998). This shift implies that HR's value is defined by the quality of its results, such as measurable improvements in employee morale or the seamless execution of corporate strategy, rather than the mere completion of administrative tasks (Schultz, 2010).

Achieving this transition requires a substantial improvement in the professional standards and competencies of HR practitioners (Ulrich, 1998). Organisations must move beyond traditional personnel training to develop an HR workforce with a comprehensive grasp of business dynamics, including the implications of globalisation and technological innovation (Schultz, 2010; Thite et al., 2014). Furthermore, HR professionals must learn competitive strategy and organisational behaviour to ensure that human capital initiatives are directly contributing to the firm's innovative capacity and long-term advantage (Gaur et al., 2024; Ordóñez de Pablos & Lytras, 2008). By cultivating these advanced capabilities, HR functions move from a state of reactive hindsight to one of proactive foresight, ensuring they deliver tangible value to stakeholders (Schiemann & Ulrich, 2017).

As HRM continues to evolve, it is increasingly recognised as a foundational department critical to achieving a competitive advantage through the effective management of human capital (Hoang Dang et al., 2025). This perspective has expanded HR's responsibilities, positioning HR professionals as administrators of Human Capital Resources (HCR), tasked with managing both the depletion (e.g., staff turnover, skill obsolescence) and accumulation (e.g., training and development) of human capital (Georgiadis & Kornelakis, 2025). Therefore, HR has shifted toward Strategic Human Resource Management (SHRM)[12], where HR professionals act as strategic partners to top management (Asfahani, 2021).

The evolution of the HR function is also increasingly shaped and supported by the intersection of IT and human capital management, with the adoption of Human Resource Information Systems (HRISs) (Arkan, 2016; Bindra et al., 2025). HRISs are defined as "integrated software platforms used to collect, store, manage, and analyse employee data and HR processes across the organisation" (Maamari & Osta, 2021, p. 1270; Magege & Ngirwa, 2023). Similarly, Kavanagh and Johnson (2017, p. 7) describe HRIS as a system designed to "acquire, store, manipulate, analyse, retrieve, and distribute information regarding an organisation's human resources". Rather than acting solely as digital data

[12] The concept of SHRM will be further explained later in the chapter.

storage, HRISs provide the technical infrastructure necessary to oversee and regulate HR operations (Arkan, 2016). In this regard, the HRIS is primarily utilised by HR staff to integrate departmental functions (Djuric & Bradić-Martinović, 2011). By optimising human resource operations, these systems serve as an incentive for broader organisational growth and efficiency and enable top management to use integrated data for more effective organisational strategy and governance (Djuric & Bradić-Martinović, 2011; Tannenbaum, 1990).

While early definitions (Kavanagh et al., 1990; Walker, 1982) focused on the administrative automation of records, later research (Asfahani, 2021; Garengo et al., 2021; Lengnick-Hall & Moritz, 2003) emphasises that HRISs provide the necessary infrastructure to transition HR from a transactional function to a strategic partner through enhanced data accessibility and analytical capabilities (Hendrickson, 2003). Modern HRIS architecture, augmented by artificial intelligence, provides the data-driven infrastructure necessary to support employee journey customisation and improve managerial decision-making accuracy (Bondarouk & Brewster, 2016; Marler & Boudreau, 2017b). This technological foundation allows HR practitioners to anticipate future human capital needs, effectively transitioning the function into a high-level strategic architect (Marler & Boudreau, 2017a).

Therefore, HRIS is now considered a critical tool in modern HRM, enabling HR departments to move towards Electronic Human Resource Management (e-HRM), which represents the outcome of the strategic application of HRIS systems to facilitate networking and provide support for both individual employees and collective groups within an organisation (Marler & Boudreau, 2017a ; Strohmeier, 2007). Distinguishing between HRIS and e-HRM is essential, as their scope and primary beneficiaries differ significantly (Djuric & Bradić-Martinović, 2011). While the HRIS focuses on internal departmental task automation to support HR staff, e-HRM expands these digital services to a broader audience (including management, employees, and even prospective candidates), typically through web-based platforms (Bondarouk & Ruël, 2013; Strohmeier, 2007). Rather than being used separately, HRIS and e-HRM are intrinsically integrated, with the HRIS serving as the foundational data backbone and e-HRM acting as the strategic interface for broader networking and support (Garengo et al., 2021; Walker & McDonald, 2001). This technological integration ensures that departmental automation is effectively used to provide actionable insights and digital services to the entire organisation (Christian, 2022; Garengo et al., 2021). Essentially, this shift represents a move beyond mere administrative task automation toward comprehensive information systems that provide strategic decision-making support across the entire organisation (Djuric & Bradić-Martinović, 2011). This transition is not just about record-keeping but reflects a significant re-engineering of traditional HR processes to support data-driven decisions and improve organisational effectiveness (Bondarouk & Van den Heuvel, 2017; Marler & Boudreau, 2017b; Ngai & Wat, 2006).

Moreover, an important trend is the complementarity between HRIS and HRA[13] (Marler & Boudreau, 2017b). While HRIS provides the digital infrastructure for managing human capital, HRA plays a crucial role in translating qualitative human behaviours into measurable financial data, offering a complete and accurate picture of an organisation's human resources (Asfahani, 2021).

Alongside technological advancements, a key trend for the future is the growth of digital management, where top management leverage innovative ideas and digital tools to motivate a digital workforce (Isbah & Nohong, 2025). This shift highlights the importance of HR in fostering employees' evolving capabilities, allowing them to continuously adapt their skills to fast-changing environments through adaptive, digital, technology-driven HR

[13] A more accurate definition of HRA and its evolution will be illustrated later in this chapter.

strategies (Bondarouk & Brewster, 2016; Marler & Boudreau, 2017a; Wang, G., et al., 2024). Furthermore, HR is expanding its role to include strategic inclusivity as a key goal (Hulsegge et al., 2022). This shift moves beyond superficial diversity initiatives, focusing on the sustainable employment of vulnerable populations, such as refugees or individuals with disabilities (Boxall & Purcell, 2016; Lee et al., 2020). By viewing these groups as an "untapped human resource" (Lengnick-Hall et al., 2008, p. 255), organisations can effectively mitigate global skill shortages while simultaneously fostering workplace resilience through broader skill sets (Hulsegge et al., 2022; Lengnick-Hall et al., 2008). This inclusive approach aligns ethical standards with economic rationality, as employing vulnerable workers has been shown to enhance profitability, company image, and competitive advantage (Hulsegge et al., 2022; Lengnick-Hall et al., 2008). The evolving organisational challenges outlined so far necessitate a reconfiguration of the HR function; it is, therefore, essential to examine the theoretical foundations and the systems of practices that enable the support of such structural changes.

2.4 HUMAN RESOURCE MANAGEMENT PRACTICES AND THEIR THEORETICAL FOUNDATIONS

To bridge the gap between the organisational challenges previously identified and the technical measurement tools discussed in this chapter, it is necessary to establish the theoretical foundations of HRM practices (Becker et al., 2001; Spiceland & Zaunbrecher, 1976). Understanding why specific HR activities are implemented and how they generate value is a prerequisite for any management accounting intervention (Amirul et al., 2020; Vedd & Kouhy, 2005). Indeed, before human capital can be measured and reported, its operational mechanics and its role as a strategic asset must be clearly defined (Becker et al., 2001; Hannimitkulchai, 2019). This section employs the Ability-Motivation-

Opportunity (AMO) framework (Appelbaum et al., 2000) to categorise HR practices, providing a structured map of the activities that management accounting is called to monitor (Becker et al., 2001; Jackson et al., 2014). Furthermore, by integrating Social Exchange Theory (SET) (Homans, 1958), the Resource-Based View (RBV) (Barney, 1991; Penrose, 1959; Wernerfelt, 1984), and Dynamic Capability Theory (DCT) (Teece et al., 1997), this analysis moves beyond a purely administrative view of personnel (Aprile, 2015; Garengo et al., 2021; Hannimitkulchai, 2019). It establishes the conceptual justification for treating HR as a non-linear, value-creating asset (Gupta, 2024), a perspective that is fundamental for the transition from traditional cost-accounting to strategic HRA (Arseneault & Gagnon, 2024; Becker et al., 2001; Gupta, 2024).

To understand the operational mechanics of HRM, it is essential to analyse the broader environment in which these practices are embedded (Jackson et al., 2014; Wright & Snell, 1991). This systemic perspective facilitates the transition to SHRM, which moves beyond administrative personnel tasks to align HR architecture with organisational strategic objectives (Becker & Huselid, 2006). SHRM is formally defined as the pattern of planned HR allocation and activities intended to enable the firm to achieve its goals (Rogers & Wright, 1998). It represents a strategic and coherent approach to managing an organisation's most valued assets, employees, who individually and collectively contribute to the achievement of corporate objectives and the creation of a sustainable competitive advantage (Christian, 2022; Van der Lugt, 2024; Vedd & Kouhy, 2005). Within this framework, HRM is no longer a distinct administrative function, but the primary means through which business strategies are implemented, ensuring that HR architecture acts as a critical driver for overall firm performance (Amirul et al., 2020; Hannimitkulchai, 2019; Vedd & Kouhy, 2005).

Early conceptualisations of SHRM emphasise that these frameworks are not merely a collection of isolated tasks; rather, they are shaped by the diverse interests of multiple stakeholders and consist of coordinated sets of activities, which are designed to enhance employee knowledge, skills, and motivation (Delery & Shaw, 2001; Jiang et al., 2012; Wright & McMahan, 1992). Furthermore, these systems do not operate in isolation. Their effectiveness is frequently moderated by external environmental factors, such as shifting labour market conditions and the influence of trade unions (Delery, 1998; Gerhart, 2007; Jiang et al., 2012).

Within this multilevel framework, the systems approach has emerged as a dominant perspective, conceptualising HR practices as integrated bundles that function collectively to drive employee and organisational success (Jiang et al., 2012; Van Beurden et al., 2025; Yim et al., 2024). Rather than examining individual practices in isolation, SHRM research posits that strategic objectives are best realised through these coordinated sets of activities, which are designed to enhance employee knowledge, skills, and motivation (Jiang et al., 2012).

These bundles are typically analysed through the Ability-Motivation-Opportunity (AMO) framework (Appelbaum et al., 2000), which serves as the critical architecture for understanding how high-performance practices function across different levels of the hierarchy (Appelbaum et al., 2000; Kremmydas & Austen, 2020). These practices include skill-building initiatives such as comprehensive training, motivational drivers like performance-contingent pay, and opportunity-enhancing mechanisms such as participatory decision-making and transparent communication channels (Boon et al., 2019; Jiang et al., 2012; Posthuma et al., 2013). By aligning these diverse practices, organisations can create a coherent internal environment that translates human capital into a sustainable competitive advantage (Barney, 1991; Wright et al., 2001).

The AMO framework states that individual performance is a function of three critical components: the employee's ability to perform, their motivation to do so, and the opportunity provided by the work environment to contribute (Appelbaum et al., 2000; Jiang et al., 2012; Van Beurden et al., 2025). This framework is especially useful for aligning human capital with strategic outcomes, as it can bridge the gap between HR practices and performance metrics like client satisfaction and revenue growth (Appelbaum et al., 2000; Marin-Garcia & Tomas, 2016). Through the intentional management of these three dimensions, firms can cultivate a specialised supply of human talent (Jiang et al., 2012). This strategic asset can drive high-performance outcomes, ultimately securing distinctive competencies (Jiang et al., 2012). The most common HR practices implemented within organisations will be illustrated through the AMO framework.

According to this framework, ability-enhancing practices aim to build a skilled and capable workforce that can increase organisational performance (Georgiadis & Kornelakis, 2025; Jiang et al., 2012). This begins with rigorous screening and selective recruitment processes to ensure that new hires possess the necessary skills to perform their tasks effectively (Georgiadis & Kornelakis, 2025). Additionally, extensive training programs are implemented to develop organisation-specific knowledge and competencies (Jiang et al., 2012). Delaney and Huselid (1996) argue that organisations can enhance workforce skills both by hiring highly qualified individuals and by improving the abilities of current employees. Supporting this, research indicates that thorough selection and training practices play a key role in building employees' collective human capital (Cabello-Medina et al., 2011; Takeuchi et al., 2007; Yang & Lin, 2009; Youndt & Snell, 2004). Linked to the broader idea of intellectual capital, these practices integrate human capital (employee knowledge, skills, abilities and experience), relational capital (relational knowledge), and organisational capital (internal systems, routines and institutionalised knowledge) (Kianto et al., 2017; Pak et al., 2023). Organisations often invest in training despite its high costs to continuously renew and expand this human capital resource stock (Georgiadis & Kornelakis, 2025).

Focusing on motivation-enhancing HR practices, these are designed to boost employees' drive and commitment to their work (Gardner et al., 2011). They include methods like performance management systems that support growth, offering competitive pay and rewards, providing comprehensive benefits, creating opportunities for career advancement, and ensuring job stability (Kundu & Gahlawat, 2016). Together, these practices help employees feel valued and motivated to contribute their best to the organisation (Jiang et al., 2012). Incentive compensation and performance-based pay use merit-based rewards to connect employees' efforts directly to measurable financial outcomes, making them especially motivating for those who seek recognition or strive for achievement (Jiang et al., 2012; Yim et al., 2024). By introducing recognition programs and clear opportunities for promotion, organisations can align their HR practices with employees' desire for status and recognition (Becker & Gerhart, 1996; Yim et al., 2024). These practices reward outstanding performance, giving employees a sense of power, influence, and acknowledgment within the company (Jiang et al., 2012). Regular feedback through performance evaluations and discussions also plays a crucial role, as it helps employees understand how they are performing and what they need to do to advance, reinforcing their self-image and drive for status (Li et al., 2010; Moser, 2017). Feedback also signals an individual's position within the workplace hierarchy, encouraging social comparisons and motivating employees to outperform their colleagues (Barrick et al., 2013). Terms like 'promotion' and 'rank-ordered' highlight the competitive nature of these status-driven practices (Yim et al., 2024). Consequently, HR strategies that focus on rewards, feedback, and advancement opportunities are key components of creating a status-oriented work environment that motivates employees to work harder (Barrick et al., 2013; Yim et al., 2024).

Finally, opportunity-enhancing HR practices aim to enable employees to apply their abilities and motivation effectively toward meeting organisational goals (Lepak et al., 2006). Common approaches include flexible job designs, team-based work structures, active employee participation, and open communication (Jiang et al., 2012; Subramony, 2009). These practices are fundamental because they provide the structural space for employees to put into practice their skills and motivation (Boxall & Purcell, 2016). Beyond just having the ability to work, employees need an environment where clear communication and shared knowledge are encouraged (Georgiadis & Kornelakis, 2014). For instance, HR bundles that prioritise transparency and collaboration promote a workplace where staff can build the social networks essential for successful cooperation (Yim et al., 2024). These practices are usually implemented through team-based structures and flexible job designs, which not only facilitate collaboration but also help generate the intrinsic motivation required for employees to actively seek out workplace challenges (Jiang et al., 2012). Furthermore, the relationship between the organisation and the employee is dynamic; when standard practices do not meet specific needs, employees may engage in job crafting (Wrzesniewski & Dutton, 2001) or negotiate individual deals (Rousseau, 2005). This can lead to HR co-creation, where employees actively participate in shaping the practices that define their opportunities within the firm and that can better align with their personal needs, skills, and values (Van Beurden et al., 2025). Ultimately, higher staff tenure further strengthens these opportunities by supporting a familiarity with processes and colleagues that improves the overall quality of staff interactions (Georgiadis & Kornelakis, 2014). Beyond communication and teamwork, providing the opportunity to perform effectively requires decentralised decision-making (Gardner et al., 2011; Kremmydas & Austen, 2020). By shifting authority lower in the organisational hierarchy, firms allow employees to make critical, real-time decisions, which significantly increases the organisation's responsiveness to fast market changes (Delaney & Huselid, 1996; Fiorito et al., 2007). Such structural empowerment ensures that the opportunity dimension of the AMO model is operationalised, moving beyond conceptual theories to driving frontline performance (Kellner et al., 2016).

In summary, by investing in ability-enhancing recruitment and training, organisations build the necessary human and intellectual capital to achieve complex goals (Georgiadis & Kornelakis, 2025; Youndt & Snell, 2004). Through motivation-enhancing rewards and feedback loops, firms ensure that this capital is energised and aligned with strategic objectives (Jiang et al., 2012; Yim et al., 2024). Lastly, opportunity-enhancing structures, such as decentralised decision-making and job crafting, provide the essential space for employees to utilise their skills effectively (Delaney & Huselid, 1996; Van Beurden et al., 2025).

While the AMO model explains an employee's inherent capacity to perform, the Social Exchange Theory (SET), as pioneered by Homans (1958), offers the psychological depth required to explain what drives an individual to perform in the workplace (Hoang Dang et al., 2025). The logic of SET (Homans, 1958) within organisations is based on the norm of reciprocity (Blau, 1964), which suggests that social behaviour acts as a continuous negotiation where parties expect a return on their personal or professional investments (Hoang Dang et al., 2025). This goes beyond any signed document between employees and the firm (Rousseau, 1995; Rousseau & Wade-Benzoni, 1995).

When an organisation makes the strategic choice to invest in advanced training or performance reward systems, employees generally do not interpret these as cold, administrative transactions (Bowen & Ostroff, 2004). Instead, these bundles are perceived as signals of genuine organisational care and a concrete commitment to long-term career growth (Casper & Harris, 2008). Such perceptions suggest a sense of being valued and, essentially, create a subjective sense of debt, or a felt obligation to reciprocate (Georgiadis & Kornelakis, 2014; Hoxha et al., 2025). Ultimately, this cycle of reciprocity ensures that employees repay the firm by engaging in behaviours that extend beyond their written job descriptions (Fiorito et al., 2007). When individuals hold a positive view of the HRM environment, they are significantly more likely to manifest two key behaviours (Janssen, 2000). The first is Innovative Work Behaviour (IWB), defined as an employee's conscious effort to generate, advance, and execute novel ideas intended to reach organisational outcomes (Hoang Dang et al., 2025; Janssen, 2000). The second is Discretionary Work Behaviour (DWB), which encompasses voluntary actions where employees go the extra mile beyond their formal job descriptions to support the organisation (Janssen, 2000). These contributions are essential for fostering continuous improvement and meeting strategic targets (Hoang Dang et al., 2025).

Providing a robust foundation for a contingency-based approach, theories like the Theory of Performance Work Behaviour (TPWB) (Van Veldhoven, 2012) further clarify how social and job-related characteristics influence the link between an employee's motivational strivings and actual performance outcomes (Yim et al., 2024). Integrating SET is particularly important for this study, as it explains the reason behind the quantitative metrics used in HRA (Hoang Dang et al., 2025; Wang, G., et al., 2024). By acknowledging the complex interactions between firms and individuals, SET offers the key to understand the fairness and perceived quality of HRM practices through the eyes of the employees (Hoang Dang et al., 2025).

From a management accounting standpoint, this implies that the ROI of HR initiatives cannot be evaluated only through technical skill acquisition (Van der Lugt, 2024). Rather, evidence suggests that organisational success is deeply rooted in the health of the employer-employee relationship (Blau, 1964; Hoang Dang et al., 2025) and the specific leadership behaviours that empower employees to innovate (Liehr & Hauff, 2025). Shifting the analytical focus from simple human capital to a socio-psychological exchange allows for a better understanding of how accounting tools can measure strategic value derived from employee reciprocity, rather than just tracking departmental costs (Shaw et al., 2005; Wang, G., et al., 2024).

Beyond these psychological obligations, the strategic management of HR is further justified in literature through the Resource-Based View (RBV) of the firm (Barney, 1991; Penrose, 1959; Wernerfelt, 1984), which treats human capital as a valuable strategic asset rather than a simple expense (Arkan, 2016; Penrose, 1959). The foundational logic of RBV, explains that a firm can achieve a sustained competitive advantage only when its resources are Valuable, Rare, Inimitable, and Non-substitutable (VRIN) (Barney, 1991; Wang, G., et al., 2024).

Within this theoretical context, human capital, comprising the specialised knowledge and competencies of the workforce, represents the most irreplaceable resource available to a company (Arkan, 2016; Georgiadis & Kornelakis, 2014). Unlike physical technology or machinery, which competitors can often purchase or replicate, employee-based resources are rooted into complex social systems and unique organisational routines (Arkan, 2016). This complexity makes them inherently difficult for rivals to imitate, providing the business with a durable competitive edge (Jiang et al., 2012; Wang, G., et al., 2024).

Consequently, while SET addresses the quality of the relationship (Hoang Dang et al., 2025), RBV confirms the necessity for the rigorous measurement and management of human assets (Arkan, 2016). Elaborating on the psychological depth of SET and the asset-based focus of RBV, the strategic management of human resources must also consider Dynamic Capability Theory (DCT) (Teece et al., 1997), which provides a framework to understand how those assets generate value in volatile, changing markets, intended as the workforce's capacity to adjust their skills to meet the requirements of an evolving marketplace (Bieńkowska & Tworek, 2020; Wang, Z., et al., 2024). Therefore, HR measurement cannot be restricted to historical costs or current valuations; instead, accounting systems must track the speed and effectiveness with which employees create new value (Arkan, 2016). If human capital is the firm's most unique asset, then the dynamic ability to reconfigure that capital becomes the ultimate predictor of innovation (Hoang Dang et al., 2025; Wang, Z., et al., 2024).

In conclusion, the intersection of these frameworks establishes a robust conceptual foundation for modern HR organisational strategy, suggesting that human resources are not merely an operational necessity but a dynamic, value-creating asset whose strategic worth is based on the quality of the socio-psychological exchange between the employee and the organisation (Van Veldhoven, 2012). However, to translate these concepts into actionable activities and decisions, it is important to plan, manage, and control HR initiatives and activities (Becker et al., 2001). Consequently, the following section examines the specific management accounting tools and metrics that support HR to monitor, manage and evaluate the long-term returns on HR investments (Flamholtz et al., 2002b).

2.5 MANAGEMENT ACCOUNTING PRACTICES AND TOOLS FOR HUMAN RESOURCE MANAGEMENT

2.5.1 The evolution of Human Resource Accounting practices

This section aims to present and analyse extant literature about how management accounting tools, information and measures support HR planning, control and decision-making activities. Management accounting tools that support HR planning, control and decision-making activities find their roots in the field of Human Resource Accounting (HRA), which functions as the systematic process of identifying, measuring, and communicating accounting data about an organisation's people to enhance internal decision-making (American Accounting Association, 1973; Asfahani, 2021).

A common misconception is that HRA exists solely to quantify personnel value on a balance sheet. By contrast, its primary objective is to provide a framework for overseeing human capital effectively and efficiently (Asfahani, 2021). In this regard, HRA serves both as a theoretical framework to support decision-making regarding personnel, and as a set of metrics for managing them (Chiucchi, 2004). Thus, HRA might be viewed as a specialised application of accounting tools within the broader domain of SMA, designed for internal strategy rather than narrow financial compliance (Ansari & Flamholtz, 1978).

The expansion of HRA discipline is driven by three core objectives (American Accounting Association, 1973). First, the development of measurement models to create valid methods to quantify both the monetary and non-monetary value of personnel. The second aim refers to the implementation of these methods within complex organisational structures. The third goal is the study of cognitive and behavioural impacts, which evaluates how accounting frameworks influence managerial attitudes and performance (American Accounting Association, 1973). By utilising models such as acquisition cost, replacement cost, or Net Present Value (NPV), HRA allows managers to treat HR costs as capitalised assets rather than as immediate expenses (Brummet et al., 1968). Ultimately, by quantifying variables like loyalty and motivation, HRA provides the data necessary to protect the firm's long-term value (Ansari & Flamholtz, 1978; Spiceland & Zaunbrecher, 1976).

By the late 1970s, HRA had matured from a reporting exercise into a governance tool, where employees are viewed not as variable expenses but as the primary drivers of competitive advantage (Dessler & Turner, 1992; Van der Lugt, 2024). Today, HRA is operationalised through high-performance work systems, where HR practices such as recruitment, compensation, and performance management, are carefully aligned with the firm's competitive strategy (Becker & Huselid, 1998; Becker et al., 2001; Huselid, 1995).

In doing so, HRA provides the technical bridge between soft human variables and hard financial outcomes (Asfahani, 2021), allowing firms to optimise workloads and distinguish between routine labour costs and strategic R&D investments (Aprile, 2015).

The HRA discipline has produced a variety of monetary frameworks designed to quantify the economic value of an organisation's workforce (Aronmwan & Izedonmi, 2011). Early academic papers established the Cost of Production and Capitalised Earnings procedures as foundational approaches for balance-sheet valuation (Spiceland & Zaunbrecher, 1976). Under the Historic Cost approach, expenditure on recruitment and training is capitalised and amortised over the employee's useful life (Brummet et al., 1968), a method praised for its objectivity but criticised for failing to reflect an individual's actual contribution to corporate value (Aronmwan & Izedonmi, 2011; Baker, 1974). To address these limitations, Flamholtz (1971, 1973) introduced the Replacement Cost model, which estimates the total sacrifice required to recruit and develop a substitute to the same proficiency level as a current employee (Monti-Belkaoui & Riahi-Belkaoui, 1995). Alternatively, Lev and Schwartz (1971) proposed an economic model based on the present value of a person's future earnings, adjusted for the probability of retirement or death.

Beyond these core models, several specialised techniques offer alternative perspectives on human asset measurement and valuation. First, the Opportunity Cost Method determines the value based on the cost of an employee's alternative use across different organisational units (Hekimian & Jones, 1967; Singh, 2009). In turn, the Competitive Bid Price model, developed by Hekimian and Jones (1967), calculates the asset value by capitalising the bid prices of scarce personnel within the firm (Aronmwan & Izedonmi, 2011). Another model proposed by Watson (1978), is the Standard Cost Method, which involves applying fixed standard costs for recruitment and training to each employee group, with variances written off to the profit and loss account (Singh, 2009). Finally, Flamholtz's (1971) Stochastic Process with Service Rewards further refined that valuation by measuring the present worth of services an individual is expected to render as they move through various organisational roles. This model is particularly valuable for SMA because it factors in performance, transferability, and promotability as predictive variables (Aronmwan & Izedonmi, 2011).

Despite these diverse methodologies, the lack of a universal accounting standard ensures that the valuation of human resources remains a significant "accountant's dilemma" (Aronmwan & Izedonmi, 2011, p. 1), particularly regarding the subjective nature of amortisation rates. This lack of standardisation reinforces the role of SMA as a flexible, internal governance framework, allowing firms to tailor these HRA models to their specific strategic needs rather than adhering to rigid, and often inappropriate, external reporting rules (Okoye, 2009).

In summary, the evolution of HRA represents a fundamental shift in the conceptualisation of the workforce, moving from a view of labour as a passive expense to an appreciative strategic asset (Flamholtz, 1999; Mayo, 2001). The transition is necessitated by the fact that human capital now represents the primary gap between a firm's market value and its tangible book value (Mayo, 2001). Consequently, the integration of HRA within the flexible framework of SMA provides the only viable pathway for internal management, as it is free from the restrictive reporting requirements of traditional financial accounting (Roslender & Fincham, 2001). To overcome the limitations of financial methods, the adoption of multi-dimensional measurement models encompassing both monetary valuations and non-monetary indicators would allow organisations to effectively measure and manage human capital (Kaplan & Norton, 1996), treating personnel development as a long-term capital investment (Morrow, 1996). It is important to underline that multidimensional systems do not substitute the purely financial instrument. Rather, firms should integrate these methods to satisfy different purposes and to support managerial processes that become increasingly more complex over time (Chiucchi, 2004). Ultimately, the ability to quantify the internal health of the workforce is not merely a technical exercise but a necessity for sustainable performance in the knowledge economy (Flamholtz et al., 2002a).

Historically, HR and management accounting have operated as siloed organisational functions (Amirul et al., 2019). However, contemporary research suggests that their intersection is critical for the efficient measurement and management of human capital (Amirul et al., 2020). Achieving this alignment requires a collaborative approach to goal setting, ensuring that targets are both financially viable and encourage employee development (Vedd & Kouhy, 2001; Zeng, 2018). Therefore, the remainder of this chapter will focus on the analysis of how management accounting tools support HR planning, control and decision-making activities (Amirul et al., 2020; Hannimitkulchai, 2019).

2.5.2 Management accounting tools for HR Planning, Control and Decision-Making activities

Management accounting provides the architecture necessary for the creation of strategic targets in the strategic and operational planning. This enables the alignment of long-term firm objectives and workforce requirements (Gupta, 2024; Vedd & Kouhy, 2005). Control activities, in turn, can be performed through variance analysis and KPIs to evaluate HR performance and the consistency of human capital outcomes compared to established goals (Amirul et al., 2020; Brummet et al., 1968; Chiucchi, 2004; Hannimitkulchai, 2019). Lastly, decision-making can be supported by cost-benefit analysis and what-if simulations, helping HR professionals in quantifying the economic outcomes of HR initiatives and guiding investments in human capital (Brummet et al., 1968; Gupta, 2024; Vedd & Kouhy, 2005). In the following, management accounting tools used for HR measurement and management are illustrated according to these fundamental pillars. However, it is important to mention that these instruments operate within a continuous cycle. Therefore, the distinction between planning, control and decision-making is not a strict one (Brummet et al., 1968; Chiucchi, 2004). Many of these instruments present a dual nature, since they are designed in the planning phase and their application is operationalised within the control phase (Becker et al., 2001; Chiucchi, 2004; Walker & McDonald, 2001).

Planning

Starting with a focus on planning, the main objective is to systematically coordinate human capital with the long-term objectives of the firm (Amirul et al., 2020; Arseneault & Gagnon, 2024; Spiceland & Zaunbrecher, 1976). During this stage, management accounting is not a purely retrospective function anymore but becomes the main driver of the human capital architectural project (Brummet et al., 1968; Vedd & Kouhy, 2005;

Spiceland & Zaunbrecher, 1976). A foundational instrument is the strategic plan, also associated with the strategy map (Kaplan and Norton, 1996), which represents visual and analytical instruments decisive for human capital management (Becker et al., 2001; Chiucchi, 2004). These maps function as the analytical framework to illustrate the cause-and-effect relationships between HR practices (such as recruitment and training programs) and financial outcomes, allowing the firm to test hypotheses on value creation (Becker et al., 2001; Chiucchi, 2004; Lohana et al., 2021). The literature highlights that without a solid causal logic defined in the planning stage, HRM would be limited to purely traditional and administrative tasks. Moreover, it would lack strategic impact and would become unable to translate human capital into a sustainable competitive advantage (Becker et al., 2001; Spiceland & Zaunbrecher, 1976). Management accountants play a crucial role in creating and managing these maps: they act as analytical drivers, encouraging HR strategic planning (Gupta, 2024; Hannimitkulchai, 2019). They also provide the detailed competitive and financial analyses needed to test the causal hypotheses within the map, translating qualitative intuitions into a rigorous analytical framework (Amirul et al., 2020; Gupta, 2024; Hannimitkulchai, 2019). The management accountant further ensures that the strategy map is controllable and that human resources are aligned with business objectives through the development of both leading and lagging performance indicators (Amirul et al., 2020; Chiucchi, 2004; Hannimitkulchai, 2019; Lohana et al., 2021). Then, management accountants coordinate the HR budgeting process, ensuring that HR programs are sufficiently supported and justified in financial terms relative to expected payoffs (Amirul et al., 2020; Gupta, 2024; Vedd & Kouhy, 2005). In doing so, management accountants provide the quantitative language and hard data so that HR planning is not merely a theoretical exercise, but an actual driver of financial performance (Amirul et al., 2020; Van der Lugt, 2024; Walker & McDonald, 2001).

A key instrument for HR planning is also the High-Performance Work System (HPWS) (Becker et al., 2001), also found in the literature as High-Performance Work Practices (HPWPs) (Saridakis et al., 2017). It is defined as a set of different, but interrelated HRM practices aimed at improving firm performance through the development of knowledge, skills, effort and workforce productivity (Saridakis et al., 2017). The reason why the HPWS is attributed to the planning phase is because, at this step, the HR department actively plan the system of selection, training and performance management so that it will align with the firm's strategic planning (Becker et al., 2001; Kaplan & Norton, 1996). Research suggests that firms integrating HPWSs tend to invest significantly more resources in recruitment and selection practices, more often adopt teamwork activities, and hire more HR professionals per employee (Becker et al., 2001). Lastly, a fundamental aspect that justifies the implementation of the HPWS in the planning phase is the availability of quantitative measures right from the beginning of the management process (American Accounting Association, 1973). This enables the transformation of purely qualitative decisions into an analytical framework, supporting more informed and intentional investments in the firm's future (Brummet et al., 1968; Vedd & Kouhy, 2005). Although the design of a HPWS takes place in the planning stage, its use is also fundamental during the control phase (Becker et al., 2001). Once implemented, the components of this system act as leading indicators of future performance. This way, management can monitor whether employee capabilities and behaviours are effectively driving business performance (Becker et al., 2001; Spiceland & Zaunbrecher, 1976; Walker & MacDonald, 2001). In synthesis, the HPWS is planned to build the firm's strategic asset, and it is consequently controlled to ensure its operational efficacy and the constant alignment with organisational objectives over time (Becker et al., 2001; Walker & MacDonald, 2001).

The third key instrument within the planning phase is HR budgeting, which is not merely an administrative activity, but a dynamic and cross functional process fundamental for operational planning (Amirul et al., 2020). The budget facilitates the coordination of human capital with long-term strategic objectives, acting as a preventive control mechanism and ensuring that the organisation holds the necessary resources to enact the chosen strategy (Vedd & Kouhy, 2005). Management accountants participate by actively coordinating the human capital budgeting process (Gupta, 2024). Within the budgeting stage, they provide detailed competitive and financial analyses, foundational for the formulation of the strategic HR budget (Vedd & Kouhy, 2005). With this approach, it is possible to move beyond the traditional view of personnel as a cost, promoting the idea of human capital investments as drivers of financial success (Gupta, 2024). The preparation of the budget transforms the strategy map from a theoretical visual representation into an actionable operational plan (Kaplan & Norton, 2004). The literature suggests that efficient HR budget management should comprise both outcome metrics (lagging indicators) to measure past results, and performance drivers (leading indicators) to forecast future outcomes (Lohana et al., 2021; Walker & MacDonald, 2001). For instance, the following analysis of the HR budget may show significant variances, indicating that human resources are not allocated efficiently, thereby decreasing profitability (Walker & MacDonald, 2001). A crucial aspect of this instrument is the adoption of flexible budgeting in contrast to static budgeting. The flexible HR budget allows management to adapt financial HR forecasts to shifts in the firm's activity levels, resulting in a more accurate variance analysis and a swift response to market fluctuations (Amirul et al., 2020). Furthermore, the management of the HR budget must take into consideration indirect costs; research shows that much of training and development costs are immediately expensed, leading to a structural underestimation of the true investment in human capital (Becker et al., 2001). Lastly, the availability of timely, quantitative data facilitates an advance evaluation of intervention payoffs and encourages a people-oriented mindset as early as the capital allocation phase (Van der Lugt, 2024; Vedd & Kouhy, 2005). In this scenario, the HR budget becomes a co-steering device, where HR and management accounting cooperate in providing the appropriate financial and operational support to strategy achievement (Van der Lugt, 2024).

Finally, capital budgeting is often applied to HR (Becker et al., 2001). This method moves beyond the traditional view of human capital costs as mere expenditures and poses them as long-term investments in value creation (American Accounting Association, 1973; Becker et al., 2001). The first step of capital budgeting within HR is to treat recruitment costs, training and personnel retention as capitalised assets rather than immediate costs in the income statement (Aronmwan & Izendomi, 2011; Brummet et al., 1968; Christian, 2022). Unlike annual operational budgeting, capital budgeting requires an evaluation of the costs and benefits of an HR project (for example, a leadership development program) along its entire life cycle (Becker et al., 2001). It is necessary to identify starting and recurring costs, which include research and development, administration, equipment, and eventually salary increases for the new skills acquired by the employees (Becker et al., 2001). Future benefits must also be analysed, which are measured in terms of productivity increases, turnover costs reduction, or improvement in the quality of services (Becker et al., 2001; Brummet et al., 1968; Van der Lugt, 2024). Within the capital budgeting approach, it is necessary to transform HR qualitative factors into quantitative data to be used in financial models (American Accounting Association, 1973; Brummet et al., 1968). To evaluate HR investments with other organisational opportunities, sophisticated tools such as NPV or Internal Rate of Return (IRR) are used (Becker et al., 2001). Therefore, practicing HR capital budgeting means to economically justify human capital initiatives, showing how capital allocation in the workforce is a significant driver of long-term success (Becker et al., 2001).

Control

The second pillar of management accounting is control. As analysed in the first chapter, rather than relying solely on retrospective feedback, this process focuses on evaluating strategic and operational choices in real-time and adjusting them to meet shifting conditions, effectively operating as a feedforward mechanism (Brunetti, 1992; Chiucchi, 2004). Within the HR function, this translates to a systematic control of how closely HR initiatives align with the strategic and financial benchmarks established during the planning phase (Amirul et al., 2020; Brummet et al., 1968). Ultimately, the objective of this pillar is to ensure that HR strategy execution stays within its budgetary constraints while delivering the specific outcomes necessary for broader organisational success (Amirul et al., 2020; Garengo et al., 2021).

The first key instrument used during the control phase is variance analysis. This method compares effective results with the targets set in the HR budget (Amirul et al., 2020; Hannimitkulchai, 2019). It allows for the identification of both favourable and unfavourable variances (Amirul et al., 2020). For example, when recruitment costs are higher than expected, variance analysis is useful in understanding whether the cause is an unexpected increase in turnover (which calls for retention improving practices) or an inefficiency of the selection process (Amirul et al., 2020; Walker & McDonald, 2001). Through this tool, HR professionals can identify significant discrepancies and understand the underlying causes to put in place corrective actions or revise operational plans (Amirul et al., 2020; Gupta, 2024; Hannimitkulchai, 2019). This ensures that objectives are reached efficiently (Amirul et al., 2020; Vedd & Kouhy, 2005). In this regard, the standard costing set during budgeting, which establishes predefined costs for repetitive HR activities like recruitment, hiring, and training, is compared with actual costs incurred post-cycle, allowing HR to effectively evaluate operational efficiency (Aronmwan & Izedonmi, 2011; Brummet et al., 1968; Habiburrochman & Irawati, 2021). In the case of significant discrepancies, these are analysed, immediately acting as a signal of inefficiencies in the processes of acquisition or development of human capital (Aronmwan & Izedonmi, 2011; Brummet et al., 1968).

At this step, it is crucial the distinction between diagnostic and interactive control (Arseneault & Gagnon, 2024). On the one hand, diagnostic control is based on historical feedback and the correction of discrepancies from established plans (Aprile, 2015; Arseneault & Gagnon, 2024). On the other hand, interactive control is forward looking, as it promotes open discussion, debate and organisational learning to manage strategic uncertainty and advance innovation (Arseneault & Gagnon, 2024; Van der Lugt, 2024). While formal, hard controls are based on strict rules and procedures, soft controls rely on organisational culture, trust, and established social norms (Van der Lugt, 2024). An efficient control system balances these two types of controls to maintain financial efficiency without suffocating creativity (Van der Lugt, 2024). In this regard, when performance appraisal is integrated with control activities, it turns into a strategic alignment mechanism, crucial for control purposes (Garengo et al., 2021). Performance appraisal systematically evaluates individual, or team contributions compared to predefined objectives within a set time frame (Garengo et al., 2021; Gupta, 2024). This method provides the necessary feedback so that employees understand how their work supports firm success (Becker et al., 2001). Control efficacy improves significantly when performance appraisal is directly linked to incentive compensation mechanisms (Amirul et al., 2020; Becker et al., 2001). Firms often make use of methods such as 360° feedback or models based on validated skills to ensure that efforts are correctly directed towards strategy (Becker et al., 2001; Vedd & Kouhy, 2001).

The HR Scorecard (Becker et al., 2001) is a multidimensional measurement system for measuring and managing HR initiatives (Becker et al., 2001; Chiucchi, 2004). Building on the premises of the Balanced Scorecard (BSC), this is a performance measurement system that moves beyond mere financial measurement to include metrics such as customer satisfaction, efficiency of internal processes, and personnel learning and development (Amirul et al., 2020; Chiucchi, 2004; Kamaal et al., 2025; Walker & McDonald, 2001), the HR scorecard is an adaptation of the BSC for HR purposes. In doing so, it is able to specifically measure the strategic contribution of HR through three dimensions: the HR function, the HR system (practices and policies), and employee behaviours (Becker et al., 2001; Habiburrochman & Irawati, 2021; Kamaal et al., 2025). The strategy map is the critical instrument used in the HR scorecard, which shows cause-and-effect relationships (Becker et al., 2001; Chiucchi, 2004; Lohana et al., 2021; Walker & McDonald, 2001). For example, the strategy map shows how an investment in learning and growth improves the quality of internal processes, increases in customer loyalty and, finally, financial ROI (Becker et al., 2001; Kamaal et al., 2025; Van der Lugt, 2024). Furthermore, the HR scorecard shifts the focus from HR doables (simply counting hours of activities such as training) to HR deliverables (value creating results, such as productivity improvements or reduction of product development time) (Becker et al., 2001). Through these instruments, HR professionals can clearly visualise how HR activities turn into deliverables that drive value creation and economic advantage (Becker et al., 2001; Lohana et al., 2021).

In doing so, the HR scorecard also supports decision-making processes (Kamaal et al., 2025; Lohana et al., 2021; Walker & McDonald, 2001), moving beyond a monitoring tool into a strategic system able to actively steer organisational choices (Walker &

McDonald, 2001). This is fundamental because it guides human resource allocation, so that HR managers can prioritise human capital investments that generate the most strategic deliverables, rather than focusing expenditures on purely operational activities (Becker et al., 2001). Thanks to leading indicators, the HR scorecard promotes a proactive approach to identify latent issues and intervene with corrective solutions before they negatively influence financial results (lagging indicators) (Becker et al., 2001; Walker & McDonald, 2001). Moreover, this framework provides the necessary base for HR managers to justify their decisions in front of top management (Gates & Langevin, 2010).

Another multidimensional performance measurement system important for HR management and control is represented by Intellectual Capital (IC) measurement systems (Becker et al., 2001; Chiucchi, 2004; Garengo et al., 2021; Gates & Langevin, 2010). IC is described in the literature as the combination of intangible factors that interact with each other, allowing the organisation to generate economic value and competitive advantage (Chiucchi, 2004; Gates & Langevin, 2010; Hamel & Prahalad, 1994). The specific division of IC into three key components was formalised by Edvinsson and Malone (1997) and Stewart (1997), which is articulated as follows: human capital, structural capital and relational capital.

Human capital refers to the set of knowledge, skills, experience, creativity, attitudes and motivation of the workforce, for example, organisational climate or turnover rate of key personnel (Chiucchi, 2004; Edvinsson & Malone, 1997; Gates & Langevin, 2010; Stewart, 1997). It is widely considered the most valuable asset within IC, because it is the base upon which lies the whole innovative capacity of the firm (Chiucchi, 2004; Gates & Langevin, 2010).

Structural capital, in turn comprises knowledge encoded in elements that make it transmissible across time and space, such as procedures, routines, databases, patents and organisational culture (Chiucchi, 2004; Edvinsson & Malone, 1997; Gates & Langevin, 2010; Stewart, 1997). Examples include degree of digitalisation of the firm's processes, number of patents published, and the number of R&D investments (Chiucchi, 2004). This type of capital is able to spread the knowledge generated by human capital within the firm (Chiucchi, 2004; Gates & Langevin, 2010).

Finally, relational capital concerns knowledge and value deriving from the set of relationships between the organisation and its external stakeholders, including clients, suppliers, partners and the local community (Edvinsson & Malone, 1997; Gates & Langevin, 2010; Stewart, 1997). This type of capital concerns the customer satisfaction index, the number of active strategic partnerships and the customer retention rate (Chiucchi, 2004; Stewart, 1997). This is considered the shared asset between the firm and social actors (Chiucchi, 2004).

Within this context, the cooperation between the HR and management accounting departments is crucial for the development of a measurement system capable of measuring and managing HR activities (Amirul et al., 2020). Through this collaboration, Key Performance Indicators (KPIs) are not seen as simple administrative calculations but become strategic instruments that link HR results to the overall business outcomes and results (Amirul et al., 2020; Hannimitkulchai, 2019). Examples of KPIs useful for monitoring HR operational processes can be, for instance, cost per hire, training days per year, and the time to fill open vacancies (Amirul et al., 2020; Becker et al., 2001; Boudreau & Ramstad, 2002; Gates & Langevin, 2010; Hannimitkulchai, 2019; Lohana et al., 2021). By moving beyond the activities carried out by HR, useful indicators are those that measure the impact of HR programs on skills, motivation, and behaviours of the workforce (Becker et al., 2001; Boudreau & Ramstad, 2002; Gates & Langevin, 2010). This includes assessing competency development through specific spending per employee and evaluating leadership quality to ensure the readiness of future leaders (Becker et al., 2001; Walker & McDonald, 2001).

Lastly, important indicators also quantify the direct influence of HR processes on the firm's competitive advantage (Boudreau & Ramstad, 2002; Gates & Langevin, 2010). Examples of such metrics are revenue per employee, ROI of training, and the total labour cost percentage to determine ROI for specific talent pools (Becker et al., 2001; Boudreau & Ramstad, 2002; Gates & Langevin, 2010; Lohana et al., 2021; Walker & McDonald, 2001). Notably, a fundamental pillar in modern KPI architecture is the balance between lagging and leading indicators (Becker et al., 2001; Chiucchi, 2004; Lohana et al., 2021). While lagging indicators (such as turnover rates or financial profits) reflect past performance, leading indicators act as predictive signals for future success (Becker et al., 2001; Lohana et al., 2021). These predictive metrics include the Engagement Index, which measures employee commitment, and the Employee Strategic Focus, which measures how well staff understand their contribution to corporate strategy (Becker et al., 2001; Van der Lugt, 2024; Walker & McDonald, 2001). Furthermore, contemporary soft parameters, such as well-being indicators, the Employee Net Promoter Score (eNPS), and periodic surveys on organisational culture and climate, provide a holistic view of the internal environment necessary to sustain long-term performance (Becker et al., 2001; Lohana et al., 2021; Van der Lugt, 2024).

Decision-Making

Moving on to the decision-making process, it represents the moment where data produced by management accounting serves as the input for choices relating to human capital management (Amirul et al., 2020). The aim of this process is to overcome a purely intuitive or subjective approach, giving HR managers a quantitative and qualitative starting point to evaluate the long-term impact of their decisions (American Accounting Association, 1973; Gupta, 2024).

The main instrument used by firms to evaluate the feasibility of great HR projects, such as the introduction of new training systems or the restructuring of current work models, is Cost-Benefit Analysis (CBA) (Amirul et al., 2020; Becker et al., 2001; Gupta, 2024). This is a fundamental method within the decision-making pillar, aimed at helping HR management understand the long-term economic implications of their choices about human capital (Becker et al., 2001; Gupta, 2024). CBA transforms the justification of HR politics from a purely intuitive approach to one based on rigorous quantitative data, aligned with the firm's strategy (Becker et al., 2001; Gupta, 2024). The literature distinguishes two main approaches to CBA: the first is operational analysis, aimed at reducing costs and improving the efficiency of current activities, for example, deciding whether to outsource administration of benefits or lower recruitment costs (Becker et al., 2001). The second approach is strategic analysis, focused on the deliverables identified in the HR scorecard and intended to help strategy implementation, such as programs to increase employees' strategic focus (Becker et al., 2001).

Furthermore, the CBA process is divided into three phases to determine the ROI of an HR intervention (Becker et al., 2001). First, is cost identification, where it becomes necessary to track both direct expenses and the correlated cost categories (such as base operative costs, adjustment costs, administrative costs). The second phase concerns benefits identification, which is more complex because HR benefits are usually uncertain and only manifest in the future. Lastly, there is the calculation of the performance index, where total benefits are compared to total costs, using various parameters (such as simple ROI, breakeven, payback period and NPV) (Becker et al., 2001). HR managers must adopt a financial mentality for the CBA to be effective (Becker et al., 2001; Gupta, 2024). For instance, decisions should not be affected by what has already been spent in the past (sunk costs), but only by future benefits (Vedd & Kouhy, 2001).

Moreover, CBA should take into consideration the differences between high-performing and low-performing employees, and how these differences influence economic results (Becker et al., 2001). A successful CBA for HRM is not limited to calculating cost savings, but it shows how resource allocation creates strategic value and economic advantage (Vedd & Kouhy, 2001). Additionally, CBA requires a close collaboration between HR professionals and management accountants (Vedd & Kouhy, 2005). Management accountants provide the analytical framework and ensure that financial numbers are correct before advancing with simulations or contracts (Gupta, 2024; Vedd & Kouhy, 2005). In this regard, many organisations consider CBA as a fundamental aspect of the management accountants' and HR manager's roles as business partners (Vedd & Kouhy, 2005). To execute an effective CBA, firms often integrate advanced technological instruments, such as employee data warehouse, where data from different HR systems is integrated to create a base of decisional intelligence (Walker & McDonald, 2001).

The main application areas for CBA includes productive capacity management, where it is used to determine whether it is more cost-effective to handle peak workloads through current employee overtime or by hiring staff through temporary agencies (Vedd & Kouhy, 2005). Moreover, CBA is applied to remuneration policies to simulate how employee satisfaction might vary under different incentive programs (Van der Lugt, 2024; Walker & McDonald, 2001). It also plays a critical role in human capital investments by evaluating whether it is better to build skills internally through training or to buy them on the market through recruitment, effectively analysing the ROI for each choice (Walker & McDonald, 2001). CBA is also utilised in outsourcing to analyse both the economic and qualitative impacts of externalising functions such as safety management (Vedd & Kouhy, 2005). Lastly, CBA identifies hidden correlations and proves or disproves managerial hypotheses that were previously based only on intuition (Walker & McDonald, 2001). This methodological rigor is essential to justify great HR investments and to align employee behaviours with desired business results (Walker & McDonald, 2001). In summary, CBA for HR is done by projecting historical and current data into hypothetical future scenarios, using statistical models to calculate the best trade off among costs, efficiency, and strategic value (Walker & McDonald, 2001).

Another crucial decision-making tool is the what-if analysis, which is a simulation technique that allows HR managers to assess the impact of different long-term decisions about human capital before implementing any of them (Brummet et al., 1968; Vedd & Kouhy, 2001). This method transforms the HR decision-making process from a purely intuitive approach to one based on quantitative data, opening the possibility to evaluate the financial and operational consequences of different scenarios (Vedd & Kouhy, 2001; Walker & McDonald, 2001).

In this regard, predictive modelling is useful, as methods like data mining are used to forecast positive or negative impacts of human capital decisions before their implementation (Walker & McDonald, 2001). The adoption of tools, such as CBA, ROI and predictive modelling allow HR managers to move beyond a purely intuitive approach, ensuring a systematic justification of investments in terms of added value and financial sustainability (Aronmwan & Izedonmi, 2011; Becker et al., 2001; Gupta, 2024; Hannimitkulchai, 2019). Through this process, HRM is recognised as a fundamental strategic asset able to influence long-term profitability and success (Aronmwan & Izedonmi, 2011; Becker et al., 2001; Christian, 2022; Hannimitkulchai, 2019).

Ultimately, the coordination between the management accounting and the HR functions permits to evaluate complex alternatives, navigate uncertainties and ensure that every decision is aligned with the broader company goals (Amirul et al., 2020; Brummet et al., 1968; Hannimitkulchai, 2019).

2.6 CONCLUDING REMARKS

The aim of this chapter was to provide an overview of the roles, activities and competencies of the HR department and to analyse how management accounting and control tools can support the management and measurement of human resources. Previous literature has demonstrated that human resources are no longer a passive expense to be minimised, but a dynamic, value-creating asset whose strategic worth is rooted in the quality of the socio-psychological exchange between the individual and the firm (Van Veldhoven, 2012). By moving beyond administrative automation and toward comprehensive SHRM, organisations can effectively cultivate a workforce that is inimitable and capable of driving a sustained competitive advantage (Asfahani, 2021; Barney, 1991; Wang, G., et al., 2024).

Within this context, management accounting does not only satisfy a retrospective function but provides the necessary architecture to systematically coordinate human capital with the firm’s strategic objectives (Amirul et al., 2020; Gupta 2024; Vedd & Kouhy, 2005). The adoption of multidimensional instruments, such as the HR scorecard, allows to visualise the cause-and-effect relationships between HR practices (such as training and recruitment) and financial results, transforming qualitative intuitions into a strict framework (Amirul et al., 2020; Becker et al., 2001; Gupta, 2024; Kaplan & Norton, 1996; Morrow, 1996). Instruments such as capital budgeting applied to HR treat personnel costs as long-term investments, economically justifying them through expected returns analysis (Aronmwan & Izedonmi, 2011; Becker et al., 2001; Gupta, 2024; Hannimitkulchai, 2019).

Literature also shows that the interplay between management accounting and HR is often complex and tense (Amirul et al., 2019; Goretzki & Messner, 2019), which could lead HR professionals to engage rarely with management accountants (Amirul et al., 2020; Ulrich & Rieg, 2020). Conversely, management accountants' support to the HR function is crucial, as management accountants own the critical knowledge of numbers, processes and the broader organisational structure, able to support HR planning, control and decision-making processes (Gupta, 2024; Vedd & Kouhy, 2005).

A tight collaboration between these functions is therefore not only desirable, but also necessary to ensure that HR initiatives are financially sustainable and integrated within organisational decision-making processes (Amirul et al., 2020; Gupta, 2024; Vedd & Kouhy, 2005). Despite this, a persistent language gap remains; HR managers often lack the specialised accounting expertise necessary to translate personnel initiatives into financial metrics (Saukkonen et al., 2018). This communication obstacle often prevents the conversion of human capital into the quantitative language required by top management (Amirul et al., 2020; Van der Lugt, 2024; Walker & McDonald, 2001).

Lastly, it is necessary to mention that there is still limited academic literature analysing these themes, limiting our comprehension of how this cooperation takes place in practice (Byrne & Pierce, 2018; Goretzki et al., 2018; Mack & Goretzki, 2017). For this reason, the objective of the following chapter is to delve more deeply into the interface between management accounting and HR by investigating whether and how management accounting practices and tools can support human resource management. To reach this goal, the next chapter will present an empirical case study conducted within an Italian manufacturing firm.

3. THE ROLE OF MANAGEMENT ACCOUNTING IN SUPPORTING HUMAN RESOURCE MANAGEMENT: AN EMPIRICAL STUDY

3.1 RESEARCH MOTIVATION AND RESEARCH GAP

Previous chapters examined the theoretical foundations of management accounting, HRM, and the support that management accounting can provide to HRM. Notably, extant literature about the design and use of management accounting tools for HR planning, control, and decision-making activities highlights that this interplay can be characterised by several barriers and challenges (Amirul et al., 2019; Goretzki & Messner, 2019; Vedd & Kouhy, 2005). Within organisational practice, these two functions often seem to speak different languages (Burns & Scapens, 2000; Granlund & Lukka, 1998; Saukkonen et al., 2018). On the one hand, management accountants are mainly focused on costs reduction and budgetary operations, while on the other hand, HR professionals see training and development not as mere budget expenses, but as drivers for success (Asfahani, 2021; Barney, 1991; Brusa, 2000; Garrison et al., 2021). Despite previous studies have identified levers to overcome these issues, to date, our knowledge about the interface between management accounting and HRM is limited and few empirical studies exploring whether and how these functions cooperate have been conducted (Amirul et al., 2019; Goretzki & Messner, 2019; Van der Lugt, 2024; Vedd & Kouhy, 2005).

Therefore, the aim of this chapter is to empirically investigate whether and how management accounting can support human resource management. To reach this goal, this research employs qualitative methods by conducting a case study (Chiucchi, 2012) about an Italian medium sized company operating in the textile sector. For confidentiality reasons and in accordance with ethical protocols (Saunders et al., 2007), the company will be referred to with the pseudonym of “Alpha Textiles”. To collect empirical material, semi-structured interviews (Qu & Dumay, 2011) with the management accounting and HR managers have been conducted. This empirical case study aims to dive into operational dynamics to understand in-depth whether and how management accounting tools can effectively support human-related decision processes (Atrill & McLaney, 2015; Garrison et al., 2015; Vedd & Kouhy, 2005; Saunders et al., 2007). This chapter first outlines the adopted methodology and then moves on to present the main findings emerged in the case study (Ahmed et al., 2025; Amirul et al., 2020). It ends with a discussion and concluding remarks.

3.2 RESEARCH METHOD

The objective of this paragraph is to carefully describe the methodological process followed to realise the empirical research for this case study. The choice of the research method is never a purely technological process but reflects the philosophical position of the researcher with regards to the topic intended to research (Saunders et al., 2007). The complexity of the interaction between HRM and management accounting requires a method that can catch the organisational and relational dynamics that lie below the surface (DiCicco-Bloom & Crabtree, 2006; Saunders et al., 2007). After a description of the research design, information about how data have been collected and analysed are presented.

3.2.1 Research design

To effectively explore the complex relationship between management accounting and HRM, a qualitative approach based on a case study was chosen (Chiucchi, 2012). This choice of method stems from the necessity to explore in-depth a phenomenon rooted in its real context (Saunders et al., 2007). As literature suggests, the case study is the preferred instrument when the boundaries between the phenomenon under investigation (the support of management accounting to HR in this case) and the firm's context are not easily identifiable (Chiucchi, 2012; Saunders et al., 2007). Within the literature on research methods, the distinction between quantitative and qualitative research does not only concern the collected data, but it is primarily related to broader paradigms (Chiucchi, 2012; Saunders et al., 2007). Quantitative research is usually associated with the neopositivist paradigm (Alvesson, 2003; Chiucchi, 2012; Saunders et al., 2007). Neo positivism understands social reality as something external to the individual, objective and measurable through general laws (Chiucchi, 2012; Saunders et al., 2007). Quantitative research aims at the statistical generalisation of results and uses standardised instruments, such as closed-ended questionnaires (Corbetta, 2003; Qu & Dumay, 2011). Conversely, qualitative research (chosen for this study), aims to obtain a rich comprehension of the meaning that actors attribute to their own actions (Chiucchi, 2012; Corbetta, 2003; Saunders, 2011). Therefore, the objective is not quantity but rather the depth or thickness of description (Dey, 1993; Robson, 2002; Saunders et al., 2007). This approach allows to capture the richness and complexity of organisational phenomena that are often missed by the rigid metrics of quantitative research (Bloom & Crabtree, 2006; Dey, 1993; Robson, 2002; Saunders et al., 2007).

Coherently with a qualitative choice, the research adopts an interpretivist perspective (Chiucchi, 2012). The interpretivist paradigm finds its roots in phenomenology and symbolic interactionism (Chiucchi, 2012; Saunders et al., 2007). Phenomenology states that man does not react to an objective external world, but he interprets the world surrounding him and gives it meaning through experience (Saunders et al., 2007). Symbolic interactionism suggests that social reality is constantly built through interactions between individuals (Saunders et al., 2007). The objective of the interpretivist researcher is, as stated by Corbetta (2003, p. 69), to "see the world through their eyes [of the interviewees]". According to this view, this study does not simply identify what control instruments are used, but it strives to understand how management accountants and HR professionals interpret their own roles and the collaboration between them (Qu & Dumay, 2011). Therefore, the case study method represents the ideal research strategy for exploring a phenomenon characterised and influenced by different practices, like the interface between management accounting and HRM, based on the organisational context in which these practices are situated and enacted (Chiucchi, 2012; Saunders et al., 2007). Furthermore, the case study allows to analyse managerial practices "in action" (Hopwood, 1983, p. 303), overcoming the logic of abstract speculation to focus on the concrete facts of organisational life (Chiucchi, 2012).

Therefore, this research adopts the case study research design by analysing an Italian manufacturing company in the textile sector. The company included in this case study is Alpha Textiles, which represents a worldwide excellence in its sector. This is a manufacturing firm where artisanal and technical expertise of employees (the know-how) constitutes organisational value. In this context, measuring human capital contribution is the key to mapping a unique wealth of knowledge. The analysis of this case will allow to explore whether and how management accounting works in support of HRM and how these departments interact with each other to create organisational value.

Alpha Textiles is an Italian manufacturing reality, recognised as a global excellence in the production of high-end textiles. It was founded over 60 years ago, and, over time, the firm was able to integrate artisanal tradition with technological innovation. Their top management approach is characterised by a strong values-based identity, rooted in passion and sustained commitment, while embracing innovation and a forward-looking mindset.

Alpha Textiles' organisational structure is designed to ensure maximum efficiency in operational processes. The company is organised into the following key departments: the logistic, production and commercial departments. They are supported by staff functions, such as the IT department, the HR and the administrative area. This area, which is overseen by the Chief Financial Officer (CFO), includes the financial accountants, the purchasing professionals, and management accountants.

The functions of HR and management accounting, which are at the core of this study, present distinct organisational structures. As regards to HR, Alpha Textiles has decided, for over 30 years, to externalise personnel management to a specialised firm to ensure fairness of recruitment and promotion processes. The external HR professional comes at the office two or three times a week, ensuring at the same time legal support and continuous administration. The management accounting function, instead, is internal and is located within the administrative area. The role of the management accountant is to provide technical-administrative support through monthly reports. Their main responsibility is to guarantee economic sustainability and provide timely data to support decision-making, which is done through budgeting and variance analysis.

The integration between these two areas, and the rest of the organisation, is supported by a sophisticated technical architecture: an Enterprise Resource Planning (ERP) system acts as the backbone of the firm. This system permits to manage orders, machines and logistics, through daily updates and provides real-time data for cost analysis. Furthermore, the HR area utilises a specialised software to monitor absences, holidays and payroll, integrated with qualitative KPIs, such as absenteeism rates and machine downtime, used to evaluate departmental efficiency.

The choice of Alpha Textiles followed the logic of purposeful sampling (Patton, 1990), which consists in the selection of "information-rich cases for study in depth" (Suri, 2011, p. 65), from which it is possible to learn and investigate in a comprehensive way the central themes of research (Suri, 2011; Hoepfl, 1997). Firstly, the company operates in a sector where artisanal know-how and human capital represent the main organisational value, making Alpha Textiles the ideal context to study human capital measurement (Chiucchi, 2012). Secondly, the public emphasis on concepts such as passion, constant dedication, and sustainability suggested that human resources were perceived as a fundamental pillar rather than a mere operating cost. Thirdly, the company's ability to blend a history of over 60 years with a forward-looking mindset and technological innovation suggested the presence of HR support systems that went beyond mere administrative management. Lastly, the management's willingness to participate in the study guaranteed the practical feasibility of the research, ensuring access to information through direct interaction with key actors (Chiucchi, 2012; Saunders et al., 2007).

3.2.2 Data collection

Transitioning from the overarching case study design to its empirical execution requires a careful consideration of data collection tools, making it fundamental at this stage to justify the choice of the interview method (Chiucchi, 2012; Corbetta, 2003). In the literature, there are usually three types of interviews: structured, semi-structured and unstructured (Chiucchi, 2012; Corbetta, 2003; Qu & Dumay, 2011; Saunders et al., 2007). Structured interviews are based on a rigid questionnaire with questions asked always in the same order and that usually present pre-defined answer categories (Qu & Dumay, 2011; Saunders, 2007). They are associated with a neopositivist view of the researcher as a "miner" who extracts "nuggets of essential meaning" (Kvale & Brinkmann, 2009; Qu & Dumay, 2011, p. 240). The structured interview was not used in this case study because it was considered too narrow to explore the deep meaning of the inter-functional collaboration of the researched relationship (Qu & Dumay, 2011). Unstructured or in-depth interviews are free conversations, conducted without previously defined questions (Qu & Dumay, 2011; Saunders et al., 2007). Although rich in ideas, they incur the risk of diverging too much from the specific objectives of research in a limited time frame (Qu & Dumay, 2011). The researcher must have enough experience and a clear idea of the themes they want to explore (Chiucchi, 2012; Saunders et al., 2007). For this reason, this method was not used in the present case study. Lastly, with semi-structured interviews, the researcher follows an outline of predefined themes and questions, but the order and the way in which they are asked can change depending on the flow of the discussion (Qu & Dumay, 2011; Saunders, 2007). This interview type was chosen because it allows to maintain some degree of comparability between interviews, leaving to the interviewee freedom to explore unexpected aspects or hidden sides of organisational reality (Kvale & Brinkmann, 2009; Qu & Dumay, 2011; Saunders et al., 2007). The semi-structured interview is not a simple tool for data collection, but a social meeting where knowledge is constructed together by interviewer and interviewee (Qu & Dumay, 2011; Silverman, 2021). Within this perspective, "social phenomena do not exist independently of people's understandings of them, and that those understandings play a crucial generative role" (Hammersley, 2007, p. 297). Notably, this method is particularly efficient to discover the different languages between management accountants and HR professionals, enabling the researcher to investigate their cooperation from within (Qu & Dumay, 2011; Schwartzmann, 1993).

To ensure data reliability, interviews are usually recorded and transcribed, paying attention not only to the words used but also to the nuances of the language (Ahmed et al., 2025; Chiucchi, 2012; Saunders et al., 2007). The total anonymity guaranteed to the participants (through pseudonyms like Apha Textiles) is an essential ethical choice to guarantee trust and transparency, allowing managers to express freely even on sensitive or conflictual themes (Bloom & Crabtree, 2006; Qu & Dumay, 2011; Saunders et al., 2007). The development of the interview questions was done through a deductive approach, explicitly grounding data collection questions in the literature explored throughout the previous chapters of this thesis (Saunders et al., 2007). As literature states, a researcher must develop sufficient knowledge in the relevant research topic to ask informed and insightful questions (Qu & Dumay, 2011). In fact, the process of interviewing necessitates "a respect for and curiosity about what people say, and a systematic effort to really hear and understand what people tell you" (Rubin & Rubin, 1995, p. 17).

To reach the research goal of this study, two semi-structured interviews have been designed, one for the management accounting manager and another for the HR professional. The interview was structured into three main thematic sections, each corresponding to the key themes identified in chapters one and two. Section one of the interviews contains questions about the educational and professional background of interviewees and their organisational role within the company. These questions are useful to get to know the subjects and to make them more comfortable with the interview process (Qu & Dumay, 2011). Section two of the interviews deals with the tools, responsibilities, and activities of each department. Specifically, as regards to the interview for the management accountant, questions regarding the use of management accounting tools were designed to investigate how and what tools are in use. A similar structure was followed to design questions about the HR responsibilities, tasks and tools. Finally, the third section focused on the inter-functional interactions between these two functions to investigate the main characteristics of their collaboration and reasons behind possible situations of tensions, such as the language gap (Saukkonen et al., 2018) and the involvement-independence dilemma (Lambert & Sponem, 2012)[14].

Alpha Textiles was first contacted via email, where they were asked to participate in the case study. The email presented the researcher, the research topic and objectives, ensuring total anonymity and explaining what method would be used and the subjects to be interviewed. They responded positively, asking to meet for a face-to-face introductory meeting at the company. At the meeting, that took place in the company headquarter in May 2026, the HR professional and management accounting manager were present. During this meeting, the research objectives were explained, they were reassured total anonymity, they were told that they would have received the interview questions in advance, and that the appointments to conduct the interviews needed to be scheduled as soon as possible. The following week, both managers were contacted, and the meetings were scheduled. The first interview was with the management accountant, which was held face-to-face at the office The second interview was with the HR professional, and it was held via telephone, as the subject could not be at the office at the time of the interview. Considering that both managers did not feel comfortable with being recorded, transcriptions were taken by hand at the time of the interviews. Since the interviews were conducted in Italian, all interview transcripts were translated in English. Both interviews lasted about one hour.

3.2.3 Data analysis

The collected data was analysed through the process of Thematic Analysis (TA), following the six-phase framework identified by Braun and Clarke (2006). This method was chosen for its flexibility and ability to identify recurring patterns within complex

[14] Interview questions for the management accounting manager and the HR professional are in the Appendix.

qualitative data (Ahmed et al., 2025; Braun & Clarke, 2006). The process is not linear but iterative: from familiarisation with the transcriptions to the generation of codes, until the definition of themes that tell a coherent story on the relationship between HR and management accounting (Ahmed et al., 2025; Braun & Clarke, 2023). In this framework, the researcher is not a neutral observer, but an active interpreter that makes sense of the gathered information, translating individual narratives into scientific evidence for their research (Braun & Clarke, 2023). The objective was to identify the central themes concerning management accounting in support of HRM for human capital measurement in the organisation.

During the first phase of thematic analysis concerning familiarisation with the data, the work consisted of total immersion in the empirical material through the transcription and repeated reading of the texts (Ahmed et al., 2025; Braun & Clarke, 2006). The interview transcripts were first adjusted and then read multiple times to catch the explicit contents and the hidden nuances in which managers describe their own functions and other aspects of their work (Braun & Clarke, 2006). During the reading, first impressions were noted: immediately, a great organisational stability *"The relationship has been going on for more than 20 years"* and a clear integration emerged between the perception of the two functions: both are seen as technical functions in support of top management's decisions.

The second phase of the thematic analysis is about generating initial codes (units of analysis), which marks the critical transition from initial immersion to the systematic identification of meaningful data segments (Ahmed et al., 2025; Braun & Clarke, 2006). As established by Braun and Clarke (2006), this phase involves the production of initial codes, which are labels that capture key aspects of the data, either at the semantic (explicit) or latent (interpretative) level (Ahmed et al., 2025). Coding is not simply a technical task, but an interpretative act that requires organising the data info meaningful groups to reduce complexity (Ahmed et al., 2025; Braun & Clarke, 2006). During this process, every data item was analysed systematically, ensuring a deep attention to identify repeated patterns in the entire dataset (Ahmed et al., 2025; Braun & Clarke, 2006).

In the specific context of this research, the coding process followed an iterative and reflexive approach, recognising that the researcher's own knowledge on the topic shaped how labels were assigned (Ahmed et al., 2025). Since the case study comprised a restricted number of interviews, a line-by-line analysis was performed on both transcripts (Ahmed et al., 2025). The goal was to be inclusive and comprehensive, coding for as many potential patterns as possible while avoiding superfluous codes (Braun & Clarke, 2006). Codes such as operational collaboration, qualitative KPIs, and communication aspects emerged by analysing the interview with the HR professional. Other codes emerged from the management accountant's interview, such as staff and support functions, control instruments and control frequency. Then, both interviews were analysed again to see if the same patterns would be found in the other interview as well. This systematic coding ensured that the richness of the organisational life at Alpha Textiles was preserved, creating a solid foundation of well-defined codes that are at the base of the themes refined in the later phases of the analysis (Ahmed et al., 2025) (Figure 1).

Figure 1. Data extracts with codes applied.

Data extract MA	**Data extract HR**	**Coded for**
"we collaborate when needed without problems, but we operate in separate silos." *"to be objective, the two teams remain autonomous."* *"in addition to budget-related activities, we interface with the HR office, when necessary, for example, if we find variances."* *"Our management accounting team sees the variances and asks about the*	*"We work together once a year on the budget and then we work based on that."* *"Everything concerning budget and training must be done as a team (HR and management accounting)"* *"Everything concerning costs is done and decided together as a team (HR and management accounting)"*	Operational collaboration

reasons (to HR). Weekly emergencies are resolved between the management accounting office, the HR department, the production department, and production scheduling department" *"if anomalies occur, we (the management accounting team) collaborate with HR to resolve them."*	*"management accountants at Alpha Textiles interact with the HR team to find solutions"* *"Management accounting is a team, and a team presupposes teamwork with human resources"* *"The controller must accept unforeseen costs and find solutions in equilibrium with our team"* *"The relationship has been going on for more than 20 years, so there is excellent synergy."* *"the departments are in harmony."*	
"In our company, personnel are seen as a strategic asset" *"Our department provides training to expand skills, but there is no need to perform a control that is too detailed"*	*"there was an evolution towards evaluating well-being and the person's potential"* *"We do not measure, for example, the economic return (ROI) on training, but we evaluate the cost of the training and set a goal. The return is the achievement of the goal and making the person grow and develop. The achievement of the goal is also considered in terms of the employee's enthusiasm and ideas, as well as the long-term positive effects"* *"A quantification in euros is not made, but personal growth"* *"The measurement of purely financial indicators (such as cost per hire) is not done in a meticulous way"*	Qualitative KPIs
"we also have an ERP system" *"the correspondence of HR costs with the annual and semi-annual budgets"*	*"We use software to monitor attendance, holidays, absences, and the company balance sheet together with management accounting"* *"we use key performance indicators (KPIs)"* *"We also have questionnaires related to production and safety"* *"Variance analysis is carried out"* *"There is no separate specific budget for human resources (HR budgeting)"*	Control instruments
"team members check performance measures and numbers on a daily basis." *"The administrative area creates a monthly report…and performs a management control at an economic-financial level."*	*"With the monthly verification, in case of additional costs, it is possible to correct or intervene with strategies that justify an extra-budget or bring it back into line"* *"The numbers are registered daily, but the control of numbers related to personnel…is monthly."*	Control frequency

"Our operations are structured on two levels: a broader planning, based on the budget that is defined once a year, and a dynamic management of daily or weekly critical issues (through the ERP)."	*"Personnel costs are planned for the following year and then monitored monthly for a comparison against the programmed budget and against the previous year."*	
"The controller performs the numerical control but does not contribute to the strategy." *"The management accounting department has no influence at the level of strategic decisions."* *"Our priority goal is to ensure the continuity of production flows"* *"The controller must verify the correspondence of HR costs with the annual and semi-annual budgets"* *"their insights (of the management accounting team) help management analyse the facts and take new points of view into consideration."* *"The management accounting department is instructed by management on what information should be requested (to HR)"*	*"For hirings and promotions, there is an internal team (management) that collaborates with us."* *"After the initial screening, there is an internal team made up of management that also evaluates integration"* *"We also deal with strategic planning, annual budgets, and also personnel costs."* *"Once the budget is approved, HR expenses are reconfirmed by the board of directors."* *"management accounting must respect limits on both times and people to guarantee production."* *"The role of management accounting is to find solutions for the services offered by the company"*	Staff and support functions
"No, I don't think there are communication problems, or at least it has never happened to me to experience these situations."	*"There are periods when the management accounting department says it is not possible to carry out training"* *"The management accounting office may request the reformulation of longer timelines than expected"* *"But there is no rigidity, difficulty, or difference in language"*	Communication aspects

Source: own elaboration.

The third phase of thematic analysis concerns the search for themes and represents the shift to the identification of broader, overarching patterns of meaning within the interview transcripts (Ahmed et al., 2025). At this stage, the focus transitions from individual data segments to the interpretative construction of themes, which are abstract constructs that capture something significant about the research topic (Ahmed et al., 2025;

Braun & Clarke, 2006). Braun and Clarke (2006) state that this process involves sorting and collecting the list of different codes into potential themes and gathering all relevant data extracts that originated them. Rather than focusing on individual labels, the researcher must uncover the underlying core concept that connects a group of codes into a consistent narrative about the phenomenon (Ahmed et al., 2025; Braun & Clarke, 2023). To facilitate this process, the codes found in phase two were visually organised using thematic maps. This mapping process allowed to visualise the interactions among different codes and resulted in the identification of three main themes: the first theme identified was "operational collaboration", which captured the relationship between HR and management accounting in Alpha Textiles. However, what emerged was that while the departments were described as operating in *"separate silos"* only to maintain objectivity and autonomy, in their activities they are simultaneously linked through teamwork and collaboration for budget and costs control. This structure ensures that the two functions remain independent while often cooperating on the necessary aspects of their functions and of the entire company. This theme included the codes of "collaboration and interface", "synergy and harmony", "budget and costs cooperation", "teamwork", and "objectivity and autonomy". The second theme identified was "qualitative KPIs", which comprised several codes, namely, "personnel as strategic asset", "employee wellbeing and potential", "personal growth", "no economic measurement of qualitative metrics". This theme highlighted the lack of a formal and economic evaluation of KPIs, with the only ROI being based on qualitative aspects, such as personal growth and enthusiasm. The last theme identified was "staff and support functions", including the codes of "no strategic influence", "continuity of production flows", "insights for top management", and "board of directors approval". This theme contained the hierarchical architecture that categorises HR and management accounting as technical functions in support of top management. They do not take part in strategic choices, but they collaborate to provide the data to support the decision-making processes of top management.

The fourth phase of thematic analysis is where themes are reviewed (Braun & Clarke, 2006). This process involves a critical and iterative evaluation of the candidate themes identified in the previous phase to ensure they accurately represent the collected data (Ahmed et al., 2025; Braun & Clarke, 2006). This process has two distinct levels of refinement. At the first level, the researcher revisits the coded data extracts for each theme to assess their internal homogeneity, ensuring that the data within each theme fit together logically and form a coherent pattern (Ahmed et al., 2025; Braun & Clarke, 2006). If the candidate themes do not represent the coded data, they are reworked or discarded. Once a satisfactory pattern is established, the researcher moves to the second level, which involves reviewing the individual themes in relation to the entire dataset (Ahmed et al., 2025; Braun & Clarke, 2006). During this stage, the researcher reads through the whole dataset again to verify the validity of the themes and to check whether the candidate thematic map accurately reflects the meanings emerged from the data (Ahmed et al., 2025; Braun & Clarke, 2006). This iterative process often leads to re-coding additional data missed in earlier stages and may result in the merging, splitting, or discarding of certain themes to ensure external heterogeneity, meaning the themes are clearly distinct from one another (Ahmed et al., 2025; Braun & Clarke, 2006). Ultimately, the researcher concludes this phase when the thematic map accurately represents the richness and complexity of the dataset while providing a coherent narrative that aligns with the research objectives (Ahmed et al., 2025; Braun & Clarke, 2006).

As with regards to this research, this phase of the thematic analysis involved a critical and recursive review of the candidate themes identified in the third stage to ensure their validity and coherence in relation to the two levels of refinement (Ahmed et al., 2025).

At level one, during the review of the "operational collaboration" theme, it was confirmed that the departments were described to operate as *"separate silos"* only because they serve different functions and to preserve objectivity and autonomy. In reality, these functions are characterised by cooperation and teamwork on fundamental tasks, such as the budget and variance analysis of HR costs. This stage allowed to refine the theme to reflect a reality of teamwork and cooperation in the daily operational activities. At level two, the complete interview transcripts were read again to verify whether the candidate thematic map accurately reflected what emerged from the entire transcripts (Ahmed et al., 2025; Braun & Clarke, 2006). This process was crucial for ensuring external heterogeneity among themes (Ahmed et al., 2025; Braun & Clarke, 2006). Regarding the "qualitative KPIs" theme, this iterative review of narratives confirmed a recurring lack of economic evaluation of qualitative metrics. ROI is simply based on non-financial aspects, like employee wellbeing and enthusiasm, without a numerical backing for the justification of training investments. Finally, the "staff and support functions" theme was refined to move beyond a mere categorisation of roles (Braun & Clarke, 2006). By reviewing the technical codes, such as "no strategic influence" and "budget approved by board of directors", against the broader context of the interviews, it was confirmed that these roles function as providers of information for top management. They collaborate to provide accurate and timely data to the board of directors for decision making, and to ensure that the budget does not exceed. Other than this, they do not take part in the organisational strategy formulation. This recursive process of checking themes against both the coded extracts and the full dataset allowed the final themes to accurately capture the complexity of the interface between MA and HR (Ahmed et al., 2025; Braun & Clarke, 2006).

The phase of defining and naming themes is the fifth stage of thematic analysis (Ahmed et al., 2025; Braun & Clarke, 2006). It involves the final refinement of the themes previously identified to ensure they accurately represent the dataset and effectively address the research questions (Ahmed et al., 2025). This phase represents the point where the researcher dives into the interpretative dimensions of the data, telling a coherent and internally consistent story (Ahmed et al., 2025). The primary goal is to identify the essence of what each theme is about, and to determine what specific aspect of the data is captured by each theme (Ahmed et al., 2025; Braun & Clarke, 2006). Several key activities are performed. A detailed analysis is written for each theme, providing an explanation of why those extracts are interesting in relation to the research topic (Ahmed et al., 2025; Braun & Clarke, 2006). Theme names are finalised to be concise and evocative, providing a sense of the central organising concept (Ahmed et al., 2025; Braun & Clarke, 2006). As Ahmed et al. (2025) state, researchers should avoid vague names or using direct quotations as theme names, because this can hide the interpretative work involved. Then, consistency and scope must be tested. A common test for a theme's validity is to be able to describe the themes' scope and content in just a couple of sentences. If this is not possible, themes must be further refined (Braun & Clarke, 2006). Researchers may even identify sub-themes to demonstrate a hierarchy of meaning in larger or more complex themes (Braun & Clarke, 2006). Lastly, the researcher must remain transparent about their role in constructing these themes, acknowledging that their view on the research topic can influence the final names and definitions (Ahmed et al., 2025).

As for the present case study, during this phase, the three core themes identified in the previous stage were defined to capture the essence of the relationship between HR and management accounting at Alpha Textiles. The name given to the first theme was "functional integration: budget as a boundary object". The essence of this theme captures the primary point of interface between the two departments. The refinement of analysis revealed that while their daily operations remain distinct and separated, the annual planning of the budget and monthly variance analysis serve as a common area for cooperation and dialogue. This theme was defined to highlight how management accountants provide the numerical boundary (the budget) within which HR must exercise its operational flexibility. The second theme was named "HR KPI metrics". The essence of this theme identifies a fundamental qualitative-based measurement of KPIs, lacking numerical backing, which explores the company's deliberate choice to prioritise qualitative value over short-term financial quantification of human capital. The analysis explains that Alpha Textiles does not use metrics like financial ROI of training and development, but indicators of enthusiasm, personal growth and shared knowledge. Lastly, the third theme was named "management accounting and HR as technical support functions", which explores the company's organisational architecture, which understands HR and management accounting as technical functions supporting top management's decision-making processes. This configuration defines both departments as technical pillars that provide the essential informational infrastructure required by top management to manage the firm. By the end of the fifth phase, the researcher established a clear analytical structure that grounded the value of human resources within the numerical reality provided by management accounting tools.

The sixth and last phase of thematic analysis is the production of the findings, which involves integrating the themes and interview extracts to answer the research question (Ahmed et al., 2025; Braun & Clarke, 2006). This thematic analysis represents the base for the findings section of this thesis, providing solid empirical evidence about the cross-functional cooperation between management accounting and HR.

3.3 FINDINGS

In this paragraph, the results emerged from the empirical analysis at Apha Textiles are presented. Through the application of the thematic analysis framework (Braun & Clarke, 2006) for the interviews conducted with the HR professional and management accounting manager, it was possible to address the research question. The findings are structured in three sub-sections, according to the main themes identified during the data analysis.

3.3.1. Functional integration: budget as a boundary object

The empirical analysis carried out at Alpha Textiles revealed that the budget and variance analysis make up the main common ground and shared language through which the management accounting and HR function interact. From the interview with the HR professional, it emerged that planning of personnel costs is done annually and jointly with both functions:

> *"Personnel costs are planned for the following year and then monitored monthly for a comparison against the programmed budget." (HR)*

This vision was confirmed by the management accountant, who explained that operations between the two departments are articulated on two levels:

> *"Our operations are structured on two levels: a broader planning, based on the budget that is defined once a year, and a dynamic management of daily or weekly critical issues. Our priority is to ensure the continuity of production flows. So, I would say that, in addition to budget-related activities, we interface with the HR office, when necessary, for example, if we find variances." (MA)*

During this process, management accounting acts as a technical architect, providing the economic boundaries within which HR can operate, including the needed information, numbers and support. This integration is further supported by the ERP system:

"Then we also have an ERP system to manage administration, logistics, machinery, etc. This system expands throughout the entire company and updates automatically every day. Everything, including orders, is entered and processed automatically in the information system." (MA)

"We use software to monitor attendance, holidays, absences, and the company balance sheet together with management accounting." (HR)

This technical architecture guarantees correct information flows by synchronising the actual production activity with the accounting system in real time. This allows HR to justify deviations by cross-referencing the management accountant's numerical signals with the concrete operational causes (such as sudden absences) to implement targeted corrections in the budget or training plans. Therefore, the management accounting function supports the HR area in terms of budget and to correct or justify variances, whenever it is necessary:

"Our management accounting team sees the variances and asks about the reasons [...] for example, if there are many sickness absences in the same department and production drops, action must be taken [...] if the HR cost exceeds the pre-established one (in the budget), we call HR to verify." (MA)

This view was confirmed by the HR professional:

"The management accounting function supports the HR function in terms of budget and to correct or justify variances, whenever it is necessary." (HR)

This confirms the importance of management accounting in providing information to facilitate informed decisions:

"The controller must verify the correspondence of HR costs with the annual and semi-annual budgets, and if anomalies occur, we collaborate with HR to resolve them. Monthly, HR passes its costs to our department for report control." (MA)

Furthermore, a strong collaborative aspect emerged from the interviews. Although the two departments were described to operate as separate silos to maintain objectivity, the respondents highlighted frequent cooperation and teamwork:

"[…] we collaborate when needed without problems, but we operate in separate silos […] to be objective, the two teams remain autonomous." (MA)

This perspective was confirmed by the HR professional:

"Management accounting is a team, and a team presupposes teamwork with human resources. The role of management accounting is to find solutions for the services offered by the company: to provide the material immediately and adapt to market needs. The controller must accept unforeseen costs and find solutions in equilibrium with our team so as not to prevent expenses that are aimed at training and company growth. Updating and entering data on portals create additional expenses that must be coordinated together." (HR)

The HR also explained their collaboration with MA as regards to the budget:

"We work together once a year on the budget and then we work based on that. […] Everything concerning costs is done and decided together. Apart from daily operations such as relations with trade unions, communication with the company doctor, payroll, mandatory training, holidays, etc., these activities are carried out independently by the HR office. Everything concerning budget and training must be done as a team, including supplementary training and choosing who to involve both internally and externally." (HR)

The HR professional continued to explain:

"Absences are looked at daily to see if a department is understaffed and if machines are standing idle. In these cases, the management accountants at Alpha Textiles interact with the HR team to find solutions. The goal is not to stop production." (HR)

As shown, both interviews underlined the ongoing collaboration between the functions, marked by a good relationship:

"The relationship has been going on for more than 20 years, so there is excellent synergy. The relationship is also marked by mutual growth and evolution, based on knowledge, training, and adaptation both to company needs and current times. There is a continuous harmony with company and market needs." (HR)

The MA shared this view:

"No, I don't think there are communication problems, or at least it has never happened to me to experience these situations." (MA)

The only criticalities mentioned were about the need of HR to deliver training, with the management accounting department asking to postpone it when the HR must remain within the budget or to guarantee production continuity:

> *"the departments are in harmony. There are periods when the management accounting department says it is not possible to carry out training so as not to reduce production, such as during peak production times. Instead, we in the HR department ask to carry out training because it is necessary. But there is no rigidity, difficulty, or difference in language. The management accounting office may request the reformulation of longer timelines than expected, despite the immediate need to carry out training according to the needs of the HR office. However, we understand that management accounting must respect limits on both costs, times and people to guarantee production. These situations are resolved by planning longer timelines and simply accepting the delay." (HR)*

In summary, the interaction between management accounting and HR at Alpha Textiles is defined by a model of integrated functional synergy, where the budget and variance analysis act as the operative and communicative bridge between the two departments. Although the functions necessarily remain autonomous to guarantee objectivity and protection, they share a relationship marked by deep cooperation and teamwork, developed through a collaboration of over 20 years. In this environment, the management accountant acts as the technical architect, providing information, numbers and supporting the HR function in the creation of the budget and in the justification of variances, helping them in understanding their needs and solving eventual conflicts between the need for training and productive continuity.

3.3.2 HR KPI metrics

The second central theme identified during the data analysis concerns the use of qualitative KPIs, such as personal growth and shared knowledge, lacking a monetary quantification of HR efforts. As explained by the HR professional, the efficacy of training is not measured in quantitative terms:

> *"We do not measure, for example, the economic return (ROI) on training, but we evaluate the cost of the training and set a goal. The return is the achievement of the goal and making the person grow and develop. The achievement of the goal is also considered in terms of the employee's enthusiasm and ideas, as well as the long-term positive effects. A quantification in euros is not made, but personal growth, cascading down to the team (for example, sharing learnings with department colleagues) and then to the company, is valued. This return justifies the costs…" (HR)*

From this perspective, the value lies in the long-term impact on the team and company culture. This philosophy translates into a monitoring system where KPIs aren't represented by financial numbers, but parameters related to departmental efficiency and the prevention of machine downtime. A drop in productivity is therefore interpreted as a sign of critical issues in people management. This is what emerged from the interview:

> *"Yes, we use key performance indicators (KPIs): absences, illnesses, possible dismissals, or resignations. The measurement of purely financial indicators (such as cost per hire) is not done in a meticulous way, but the different production areas are evaluated. For example, if the machine is stopped or if*

production is lower, it means someone was absent too much. This measurement is also carried out monthly." (HR)

Together with KPIs, the company also uses other qualitative tools:

"We also have questionnaires related to production and safety; some questions reveal critical issues in terms of communication and training. These are carried out in the production department. Then, throughout the company, there are boxes for anonymous suggestions or complaints. In the offices, leadership training and sometimes individual coaching are provided." (HR)

This information is monitored functionally within the HR area, and the management accounting function supports HR, as illustrated above, by providing the financial boundaries within which HR can operate. Therefore, the HR mainly uses qualitative information to measure and monitor the effects of their actions. This information is integrated with financial information regarding the budget and variances provided by the management accounting function. Therefore, the management accounting function ensures economic viability of human capital development, providing information about the necessary financial and productive boundaries within which HR can operate in terms of training and the justification of personnel costs.

3.3.3 Management accounting and HRM as technical support functions

The final theme explored the organisational architecture of the company, which understands both HR and management accounting functions as technical pillars in support of top management. The analysis revealed that they are specialised service providers with traditional responsibilities related to their respective roles within organisations. Interviews revealed, indeed, that they do not actively take part in strategic decisions, as sometimes literature reports, but support these processes providing information and data:

> *"Strategy is made by the directors and the commercial management teams. There is collaboration in operational evaluation but not at a strategic level, both for HR and management accounting, and also for all other departments. The management accounting office receives the numbers provided by HR and all other areas and analyses them. The controller performs the numerical control but does not contribute to the strategy." (MA)*

This quote illustrates that while there is important involvement and collaboration in operational control and decision-making processes, this participation does not extend to the strategic level for either HR or management accounting. In this hierarchy, they act as data providers:

> *"The company has its own strategy and must establish how to direct it based on external factors and the market vision, which leads to modifying the budget for the following year […] It is the commercial directors and the board of directors who set strategic goals […] management accounting provides the numbers to support these choices. The management accounting department has no influence at the level of strategic decisions. Management accountants do not have the necessary knowledge, but their insights help management analyse the facts and take new points of view into consideration. […] Then, the management accounting function gives the vision of the company's performance." (MA)*

Despite this, the MA explains their key role in operational decision-making processes:

"Weekly emergencies are resolved between the management accounting office, the HR department, the production department, and production scheduling department… In this case, there is no team meeting with the board of directors, but these actors must find a solution independently." (MA)

A similar situation is depicted for HR which, despite not being involved in strategic decisions (also because they are consultants employed in an external firm), they take part in operational decision-making processes regarding HR selection:

"For hirings and promotions, there is an internal team that collaborates with us. We carry out an initial screening, but it depends on the figure—whether it is a simple worker or a manager—and we also coordinate with the company doctor. After the initial screening, there is an internal team made up of management that also evaluates integration, potential for teamwork, and whether the candidate is already trained or needs training. (HR)

To summarise, the organisational architecture of the firm categorises both management accounting and HR as specialised technical functions in support of top management. They maintain a high degree of coordination and freedom in daily activities and operational decision-making, functioning primarily as service providers. Additionally, these functions act as data providers for strategic choices, providing the fundamental information to support top managers' strategic decision-making processes.

3.4 DISCUSSION

The analysis of the empirical results emerged from the case study at Alpha Textiles allowed to delineate a clear picture of the relationship between management accounting and HRM in a real organisational context. A starting point of critical reflection stems from the collaboration between the management accounting function and the HR area, a dynamic that in Alpha Textiles appears to act as a functional interface necessary for the economic stability of the company. Such synergy and collaboration find a solid backing in the academic literature, which recognises these two functions as interdependent pillars, operating jointly to ensure organisational success (Amirul et al., 2020; Van der Lugt, 2024).

Scholars such as Amirul et al. (2020) highlight the existence of a definite prerequisite concerning the close collaboration of management accounting and HR, especially in the execution of overlapping tasks, namely the planning of personnel costs, the creation of reward systems and performance evaluation. This necessity of cooperation seems to be reflected in the operational and functional configuration of Alpha Textiles, where the budget and variance analysis act as the main common ground for communication and teamwork between these functions.

Reflecting on the implications of this collaboration, it may be observed how this functional collaboration, although being described by the interviewees as harmonious and bare of communication barriers, appears limited to a technical-economic support. Despite literature promotes the notion of the management accountant acting as co-pilot or business partner for HR to steer strategic decisions on human capital (Van Der Lugt, 2024; Vedd & Kouhy, 2005), empirical results suggest that, within Alpha Textiles, cooperation is mainly focused on operational issues. A possible criticality of this model is that this collaboration could be only a form of control rather than a partnership: the management accountant appears to provide the numerical information without entering into the merits of the future vision of personnel, or of the correction of the root causes behind variances. Therefore, management accountants act more as information providers and watchdogs rather than as business partners for HR and a cross-functional collaboration in which role hybridisation takes place between the two teams (Burns & Baldvinsdottir, 2005; Van der Lugt, 2024) remains limited.

A second point of reflection would be how top management perceives the management accounting and HR functions. From the empirical data, it emerged that both areas are perceived as important technical support functions. This reflects a traditional understanding of staff functions, which characterises the contexts of Italian medium-sized companies (Gnan & Montemerlo, 2006). However, the literature highlights that the evolution towards business partnering positioning for MA and HR would require an involvement of the two functions in strategic decisional processes (Burns & Baldvinsdottir, 2005; Goretzki & Messner, 2019; Granlund & Lukka, 1998; Kaplan, 1995).

Relatedly, another distinctive aspect emerged is the external management of the HR function. The evolution towards business partnering is often associated in the literature to an internal integration and to a close participation in decisional processes (Byrne & Pierce, 2007; Lambert & Sponem, 2012). This externality may therefore represent a potential barrier to the evolution of the HR role that, if internalised, might have the chance to improve its position (Lambert & Sponem, 2012).

Additionally, another crucial aspect stems from the company's use of traditional management accounting tools as regards to HR measurement and management. The integration and collaboration between the two departments seems to be mostly tied to the budged and variance analysis, instruments described in the literature as traditional tools, acting as the necessary bridge to align daily operations to long-term objectives (Anthony, 1965; Chandler, 1962; Drucker, 1954; Marasca & Ciccola, 2021). As emerged from the empirical results, the firm seems to not make use of advanced HRA systems which, as the literature suggests, might allow for more informed managerial decisions (Ansari & Flamholtz, 1978; Arkan, 2016; Asfahani, 2021). However, Alpha Textiles uses qualitative information and KPIs. Despite this approach reflects a soft dimension of HRM, the absence of a strict numerical support may limit the HR area capacity to legitimise training investments in front of a cost-oriented management approach (Amirul et al., 2020; Van der Lugt, 2024). In addition, the absence of a dedicated HRIS limits the strategic exploitation of human capital data (Strohmeier, 2007). According to the literature, advanced HR information systems would enable HR professionals to forecast workforce requirements and contribute more effectively to organisational strategy (Zhang & Chen, 2024).

In conclusion, the relationship between management accounting and HRM in Alpha Textiles seems to be in a phase of operational stability which, while ensuring harmony and synergy in cost monitoring, does not yet appear to be oriented towards a co-piloting model. The support of the management accounting function to the HR area seems to be limited to the provision of economic boundaries in which HR can operate. Despite signs of a transition toward more modern roles can be observed, the organisational structure and culture of management accounting and HRM mainly rely on traditional models (Burns & Baldvinsdottir, 2005; Goretzki & Messner, 2019; Granlund & Lukka, 1998; Kaplan, 1995). This scenario would suggest that the organisation could benefit from the development of more sophisticated measurement models and from a deeper technological integration to grasp the strategic opportunities that their implementation offers to companies (Mabrouk, 2024; Strohmeier, 2007; Zhang & Chen, 2024).

3.5 CONCLUDING REMARKS

The empirical research at Alpha Textiles has provided a nuanced understanding of the interplay between management accounting and HRM. This chapter transitioned from broad theoretical frameworks to organisational reality, utilising an interpretivist perspective to capture how managers construct and perceive their collaborative roles (Amirul et al., 2020; Chiucchi, 2012; Corbetta, 2003; Gupta, 2024). The empirical results highlighted how management accounting's support to HR essentially takes the form of functional and technical integration, centred on budgeting and variance analysis as boundary objects and as the common ground for a shared language. While this operational synergy, consolidated over twenty years of organisational practice, ensures economic sustainability and the continuity of production flows, it also pave the way for potential improvements in which MA would become a business partner for HR (Burns & Baldvinsdottir, 2005; Goretzki & Messner, 2019; Granlund & Lukka, 1998; Kaplan, 1995). To fully leverage human capital as a strategic asset, the need to evolve towards more sophisticated measurement systems emerges, capable of transforming cross-functional collaboration from a safeguard of financial coherence to a driver of co-creation of organisational value (Ala-Heikkilä & Järvenpää, 2013; Goretzki & Messner, 2019; Mabrouk, 2024; Strohmeier, 2007; Zhang & Chen, 2024).

CONCLUSION

In a global economic context increasingly oriented towards knowledge and intangible factors, the central challenge is to map how traditionally distinct corporate functions can collaborate to transform the qualitative value of personnel into metrics capable of guiding corporate strategy (Aronmwan & Izedonmi, 2011; Barney, 1991; Huselid, 1995; Ulrich, 1997). Therefore, the present research aimed to explore the complex intersection between management accounting and HRM to understand whether and how the management accounting function can support planning, control and decision-making processes related to human capital (Amirul et al., 2019; Goretzki & Messner, 2019; Van der Lugt, 2024; Vedd & Kouhy, 2005). This line of argument was developed across three interconnected chapters.

The first chapter provided the fundamental concepts about management accounting, also providing an overview of traditional and advanced management accounting tools that can support managerial control and decision-making processes (Garrison et al., 2021). It also focused on the evolving role of management accounting functions within organisations, showing how it has shifted from a purely retrospective, monitoring function to one of strategic support (Goretzki & Messner, 2019; Järvenpää, 2007). A crucial point of discussion was about the identity shift of management accountants from traditional bean counters to business partners and its main challenges (Ala-Heikkilä & Järvenpää, 2023; Goretzki & Messner, 2019; Granlund & Lukka, 1998; Johnson & Kaplan, 1987).

The second chapter explored the theoretical and technical links between management accounting and human resources, examining the discipline of HRA (American Accounting Association, 1973; Chiucchi, 2004; Ansari & Flamholtz, 1978). Through an analysis of several frameworks (Appelbaum et al., 2000; Barney, 1991; Homans, 1958; Penrose, 1959; Teece et al., 1997; Wernerfelt, 1984), it was established that personnel should not be treated as a mere cost to be minimised, but rather as a strategic asset capable of generating a sustainable competitive advantage (Arkan, 2016; Penrose, 1959). Advanced tools, including the HR Scorecard (Lev & Schwartz, 1971) and CBA (Becker et al., 2001) applied to human capital, were examined to highlight how management accounting can provide the necessary language to translate the qualitative insights of HR managers into metrics that resonate with the board (Vedd & Kouhy, 2005). Despite the theoretical validity of these instruments, a persistent misalignment between the two functions, mainly related to different knowledge backgrounds, was found to frequently hinder full strategic integration (Amirul et al., 2020; Saukkonen et al., 2018; Van der Lugt, 2024; Walker & McDonald, 2001).

The third chapter empirically explored whether and how management accounting can support HR planning, control and decision-making processes through a case study conducted at Alpha Textiles, an Italian manufacturing company operating in the textile sector. The empirical research, conducted through semi-structured interviews, allowed for the observation of relational dynamics "in action" (Chiucchi, 2012; Hopwood, 1983, p. 303; Qu & Dumay, 2011). The empirical evidence revealed a well-established model of operational collaboration between the functions of HRM and management accounting, which nevertheless relies on traditional approaches (Burns & Baldvinsdottir, 2005; Byrne & Pierce, 2007; Järvenpää, 2007; Lambert & Sponem, 2012). In particular, the budget and the variance analysis were identified as the primary levers fostering integration between the management accounting and HR functions. These tools acted as genuine boundary objects and a shared language that brings the two functions to interface regularly. Whilst ensuring harmony between the functions, this configuration views management accountants as technical support for HR, without engaging with the formulation of a future vision for human resources or addressing the root causes of variances. Finally, the nature of both areas as technical functions positions them at the margins of their potential support to the corporate strategy formulation, thereby restricting their role as providers of numerical data and qualitative information.

Overall, this research offers a significant contribution to the literature on management accounting and HRM. Firstly, it shows that, despite literature promotes the design and use of advanced management accounting and HR tools, with management accountants evolving towards business partner positions, companies still mainly rely on more traditional tools and perceive management accountants as a technical support rather than as strategic partners (Goretzki & Messner, 2019; Järvenpää, 2007; Lambert & Sponem, 2012). Secondly, this work reconceptualises the notion of functional autonomy and operational integration. While the literature may, at times, perceive the distinction between departments as an obstacle (Goretzki & Messner, 2019; Lambert & Sponem, 2012), the evidence suggests that maintaining separate functional identities can serve as a protective mechanism for objectivity. This configuration ensures that decisions inherent to human capital are anchored to solid financial sustainability, effectively resolving the dilemma between the involvement and professional independence of the managers involved (Lambert & Sponem, 2012).

From a practical standpoint, the findings provide a valuable framework for managers seeking to enhance collaboration between management accounting and HR. The research highlights the need for management accountants to develop hybrid competencies that span not only technical proficiency but also interpersonal and educational skills (Burns & Baldvinsdottir, 2005; Goretzki & Messner, 2019; Van der Lugt, 2024; Wolf et al., 2015). The management accountant should act as a translator, capable of assisting HR managers in converting personnel initiatives into quantitative metrics suitable for supporting board-level decisions (Amirul et al., 2020; Saukkonen et al., 2018; Vedd & Kouhy, 2005). For

HR professionals, the primary implication is the necessity to adopt a more data-driven mindset to legitimise their investments (Vedd & Kouhy, 2005). Implementing tools such as the HR Scorecard can help demonstrate the cause-and-effect link between employee well-being and corporate profitability (Becker et al., 2001; Chiucchi, 2004; Lohana et al., 2021; Walker & McDonald, 2001).

This study has some limitations. The study acknowledges the limitations of relying on a single case study (Horton et al., 2004; Marginson, 1994; Smith, 2003; Whyte, 1982). While the single case study permits to gain an in-depth picture of the phenomenon under research, findings cannot be generalised. A further limitation stems from the limited number of interviews conducted. A possible development of this research could be related to the involvement of other managerial figures, such as the CEO, the CFO. This would permit to obtain a more nuanced understanding of the issues at stake. Another limitation concerns the external nature of the HR area at Alpha Textiles. Although the HR professional is highly present within the company, this configuration may have influenced the integration dynamics and decision-making processes analysed. In particular, the outsourcing of personnel management could represent a barrier to a full evolution toward the strategic business partnering model, which typically requires a closer internal participation in decision-making processes (Goretzki & Messner, 2019; Järvenpää, 2007; Lambert & Sponem, 2012). Consequently, future studies should consider organisations that possess an internal HR function, to verify whether and how this structure might influence the synergy with management accounting.

Despite these limitations, the contributions offered by this thesis provide a broad foundation for future research aimed at extending extant knowledge about the interface between MA and HR. Specifically, scholars are encouraged to observe how the integration of disruptive technologies, such as artificial intelligence and big data (Hayati et al., 2025;

Knudsen, 2020), is redefining the epistemological division between business functions. It will be crucial to investigate whether process automation will foster greater operational integration and a synthesis of skills or, conversely, lead to an even more rigid specialisation of cognitive authority between management accountants and HR professionals (Andersen, 2000; Burns & Baldvinsdottir, 2005; Byrne & Pierce, 2007; Järvenpää, 2007; Lambert & Sponem, 2012). Furthermore, it would be valuable to delve deeper into the theme of resource competition, analysing the negotiation dynamics between departments when cost-containment targets and human capital investment objectives enter into direct conflict during the critical budget allocation phase (Aver & Cadez, 2009; Merchant & Van der Stede, 2003). Finally, it would be interesting to explore the capacity of management accounting to develop new metrics for measuring technological resilience and employee mental health within the broader sustainability agenda (Schaltegger & Zvezdov, 2015). Such an approach would allow for a more holistic and accurate understanding of human capital, capable of reflecting the challenges and complexities intrinsic to the modern digital workplace (Asfahani, 2021; Aver & Cadez, 2009).

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APPENDIX

The support of management accounting to decision-making and control processes in the human resources area

1. ***Interview for the management accounting area***

Section 1: educational/professional background and organisational role

- What was your educational path?
- What were your main professional experiences?
- How long have you been working in this company and what was your career path? What role do you currently hold?

Section 2: activities and responsibilities of the management accounting area

- What are the main responsibilities of the management accounting area?
- What are the main activities carried out? How often are they carried out?
- What management accounting instruments are used?

Section 3: use of tools and interactions with the human resources area

- On what issues and how often do you collaborate with the human resources function?
- What management accounting tools do you use to support the human resources area?
- In what kind of decision-making processes is your function involved?
- How do you define your relationship with the human resources area?
- Have there been situations in which you perceived 'different languages'? Have there been situations where you had to justify the request for information? If and how were you able to overcome these situations?
- Based on your experience in the company, is the management accountant perceived more as a controller or as an internal consultant? How do you perceive yourself?

2. ***Interview for the human resources area***

Section 1: educational/professional background and organisational role

- What was your educational path?
- What were your main professional experiences?
- How long have you been working in this company and what was your career path? What role do you currently hold?

Section 2: activities and responsibilities of the human resources area

- What are the main responsibilities of the human resources area?
- What are the main activities carried out? How often are they carried out?
- What main information is collected to monitor personnel?
- What tools are used to analyse data relating to human resources?
- Do you use indicators to monitor your activities? If so, which ones?

Section 3: use of management accounting tools and interactions with the management accountant manager

- On what issues and how often do you collaborate with the management accounting function?
- What management accounting tools do you use? Were they developed by your department or with the collaboration of the management accounting department?
- In what kind of decision-making and control processes are you supported by the management accounting area?
- How would you define the relationship with management accountants?
- Have there been situations in which you perceived 'different languages'? Have there been situations where you had to justify certain? If and how were you able to overcome these situations?

- So, based on your experience in the company, do you perceive the management accountant more as a controller or as an internal consultant?