



Management accounting development in response to organizational environmental changes

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ABSTRACT

Management accounting, as a key subfield of accounting, has always been influenced by environmental changes, continuously evolving to meet managerial and organizational needs. This paper examines the relationship between modern management accounting techniques and environmental and organizational transformations, with a focus on the transformative role of information technology in this field. Based on an analysis of information gathered from articles, books, online resources, and search engines, this study presents a framework that highlights the need to reform traditional management accounting systems, identifies future trends and directions, and explores the changing role of management accountants. Furthermore, we conducted a study of the status of management accounting and accountants in Iran, examining key aspects such as the present state, barriers and challenges to development, the impact of startups on the transformation of management accounting, and the evolving role of management accountants. The findings indicate that in the era of information and knowledge-based economies, achieving a balance between technical skills and broad-based knowledge is crucial for adapting to ongoing changes. Ultimately, understanding management accounting practices at both local and global levels can enhance organizations' competitive advantage.

Keywords

Management Accounting Developments, Organizational Environmental Changes, Decision-Making, Information Technology

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1. Introduction

Accounting, as one of the fundamental pillars of management systems, has undergone significant changes over the past decades. This dynamic and evolving field, influenced by technological advancements, globalization, and new market demands, has increasingly shifted toward providing more accurate and value-generating information. Within this context, management accounting and financial accounting, as two key branches of the discipline, are continuously redefining their relationship. Studies by Tuomela and Ikheimö (2013) indicate that the convergence of these two fields has contributed to improving the quality of reporting and decision-making within organizations. Despite this convergence, management accounting remains an independent yet complementary domain, playing a crucial role in organizational management by focusing on forward-looking and value-generating information.

As modern organizations face complexities arising from global competition, technological advancements, and increasing customer demands, the need to rethink management and accounting systems has become more evident than ever. Today's customers seek variety, superior quality, and enhanced services such as fast delivery and high reliability. These changes, along with environmental and social requirements, have positioned management accounting as a key tool in helping organizations adapt to these transformations. According to the Institute of Management Accountants (2008), management accounting facilitates efficient and strategic management by designing planning and performance control systems, financial reporting, and supporting the development of organizational strategies.

The aim of this study is to explore the multifaceted nature of management accounting and decode the "black box" of this field. In this regard, the research identifies the emerging scope of management accounting, explains conceptual models of organizational change, examines the role of information technology in these transformations, and analyzes the evolving role of management accountants. Specifically, this study focuses on the impact of information technology in enhancing management accounting systems and aligning them with new requirements.

The key questions of this study are structured around three fundamental themes: first, the role of management accounting information in enhancing organizational decision-making; second, the evolving role and direction of management accounting in recent years; and third, the impact of information technology on the transformation of this field. These questions serve as the foundation for developing new models aimed at improving the efficiency and responsiveness of management accounting systems.

From both a theoretical and practical perspective, this research expands the existing knowledge in management accounting and proposes tools for analyzing and adapting to environmental and organizational changes. By leveraging modern approaches, including integrated information systems and advanced reporting techniques, this study offers insights into enhancing transparency, accountability, and efficiency within organizations.

The article is structured as follows: first, it reviews the relevant literature and key concepts in management accounting. Next, it examines the role of information technology and conceptual models related to organizational transformations. Finally, it provides an analysis of the evolving role of management accountants and practical strategies for adapting this field to environmental changes. This structure supports the article's primary objective of presenting a comprehensive and practical model for management accounting.

2. The necessity for reforming management accounting.

Management accounting has always had a rich history and is closely linked to the evolution of organizational strategies. The observed changes in this field are not random but are primarily

influenced by environmental factors (Vyas, 2020). The transformation of management accounting is shaped by increasing competitive pressures, advancements in new technologies, the growing influence of financial accounting, and the evolving role of management accounting (Jones & Smith, 2019). Additionally, the adoption of enterprise resource planning (ERP) systems and computer-aided design and manufacturing has rendered traditional management accounting techniques less effective. Therefore, as illustrated in Figure 3, the evolution of management accounting is an ongoing process (Adams, 2018).

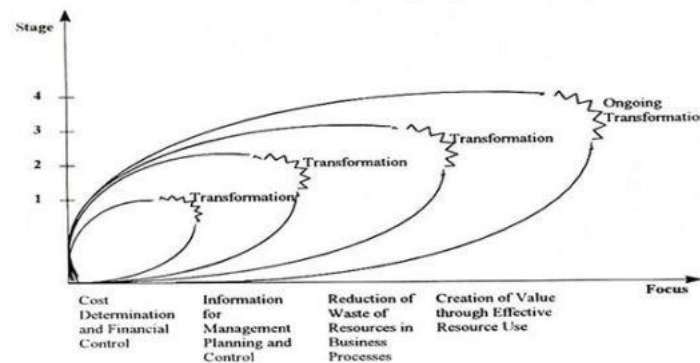


Figure 1: The evolution of MA (IFAC, 1998)

Management accounting evolves in response to organizational changes. In 1998, the International Federation of Accountants (IFAC) published a report outlining the development of management accounting through four sequential stages (Jones & Smith, 2019):

1. **Costing and financial control** (before 1950),
2. **Providing information for management planning and control** (until 1965),
3. **Minimizing resource waste in business processes** (until 1985), and
4. **Creating value through the effective use of resources** (until 1995), leading to improved customer value, shareholder value, and organizational innovation.

The transformation of management accounting is influenced by a combination of economic, financial, political, legal, social, and cultural factors. Instead of focusing solely on producer value, these changes emphasize value creation for customers. Modern management accounting techniques are increasingly applied to expand practical applications and drive broader reforms, including advancements in management systems. In recent decades, management accounting has undergone more profound transformations than ever before in its history (Vyas, 2020).

Changes in corporate ecosystems highlight the need for rapid access to comprehensive, transparent, reliable, and accurate information. In this context, organizations must be restructured to enable more innovative responses through management accounting. This process should aim to create value, develop, and sustain competitive advantages within organizations. The expanding role of management accounting in aligning with organizational transformations is clearly illustrated in Figure 1 (Jones & Smith, 2019).

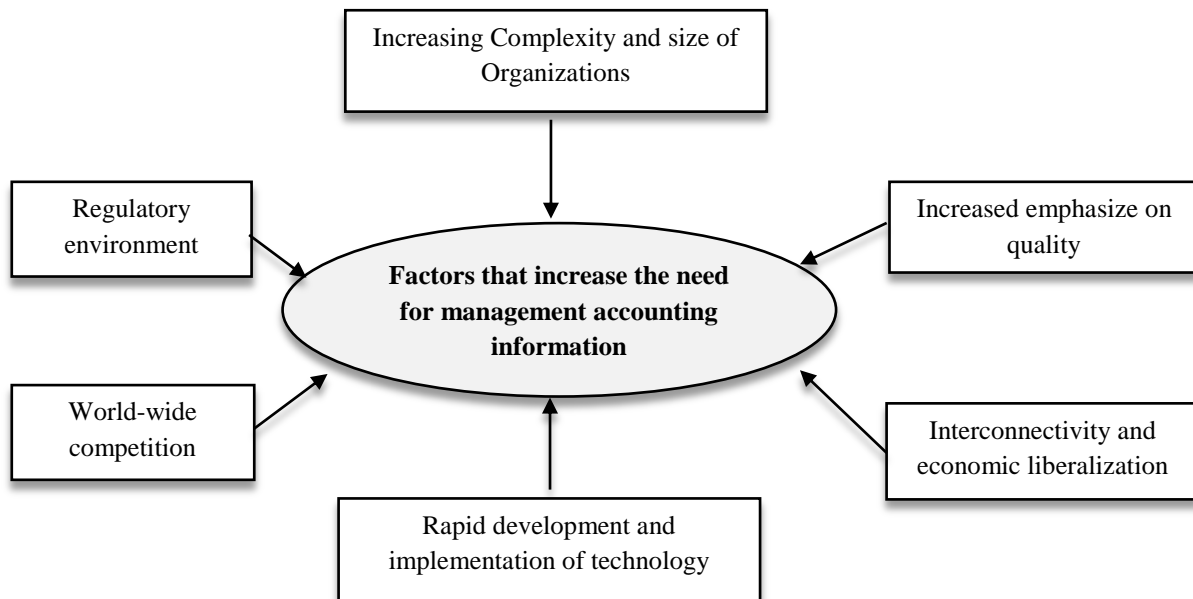


Figure 2: Expanding role of management accounting

Management accounting has lost its relevance in the new business environment (Vyas, 2020). Continuous changes in the business landscape, driven by globalization (Adams, 2018), intense competition (Jones & Smith, 2019), advancements in information technology (Brown, 2021), and evolving laws and regulations, have significantly impacted both management accounting and organizations. Additionally, developments in production technologies, including advanced manufacturing and computer-based design systems, have had profound effects on businesses (Davis, 2020).

In recent years, we have witnessed transformations in the way products and services are delivered to customers (Miller & Johnson, 2019). Progress in information technology has facilitated data collection and dissemination, substantially enhancing data processing capabilities and dramatically improving the speed of responses to customer needs (Williams, 2021).

As a critical pillar of managerial decision-making, management accounting has always been influenced by environmental changes. These changes encompass economic, social, and environmental factors that require management accounting systems to adapt accordingly. Particularly in recent decades, growing concerns about sustainable development and environmental and social issues have drawn considerable attention. In this context, Kordestani and Amirbeygi Langroudi (2015) explored this topic and introduced an integrated management accounting model as an approach capable of addressing economic, social, and environmental needs. They argued that management accounting should provide comprehensive information on organizational performance in line with sustainable development, serving as a basis for managerial decision-making and performance evaluation at various levels (Kordestani & Amirbeygi Langroudi, 2015).

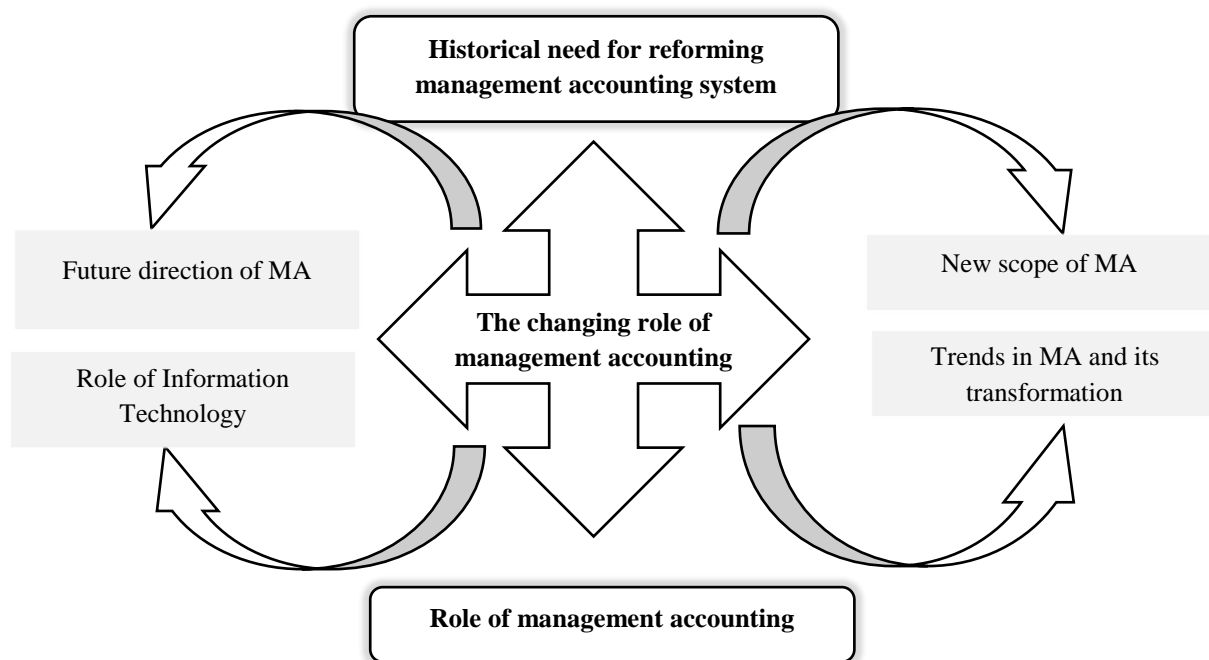
Environmental changes not only necessitate updates to management accounting models but also impose new requirements on reporting processes and organizational performance assessments. Amirbeygi Langroudi (2017) analyzed these changes and highlighted the need to incorporate non-financial dimensions into management accounting reports. He emphasized that management accounting should function as a tool for assessing the social and environmental impacts of organizational activities, beyond traditional financial metrics. The

necessity of understanding sustainable development concepts and integrating them into management accounting processes has led many organizations to reassess their systems and seek better alignment with environmental and social requirements (Amirbeygi Langroudi, 2017).

Economic and competitive shifts influence managerial decisions and the use of financial information. These changes prompt organizations to leverage management accounting systems for risk prediction and mitigation, particularly in uncertain conditions (Rahimian, 2019). Moreover, numerous studies stress the importance of utilizing comprehensive information for sustainable decision-making in organizations, which may include environmental and social reports (Javadpour, 2020).

Ultimately, it appears that to effectively respond to environmental changes, management accounting must adopt a comprehensive and integrated approach that encompasses financial data alongside non-financial and social-environmental impacts. This approach not only aids managers in strategic decision-making but also enhances organizational transparency and facilitates communication among various stakeholders (Bayat et al., 2021).

Content collection was primarily conducted through web search engines and Google. Various sources, including books, articles, analytical reports, and credible website publications, were utilized. The conceptual framework of the study, derived from the referenced sources, is illustrated in Figure 3.



3.The Future Direction of Management Accounting

Management accounting has evolved to facilitate competitive decision-making through the collection, processing, and presentation of information. This information system plays a fundamental role in planning, controlling, and evaluating business processes, as well as in formulating organizational strategies. Specifically, information needs related to cost accounting and decision-making are structured as a three-stage process consisting of input, processing, and output, as illustrated in Figure4.

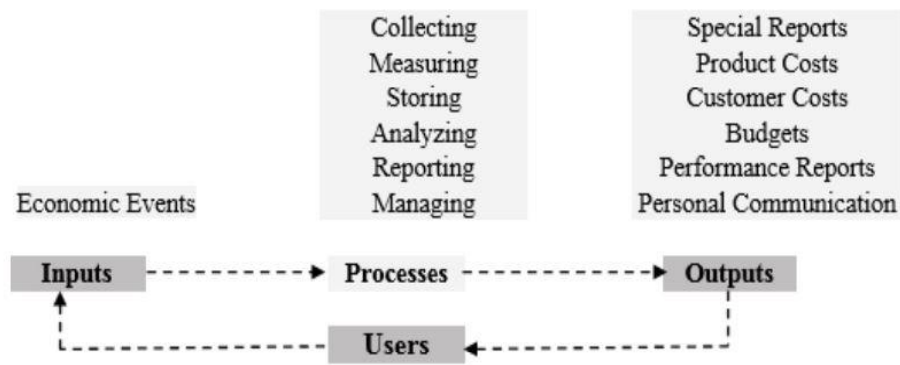


Figure 4: Information needs: costing and decision making.

Management accounting can be divided into two main areas: control and decision-making. The control domain includes processes such as planning, directing, administrative and cultural controls, and compensation systems. These activities play a crucial role in regulating organizational performance and managing resources (Zimmerman, 2000; Malmi & Ikäheimo, 2003).

In contrast, decision-making encompasses both strategic and operational decisions that influence the overall direction of the organization and the implementation of its strategies. Strategic decisions impact the long-term growth and development of the organization, while operational decisions involve day-to-day choices that enhance the efficiency and effectiveness of organizational processes (Malmi & Brown, 2008).

This classification highlights the multidimensional role of management accounting in supporting organizational management, improving operational efficiency, and enhancing both financial and non-financial performance.

Management accounting has evolved from a retrospective performance management system to a forward-looking information system that plays a critical role in strategic planning, control, and organizational decision-making (Ikäheimo & Taipaleenmäki, 2010). Traditionally, management accounting focused on annual control and historical data analysis, enabling managers to assess overall organizational performance and maintain accountability. While this approach was beneficial in competitive business environments, its effectiveness has diminished with the rapid transformations in modern businesses (Granlund & Lukka, 1998).

Changes in the business environment, such as globalization, the rise of networked and virtual businesses, and the growing significance of capital markets as financial resource allocation mechanisms, have reshaped the overall orientation of organizations (Goretzki, Strauss, & Weber, 2013). Consequently, the need for forward-looking information in management accounting has increased, making the use of predictive data essential for strategic planning and effective decision-making (Figure 5) (Kraven & Tilles, 2000).

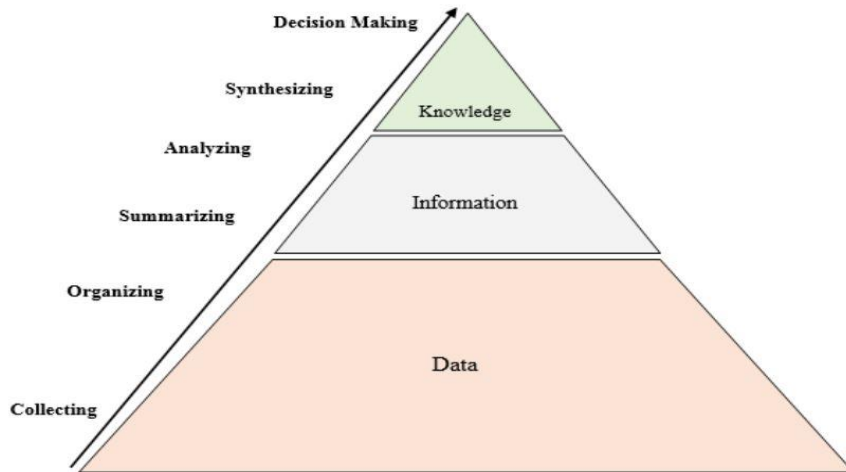


Figure 5: Need for MA information.

Today, the business environment and the nature of corporate operations are increasingly dependent on forward-thinking approaches and business-centric strategies. These changes have led management accounting to rely on forward-looking information and place greater emphasis on non-financial indicators to provide strategic insights (Ikäheimo & Taipaleenmäki, 2010).

With this transformation, management accounting has shifted from a purely financial and retrospective system to one that focuses on long-term perspectives. In this system, non-financial information—such as customer satisfaction metrics, innovation, intellectual capital, and organizational sustainability—serves as a predictor of future financial performance. Additionally, these changes have expanded the scope of management accounting beyond internal performance, emphasizing external environmental factors such as markets and competitors (Figure 6) (Kraven & Tilles, 2000).

This shift indicates that management accounting is no longer merely a tool for historical reporting; rather, it has evolved into an analytical and strategic system that can support organizations in making high-level and competitive decisions.

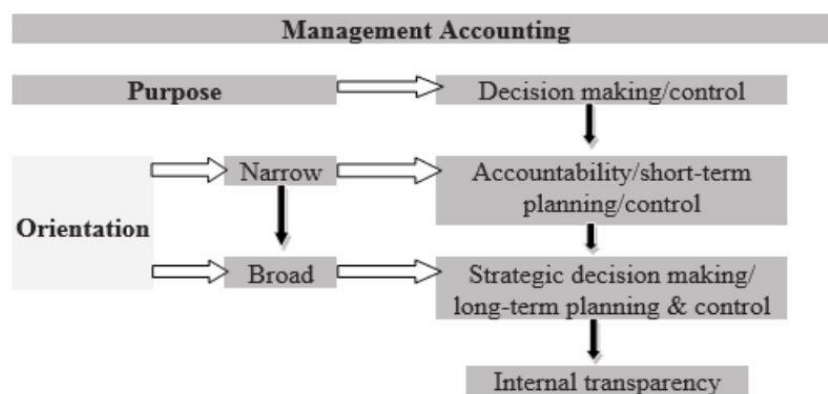


Figure 5: A broader orientation of MA.

Extensive research indicates that management accounting is continuously evolving, and these changes have had a significant impact on the role of management accountants. In response to the growing needs of organizations, these developments have led management accountants to

take on a more active role in strategic planning and decision-making (Joseph, Turley & Burns, 1996; Granlund & Lukka, 1998; Burns & Vaivio, 2001).

The evolution of management accounting has not only improved operational and managerial processes but has also strengthened the link between financial information and strategic decision-making. In this regard, organizations utilize modern management accounting tools and techniques to optimize resources, enhance efficiency, and create sustainable competitive advantages. This trend highlights the transformative role of management accounting in contemporary business operations and underscores its importance as a key instrument in organizational management and corporate governance.

4. The Scope of Management Accounting

Modern management accounting techniques have emerged as strategic tools for driving organizational change, addressing the need for transformation, developing new strategies, and fostering innovation in managerial and financial processes (Hejazi, Rezvani & Kanani, 2020). These techniques not only enhance control and decision-making systems but also provide greater flexibility in dynamic and competitive environments.

Furthermore, technological advancements in production and the evolution of management accounting techniques have significantly influenced the flow of information within organizations (Vatanparast, Tasdighkar & Ahmadzadeh Layegh, 2018). In this regard, modern management accounting techniques must bridge the gap between accounting information and technical data generated by operational systems. This integration enhances coordination between financial, operational, and managerial departments, ultimately leading to more accurate and efficient decision-making (Ebrahimi Kordlar & Moghaddaspour, 2014).

As a result, the development and adoption of modern management accounting approaches not only optimize internal processes but also contribute to the establishment of a sustainable competitive advantage for companies. The adoption of these techniques has a far-reaching impact on all organizational structures, bringing about changes in management processes, decision-making, and control mechanisms (Hejazi, Rezvani & Kanani, 2020). These techniques serve as tools for optimizing performance management and improving organizational efficiency, enabling organizations to adapt to dynamic and competitive business conditions.

However, the effectiveness of any management accounting technique should not be considered in isolation from its organizational and managerial context. These techniques achieve their highest efficiency when implemented in interaction with management structures, operational processes, and the organization's information systems (Vatanparast, Tasdighkar & Ahmadzadeh Layegh, 2018).

Moreover, modern management accounting techniques must be integrated with all organizational processes and information circuits to establish effective communication between management accounting and decision-makers at all levels of the organization. This integrated approach helps organizations make more precise, flexible, and data-driven decisions (Ebrahimi Kordlar & Moghaddaspour, 2014).

Consequently, the integration of modern management accounting techniques with an organization's management and information systems not only enhances transparency and decision-making effectiveness but also improves strategic control and planning processes, positioning organizations for long-term competitive advantage.

Corporate objectives, typically defined through vision statements, mission statements, and organizational strategies, are influenced by two key factors: the business environment and external transformational demands (Hejazi, Rezvani & Kanani, 2020).

The organizational environment encompasses technology, operational processes, organizational structures, corporate cultures, and available resources, all of which directly contribute to strategy formulation and organizational growth (Vatanparast, Tasdighkar & Ahmadzadeh Layeq, 2018). On the other hand, environmental changes and market pressures compel companies to reassess their goals and managerial approaches to sustain their market position and drive growth (Ebrahimi Kordlar & Moghaddaspour, 2014).

This two-way interaction illustrates how the environment shapes corporate objectives and strategies while these strategies, in turn, evolve in response to market dynamics and emerging demands. As a result, organizations must maintain a high level of flexibility in designing and implementing their strategies to remain aligned with environmental changes and competitive challenges, ensuring sustainable advantages.

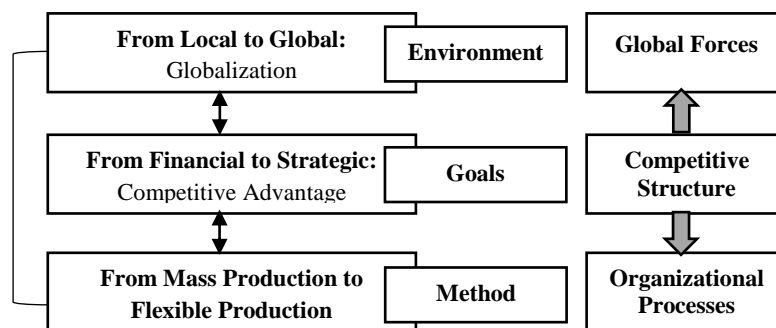


Figure 7: General Model of Organizational Transformations

(Management Accounting Transformations. Rezvani, Hejazi. Termeh Publications)

The concept of globalization of markets is multifaceted and strategically vital. As a result, individual companies are isolated, scattered, and risky, and no organization is immune to failure or collapse unless it adapts to the transformation of market conditions, including competition and customer demand, with creativity and flexibility. Therefore, competitors must focus on strategic and operational analysis and decision-making. Hence, market competitive conditions and customer satisfaction are defined as parameters for new decision-making models, compared to previous models that were based on maximization (Management Accounting Transformations, Hejazi, Rezvani, Kanani, Termeh Publications).

Globalization and its effects on the market discussed above also impact on the goals and philosophy of organizations. By "goals," we define the long-term objectives for any company, which should strive to achieve them as a socio-economic unit, often presented through mission statements, vision, and company objectives. A brief study of announcements from different companies, such as annual reports and company websites, can help in easily understanding the current pattern of transformations. (Management Accounting Transformations, Hejazi, Rezvani, Kanani, Termeh Publications). Overall, the transformation of organizational goals from financial to strategic has focused on six areas, which are summarized in Table 1.

Table 1: The Model of Transformation in Organizational Goals from Financial to Strategic

NO	Area	Changes and Developments
1	Financial Information	Compared to the emphasis on past financial information, there is now a strong focus on strategic objectives, including vision, mission, company strategies, and their goals.
2	Pluralism	All individuals related to the organization, from shareholders to employees and society at large, are considered as people whose well-being companies must ensure.
3	Operational Focus	The focus has shifted from comparative advantage to competitive advantage. Comparative Advantage: A company's advantage over competitors comes from its production capabilities. Competitive Advantage: The transformation has shifted attention from workshops to the market.
4	Economic Environment	Competitive economy vs. economies of scale: The concept of economies of scale has been replaced with economies of diversification.
5	Organizational Focus	Organizational learning, transformation, and flexibility have become the cornerstone of organizational philosophy. Essentially, various processes and systems are designed to align with flexibility.
6	Organizational Performance Indicators	The integration and combination of both financial and non-financial metrics are considered as indicators of organizational, departmental, and individual performance.

The demand for producing different products for different customers has emerged, replacing the practice of producing similar products with similar features for all customers. As a result, the traditional knowledge of management accounting, which had developed in the environment of mass production, was not suitable, and alternative forms of management accounting practices emerged (Transformations in Management Accounting, Hejazi, Rezvani, Kanani, Termeh Publishing).

Although the role of management accounting in supporting decision-making and solving problems is highly significant, information has never been neutral (Atkins et al., 2014). The act of measuring and reporting itself affects the individuals involved. Therefore, management accounting systems and structures are not limited to numerical information. These systems have two areas: the technical area and the behavioral area. The technical area relates to financial information and is connected to accounting standards. This area includes optional reports, performance measurement, activity-based costing, target costing, life-cycle costing, transfer pricing, environmental costing, competitor analysis, customer analysis, contractor analysis, etc. In contrast, the behavioral area relates to non-financial information and pertains to customers, organizational processes, employees and their roles, incentive and control systems, cultural and social environments, innovation, organizational capabilities, and similar factors (Guini, 2016). Figure 7 shows the responses of management accounting to organizational transformations.

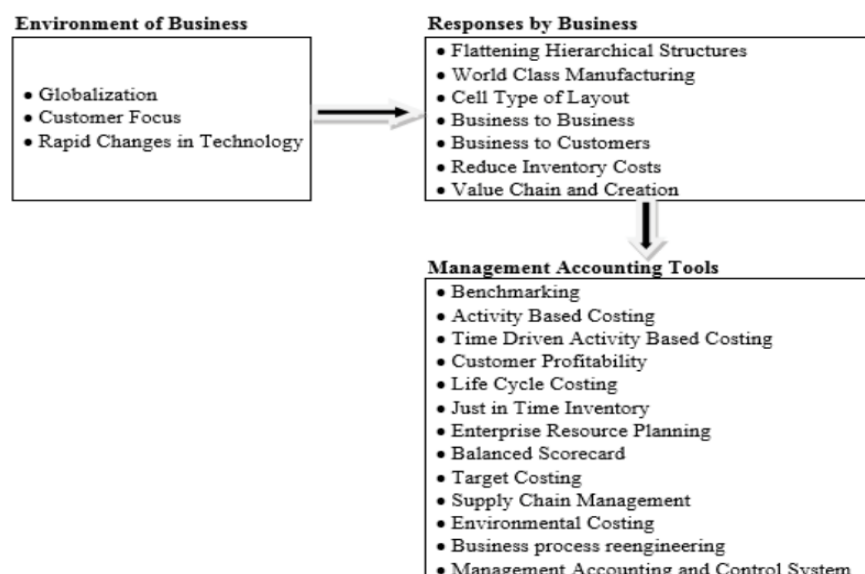


Figure 8: A new look at MA.

Today, businesses have created favorable conditions to pay attention to the importance of management accounting. Furthermore, the topography of businesses is striving to focus more on customer orientation and implement modern management accounting systems. The success of using management accounting techniques, like all decisions made in the management of a business, depends not only on the credibility of the decision-making but also on how it is implemented (Guini, 2016).

The changing role of management accounting is closely related to changes in the work environment and has shown positive performance in the process of implementing these changes. As a result, management accounting can play an effective role in the era of quality strategy. The success of management accounting is evaluated from the perspective of decision-making and management evaluation (Talha et al., 2010).

5. The Evolution of Management Accounting Practices

In the early 1980s, the focus of management accounting was on the mechanical aspects of accounting, such as budgeting and cost reporting. Additionally, the role of management accounting was described as emphasizing costs and production, summarizing results, and allocating common resources to different products. However, in the rapidly changing business world, management accounting is now recognized as an information provider (Atkins et al., 2014). The main transformation in management accounting practices is shown in Table 2.

Table 2: Key transitions in MA practices

Key Transitions	Late 20th Century MA	Early 21st Century MA
Dominant focus	Internal	Internal as well as external
Key disciplines	Finance/accounting	Marketing/economics/ psychology
Primary concern	Cost impact	Cost-value relationships
Primary role	Scorekeeper	Analyst and consultant
Management responsibility	Follower/reactive	Leader/proactive
Dominant personal traits	Technical proficiency, control orientation and skilled in detailed work	Comfortable with ambiguity, strong analytical skills, lifelong learner, strong management skills
Role of cost estimates	Measure of operational efficiency	Measure of strategic effectiveness

In the late 20th century, organizations responded to the concerns arising from changes brought about by three main factors: globalization, information technology, and the knowledge economy, through their management accountants (Cokins, 2016). To maintain the relevance of management accounting, it is essential to go beyond simple assumptions and traditional boundaries. Management accounting techniques must enable managers to focus more on customer needs, support decision-making, and manage the company's value chain. According to Cokins (2016), the major trends in the evolution of management accounting are as follows:

- Shifting from product focus to analyzing customer profitability, showing that management accounting must help sales and marketing performance. A company must identify its best customers to sustain, grow, win, and attract new customers.
- The broadening role of management accounting is linked to organizational performance management. Various components of the company's performance management function are interconnected like gears in a machine.
- The shift toward forward-looking accounting refers to a fundamental transformation in management accounting, moving from cost and profit reporting to managerial economics designed to support decision-making and analysis, with effects revealed in the future.
- Enterprise performance management (EPM) methods using analytics demonstrate that combining analytical skills and capabilities can serve as a competitive advantage for companies.
- Improvement of management accounting methods shows that senior financial managers and their teams actively consider the diverse needs of managers at various levels of the organization.
- To encourage middle managers to adopt advanced management accounting methods and EPM, management accountants must upgrade themselves to effectively implement these techniques in the organization and clearly demonstrate their benefits.

As a result, management accounting, as an effective factor in the business environment and part of accounting, has not been immune to the effects of major changes and external transformations. This field must maintain its ability to adapt to continuous changes. The changes in the world of management accounting are evident in the transformation of the role of management accountants: from a mere "bookkeeper" to a "business supporter" at the edge of business decision-making, and then to a "business partner" and "active member of the decision-making team," now central to long-term strategies and planning (Siegel & Sorensen, 1999).

6. The Role of Information Technology

Information technology plays a crucial role in improving accounting systems (AIS) through "the pressure it applies to accounting activities." The pace of technological transformation has significantly increased, and accounting and finance are among the fields that have benefited the most from these technologies. The transformations in management accounting techniques and controls, aided by information technology, encompass a wide range of tasks, from increasing efficiency to the mediating role of management accounting (Hejazi, Heidari, Kanani, 2017). Information technology creates an informational environment that enables the seamless execution of operations and has become an essential and unavoidable carrier of accounting facts. These changes have made the realization of accounting goals possible and facilitated by applying practical sciences like the internet, digital communications, software, and database solutions (Atkinson et al., 2014).

Moreover, information technology can also play a role in the design of accounting functions. Previous studies have confirmed that changes in company management facilitated by an integrated information platform, aided by innovations in information sciences like Enterprise Resource Planning (ERP) systems, have broadened the scope of management control (Granlund & Malmi, 2003).

The demand for management and accounting information enhances the application of information technology in the business world. Table 1 illustrates how financial accounting information is refined within management information systems at the primary levels of accounting processes. This diagram also follows Hartmann and Wasson's control framework, which extends control frameworks from the knowledge management perspective to information systems and communication processes, supporting the creation and integration of knowledge. This framework includes three areas essential for organizational control: informational, communicational, and business domains.

From another perspective, as shown in Table 1, the technical and technological domain (T&T) links data, information, and knowledge within the behavioral and organizational domains (B&O). Undoubtedly, facilitating potential transformations in management accounting would be less significant without the use of technology. When information technology plays a catalytic role, its impact is immediately related to the timing of change. The motivation for information technology refers to its effect on customary changes, which sets the stage for creating change (Hejazi, Reza, Heidari, Mohammad, and Kanani, Akbar, 2017).

The present era is the age of information and economic competition. The factors that have caused these fundamental changes in economic activities have led to a new wave of innovation in management accounting and created a new stage in the demand for the capabilities and competencies of professional management accountants today (Marchant, 2013).

7. The Role of Management Accountants

Management accountants are experiencing transformations in various aspects of their professional environment. The pressures stemming from market competition have created challenges in coordinating and adapting to new management accounting tasks in response to these changes (Dopour, 2011). The perspective of modern management accountants is to consider the organizational vision and act as business partners and agents of transformation (Granlund & Malmi, 2002). To be recognized as worthy and reliable in an organization, they must proactively engage in leadership, strategic management, business operations, and long-term learning and development (Zeineldin & Suleiman, 2016).

The business environment today emphasizes quality products, reducing prices and costs, global competition, and meeting and anticipating customer needs. A dynamic management accountant is needed to adapt to the market changes that have a greater impact on the organization. The future of management accountants depends on how well they align with and respond to changing and emerging technologies. The appropriateness of management accounting functions is supported by the role of the management accountant, which in turn is associated with personal characteristics. The competencies and individual expertise that contribute to the success of the management accounting profession, in terms of cognitive and behavioral skills, are presented in Figure 9.

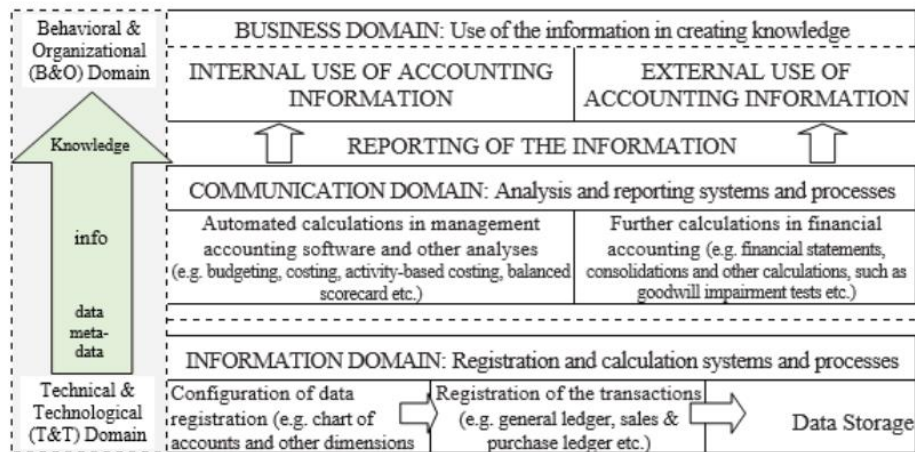


Figure 9: Role of IT in creating knowledge (Taipaleenmaki & Ikaheimo, 2013).

Management accountants must possess individual competencies to participate in strategic planning and decision-making processes. It is expected that management accountants, in addition to increasing the use of non-financial indicators for performance evaluation, should have a strategic focus and the ability to create value (Rameli & Zeinoddin, 2013). The use of information technology in management accounting has transformed the roles, tasks, and responsibilities of management accountants. The evolving role of the management accountant in response to the development of information technology is shown in Figure 10.

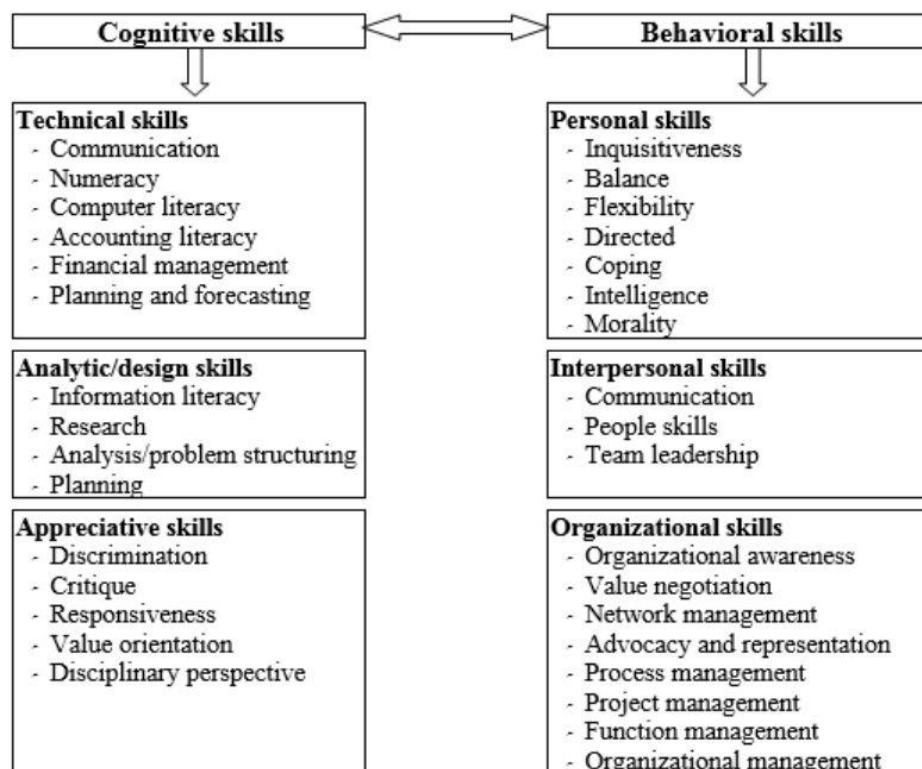


Figure 10: Individual attributes of management accountant (IFAC, 2002)

Information technology also encompasses the control of management accounting functions and enables the ability to influence information to gain a competitive advantage in the market. These forces management accountants to face new challenges and redefine their role. Figure

11 illustrates the change in the role of management accountants from the industrial era to the digital age.

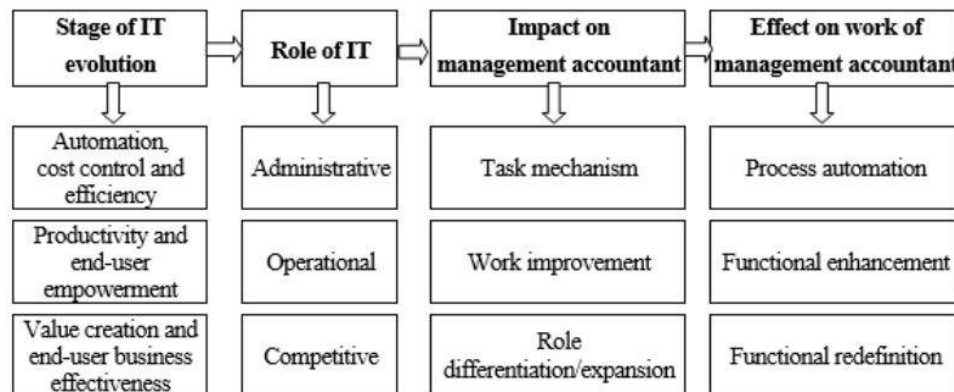


Figure 11: Management accountants' role by focusing on the IT evolution (Gartner Group, 1999).

Figure 12 shows that the application of information technology in management accounting is becoming an essential part of accounting to meet the current needs of analysis and performance actions. The digital age seeks professionals with the right balance between technical skills and breadth of knowledge.

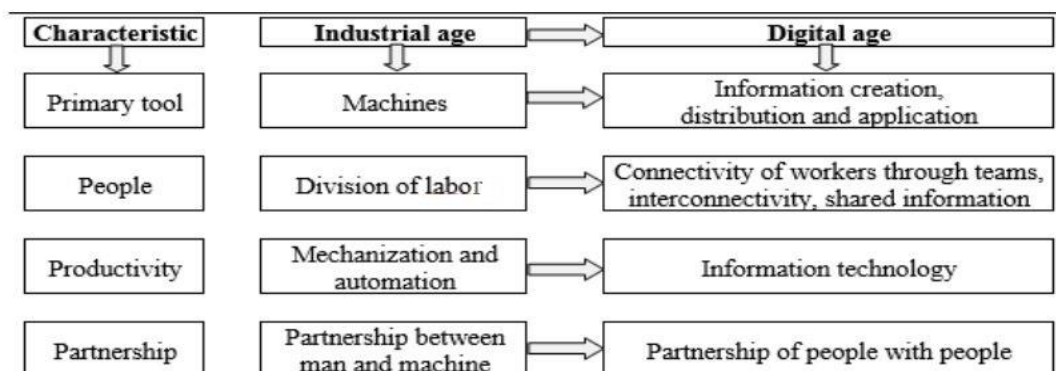


Figure 12: The changing role of management accountant (Gartner Group, 1999).

8. The Position of Management Accounting in Iran

8.1. Status

Management accounting in Iran has not yet gained its proper position. This is evident not only in manufacturing institutions but also in the educational and service sectors. Despite the objectives and the operation of the few independent management accounting units, it suffices to compare this with the current state of management accounting globally, where it has long moved away from being an independent unit and has rapidly become a set of general management techniques for controlling costs and performance. The development of management accounting in Iran is open to discussion, not only in terms of quantity but also quality. In many companies, the presence of management accounting units is driven by reasons other than defined and clear objectives, such as assisting management in making better decisions, and the time and effort of employees in these units are mostly spent on calculating and determining the cost of goods and services offered. Senior managers in many companies are unfamiliar with the vast functions of this branch of accounting, and accountants themselves are not well informed about management accounting techniques and

the new advancements and changes in this field. Undoubtedly, the root of these issues can be traced to a lack of awareness and belief in the role of management accounting by management, the absence of competent management consulting institutions, the non-mandatory application of management accounting in enterprises, and the lack of comprehensive management accounting training programs.

8.2. Barriers and Challenges in Developing MA

One of the fundamental problems in the development of management accounting in Iran is the lack of a proper understanding of its applications at the management level within organizations. Many managers, due to traditional limitations and unfamiliarity with modern techniques, view management accounting solely as a tool for retrospective financial reports. Additionally, the absence of specialized institutions actively providing consulting services in the field of management accounting has resulted in organizations being deprived of the benefits of this area. Along with these challenges, management accounting education in Iran remains at an early stage, with many contemporary concepts, such as strategic management accounting, activity-based costing, and performance management, receiving less attention in university curricula.

8.3. The Rise of Startups and Their Impact on Transforming MA

The growth of startups in Iran, especially in the fields of e-commerce, has led to an increased need for accurate management information and complex financial forecasts. Companies like Snapp, Digikala, and Tap30 require advanced management accounting data for decision-making regarding pricing strategies and business development. Unlike traditional organizations that rely more on financial accounting reports, these startups use analytical systems to examine customer behavior, control costs, and optimize cash flow.

In digital business models, management accounting is not only focused on costing but also plays a key role in strategic analysis and financial forecasting. For instance, customer profitability analysis helps companies better understand their user behaviors and adjust their pricing strategies based on their consumption patterns. Additionally, Financial KPI's such as Profit Contributions (PC's), Gross Merchandise Value (GMV), Net Merchandise Value (NMV), and Cash Burn rate have gained significant importance for measuring the performance of digital businesses. These indicators are not merely computational tools; they assist managers in evaluating the efficiency of their revenue models and making necessary adjustments.

Furthermore, the role of management accountants in these companies has shifted from preparing static reports to conducting advanced analysis and financial modeling. This transformation has led companies to move from traditional financial reporting methods to utilizing big data analytics and business intelligence. This trend enables them to make quicker, more informed decisions and continuously improve their financial models.

8.4. Changing Role of Management Accountants

With the transformation of the business environment and the increasing complexity of the economy, management accountants no longer simply act as producers of financial reports, but instead, as business partners, they are involved in strategic decision-making processes. By analyzing financial trends, assessing the efficiency of business models, and providing data-driven insights, they help companies grow and develop. This new role has moved management accountants away from their traditional position, turning them into key players in risk management, resource optimization, and the development of business strategies.

In Iran, this transformation has not been fully embraced yet. Many organizations still adhere to the traditional role of management accountants and do not leverage their potential in business development. However, leading companies in the digital and startup industries are changing this situation. These companies expect management accountants to take a more active role in the organization's broader strategies. The role of management accountants in these companies has shifted from preparing static reports to advanced analysis and financial modeling. This transformation has led them to move from traditional financial reporting methods to the use of big data analytics and business intelligence. This shift enables them to make faster and more informed decisions and continuously improve their financial models.

9. Findings, Discussion, and Conclusion

This study examines the fundamental changes and transformations in management accounting, identifying various factors that influence the techniques in this field and create challenges in the profession of management accounting. The findings indicate that the transformation in management accounting is primarily dependent on both technological and technical dimensions, as well as organizational and behavioral aspects. These two aspects simultaneously lead to a transformation in management accounting approaches, resulting in widespread changes in organizational structures and decision-making processes.

In recent decades, management accounting has undergone major transformations more than at any other time. These transformations have been particularly significant in relation to rapid technological changes, complexities in the economic environment, and increased global competition. In the past, management accounting was primarily limited to the analysis and reporting of financial and numerical data. However, today, management accounting systems, in addition to financial information, are interconnected with various organizational aspects such as customers, organizational processes, incentive and control systems, cultural and social environments, and even innovations and organizational capabilities. These changes have significantly contributed to improving decision-making processes and enhancing organizational efficiency.

One of the key findings of this study is that the use of information technology in management accounting has become an essential requirement. Information technology has now become an inseparable part of accounting processes and helps in conducting more complex and accurate analyses of businesses and their performance. The use of these technologies can facilitate strategic decision-making, improve productivity, and create synergy between management accounting and financial accounting. This synergy, based on advanced analyses and forward-looking data, can guide organizations toward optimized strategies and more effective decision-making.

Management accounting has now shifted from past-oriented and control functions to forward-looking information systems. This transformation, while changing traditional accounting roles, places more emphasis on non-financial and indirect indicators such as customer satisfaction, innovations, and the efficiency of internal processes. In this context, management accountants must employ new, strategic approaches to decision-making that, in addition to financial analysis, also address key non-financial aspects, such as strategic risks, social and environmental impacts, and meeting the long-term needs of the organization.

The overall conclusion of this study is that the adoption of modern management accounting systems is rapidly increasing worldwide. It seems that successful organizations in the future will need to adopt all the modern management accounting techniques to cope with increasing challenges and capitalize on available opportunities. Therefore, to achieve these objectives, management accountants, especially in strategic decision-making roles, must operate more effectively with advanced cognitive and behavioral skills. Additionally, information

technology plays a central role in the convergence and transformation of management accounting and financial accounting, thereby contributing to more effective resource management, improved decision-making processes, and enhanced organizational efficiency.

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