

DOI: <https://doi.org/10.36719/2789-6919/52/82-88>

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Strategic Management Accounting in Start-Ups and Digital Business Models

Abstract

The evolving function of strategic management accounting in the age of digital transformation is examined in this article. The business environment is changing fundamentally as a result of the rapid development of digital technologies, and traditional accounting methods are not up to par. The competitiveness of the business, its capacity for innovation, and the long-term decision-making process are all directly impacted by strategic management accounting, which goes beyond internal control and cost measurements. Accounting data is growing in speed and volume due to the digital economy. Businesses can perform more precise analysis, spot market trends, and create more adaptable strategies thanks to technologies like big data, artificial intelligence, ERP systems, and blockchain. The article points out that because start-ups and digital business models operate in a highly competitive environment and require more adaptable management mechanisms, the use of digital technologies is especially crucial for these types of organizations. However, digitalization also leads to issues like resistance to change, infrastructure shortages, and human resource readiness.

Keywords: *start-ups, digital technologies, business models, strategic management, strategic management accounting*

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Start Up və rəqəmsal biznes modellərində strateji idarəetmə mühasibat uçotu

Xülasə

Bu məqalədə rəqəmsal transformasiya dövründə strateji idarəetmə uçotunun dəyişən funksiyası araşdırılır. Rəqəmsal texnologiyaların sürətli inkişafı nəticəsində biznes mühitinin köklü şəkildə dəyişdiyi vurğulanır və əənəvi uçot metodlarının artıq kifayət etmədiyi qeyd olunur. Strateji idarəetmə uçotunun daxili nəzarət və xərc ölçmələrindən kənara çıxaraq biznesin rəqabət qabiliyyətinə, innovasiya potensialına və uzunmüddətli qərarvermə prosesinə birbaşa təsir göstərdiyi bildirilir. Rəqəmsal iqtisadiyyatın uçot məlumatlarının sürətini və həcmi artırdığı qeyd olunur. Big data, süni intellekt, ERP sistemləri və blokçeyn kimi texnologiyalar vasitəsilə müəssisələrə daha dəqiq analiz aparmaq, bazar tendensiyalarını müəyyənləşdirmək və daha çevik strategiyalar formalaşdırmaq imkanı verildiyi göstərilir. Startapların və rəqəmsal biznes modellərinin yüksək rəqabətli mühitdə fəaliyyət göstərdiyi və daha çevik idarəetmə mexanizmlərinə ehtiyac duyduğu üçün bu texnologiyaların tətbiqinin onlar üçün xüsusilə vacib hesab edildiyi vurğulanır. Bununla yanaşı, rəqəmsallaşma prosesində dəyişikliklərə qarşı müqavimətin yarandığı, infrastrukturun çatışmadığı və insan resurslarının hazırlığının yetərli olmadığı kimi problemlərin də meydana çıxdığı qeyd olunur.

Açar sözlər: *startaplar, rəqəmsal texnologiyalar, biznes modelləri, strateji idarəetmə, strateji idarəetmə uçotu*

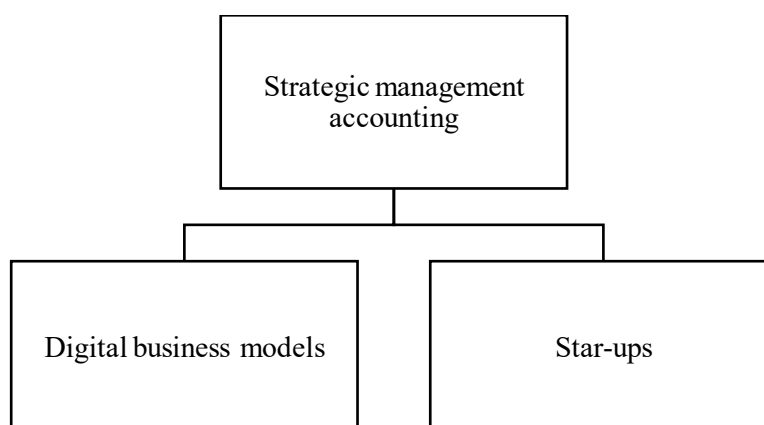
Introduction

Strategy began to enter the business lexicon in the first half of the 20th century. While the term "strategy" was encountered in some works prior to this date, its true economic meaning was first clearly explained by Neumann and Morgenstern, two economists and mathematicians. Here, the thinkers consider strategy from the perspective of personal economics, formally and systematically explaining the rational behavior of two players seeking to maximize their personal utility. Here, strategy is viewed from the perspective of microeconomics, meaning that two players seeking to maximize their utility mathematically evaluate their opponents' behavior based on probability calculations and make a series of decisions. The game is played under conditions of complete certainty. In other words, each player can prepare themselves accordingly, knowing the impact of all possible opponent actions on their own utility function. Because this assumption is not valid in economic and social situations, despite numerous efforts, its direct and indirect impact on game theory, applications, and especially economic programming is substantial. Today, strategy selection is made by considering the impact of variables related to a company's interactions with its environment, its responses to the environment, its internal organization, and the behavior of its personnel. Optimal selection calculations using quantitative tools can only be used as a tool to assist in strategy selection in situations with limited variables. In this context, strategy in business management is a management approach that aims to capture "change" by revealing the interrelationships and changes in the internal and external dynamics of a business. In this context, management constantly requires up-to-date, concise, and processed information to inform business decisions regarding resource acquisition and utilization, as well as strategic decisions. Thus, it becomes clear that strategy, as in the military, consists of developing a clear, long-term overall business plan that utilizes available resources in the best way possible to achieve objectives.

Research

Literature review. In recent years, within the framework of the increasingly prominent strategic business management approach, management accounting has evolved into Strategic Management Accounting (SMA). SMA is defined as the adaptation of management plans and programs using accounting tools to enable a business to adapt to the ever-changing external environment (Ruggieri, et.al., 2018). SMA necessitates the improvement and development of all areas, such as product costing, control, and decision-making through planning and budgeting.

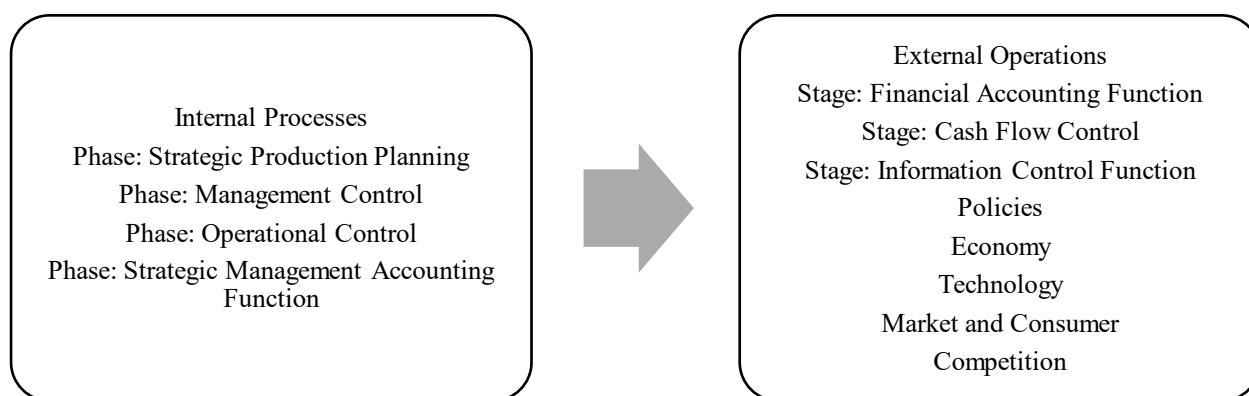
Fig 1. Conceptual framework of the study



Source: It was prepared by the author himself as a result of research.

This approach is particularly relevant in a business that prioritizes strategy and is open to change. Management accounting is a system that collects, classifies, integrates, analyzes, and reports information related to control activities to assist managers in decision-making. Cost accounting focuses on cost allocation and its relationship with financial accounting. Most importantly for our purpose, it is not decision-making oriented. In contrast, management accounting utilizes cost information for planning, management, and control decisions. The fundamental principle of management accounting is the principle of allowable costs, which regulates operational areas. Although it is difficult to distinguish between modern cost accounting and management accounting, in light of the above, we can define management accounting as a type of accounting that organizes and interprets the information and reports needed by business managers, provides control through annual budgets and standard applications, and enables strategic analysis to assess the current situation (Pasaribu, et.al.,2055). SMA encompasses practices related to the preparation, availability, and analysis of cost accounting information for management related to business strategies. Business strategies are specifically concerned with the relative level and direction of actual costs and prices, quantities, market shares, cash flows, and the overuse of all resources within the business. In the literature, the term SMA is often used instead of SMA (Drzewiecki, 2023). Because SMA is a business that prioritizes strategy and is open to change, it does not deny that the management accountant's responsibility is to "support management in all its activities." The SMA system supports decision-making for internal processes. The SMA system should be managed in conjunction with production, sales, engineering, and other departments. The effective functioning of the SMA depends on receiving and using integrated information from the external environment and the financial accounting system to inform all strategic decisions (Elia, et.al., 2022).

Fig 2. Structure of strategic management accounting



Source: Yüzbaşıoğlu, N. 2004.

The current stage of global economic development is characterized by the widespread adoption of digital technologies. The digitalization of the economy predetermines fundamental, irreversible changes in the production, distribution, exchange, and consumption of tangible and intangible assets, and, accordingly, places new demands on the organization and content of accounting as a process of discovering, measuring, recording, accumulating, summarizing, storing, and transmitting information about an enterprise's activities to external and internal users for decision-making (Annapoorna, et.al., 2025). In this regard, issues related to studying the status and prospects for the development of accounting in the context of digital transformation are particularly relevant. The conceptual foundations of the digital economy are driven by the unfolding of the fourth industrial revolution, which builds on the achievements of all previous industrial revolutions, elevating humanity to a higher level (Ruggieri, et.al., 2018). The primary objective of accounting in the first industrial

revolution was to expand the range of accounting objects, while in the second and third, it was to ensure the accounting of objects with a significant number of objects. In the current context of the development of the technologies of the fourth industrial revolution, the key objective of accounting is the generation of accounting information on digital resources. Latest technologies are changing the approach to doing business, as well as the requirements for organizing the accounting process. The development of the Internet and other information and communication technologies is changing business practices in terms of:

- relationships with suppliers, consumers, other companies and financial institutions, and government agencies;
- directions for the use of digital resources in business and management activities; - issues of further integration of accounting into the management system;
- approaches to organizing network interaction between participants in the financial process, etc.

In the past, business owners had to hire accountants who manually recorded and processed accounting information, which was time-consuming, costly, and labor-intensive, and prone to various errors (Moro-Visconti, 2025). Today, digitalization of accounting allows business owners and their accountants to perform functional tasks faster and more accurately, as well as interpret and compile financial statements more effectively. Thus, business owners can focus on their strategic goals and solve complex management problems. Modern trends in the implementation of digital software solutions in the production relations system have a profound impact on the functioning of enterprises. Moreover, these trends are also significantly influencing the application of strategic management accounting, driven by the rapid development of the internet, mobile technologies, and specific tools of the digital economy. All of this provides enterprise management with extraordinary depth, breadth, and diversity of available data, significantly exceeding the volumes upon which strategic accounting principles were previously based. This necessitates changes in methodological approaches to the implementation of management accounting principles, driven by the widespread use of digital forms of analytical data. Thus, it can be argued that digital economy technologies significantly influence the essence of methodological approaches and define fundamentally new methods of management accounting (Drzewiecki, 2023). Accordingly, the ways in which digital economy technologies influence changes in the data sets obtained from empirical research require significant rethinking and discussion. Furthermore, systemic needs are emerging for the synthesis and analysis of data that can be obtained through digital analytical studies of business processes within organizations. This is precisely why there is an objective need to revise the classical approaches to strategic management accounting that have been used until now (Christodoulou, et.al., 2025).

Therefore, modern strategic management accounting systems must bridge the gap between accounting and technical information generated during enterprise operations. In general, the implementation of modern management accounting systems should be based on their functionality and be independent of the organizational and management aspects of production management. New management accounting methods must operate in a manner that integrates all organizational processes and information flows between management accounting and managers at all levels.

The advancement of digital technology has induced substantial transformations in multiple facets of company, particularly in strategic management accounting systems. These modifications prompt organizations to embrace a more advanced data-driven methodology to enhance the precision of financial analysis, expedite strategic decision-making, and optimize operational efficiency. Strategic management accounting, once centered on historical financial reporting and internal control, is now transforming into a proactive strategic instrument that facilitates corporate innovation, enhances risk management, and optimizes resource allocation. Organizations that successfully integrate strategic management accounting with digital technology possess enhanced potential to generate additional value and bolster competitiveness in a progressively competitive business landscape. Strategic management accounting is a strategy that emphasizes the use of accounting information for long-term planning and strategic decision-making. Unlike financial accounting, which focuses on historical

reporting and adherence to accounting standards, strategic management accounting seeks to furnish pertinent information for management to formulate sustainable corporate plans. This methodology encompasses cost analysis, performance evaluation, and the identification of opportunities and risks that could impact the company's competitive standing. Consequently, strategic management accounting functions not merely as a reporting mechanism, but also as a tool that aids organizations in formulating policies that are more responsive to market dynamics and fluctuations in the business environment. The advent of digital technology has significantly broadened the scope and function of strategic management accounting in contemporary business. Digitalization enables companies to access and analyze data in real-time, facilitating more rapid and precise decision-making. Technologies like artificial intelligence, data analytics, and Enterprise Resource Planning (ERP) systems facilitate the automation of financial information processing, hence enhancing operational efficiency and business transparency. Moreover, the application of big data in strategic management accounting yields enhanced insights into market trends, consumer behavior, and business growth potential. The incorporation of advanced technology has rendered strategic management accounting essential for organizations to adapt, develop, and sustain a competitive edge in the digital age. Digitalization has facilitated automation in numerous accounting activities, including transaction recording, cost analysis, and budget planning. Numerous firms have used technologies such as artificial intelligence (AI), big data analytics, and cloud computing to enhance accounting processes (Bose, et.al., 2023). These advancements enable organizations to obtain financial information instantaneously, mitigate the danger of human mistake, and enhance precision in financial analysis and market forecasts. Beyond enhancing efficiency, digital revolution in strategic management accounting also fosters company creativity. Technology enables organizations to more effectively uncover innovation prospects through thorough financial data analysis. Timely and precise data enables organizations to create innovative products and services that align more closely with client demands and formulate more competitive pricing strategies. Despite extensive attention from researchers and practitioners on the digitalization of strategic management accounting, a research gap persists that requires addressing. Most prior research has predominantly concentrated on the technical facets of deploying accounting technology, neglecting a thorough exploration of how strategic management accounting might function as a strategic instrument to foster innovation and enhance competitive advantage. Numerous studies emphasize the influence of digitalization on operational efficiency, neglecting the role of strategic management accounting in enhancing effective and adaptive managerial decision-making in response to global market dynamics. This study aims to address the gap in research that explicitly correlates the evolution of strategic management accounting with the generation of strategic value for the organization. Numerous firms encounter challenges in incorporating digital technology into strategic management accounting, including investment prices, the intricacy of integrating new systems with old ones, and the preparedness of human resources to operate the technology. Many organizations, particularly in developing nations, lack the necessary infrastructure and expertise to effectively execute digital-based strategic management accounting. This research will analyze the critical aspects that facilitate the successful transformation of strategic management accounting and the obstacles that must be addressed to ensure effective and sustainable implementation. This research is innovative due to its comprehensive strategy that combines strategic management accounting with digital technology within the framework of business innovation and competitiveness. This study diverges from prior research that solely emphasizes the efficiency of accounting; it will investigate how technologies like big data analytics, artificial intelligence, and ERP systems can convert strategic management accounting into a strategic instrument that facilitates real-time, data-driven decision-making. This study will examine how the evolution of strategic management accounting can enhance operational efficiency, identify innovative opportunities, optimize business strategies, and expedite company growth in a disruptive business environment. This study aims to address highlighted difficulties and research gaps, so contributing academically and practically to the advancement of more flexible and innovative strategic management accounting. This study will enhance the literature regarding the role of strategic management accounting in the

digital age and offer a novel perspective on the correlation between the transformation of strategic management accounting and a company's competitive advantage. The findings of this study can provide guidance for financial managers, accountants, and decision-makers in developing more efficient digital accounting systems. By comprehensively understanding the determinants of successful strategic management accounting transformation, organizations can more effectively confront the challenges of the digital age and leverage technology to generate lasting business value (Drzewiecki & Olek, 2024).

Advanced technologies, including Big Data Analytics, Artificial Intelligence, and Enterprise Resource Planning, can yield optimal benefits only when underpinned by a robust, secure, and well-integrated system. Organizations seeking to use digital strategic management accounting must ensure the presence of a robust IT infrastructure, encompassing dependable networks, suitable software, and stringent data security protocols to safeguard sensitive financial data. Alongside infrastructural preparedness, the human resource element is a crucial determinant in the effective transformation of strategic management accounting (Gadzali, 2023). Organizations that invest in workforce training generally achieve greater success in executing digital-based strategic management accounting than those that solely prioritize technology acquisition without a definitive implementation strategy. Continuous training not only aids personnel in mastering new technologies but also enhances their analytical skills, hence facilitating the optimization of data utilization in strategic decision-making (Usman, et.al., 2025). Enhanced digital literacy among the workforce enables firms to diminish obstacles in technology adoption and augment the efficiency and efficacy of the adopted accounting system. This indicates that digital transformation necessitates investment in both technical and organizational change management components. Organizations must guarantee that personnel have adequate skills and are prepared to adapt to alterations in the work system. This method encompasses clear communication regarding the objectives and advantages of digitization, offering assistance to employees in navigating adaptation problems, and fostering a workplace culture conducive to creativity. A holistic approach to the transition of strategic management accounting can facilitate a smoother process and substantially enhance overall company performance. The implementation of Blockchain technology in accounting processes significantly enhances transparency and data security. Blockchain facilitates the documentation of transactions that are decentralized, immutable, and verifiable by all authorized entities, thereby mitigating fraud risk and enhancing confidence among investors and stakeholders. This enhanced data security not only fortifies financial reporting systems but also facilitates adherence to progressively rigorous requirements. Certain companies have indicated that Blockchain adoption enhances the efficiency of the audit process, diminishes dependence on manual verification methods, and elevates the accuracy and integrity of financial reports (Bose, et.al., 2023).

Methodology. This study seeks to investigate the evolving characteristics of strategic management accounting in the context of digital transformation. This study employs qualitative methodologies to achieve its objective. The initial phase involved a methodical examination of the current literature. We looked at scientific papers, reports from international organizations, and sources that show how modern digital accounting works. These sources allowed us to examine how strategic management accounting has altered with digital technologies. The second step involved gathering information regarding the challenges faced by organizations during the digital transformation process. To accomplish this, the results of studies examining the performance of organizations across various sectors were analyzed and compared.

Conclusion

According to the analysis, in the digital age, strategic management accounting is increasingly being used as a crucial tool in business decision-making. Information quality and accessibility are improved by digital technologies, which boosts the efficacy of strategic planning. Big data, ERP systems, and artificial intelligence all assist management in promptly identifying changes in the market and evaluating risks.

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Received: 07.08.2025

Approved: 14.11.2025