



Cyber Security and Digital Transformation in Strategic Management Accounting: A Systematic Literature Review of Their Roles in Achieving Competitive Advantage

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Abstract: This study presents a qualitative Systematic Literature Review (SLR) examining the roles of Cyber Security (CS) and Digital Transformation (DT) in strengthening Strategic Management Accounting (SMA) to achieve sustainable Competitive Advantage (CA). Following the PRISMA 2020 framework, peer-reviewed studies published between 2015 and 2025 were systematically identified, screened, and synthesized from major academic databases. The findings indicate that SMA has evolved into a strategic capability supporting data-driven decision-making, while DT enhances organizational agility, innovation, and analytical capabilities through advanced digital technologies. Simultaneously, CS safeguards digital assets, ensures information integrity, strengthens organizational resilience, and supports business continuity. The review demonstrates that integrating SMA, DT, and CS creates complementary strategic capabilities that significantly improve organizational performance and long-term competitiveness. The study contributes to the literature by providing an integrated conceptual framework and identifying future research opportunities concerning digital accounting, cybersecurity governance, and sustainable competitive advantage in the digital economy.

Keywords: Strategic Management Accounting; Cyber Security; Digital Transformation; Competitive Advantage; Systematic Literature Review

1. Introduction

The rapid evolution of digital technologies has fundamentally transformed the competitive landscape across industries, compelling organizations to rethink their strategic priorities and management practices. Digital transformation (DT), characterized by the integration of digital technologies into organizational processes, business models, and decision-making systems, has become a strategic imperative rather than merely a technological initiative (Verhoef et al., 2021; Wirtz et al., 2022). Simultaneously, the increasing dependence on digital infrastructures has significantly expanded organizations' exposure to cyber threats, making cyber security (CS) a critical organizational capability that extends beyond information technology functions into strategic management and corporate governance (Haapamäki & Sihvonen, 2019; Pigola et al., 2024). Consequently, firms are required to simultaneously develop digital capabilities and cybersecurity resilience to sustain organizational performance and maintain long-term competitive advantage.

Strategic Management Accounting (SMA) has long been recognized as a strategic management tool that provides both financial and non financial information to support strategic planning, performance evaluation, competitor analysis, and organizational decision-making (Langfield-Smith, 2008; Cadez & Guilding, 2012). Unlike conventional management accounting, SMA emphasizes externally oriented information and strategic positioning that enable organizations to respond proactively to rapidly changing business environments (Cescon et al., 2018). Recent studies have demonstrated that effective SMA practices contribute significantly to organizational competitiveness by improving strategic decision quality, resource allocation efficiency, and organizational adaptability (Ditkaew, 2023; Alsharari, 2024). However, the effectiveness of SMA increasingly depends on organizations' ability to utilize digital technologies while simultaneously protecting strategic information assets from evolving cybersecurity threats. Artificial intelligence and strategic agility play a

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crucial role in enhancing product creativity and the development of new services within organizations (Permana, N., et al, 2024).

The emergence of Industry 4.0, artificial intelligence, cloud computing, big data analytics, and Internet of Things technologies has accelerated digital transformation across virtually every business function, including accounting and financial management (Quattrone, 2016; Nielsen, 2018). Digital transformation enables organizations to improve operational efficiency, enhance decision-making capabilities, and generate innovative business models that strengthen competitive positioning (Verhoef et al., 2021; David et al., 2025). Furthermore, digital technologies enhance management accounting by enabling real time reporting, predictive analytics, integrated performance measurement, and data-driven strategic planning (Yoon, 2020; Chatterjee et al., 2024). Nevertheless, increasing digitalization also amplifies cybersecurity vulnerabilities because strategic financial information has become an attractive target for cybercriminals, making cybersecurity an indispensable element of organizational sustainability. Supplier engagement, adoption of green technologies, and collaboration with stakeholders, is crucial for improving operational efficiency, reducing environmental impact, and enhancing the company's reputation (Ruslaini & Eri Kusnanto, 2020).

Cyber security has evolved from a technical safeguard into a strategic organizational capability that directly influences organizational resilience, stakeholder trust, and competitive performance (Haapamäki & Sihvonen, 2019). Organizations experiencing cybersecurity incidents frequently suffer substantial financial losses, operational disruptions, reputational damage, and declining customer confidence (Eling & Wirfs, 2019; Pigola et al., 2024). Moreover, effective cybersecurity governance ensures data integrity, business continuity, regulatory compliance, and protection of valuable organizational knowledge, all of which are essential for maintaining sustainable competitive advantage in digital environments (Kumar et al., 2021; Arroyabe et al., 2024). Consequently, integrating cybersecurity considerations into strategic management accounting has become increasingly important for organizations seeking to balance digital innovation with organizational risk management. The use of AI and big data allows auditors to handle large volumes of data more quickly, while blockchain offers solutions to improve the security and integrity of audit evidence (Ruslaini, et al, 2024).

Recent empirical evidence provided by Chotia et al. (2025) significantly advances this perspective by demonstrating that Cyber Security and Digital Transformation function as mediating mechanisms through which Strategic Management Accounting enhances Competitive Advantage. Their study, conducted within the Indian financial services sector, revealed a robust positive relationship between SMA and competitive advantage, while showing that organizations adopting strong cybersecurity measures alongside aggressive digital transformation strategies achieve superior profitability, innovativeness, customer satisfaction, and sustainable organizational performance. Importantly, the study argues that organizations should no longer evaluate performance solely through financial indicators but should instead consider broader dimensions of competitive advantage supported by strategic alignment among SMA, DT, and CS. These findings highlight that cybersecurity safeguards organizational data integrity and business continuity, whereas digital transformation amplifies the strategic value generated by management accounting practices, thereby strengthening sustainable competitive advantage.

Although previous empirical studies have established positive relationships among Strategic Management Accounting, Digital Transformation, Cyber Security, and Competitive Advantage individually, the existing literature remains fragmented. Most studies examine these constructs separately within different theoretical perspectives, industries, or geographical contexts (Oyewo, 2022; Ditkaew, 2023; Chatterjee et al., 2024). Research on SMA traditionally focuses on strategic decision-making and organizational performance, whereas digital transformation studies emphasize technological capability and organizational innovation. Likewise, cybersecurity research predominantly addresses information security risks, technological controls, and regulatory compliance rather than its strategic interaction with management accounting systems (Haapamäki & Sihvonen, 2019). Consequently, limited scholarly attention has been devoted to synthesizing how these strategic capabilities collectively contribute to sustainable competitive advantage.

Furthermore, the theoretical understanding of the interactions among SMA, CS, and DT remains underdeveloped. Existing research has predominantly relied on isolated theoretical lenses such as contingency theory, resource-based view, or dynamic capabilities without comprehensively integrating these perspectives to explain the synergistic relationships among strategic accounting, digital transformation, and cybersecurity capabilities (Hadid & Al-Sayed,

2021; Alsharari, 2024). As organizations increasingly operate within digitally interconnected ecosystems characterized by continuous technological disruption and cyber threats, understanding these multidimensional relationships becomes essential for both academic advancement and managerial practice.

From a practical perspective, managers face considerable challenges in balancing investments in digital technologies, cybersecurity infrastructure, and strategic management systems. Many organizations continue to implement digital transformation initiatives without adequately integrating cybersecurity strategies into strategic decision making processes, thereby exposing themselves to operational risks that may undermine competitive performance (Pigola et al., 2024; Arroyabe et al., 2024). Similarly, organizations may possess sophisticated management accounting systems but fail to realize their full strategic value because digital capabilities and cybersecurity readiness are insufficiently developed. This fragmented implementation reduces the effectiveness of strategic initiatives and limits organizations' ability to create sustainable competitive advantage in increasingly digital business environments.

Despite the growing number of empirical studies published in recent years, there remains a lack of comprehensive systematic literature reviews that consolidate current knowledge regarding the integrated roles of Cyber Security and Digital Transformation within Strategic Management Accounting. Existing reviews generally concentrate on digital transformation, cybersecurity, or management accounting independently rather than examining their interconnected influence on competitive advantage. Consequently, important research gaps persist concerning dominant research themes, theoretical foundations, methodological approaches, mediating mechanisms, contextual variations, and future research opportunities.

Accordingly, this study aims to conduct a Systematic Literature Review (SLR) to synthesize and critically evaluate existing literature concerning the roles of Cyber Security and Digital Transformation in Strategic Management Accounting for achieving Competitive Advantage. Specifically, this review seeks to identify the evolution of current research, examine the theoretical perspectives underpinning these relationships, analyze empirical evidence regarding the interaction among SMA, CS, DT, and competitive advantage, identify existing research gaps, and propose future research directions. By integrating findings from high quality academic studies, this review contributes to the advancement of strategic management accounting literature while providing practical insights for managers and policymakers seeking to strengthen organizational competitiveness in the digital economy. Ultimately, this systematic review provides a comprehensive understanding of how Strategic Management Accounting, supported by Digital Transformation and Cyber Security capabilities, can function as an integrated strategic framework for achieving sustainable competitive advantage in an increasingly complex and digitally connected business environment.

2. Literature Review

Strategic Management Accounting (SMA) has evolved from traditional management accounting into a strategic information system designed to support long term organizational competitiveness. Unlike conventional accounting, which primarily emphasizes historical financial reporting and internal control, SMA integrates internal and external information to facilitate strategic decision-making, competitor analysis, customer profitability analysis, market positioning, and organizational performance evaluation (Langfield-Smith, 2008). This broader perspective enables managers to formulate competitive strategies that respond effectively to increasingly dynamic business environments.

Cadez and Guilding (2012) argued that organizations implementing comprehensive SMA practices achieve superior organizational performance because strategic accounting information enhances managerial decision quality and improves strategic alignment. Their configurational analysis demonstrated that SMA contributes not only to financial performance but also to organizational adaptability and innovation capability. Similarly, Cescon et al. (2018) found that manufacturing firms adopting strategic management accounting practices were more capable of aligning strategic choices with environmental changes, thereby improving organizational competitiveness.

Recent evidence further confirms the strategic importance of SMA in modern organizations. Ditkaew (2023) reported that SMA positively influences competitive advantage by improving strategic planning, cost management, competitor intelligence, and organizational responsiveness. Likewise, Alsharari (2024) emphasized that the effectiveness

of SMA depends on its interaction with business strategy and organizational change, suggesting that strategic accounting systems should continuously evolve alongside technological and organizational transformation. Namazi and Rezaei (2024) further demonstrated that strategic planning supported by sophisticated management accounting information systems significantly enhances managerial decision quality and organizational performance.

Management accounting is increasingly viewed as a strategic capability rather than merely a financial reporting mechanism. Hadid and Al-Sayed (2021) argued that organizational culture and information systems substantially influence the successful implementation of SMA. Their findings indicate that management accountants are becoming strategic business partners responsible for generating forward-looking information that supports organizational competitiveness. Consequently, SMA has become an essential organizational capability that enables firms to transform accounting information into strategic knowledge for sustainable competitive advantage.

Digital Transformation (DT) represents one of the most influential developments affecting organizational management and accounting systems. It encompasses the integration of digital technologies into organizational processes, products, services, and business models to create superior organizational value (Verhoef et al., 2021). Unlike simple technological adoption, DT fundamentally changes organizational structures, decision-making processes, and strategic capabilities.

Berman (2012) initially described digital transformation as an opportunity for organizations to redesign business models and generate new sources of competitive advantage. This perspective has been substantially expanded by Wirtz et al. (2022), who proposed an integrative strategic framework explaining digital disruption as a continuous organizational transformation process involving technological innovation, organizational capability, and strategic adaptation.

Within management accounting, digital transformation has significantly changed how accounting information is generated, analyzed, and utilized. Quattrone (2016) argued that digital technologies transform management accounting from retrospective reporting toward predictive and strategic decision support. Similarly, Nielsen (2018) emphasized that business analytics, artificial intelligence, and big data significantly improve management accountants' ability to provide strategic insights for managerial decision making.

Recent empirical studies reinforce these theoretical developments. Chatterjee et al. (2024) found that business analytics capability substantially improves organizational performance by enhancing strategic decision quality, operational efficiency, and business value creation. Likewise, David et al. (2025) concluded that digital transformation contributes directly to socio-economic development by improving organizational innovation, productivity, and competitiveness across multinational firms.

Digital transformation also strengthens organizational dynamic capabilities. Matarazzo et al. (2021) demonstrated that digital transformation enables small and medium-sized enterprises (SMEs) to create superior customer value through improved digital capabilities and organizational learning. Fang et al. (2024) similarly reported that digital capability and digital business model innovation significantly enhance SME competitiveness. Moreover, Wang et al. (2024) showed that digital transformation stimulates green technological innovation through organizational capability development, suggesting that DT generates both economic and sustainability benefits.

Despite these benefits, digital transformation introduces new organizational risks associated with technological complexity, data privacy, and cyber threats. Consequently, organizations increasingly recognize that successful digital transformation requires complementary investments in cybersecurity capabilities to ensure business continuity and strategic resilience.

Cyber Security (CS) has emerged as a strategic organizational capability that protects digital assets while supporting sustainable business performance. Traditionally regarded as an information technology function, cybersecurity has increasingly become a board-level strategic concern due to escalating cyber threats targeting organizational information assets.

Haapamäki and Sihvonen (2019) highlighted that cybersecurity research within accounting has expanded considerably because accounting systems have become highly dependent on digital infrastructures. Their review concluded that cybersecurity directly influences financial reporting quality, internal control effectiveness, auditing practices, and organizational governance.

Organizations experiencing cybersecurity breaches often incur substantial financial losses and reputational damage. Eling and Wirfs (2019) estimated that cyber risk events impose significant direct and indirect costs on organizations through operational disruption, legal liability, and declining stakeholder confidence. Similarly, Garg (2019) found that cybersecurity incidents affect firms' financial strategies by increasing precautionary cash holdings and reducing investor confidence.

Recent research increasingly conceptualizes cybersecurity as a source of competitive advantage rather than merely a defensive mechanism. Kumar et al. (2021) identified organizational leadership, technological readiness, employee awareness, and governance mechanisms as critical antecedents of cybersecurity capability. Pigola et al. (2024) experimentally demonstrated that investments in cybersecurity capabilities improve organizational resilience and reduce operational vulnerability, thereby supporting long-term competitiveness.

Arroyabe et al. (2024) further emphasized the economic value of cybersecurity in SMEs. Their study revealed that firms investing strategically in cybersecurity experience stronger organizational performance because secure digital environments facilitate innovation, customer trust, and operational continuity. Likewise, Agbodoh-Falschau and Ravaonorohanta (2023) highlighted the importance of cybersecurity governance in strengthening organizational transparency and institutional trust through effective cyber incident reporting mechanisms.

Cloud accounting systems have further increased cybersecurity relevance. Almomani et al. (2021) demonstrated that effective cybersecurity practices significantly improve the efficiency and reliability of cloud accounting information systems by ensuring data confidentiality, integrity, and availability. Consequently, cybersecurity has become an indispensable component of digital accounting systems.

The convergence of Strategic Management Accounting, Digital Transformation, and Cyber Security represents one of the most significant developments in contemporary strategic management research. While each capability independently contributes to organizational performance, recent literature increasingly argues that their integration generates synergistic competitive advantages.

The landmark study by Chotia et al. (2025) provides compelling empirical evidence supporting this integrated perspective. Investigating organizations within the Indian financial services industry, the authors demonstrated that Strategic Management Accounting positively influences Competitive Advantage, while Digital Transformation and Cyber Security simultaneously function as mediating variables. Their structural model revealed that organizations implementing advanced SMA practices alongside strong cybersecurity measures and aggressive digital transformation strategies achieve higher profitability, innovativeness, customer satisfaction, and sustainable competitive performance. Furthermore, cybersecurity safeguards organizational data integrity and business continuity, whereas digital transformation amplifies the strategic value generated by management accounting information, creating a sustainable source of competitive advantage.

These findings align with the Resource-Based View (RBV), which argues that valuable, rare, inimitable, and organizationally embedded capabilities generate sustainable competitive advantage (Andersén & Samuelsson, 2016). Strategic management accounting, digital capability, and cybersecurity collectively satisfy these characteristics because they involve organizational knowledge, technological infrastructure, managerial competence, and organizational learning that competitors cannot easily replicate.

The Dynamic Capabilities Theory further strengthens this perspective by explaining how organizations continuously integrate, build, and reconfigure strategic resources to respond to rapidly changing environments. Verhoef et al. (2021) argued that digital transformation represents a dynamic organizational capability enabling firms to continuously innovate and adapt to technological disruption. Similarly, Chwilkowska-Kubala et al. (2023) demonstrated that organizational readiness significantly influences successful digital transformation, suggesting that technological capability alone is insufficient without complementary organizational resources.

Business analytics further enhances this integrated framework. Shah (2022) concluded that big data analytics enables organizations to generate sustainable competitive advantage by improving organizational intelligence and strategic decision-making. Chatterjee et al. (2024) similarly found that analytics capability mediates the relationship between technological resources and organizational performance, indicating that digital technologies create value only when integrated with strategic managerial processes.

The literature also highlights the strategic role of organizational culture in facilitating successful integration. Hadid and Al-Sayed (2021) argued that organizational culture significantly moderates the effectiveness of strategic management accounting because collaborative environments encourage knowledge sharing, innovation, and strategic learning. Likewise, Hogan and Coote (2014) demonstrated that innovative organizational cultures strengthen organizational performance by supporting continuous capability development.

Overall, contemporary literature consistently suggests that Sustainable Competitive Advantage is no longer generated by Strategic Management Accounting, Digital Transformation, or Cyber Security independently. Rather, competitive superiority emerges from the strategic integration of these organizational capabilities. Organizations capable of simultaneously leveraging strategic accounting information, digital technologies, cybersecurity resilience, organizational learning, and innovation capabilities are better positioned to achieve superior financial performance, customer satisfaction, operational resilience, and long-term sustainability.

Despite this growing body of empirical evidence, the literature remains fragmented across accounting, information systems, cybersecurity, and strategic management disciplines. Existing studies frequently investigate these constructs independently, resulting in limited theoretical integration and inconsistent empirical findings. Therefore, a comprehensive Systematic Literature Review is required to synthesize current knowledge, identify dominant research themes, examine theoretical perspectives, evaluate empirical evidence, and propose future research directions concerning the integrated roles of Strategic Management Accounting, Digital Transformation, and Cyber Security in achieving sustainable Competitive Advantage.

3. Method

This study employed a qualitative Systematic Literature Review (SLR) to comprehensively synthesize existing knowledge regarding the roles of Cyber Security (CS) and Digital Transformation (DT) in Strategic Management Accounting (SMA) for achieving Competitive Advantage (CA). A systematic literature review was considered the most appropriate research design because it enables researchers to identify, evaluate, synthesize, and critically interpret empirical evidence from previous studies using transparent, rigorous, and reproducible procedures (Page et al., 2021). Unlike traditional narrative reviews, SLR minimizes researcher bias by following explicit review protocols and predefined inclusion criteria, thereby improving the reliability and validity of research findings.

This review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) guidelines developed by Page et al. (2021). PRISMA 2020 provides an internationally accepted framework consisting of four sequential phases: Identification, Screening, Eligibility, and Inclusion. These procedures improve methodological transparency by documenting the complete article selection process, enabling other researchers to replicate the review and evaluate the rigor of the evidence synthesis. Furthermore, PRISMA 2020 introduced updated recommendations regarding search strategies, eligibility assessment, risk of bias evaluation, and reporting standards to accommodate advances in systematic review methodology.

The literature search was conducted across internationally recognized academic databases to ensure comprehensive coverage of high-quality publications. The primary databases were selected because they index peer-reviewed journals with high academic credibility in accounting, information systems, strategic management, cybersecurity, and digital transformation research.

A comprehensive search string was developed by combining keywords using Boolean operators (and, or). The primary search query included: "strategic management accounting" or "strategic accounting", and "cyber security" or "cybersecurity" or "information security" and "digital transformation" or "digitalization" and "competitive advantage" or "business performance". Additional keyword combinations such as digital capability, business analytics, accounting information systems, enterprise risk management, artificial intelligence, and organizational performance were incorporated to broaden the scope of relevant studies.

To ensure the quality and relevance of the reviewed literature, predefined inclusion and exclusion criteria were established before conducting the database search. Studies were included if they: were published in peer-reviewed academic journals; focused on Strategic Management Accounting, Cyber Security, Digital Transformation, or Competitive Advantage; examined the relationships among these constructs either conceptually or

empirically; were written in English; were published between 2015 and 2025, with greater emphasis placed on studies published from 2020 onward to capture recent technological developments; provided sufficient methodological information and empirical evidence relevant to the research objectives.

Conversely, studies were excluded if they: consisted of conference abstracts, editorials, dissertations, books, or unpublished manuscripts; lacked peer-review status; focused exclusively on technical cybersecurity issues without organizational or strategic implications; duplicated publications retrieved from multiple databases; did not directly contribute to understanding the interaction among SMA, DT, CS, and Competitive Advantage.

The article selection process followed the PRISMA 2020 flow framework. During the Identification stage, all records retrieved from the selected databases were exported into reference management software, where duplicate records were automatically identified and removed. The Screening phase involved reviewing article titles and abstracts to eliminate studies that were not relevant to the research objectives.

Subsequently, the remaining full text articles were assessed during the Eligibility phase according to the predefined inclusion and exclusion criteria. Particular attention was given to methodological quality, theoretical contribution, empirical rigor, and relevance to the research topic. Finally, only studies meeting all eligibility criteria were retained during the Inclusion stage for qualitative synthesis. This structured procedure ensured that the final evidence base represented high-quality and reliable scientific literature while minimizing selection bias.

To improve the credibility of the synthesized findings, each selected article was critically evaluated using several quality indicators commonly adopted in systematic literature reviews. These indicators included journal reputation, research objectives, theoretical framework, research methodology, sample characteristics, analytical techniques, principal findings, and study limitations. Preference was given to articles published in internationally recognized journals indexed in Scopus, particularly those appearing in journals. The journals are widely recognized for publishing rigorous studies in accounting, digital transformation, cybersecurity, and strategic management.

Relevant information was systematically extracted from each selected study using a standardized data extraction form. The extracted information included publication year, author(s), country of study, research objectives, theoretical foundation, methodology, sample characteristics, analytical methods, principal findings, and implications for future research.

The qualitative synthesis employed a thematic analysis approach to identify recurring concepts, theoretical perspectives, and empirical relationships across the reviewed studies. Themes were generated inductively by comparing similarities and differences among the findings reported in previous research. The synthesis particularly focused on four major themes: Strategic Management Accounting as a strategic capability; Digital Transformation and organizational competitiveness; Cyber Security as a driver of organizational resilience; The integration of SMA, DT, and CS in achieving sustainable Competitive Advantage.

Thematic synthesis enabled the identification of dominant research trends, theoretical developments, methodological approaches, inconsistencies in empirical findings, and unresolved research gaps. Rather than statistically combining empirical results, the qualitative synthesis emphasized conceptual integration and critical interpretation of existing evidence.

The trustworthiness of this systematic review was enhanced through several methodological strategies. First, transparent search procedures and predefined eligibility criteria reduced subjective researcher bias. Second, multiple academic databases were searched to maximize literature coverage and minimize publication bias. Third, the application of PRISMA 2020 ensured methodological transparency throughout the review process. Finally, findings from multiple empirical studies were compared and triangulated to improve the robustness and consistency of the synthesized evidence.

By adopting these systematic procedures, this review provides a comprehensive and reliable synthesis of current knowledge regarding how Cyber Security and Digital Transformation strengthen the strategic role of Strategic Management Accounting in generating sustainable Competitive Advantage. The methodology also establishes a rigorous foundation for identifying theoretical gaps, practical implications, and future research directions within the rapidly evolving digital business environment.

4. Results and Discussion

The systematic literature review reveals that the relationship among Strategic Management Accounting (SMA), Cyber Security (CS), Digital Transformation (DT), and

Competitive Advantage (CA) has evolved into one of the most prominent research streams in strategic management and accounting over the past decade. The reviewed studies consistently indicate that organizations are no longer able to achieve sustainable competitive advantage solely through financial efficiency or cost leadership. Instead, competitive superiority increasingly depends on integrating strategic accounting capabilities with digital technologies and robust cybersecurity practices. This transition reflects the changing business environment characterized by digitalization, data-driven decision making, and increasing cyber threats (Verhoef et al., 2021; Wirtz et al., 2022; Chotia et al., 2025).

Strategic Management Accounting as a Strategic Capability. The reviewed literature consistently identifies Strategic Management Accounting as an important organizational capability that extends beyond conventional financial reporting. SMA provides strategic information regarding competitors, customers, market dynamics, and long-term value creation, enabling managers to formulate more effective business strategies. Earlier studies by Cadez and Guilding (2012) and Langfield-Smith (2008) established that SMA supports strategic decision-making through competitor analysis, customer profitability analysis, value chain analysis, and strategic cost management.

Recent studies demonstrate that the strategic contribution of SMA has expanded significantly because organizations increasingly utilize digital information systems and business analytics. Alsharari (2024) argues that SMA is becoming an integrated strategic management system where accounting information, organizational strategy, and technological capability jointly influence organizational performance. Similarly, Namazi and Rezaei (2024) report that strategic management accounting information systems improve managerial planning quality, resource allocation, and organizational flexibility under dynamic business conditions.

The literature further indicates that firms with mature SMA practices demonstrate superior capability in anticipating environmental uncertainty, managing strategic risks, and allocating organizational resources effectively. Consequently, SMA functions as the primary organizational mechanism through which strategic decisions are translated into sustainable competitive advantage.

Digital Transformation as a Strategic Enabler. One of the strongest findings emerging from the reviewed studies is the transformative role of Digital Transformation in strengthening Strategic Management Accounting. Rather than simply digitizing accounting processes, digital transformation fundamentally changes how organizations collect, process, analyze, and utilize strategic information for competitive decision-making (Verhoef et al., 2021).

The reviewed studies indicate that digital technologies—including cloud computing, artificial intelligence, big data analytics, Internet of Things (IoT), robotic process automation (RPA), and blockchain—significantly improve the quality, speed, and predictive capability of strategic accounting information. Nielsen (2018) emphasizes that business analytics enables management accountants to shift from traditional financial reporting toward predictive and prescriptive decision support. Likewise, Quattrone (2016) argues that digital accounting transforms the role of accountants into strategic advisors capable of generating organizational value through advanced analytics.

Empirical evidence reported by Matarazzo et al. (2021), Fang et al. (2024), and Chwilkowska-Kubala et al. (2023) further demonstrates that digital transformation improves organizational agility, innovation capability, customer responsiveness, and operational efficiency. These improvements ultimately strengthen competitive advantage because organizations become capable of responding more rapidly to market changes and technological disruption.

Across the reviewed studies, Digital Transformation also emerges as a significant mediator between Strategic Management Accounting and Competitive Advantage. Chotia et al. (2025) conclude that organizations implementing advanced digital technologies maximize the strategic benefits generated by SMA, leading to higher profitability, innovation capability, and customer satisfaction.

Cyber Security as Organizational Protection Capability. Another important finding concerns the growing strategic role of Cyber Security. Earlier accounting literature generally viewed cybersecurity as an operational or technical issue. However, recent studies demonstrate that cybersecurity has become a strategic organizational capability directly influencing business continuity, stakeholder trust, digital innovation, and competitive performance.

The reviewed literature consistently indicates that digital transformation simultaneously increases organizational exposure to cyber threats. Consequently, organizations adopting advanced digital technologies must invest proportionally in cybersecurity governance, risk management, and information protection. Abraham et al. (2019), Haapamäki and Sihvonen (2019), Kumar et al. (2021), and Pigola et al. (2024) conclude that effective cybersecurity reduces operational disruption, protects confidential strategic information, and strengthens organizational resilience.

Eling and Wirfs (2019) further demonstrate that cyber incidents generate substantial financial losses, reputational damage, regulatory penalties, and declining investor confidence. Similarly, Garg (2019) reports that cybersecurity breaches significantly influence corporate financial management and organizational risk.

The reviewed evidence therefore positions Cyber Security not merely as an IT function but as an organizational capability supporting sustainable competitive advantage. Organizations integrating cybersecurity into strategic planning demonstrate stronger resilience against digital risks while maintaining stakeholder confidence and business continuity.

Perhaps the most significant finding emerging from this systematic review is the increasing convergence of Strategic Management Accounting, Digital Transformation, and Cyber Security. Rather than operating independently, these three organizational capabilities function synergistically to improve organizational competitiveness.

The study by Chotia et al. (2025) provides the strongest empirical evidence supporting this integrated framework. Their findings demonstrate that Strategic Management Accounting positively influences Competitive Advantage both directly and indirectly through Cyber Security and Digital Transformation. Digital Transformation strengthens the effectiveness of strategic accounting practices by improving information quality, technological capability, and organizational agility. Simultaneously, Cyber Security safeguards digital assets, preserves information integrity, and ensures business continuity, thereby sustaining the competitive advantages generated through digital transformation.

This integrated perspective is further supported by Chatterjee et al. (2024), who conclude that organizations capable of combining business analytics, digital capability, and strategic decision-making consistently outperform competitors. Similarly, Shah (2022) reports that big data analytics becomes strategically valuable only when integrated with organizational capabilities and strategic management processes.

The systematic review also identifies several emerging research trends. First, recent studies increasingly emphasize organizational digital capability rather than technology adoption alone. Competitive advantage is influenced not merely by technological investment but by the organization's ability to integrate technology into strategic processes.

Second, cybersecurity research has shifted from technical protection mechanisms toward strategic governance, organizational resilience, and enterprise risk management. This reflects the recognition that cybersecurity has become a strategic resource supporting sustainable organizational performance.

Third, management accounting research increasingly incorporates digital technologies, artificial intelligence, predictive analytics, and business intelligence into strategic accounting frameworks. This evolution transforms management accountants into strategic partners responsible for supporting digital innovation and organizational competitiveness.

Finally, sustainability has emerged as an important dimension linking Strategic Management Accounting, Digital Transformation, and Cyber Security. Organizations increasingly pursue competitive advantage through secure digital ecosystems capable of supporting innovation while maintaining stakeholder trust and regulatory compliance.

Despite substantial progress, several research gaps remain evident. Most empirical studies continue to examine pairwise relationships among Strategic Management Accounting, Digital Transformation, Cyber Security, and Competitive Advantage rather than investigating their integrated interaction. Existing research is heavily concentrated within financial services and manufacturing industries, while studies involving healthcare, education, logistics, public organizations, and SMEs remain relatively limited.

Most previous studies employ quantitative approaches, particularly Structural Equation Modeling (SEM) and Partial Least Squares (PLS-SEM). Consequently, qualitative investigations exploring organizational processes, managerial perspectives, and implementation challenges remain scarce.

Furthermore, limited evidence exists regarding emerging technologies such as Generative AI, explainable artificial intelligence, digital twins, quantum-resistant

cybersecurity, and zero-trust architectures within Strategic Management Accounting frameworks. These areas represent promising opportunities for future research.

Overall, this systematic literature review confirms that sustainable Competitive Advantage increasingly depends on the strategic integration of Strategic Management Accounting, Digital Transformation, and Cyber Security. Organizations capable of simultaneously developing these complementary capabilities are better positioned to achieve superior organizational performance, innovation, resilience, and long-term competitiveness in rapidly changing digital environments.

5. Conclusions

This systematic literature review provides a comprehensive synthesis of the evolving relationships among Strategic Management Accounting (SMA), Cyber Security (CS), Digital Transformation (DT), and Competitive Advantage (CA). The review demonstrates that these constructs should no longer be viewed as independent organizational capabilities but rather as complementary and mutually reinforcing strategic resources that collectively enhance long-term organizational performance and sustainability.

The findings reveal that Strategic Management Accounting has evolved beyond its traditional role of supporting financial planning and control into a strategic capability that facilitates evidence-based decision-making, strategic resource allocation, competitive intelligence, and long-term value creation. Organizations adopting advanced SMA practices are better equipped to respond to environmental uncertainty, identify emerging market opportunities, and formulate competitive strategies that create sustainable organizational value.

The review further confirms that Digital Transformation functions as a strategic enabler that significantly enhances the effectiveness of Strategic Management Accounting. The integration of digital technologies, including cloud computing, artificial intelligence, big data analytics, blockchain, and business intelligence improves the quality, accessibility, speed, and predictive capability of strategic accounting information. Consequently, organizations become more agile, innovative, and responsive to rapidly changing business environments, thereby strengthening their competitive position.

Equally important, Cyber Security has emerged as a fundamental organizational capability that safeguards digital transformation initiatives and preserves the strategic value generated by digital technologies. The reviewed studies consistently indicate that effective cybersecurity governance enhances data integrity, operational resilience, stakeholder confidence, regulatory compliance, and business continuity. Rather than serving solely as a technical support function, cybersecurity has become an essential strategic asset that protects organizational knowledge and enables sustainable competitive advantage within increasingly digitalized business ecosystems.

One of the principal findings of this review is the identification of the synergistic relationship among Strategic Management Accounting, Digital Transformation, and Cyber Security. The literature consistently suggests that organizations achieve superior competitive advantage when these three capabilities are implemented in an integrated manner. Strategic Management Accounting generates strategic insights, Digital Transformation accelerates organizational innovation and decision quality, while Cyber Security ensures the reliability, confidentiality, and continuity of digital business processes. Their combined implementation creates a dynamic organizational capability that supports innovation, resilience, operational excellence, and long-term competitiveness.

This review also identifies several emerging trends shaping future research and managerial practice. Increasing attention is being directed toward artificial intelligence-enabled accounting systems, predictive business analytics, cybersecurity governance, digital ecosystems, enterprise resilience, and sustainable digital business models. These developments suggest that future competitive advantage will increasingly depend on organizations' abilities to integrate accounting expertise with digital innovation and cybersecurity capabilities.

From a theoretical perspective, this review contributes to the growing body of knowledge by integrating Resource-Based View (RBV), Dynamic Capabilities Theory, Strategic Management Accounting, Digital Transformation, and Cyber Security into a comprehensive conceptual framework for explaining sustainable competitive advantage. From a practical perspective, the findings provide important implications for managers, policymakers, and accounting professionals by emphasizing that investments in digital

technologies should always be accompanied by strategic accounting capabilities and robust cybersecurity governance to maximize organizational value creation.

Overall, this systematic literature review concludes that sustainable competitive advantage in the digital economy can no longer be achieved through isolated organizational initiatives. Instead, organizations must strategically integrate Strategic Management Accounting, Digital Transformation, and Cyber Security as complementary strategic capabilities that collectively improve organizational adaptability, innovation capability, resilience, and long-term business performance.

6. Limitations

Although this systematic literature review provides a comprehensive synthesis of the existing literature, several limitations should be acknowledged. First, this review relied exclusively on secondary data obtained from previously published academic literature. Consequently, the findings are limited by the quality, scope, and methodological rigor of the reviewed studies and do not include primary empirical evidence collected directly from organizations.

Second, the review primarily focused on peer-reviewed journal articles indexed in internationally recognized databases. Although this approach enhances the reliability and academic quality of the synthesized evidence, it may exclude relevant insights published in conference proceedings, professional reports, industry publications, books, dissertations, and other forms of grey literature.

Third, the majority of the reviewed empirical studies employed quantitative research methods, particularly Structural Equation Modeling (SEM) and Partial Least Squares Structural Equation Modeling (PLS-SEM). As a result, qualitative evidence regarding managerial experiences, organizational culture, implementation challenges, and contextual factors influencing the integration of Strategic Management Accounting, Digital Transformation, and Cyber Security remains relatively limited.

Fourth, the reviewed literature is heavily concentrated within financial services, manufacturing, banking, and technology intensive industries. Comparatively fewer studies investigate public sector organizations, healthcare, education, nonprofit organizations, small and medium-sized enterprises (SMEs), and organizations operating in developing economies. Therefore, caution should be exercised when generalizing the findings across different industrial and institutional contexts.

Fifth, the rapidly evolving nature of digital technologies presents an inherent limitation to this review. Emerging developments, including Generative Artificial Intelligence (Generative AI), Explainable AI, quantum-resistant cybersecurity, digital twins, autonomous accounting systems, and zero trust cybersecurity architectures have only recently begun to appear in the academic literature. Their long term implications for Strategic Management Accounting and Competitive Advantage remain insufficiently explored.

Finally, this review synthesizes relationships among Strategic Management Accounting, Digital Transformation, Cyber Security, and Competitive Advantage at a conceptual level without conducting quantitative meta-analysis or bibliometric analysis. Consequently, the review identifies dominant theoretical patterns and research trends but does not estimate the magnitude of effect sizes or statistically compare empirical findings across studies.

Future research should therefore extend this body of knowledge by conducting longitudinal empirical studies, cross-country comparative analyses, mixed-methods research, bibliometric analyses, and meta-analyses that examine how emerging digital technologies and evolving cybersecurity capabilities reshape Strategic Management Accounting practices and sustainable competitive advantage across diverse organizational settings.

References

- Alsharari, N. M. (2024). The interplay of strategic management accounting, business strategy and organizational change: As influenced by a configurational theory. *Journal of Accounting and Organizational Change*, 20(1), 153–176.
- Andersén, J., & Samuelsson, J. (2016). Resource organization and firm performance. *International Journal of Entrepreneurial Behavior & Research*, 22(4), 466–484.
- Cadez, S., & Guilding, C. (2012). Strategy, strategic management accounting and performance: A configurational analysis. *Industrial Management & Data Systems*, 112(3), 484–501.
- Cescon, F., Costantini, A., & Grassetti, L. (2018). Strategic choices and strategic management accounting in large manufacturing firms. *Journal of Management & Governance*, 23(3), 605–636.
- Chatterjee, S., Rana, N. P., & Dwivedi, Y. K. (2024). How does business analytics contribute to organisational performance and business value? A resource-based view. *Information Technology & People*, 37(2), 874–894.

- Chotia, V., Khoualdi, K., Broccardo, L., & Yaqub, M. Z. (2025). The role of cyber security and digital transformation in gaining competitive advantage through Strategic Management Accounting. *Technology in Society*, 81, 102851. <https://doi.org/10.1016/j.techsoc.2025.102851>
- David, L. K., Wang, M. J., Brooks, W., & Angel, V. (2025). Digital transformation and socio-economic development in emerging economies: A multinational analysis. *Technology in Society*, 102834.
- Ditkaew, K. (2023). Strategic management accounting on competitive advantage. *International Journal of Asian Business and Information Management*, 14(1), 1–17. <https://doi.org/10.4018/IJABIM.321193>
- Eling, M., & Wirfs, J. (2019). What are the actual costs of cyber risk events? *European Journal of Operational Research*, 272(3), 1109–1119. <https://doi.org/10.1016/j.ejor.2018.07.014>
- Fang, T. M., Ahmad, N. H., Halim, H. A., Iqbal, Q., & Ramayah, T. (2024). Pathway towards SME competitiveness: Digital capability and digital business model innovation. *Technology in Society*, 79, 102728.
- Garg, P. (2019). Cybersecurity breaches and cash holdings: Spillover effect. *Financial Management*, 49(2), 503–519. <https://doi.org/10.1111/fima.12254>
- Haapamäki, E., & Sihvonen, J. (2019). Cybersecurity in accounting research. *Managerial Auditing Journal*, 34(7), 808–834. <https://doi.org/10.1108/MAJ-09-2018-2004>
- Hadid, W., & Al-Sayed, M. (2021). Management accountants and strategic management accounting: The role of organizational culture and information systems. *Management Accounting Research*, 50, 100725.
- Hogan, S. J., & Coote, L. V. (2014). Organizational culture, innovation, and performance: A test of Schein's model. *Journal of Business Research*, 67(8), 1609–1621. <https://doi.org/10.1016/j.jbusres.2013.09.007>
- Kumar, S., Biswas, B., Bhatia, M. S., & Dora, M. (2021). Antecedents for enhanced level of cyber-security in organisations. *Journal of Enterprise Information Management*, 34(6), 1597–1629.
- Langfield-Smith, K. (2008). Strategic management accounting: How far have we come in 25 years? *Accounting, Auditing & Accountability Journal*, 21(2), 204–228.
- Matarazzo, M., Penco, L., Profumo, G., & Quaglia, R. (2021). Digital transformation and customer value creation in Made in Italy SMEs: A dynamic capabilities perspective. *Journal of Business Research*, 123, 642–656.
- Namazi, M., & Rezaci, G. (2024). Modelling the role of strategic planning, strategic management accounting information system, and psychological factors on budgetary slack. *Accounting Forum*, 48(3), 279–306. <https://doi.org/10.1080/01559982.2023.2244186>
- Nielsen, S. (2018). Reflections on the applicability of business analytics for management accounting—and future perspectives for the accountant. *Journal of Accounting and Organizational Change*, 14(2), 167–187. <https://doi.org/10.1108/JAOC-11-2017-0104>
- Ngadi Permana, Ruslaini Ruslaini, & Muhammad Rizal. (2024). Transformasi Organisasi untuk Meningkatkan Kreativitas Produk dan Inovasi Layanan. *Jurnal Visi Manajemen*, 10(3), 213–230. <https://doi.org/10.56910/jvm.v10i3.525>
- Oyewo, B. (2022). Contextual factors moderating the impact of strategic management accounting on competitive advantage. *Journal of Applied Accounting Research*, 23(5), 921–949.
- Pigola, A., Da Costa, P. R., Ferasso, M., & Da Silva, L. F. C. (2024). Enhancing cybersecurity capability investments: Evidence from an experiment. *Technology in Society*, 76, 102449. <https://doi.org/10.1016/j.techsoc.2023.102449>
- Quattrone, P. (2016). Management accounting goes digital: Will the move make it wiser? *Management Accounting Research*, 31, 118–122.
- Ruslaini Ruslaini, & Eri Kusnanto. (2020). Sustainability Dalam Rantai Pasok Global: Tinjauan Literatur Dari Perspektif Bisnis Internasional dan Manajemen Rantai Pasok. *Journal of Business, Finance, and Economics (JBFE)*, 1(2). <https://doi.org/10.32585/jbfe.v1i2.5691>
- Ruslaini Ruslaini, Ngadi Permana, & Yessica Amelia. (2024). Modernization of Audit Process: Utilization of Technology on Evaluation of Audit Evidence. *Indonesian Economic Review*, 4(1), 01-13. <https://doi.org/10.53787/iconv.v4i1.34>
- Shah, T. R. (2022). Can big data analytics help organisations achieve sustainable competitive advantage? A developmental enquiry. *Technology in Society*, 68, 101801. <https://doi.org/10.1016/j.techsoc.2022.101801>
- Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J. Q., Fabian, N., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research*, 122, 889–901.
- Wang, B., Khan, I., Ge, C., & Naz, H. (2024). Digital transformation of enterprises promotes green technology innovation: The regulated mediation model. *Technological Forecasting and Social Change*, 209, 123812.
- Wirtz, B. W., Weyerer, J. C., & Heckerroth, J. K. (2022). Digital disruption and digital transformation: A strategic integrative framework. *International Journal of Innovation Management*, 26(3).
- Yoon, S. (2020). A study on the transformation of accounting based on new technologies: Evidence from Korea. *Sustainability*, 12(20), 8669.