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Digital Transformation, Management Accounting Systems, and Big Data Analytics Capability on Organizational Performance: A Conceptual Review

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Abstract: Digital transformation has fundamentally changed how organizations create value and manage information, requiring organizations to develop capabilities that support sustainable improvements in organizational performance. However, previous studies have generally examined Digital Transformation (DT), Management Accounting Systems (MAS), and Big Data Analytics Capability (BDAC) separately, resulting in limited conceptual integration of these three factors in explaining Organizational Performance (OP). This study aims to develop a conceptual framework explaining the role of DT, MAS, and BDAC in building OP. An integrative literature review was conducted using relevant academic literature, with priority given to studies published in Scopus-indexed journals. The literature was analyzed thematically and conceptually to identify patterns, relationships, and research gaps related to the three constructs. The results indicate that DT provides a technological and organizational foundation for improving performance, MAS supports managerial planning, control, and decision-making through relevant information, while BDAC enables organizations to transform data into insights and organizational value. The novelty of this study lies in integrating these three complementary capabilities into a simple conceptual model consisting of three direct relationships: DT → OP, MAS → OP, and BDAC → OP. The proposed framework provides a foundation for future empirical research on digital and data-driven organizational performance.

Keywords: Digital Transformation, Management Accounting Systems, Big Data Analytics Capability, Organizational Performance

Abstrak: *Transformasi digital telah mengubah secara mendasar cara organisasi menciptakan nilai dan mengelola informasi, sehingga menuntut organisasi untuk mengembangkan kapabilitas yang mendukung peningkatan kinerja organisasi secara berkelanjutan. Namun, studi-studi sebelumnya umumnya mengkaji Transformasi Digital (DT), Sistem Akuntansi Manajemen (MAS), dan Kapabilitas Analisis Big Data (BDAC) secara terpisah, yang mengakibatkan terbatasnya integrasi konseptual ketiga faktor tersebut dalam menjelaskan Kinerja Organisasi (OP). Studi ini bertujuan untuk*

mengembangkan kerangka kerja konseptual yang menjelaskan peran DT, MAS, dan BDAC dalam membangun OP. Tinjauan literatur integratif dilakukan dengan menggunakan literatur akademik yang relevan, dengan prioritas diberikan pada studi yang dipublikasikan dalam jurnal terindeks Scopus. Literatur tersebut dianalisis secara tematis dan konseptual untuk mengidentifikasi pola, hubungan, dan kesenjangan penelitian terkait ketiga konstruk tersebut. Hasil penelitian menunjukkan bahwa DT menyediakan landasan teknologi dan organisasi untuk meningkatkan kinerja, MAS mendukung perencanaan, pengendalian, dan pengambilan keputusan manajerial melalui informasi yang relevan, sementara BDAC memungkinkan organisasi mengubah data menjadi wawasan dan nilai organisasi. Kebaruan studi ini terletak pada pengintegrasian ketiga kapabilitas yang saling melengkapi tersebut ke dalam model konseptual sederhana yang terdiri dari tiga hubungan langsung: DT → OP, MAS → OP, dan BDAC → OP. Kerangka kerja yang diusulkan ini memberikan landasan bagi penelitian empiris di masa depan mengenai kinerja organisasi yang berbasis digital dan data.

Kata Kunci: *Transformasi Digital, Sistem Akuntansi Manajemen, Kapabilitas Analisis Big Data, Kinerja Organisasi*

INTRODUCTION

The advancement of digital technology has transformed how organizations execute business processes, manage resources, make decisions, and create value. Digital transformation is no longer limited to using technology to digitize previously manual processes; it has evolved into an organizational shift encompassing strategy, structure, business processes, business models, and organizational capabilities (Vial, 2019; Verhoef et al., 2021). In this context, organizations increasingly rely on the ability to acquire, integrate, and utilize information rapidly and accurately as a foundation for decision-making.

Management Accounting Systems (MAS) play a crucial role by providing relevant information characterized by broad scope, timeliness, aggregation, and integration to support planning, control, and managerial decision-making (Chenhall & Morris, 1986; Nguyen et al., 2023). Simultaneously, the growing volume, velocity, and variety of digital data are driving organizations to develop Big Data Analytics Capability (BDAC) defined as an organization's ability to combine technological, managerial, and human resources to generate valuable information and insights (Gupta & George, 2016; Akter et al., 2016). Consequently, digital transformation, MAS, and BDAC are becoming increasingly interconnected elements in organizational efforts to enhance performance.

Although the relationship between digital transformation and organizational performance has garnered increasing attention, research indicates that digital transformation does not automatically lead to performance improvements. Digital transformation necessitates organizational changes, resources, and capabilities that enable digital technologies to be converted into business value (Vial, 2019; Warner & Wäger, 2019). While numerous empirical studies demonstrate a positive link between digital transformation and firm performance, the mechanisms explaining this relationship vary. For instance, Ribeiro-Navarrete et al. (2021) show that digitalization can contribute to business performance, whereas research in the manufacturing sector indicates that digital transformation positively correlates with firm performance through the transformation and development of organizational capabilities (Ghosh et al., 2021).

More recent studies also suggest that the impact of digital transformation on performance can be mediated by capability building, innovation, and business model

transformation (Orero-Blat et al., 2025; Huynh et al., 2026). These findings imply that attention should not be limited to the adoption of digital technology itself but must extend to the mechanisms and organizational capabilities that allow technology to drive performance. However, research on digital transformation remains fragmented across various perspectives and mechanisms; thus, a conceptual framework is needed to link digital transformation with managerial information systems and analytical capabilities as integral parts of the organizational value creation process.

A similar gap is evident in studies regarding Management Accounting Systems (MAS). Existing literature has demonstrated that MAS can provide information supporting planning, control, coordination, and decision-making, thereby potentially enhancing organizational performance. However, this relationship is not always straightforward or direct, as the benefits of MAS depend on how the information is utilized and the surrounding organizational context. For instance, Nguyen et al. (2023) found that the use of MAS characterized by broad scope, timeliness, aggregation, and integration can improve firm performance through market orientation, while Hieu et al. (2024) showed that MAS usage enhances supply chain integration, which subsequently contributes to firm performance.

Research by Pedroso & Gomes (2024) also indicates a link between MAS and managerial performance; however, this influence can be moderated by organizational variables such as accountant participation in decision-making, user satisfaction, and decentralization. Indeed, prior studies have shown that the performance benefits of MAS are contextual, depending on the alignment among information systems, strategy, technology, and organizational needs (Hoque et al., 2001). These conditions suggest a need to position MAS within the context of digital transformation viewing it not merely as a system for providing accounting information, but as part of an information infrastructure that enables organizations to convert data into managerial information capable of driving performance improvements.

Meanwhile, Big Data Analytics Capability (BDAC) has emerged as a key strategic capability in data-driven business environments. Previous research indicates that BDAC can boost firm performance by enabling organizations to transform data into insights that support strategic decisions and actions (Akter et al., 2016; Wamba et al., 2017). However, empirical evidence also suggests that the mere presence of technology and analytical capabilities does not guarantee superior performance. Mikalef et al. (2020) demonstrate that BDAC can generate competitive performance through dynamic and operational capabilities, whereas other studies find that BDAC contributes to performance through organizational learning, supply chain resilience, and organizational agility (Shabbir & Gardezi, 2020; Wamba et al., 2021; Garmaki, 2023).

A meta-analysis conducted by Ansari and Ghasemaghaei (2023) covering 42 studies demonstrates that the relationship between BDAC and firm performance is influenced by performance context, country, and respondent characteristics. More recent research further indicates that the impact of BDAC on performance increasingly depends on an organization's ability to integrate analytics with other capabilities and align them with organizational strategy (Lin et al., 2025; Syed et al., 2026). These findings reveal that while existing literature has extensively examined digital transformation, MAS, and BDAC in isolation, the integration of all three remains relatively limited. Yet, digital transformation provides the environment and infrastructure for digital change; MAS transforms data into relevant managerial information; and BDAC enables organizations to process increasingly large volumes and complex data into insights for decision-making. Consequently, there exists a conceptual and empirical research gap

regarding how these three elements can be positioned within a single, integrated framework to explain organizational performance.

Addressing this gap, the article's contribution to the state of the art lies in its effort to integrate Digital Transformation, Management Accounting Systems, and Big Data Analytics Capability into a unified conceptual framework for explaining organizational performance. Unlike prior studies which typically examine the relationships between digital transformation and performance, MAS and performance, or BDAC and performance either in isolation or through specific mechanisms this article views these three constructs as complementary elements in an information- and technology-driven value creation process. Digital transformation is positioned as the context of organizational change that drives the development of digital systems and capabilities; MAS serves as the mechanism for providing and utilizing managerial information; and BDAC acts as the capability to process data and generate insights that support organizational decision-making.

This integrative perspective offers an opportunity to broaden the understanding of why investments in and the adoption of digital technology do not always automatically yield performance gains, while simultaneously highlighting the critical interconnectedness of digital transformation, management accounting systems, and analytics capabilities. Therefore, this conceptual article aims to develop a conceptual framework explaining the interrelationships among digital transformation, management accounting systems, and big data analytics capability in enhancing organizational performance, as well as to identify directions for future empirical research.

METHOD

This study employs a conceptual literature review approach specifically an integrative literature review method to identify and synthesize prior research on Digital Transformation, Management Accounting Systems (MAS), Big Data Analytics Capability (BDAC), and Organizational Performance. This approach was selected because the study aims to integrate diverse perspectives and research findings to build a conceptual understanding of the interrelationships among these four constructs, rather than to empirically test these relationships. A systematic literature review enables the identification of knowledge evolution, research gaps, and opportunities to develop new conceptual frameworks (Snyder, 2019; Tranfield et al., 2003).

Literature was primarily sourced from the Scopus database using keyword combinations related to "digital transformation," "management accounting systems," "big data analytics capability," and "organizational performance." Selected articles were predominantly international journal articles indexed in Scopus that were relevant to the research constructs and offered conceptual or empirical insights into the relationships between the variables. Literature irrelevant to the research focus or lacking academic verifiability was excluded as a primary source. The literature identification and selection process was conducted transparently, adhering to established literature review reporting principles (Page et al., 2021).

Subsequently, the selected articles were analyzed through thematic and conceptual synthesis, comparing theoretical perspectives, research contexts, variables, and relevant empirical findings. The synthesis results were used to identify patterns of relationships, inconsistencies, and research gaps regarding Digital Transformation, MAS, and BDAC in explaining Organizational Performance. Based on this synthesis, the study develops a conceptual framework that integrates these three constructs as interconnected elements in the process of generating organizational performance and outlines directions for future empirical research.

RESULTS AND DISCUSSION

Results

Literature Synthesis of Factors Shaping Organizational Performance

Organizational performance is a crucial indicator for assessing an organization's ability to achieve goals, sustain operations, and create value within an increasingly dynamic business environment. Technological shifts, the need for rapid information, and growing data complexity mean that organizations require not only physical resources but also the ability to effectively manage technology, information, and knowledge. Literature indicates that organizational performance is influenced by various factors; however, in the context of digital transformation, three factors have become increasingly significant: digital transformation, management accounting systems, and big data analytics capability.

Digital transformation is viewed as a key driver of organizational performance because it enables organizations to alter their business processes, organizational structures, and strategies, as well as the ways in which they create and capture value. Vial (2019) describes digital transformation as an organizational change process triggered by the use of digital technologies, capable of reshaping an organization's value-creation trajectory. Aligning with this view, Verhoef et al. (2021) demonstrate that digital transformation extends beyond mere technology adoption, requiring changes to organizational structures, strategies, capabilities, and business models. Furthermore, Warner and Wäger (2019) explain that digital transformation involves developing dynamic capabilities that allow organizations to enhance agility and undertake strategic renewal. Thus, digital transformation acts as a driver of organizational performance by providing a foundation for organizations to improve efficiency, respond to change, and generate new forms of value.

The relationship between digital transformation and performance is also supported by empirical evidence, although research indicates that the benefits of digitalization are not always automatic. For instance, Ribeiro-Navarrete et al. (2021) found that digitalization relates to business performance through the use of information systems within knowledge-intensive business services. Conversely, Guo et al. (2023) show that digital transformation can yield varying performance outcomes, as increased digitalization may also drive up operational costs and management burdens. These findings suggest that the mere presence of digital technology is insufficient to achieve superior performance; organizations must possess the ability to integrate such technology into their processes, structures, and decision-making. Therefore, in the context of shaping organizational performance, digital transformation is best understood as an enabler that relies on supporting organizational capabilities and mechanisms.

The second factor is management accounting systems (MAS). MAS provide the information required by management for planning, control, evaluation, and decision-making. Pedroso et al. (2020) demonstrate that the characteristics and usage of MAS are linked to managerial and organizational performance. In the context of market-oriented firms, Hung et al. (2023) also show that the use of management accounting information can support improved firm performance. Thus, MAS function not only as a system for providing financial information but also as an information mechanism that helps managers understand organizational conditions and determine appropriate courses of action.

However, the literature also indicates that the mere presence of MAS does not automatically lead to better performance. Pedroso and Gomes (2024) show that MAS effectiveness is influenced by how the information is utilized in decision-making

processes, including factors such as user involvement, satisfaction with the information, and the decentralization of decision-making. Findings by Hung et al. (2024) further demonstrate that the use of digitalized MAS plays a role in strengthening an organization's ability to cope with a turbulent environment. This indicates that the contribution of MAS to organizational performance depends on the organization's capacity to utilize the generated information to support managerial decisions and actions.

The third factor is big data analytics capability (BDAC). BDAC refers to an organization's ability to combine technological, data, human, and managerial resources to process data into information or insights applicable to organizational activities. Akter et al. (2016) show that BDAC comprises managerial, technological, and talent capabilities that collectively support firm performance. Wamba et al. (2017) further demonstrate that BDAC influences firm performance both directly and through process-oriented dynamic capabilities. These findings reveal that the value of big data stems not merely from analytics technology itself, but from the organization's ability to integrate that technology with its existing resources and processes.

The relationship between BDAC and performance is further supported by subsequent research. Yasmin et al. (2020) identified a link between BDA capabilities and firm performance, particularly regarding operational performance. Mikalef et al. (2020) demonstrated that the impact of BDAC on competitive performance can be mediated by dynamic and operational capabilities. Meanwhile, a meta-analysis of 42 studies by Ansari and Ghasemaghaei (2023) found that the relationship between BDAC and firm performance is contingent upon the specific performance context being examined. More recent research by Lin et al. (2025) indicates that organizational resilience can serve as a mechanism explaining how BDAC contributes to firm performance. These findings reinforce the view that BDAC is an organizational capability enabling organizations to transform data into insights, enhance adaptability, and ultimately achieve superior performance.

Based on this synthesis, it is evident that digital transformation, management accounting systems, and big data analytics capability are three distinct yet complementary factors shaping organizational performance. Digital transformation provides the context and infrastructure for an organization's digital shift; management accounting systems supply the information necessary to support managerial processes; and big data analytics capability allows organizations to process vast amounts of data into actionable insights for value creation. Consequently, all three can be viewed as resources and capabilities that assist organizations in enhancing operational efficiency, decision-making, adaptability, and value creation.

However, the literature synthesis also reveals that the relationship between these three factors and organizational performance is neither automatic nor strictly linear. Digital transformation can yield both benefits and negative consequences, depending on the organization's ability to manage the process (Guo et al., 2023). Similarly, the benefits derived from MAS depend on how information is utilized in decision-making (Pedroso & Gomes, 2024), while the benefits of BDAC are often realized through organizational capabilities such as dynamic capabilities, operational capabilities, and organizational resilience (Wamba et al., 2017; Mikalef et al., 2020; Lin et al., 2025). Consequently, the literature suggests that organizational performance is shaped not merely by the presence of technology or information systems, but by an organization's ability to integrate technology, information, data, and managerial capabilities to generate organizational value.

This synthesis serves as the basis for developing a conceptual model that integrates digital transformation, management accounting systems, and big data analytics capability as determinants of organizational performance. The model is expected to provide a more integrated perspective compared to research that examines these factors in isolation.

Conceptual Model for Building Organizational Performance

Based on a synthesis of the literature, organizational performance can be understood as the outcome of an organization's ability to manage digital change, provide relevant information for decision-making, and transform data into knowledge and value for the organization. These three aspects are reflected in digital transformation, management accounting systems, and big data analytics capability. Although they originate from different literature perspectives, they share a common focus on how organizations leverage technology, information, and capabilities to enhance performance. Consequently, these three variables can be integrated into a single conceptual model to explain the formation of organizational performance.

Digital transformation is positioned as a key factor in the model because it can alter an organization's processes, structures, strategies, and value-creation methods. Vial (2019) explains that digital transformation is an organizational change process triggered by the use of digital technology that impacts value-creation pathways. Verhoef et al. (2021) further emphasize that digital transformation necessitates changes in organizational structure, strategy, capabilities, and business models. Thus, digital transformation is viewed not merely as technology adoption but as an organizational change process capable of enhancing an organization's ability to respond to its environment and create value. This relationship is supported by empirical research indicating that digitalization can be linked to business performance, although the benefits depend on the organization's ability to utilize technology effectively (Ribeiro-Navarrete et al., 2021; Karadağ et al., 2024). Therefore, in this conceptual model, digital transformation is positioned as a factor contributing to organizational performance.

Management accounting systems (MAS) are positioned as the second factor because organizations require relevant information to translate environmental changes and conditions into managerial decisions. MAS provide information that can be utilized for planning, control, evaluation, and decision-making. Pedroso et al. (2020) found that MAS influence managerial and organizational performance through information usage and managerial performance. Abu Afifa and Saleh (2022) also demonstrated that MAS information characteristics—specifically timeliness and integration—are linked to financial and non-financial performance. In the context of SMEs, Pedroso and Gomes (2020) showed that MAS effectiveness can be understood through information characteristics that support usage and performance evaluation. These findings indicate that MAS hold a crucial position as an information mechanism, helping organizations link internal and external information with managerial decisions. Thus, within this model, MAS are viewed as an information factor that supports enhanced organizational performance.

The third factor is big data analytics capability (BDAC). Unlike MAS, which focus on providing managerial information, BDAC emphasize an organization's ability to integrate technology, data, people, and managerial skills to generate insights usable for value creation. Akter et al. (2016) demonstrated that BDAC aligned with business strategy can enhance firm performance. Furthermore, Wamba et al. (2017) found that BDAC can improve firm performance through process-oriented dynamic capabilities. Mikalef et al. (2020) even showed that the relationship between BDAC and competitive performance

can operate through dynamic and operational capabilities, implying that the benefits of BDAC do not always stem from a direct effect. These findings are reinforced by Ansari and Ghasemaghaei (2023) through a meta-analysis of 42 studies, which revealed a link between BDAC and firm performance, with varying effects depending on the type of performance and the research context. Therefore, BDAC are positioned as a capability factor that enables organizations to transform data into insights and supports organizational performance.

These three factors are subsequently integrated into a single conceptual model. Digital transformation represents an organization's ability to undergo change and leverage digital technology; management accounting systems (MAS) represent the mechanisms for providing and utilizing information to support decision-making; and big data analytics capability (BDAC) represents an organization's ability to process data into actionable insights for value creation. While these three factors serve distinct functions, they are complementary. Digital transformation provides the environment and infrastructure for digital change; MAS assists organizations in utilizing information within managerial processes; and BDAC strengthens the organization's capacity to acquire and process information from increasingly vast and complex datasets.

This integration aligns with the Dynamic Capabilities View (DCV) perspective, which posits that organizational advantage and performance are determined not merely by resource ownership, but by the organization's ability to integrate, build, and reconfigure resources in response to environmental changes. Warner and Wäger (2019) explain that digital transformation requires dynamic capabilities that enable organizations to sense, seize, and transform. In the context of BDAC, Wamba et al. (2017) and Mikalef et al. (2020) demonstrate that analytics capabilities can strengthen organizational capabilities, thereby driving performance. This perspective establishes a conceptual foundation suggesting that technology and information systems yield greater value when organizations successfully integrate them into their processes and capabilities.

Based on this synthesis, the conceptual model proposed in this article positions Digital Transformation, Management Accounting Systems, and Big Data Analytics Capability as three factors that conceptually contribute to Organizational Performance. The model is intentionally kept simple to ensure that the primary relationships between variables are clearly visible and amenable to testing in future empirical research. It does not assume that technology or systems automatically generate performance; rather, it emphasizes that organizational performance emerges when an organization effectively leverages digital transformation, managerial information, and analytics capabilities.

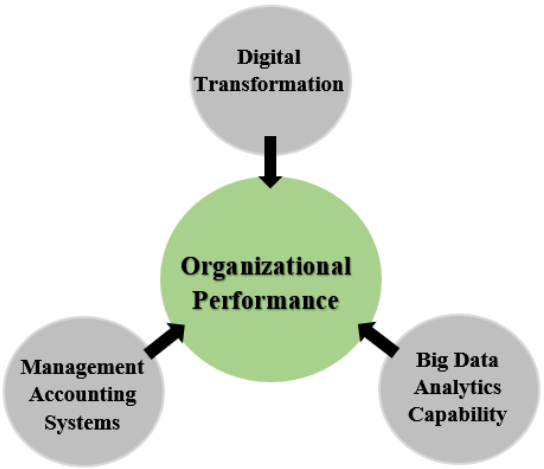

Figure 1. Conceptual Model of Building Organizational Performance

Conceptually, the model can be formulated around three primary relationships: Digital Transformation and organizational performance, Management Accounting Systems (MAS) and organizational performance, and Big Data Analytics Capability (BDAC) and organizational performance. The first relationship is grounded in the view that digital transformation enhances an organization's capacity for change, innovation, efficiency, and value creation (Vial, 2019; Verhoef et al., 2021; Ribeiro-Navarrete et al., 2021). The second relationship is based on the role of MAS in providing relevant information for planning, control, and decision-making that supports performance (Pedroso et al., 2020; Abu Afifa & Saleh, 2022). The third relationship is based on the capacity of BDAC to generate insights, strengthen dynamic capabilities, and enhance organizational value creation (Akter et al., 2016; Wamba et al., 2017; Mikalef et al., 2020; Ansari & Ghasemaghaei, 2023).

Thus, the proposed model not only illustrates the relationships between these three factors and organizational performance but also provides an integrative framework that links the dimensions of digital transformation, managerial information, and analytical capabilities within a unified perspective. This model can serve as a foundation for future empirical research to examine whether these three factors exert a direct influence on organizational performance or whether the relationships operate through specific mechanisms such as dynamic capabilities, organizational agility, innovation, or decision-making quality.

Discussion

Digital Transformation in Building Organizational Performance

Digital transformation is a process of organizational change that extends beyond the mere use of digital technology. It encompasses changes to business processes, organizational structures, strategies, and capabilities, as well as the ways in which an organization creates and captures value (Vial, 2019; Verhoef et al., 2021). Vial (2019) explains that digital transformation occurs when the use of digital technology drives changes in an organization's value creation pathways, while Verhoef et al. (2021) characterize it as a process requiring strategic and organizational shifts. These perspectives suggest that digital transformation can serve as a crucial foundation for building organizational performance, as it enables organizations to acquire new capabilities for managing processes, information, customers, and resources with greater flexibility.

Digital transformation is an organizational change process driven by the utilization of digital technology across processes, strategies, structures, and value creation (Vial, 2019; Verhoef et al., 2021). It involves not only the use of technology but also an organization's ability to adapt its ways of working and develop new capabilities. Consequently, digital transformation acts as a key factor in enhancing organizational performance by enabling improvements in efficiency, flexibility, and innovation, as well as the capacity to respond to environmental changes (Warner & Wäger, 2019; Ribeiro-Navarrete et al., 2021).

Numerous empirical studies indicate a positive relationship between digital transformation and performance. Ribeiro-Navarrete et al. (2021) found that digitalization can enhance business performance, while Gaglio et al. (2022) demonstrated that the use of digital technology supports innovation and productivity. Similarly, Zeng et al. (2022) found a link between digitalization and improved firm performance. These findings suggest that leveraging digital technology can benefit organizations by boosting productivity and innovation while increasing process efficiency.

However, digital transformation does not automatically result in improved performance. Guo et al. (2023) highlight the "digitalization paradox" a situation where digital transformation offers productivity benefits while simultaneously incurring costs and managerial consequences that can diminish performance. Consequently, the success of digital transformation depends not merely on technology adoption, but on an organization's ability to manage and integrate that technology into its business processes (Warner & Wäger, 2019; Karadağ et al., 2024).

A crucial mechanism in this relationship is an organization's capacity for innovation and business model adaptation. Verhoef et al. (2021) explain that digital transformation can drive changes in business models and the creation of new value. Findings by Merín-Rodrigáñez et al. (2024) further indicate that digital transformation fosters business model innovation, which in turn supports firm performance. Research by Orero-Blat et al. (2025) reinforces the view that the performance benefits of digital technology are amplified when organizations successfully translate that technology into innovation and value.

Based on these findings, digital transformation can be understood as an enabler of organizational performance. It offers organizations opportunities to enhance efficiency, productivity, innovation, and adaptability. However, realizing these benefits requires the support of appropriate organizational capabilities, human resources, strategies, and business processes (Scuotto et al., 2021; Tortora et al., 2021; Huynh et al., 2026). Thus, digital transformation should not be viewed as an end in itself, but rather as a process that empowers organizations to build the capabilities needed to achieve superior performance.

In this article's conceptual model, digital transformation is positioned as a factor that shapes organizational performance. This positioning rests on the premise that digital technology generates value when organizations effectively utilize it within their business processes and decision-making. Consequently, the relationship between digital transformation and organizational performance serves as the primary conceptual foundation of the model developed here. Furthermore, the benefits of digital transformation can be reinforced through an organization's ability to provide managerial information via Management Accounting Systems and to process data into insights through Big Data Analytics Capability.

Management Accounting Systems in Building Organizational Performance

Management Accounting Systems (MAS) are systems that provide information to managers to support planning, control, evaluation, and decision-making. The effectiveness of MAS is determined not only by the existence of the system itself but also by the characteristics of the information it generates specifically broad scope, timeliness, aggregation, and integration (Chenhall & Morris, 1986; Agbejule, 2005; Pedroso & Gomes, 2020). Information that is relevant, timely, integrated, and aligned with managerial needs can assist organizations in responding to environmental changes and improving decision quality (Chong & Eggleton, 2003; Ghasemi et al., 2019).

Numerous studies indicate a positive relationship between MAS and organizational performance. Pedroso et al. (2020) found that MAS exerts a direct influence on both managerial and organizational performance by enhancing managerial performance. Similar results were reported by Nguyen (2018), demonstrating that the use of MAS information characterized by broad scope, timeliness, aggregation, and integration can support improved firm performance. These findings are reinforced by Hung et al. (2023), who showed that MAS usage contributes to enhanced corporate performance through

the utilization of accounting information to address customer and competitor orientations.

The impact of MAS on performance is also evident in the context of companies facing uncertainty. Abu Afifa and Saleh (2022) found that MAS effectiveness is linked to both financial and non-financial corporate performance, although this influence is moderated by environmental uncertainty. These results align with Agbejule (2005), who demonstrated that the relationship between MAS and managerial performance depends on the level of environmental uncertainty. Thus, MAS cannot be viewed as a system that automatically boosts performance; rather, its effectiveness depends on the alignment of the provided information with the organization's specific needs and conditions.

Technological advancements have also reinforced the role of Management Accounting Systems (MAS) in shaping organizational performance. Ghasemi et al. (2019) demonstrated that MAS can serve as a mechanism linking technology to managerial performance. Kallunki et al. (2011) also found that enterprise systems and formal control systems play a role in enhancing firm performance. More recently, the use of digitized MAS has been shown to support an organization's ability to navigate volatile environments (Hung et al., 2024). Rikhardsson and Yigitbasioglu (2018) further emphasized that developments in business intelligence and analytics create opportunities for MAS to provide information that better supports reporting and decision-making.

Beyond system and technology quality, MAS usage is also influenced by organizational factors. Pedroso and Gomes (2024) demonstrated that while MAS can improve managerial performance, this impact depends on how information is utilized and on organizational characteristics such as user satisfaction and decentralized decision-making. Their research also indicated that top management support enhances MAS effectiveness through training, user satisfaction, and decentralized decision-making. Furthermore, Hieu et al. (2024) showed that MAS usage can improve supply chain integration, ultimately contributing to enhanced firm performance. These findings suggest that the benefits of MAS are realized when the generated information is actively utilized in managerial and operational processes.

Based on this synthesis, MAS can be viewed as an information mechanism that helps organizations transform accounting data and managerial information into a foundation for superior decision-making. MAS provides the information necessary for planning, control, coordination, and evaluation, thereby supporting organizational efficiency and effectiveness (Pedroso et al., 2020; Hung et al., 2023; Pedroso & Gomes, 2024). Consequently, in this study's conceptual model, Management Accounting Systems are positioned as a factor that shapes Organizational Performance, establishing a conceptual link between the two.

Big Data Analytics Capability in Building Organizational Performance

Big Data Analytics Capability (BDAC) refers to an organization's ability to integrate technological, data, human, and organizational resources so that vast amounts of data can be processed into information and insights useful for decision-making. Gupta and George (2016) explain that BDAC is built upon a combination of tangible, intangible, and human resources, distinguishing it from mere technology investment. This capability enables organizations to derive business value from data and contributes to enhanced performance (Gupta & George, 2016; Akter et al., 2016; Wamba et al., 2017).

Numerous studies provide evidence that BDAC is positively associated with organizational performance. Wamba et al. (2017) found that BDAC influences firm performance, both directly and through process-oriented dynamic capabilities. Akter et

al. (2016) also demonstrated that BDAC can improve firm performance, particularly when these analytical capabilities align with business strategy. Furthermore, findings by Yasmin et al. (2020) indicate a link between big data analytics capabilities and firm performance, with a stronger relationship observed regarding operational performance compared to market performance. These results suggest that an organization's ability to process and utilize data can serve as a source of value creation and performance improvement.

However, the impact of BDAC on performance is not always straightforward or automatic. Mikalef et al. (2019) demonstrated that achieving performance gains through big data analytics depends on resource configurations and organizational conditions. Employing a mixed-methods approach, the study identified several resource configurations capable of yielding high performance. Mikalef et al. (2020) also explained that BDAC can drive competitive performance by strengthening dynamic and operational capabilities. Thus, the mere existence of analytical capabilities is insufficient if the organization cannot translate analysis results into valuable actions and decisions.

BDAC can also drive performance by fostering an organization's ability to learn and adapt. Mikalef et al. (2019) found that BDAC strengthens dynamic capabilities, which in turn enhances an organization's innovation capacity. Garmaki et al. (2023) demonstrated that organizational learning serves as a mechanism enabling organizations to translate BDAC into business performance. Wamba et al. (2021) also found that BDAC can boost supply chain resilience, thereby contributing to firm performance. More recent findings by Lin et al. (2025) indicate that BDAC supports organizational resilience, making organizations better equipped to handle environmental changes and disruptions.

Beyond dynamic capabilities and organizational learning, BDAC can enhance performance by providing information and supporting decision-making. Ilmudeen (2021) found that BDAC influences business intelligence infrastructure, subsequently improving operational and marketing performance. Shabbir and Gardezi (2020) also showed that the implementation of big data analytics is linked to organizational performance in SMEs, with knowledge management practices acting as a crucial mechanism in this relationship. These findings suggest that the value of BDAC lies not merely in data processing capabilities, but also in an organization's ability to leverage analytical results to generate knowledge and make superior decisions.

Based on this synthesis, Big Data Analytics Capability can be viewed as an organization's capacity to transform data into insights, knowledge, and a foundation for decision-making that supports value creation. Empirical evidence and meta-analyses also indicate a relationship between BDAC and performance, although the strength of this relationship may vary depending on the type of performance and the organizational context (Ansari & Ghasemaghaei, 2023). Consequently, in this study's conceptual model, Big Data Analytics Capability is positioned as a factor that drives organizational performance, establishing a conceptual link between the two.

CONCLUSION

Conclusion

This conceptual review examines the role of Digital Transformation, Management Accounting Systems, and Big Data Analytics Capability in building Organizational Performance. The literature synthesis indicates that these three factors represent different but complementary organizational capabilities. Digital Transformation provides the technological and organizational context for transforming business processes and value creation, Management Accounting Systems provide relevant information to

support planning, control, and managerial decision-making, while Big Data Analytics Capability enables organizations to transform large and complex data into useful insights and organizational value.

The literature further indicates that the contribution of these factors to Organizational Performance is not necessarily automatic. Digital Transformation requires appropriate organizational capabilities, Management Accounting Systems depend on the quality and utilization of information, and Big Data Analytics Capability requires the ability to translate analytical outputs into organizational action. Therefore, organizational performance is more likely to improve when technological resources, management information, and analytical capabilities are integrated into organizational processes and decision-making.

Based on this synthesis, the study proposes a simple conceptual model consisting of three direct relationships: Digital Transformation → Organizational Performance, Management Accounting Systems → Organizational Performance, and Big Data Analytics Capability → Organizational Performance. The model provides a conceptual foundation for future empirical research examining how technological transformation, management information systems, and data analytics capabilities jointly contribute to organizational performance. The proposed framework also provides opportunities to examine potential mediating or moderating mechanisms in different organizational and environmental contexts.

Research Limitations

This study has several limitations. First, the study uses a conceptual literature review and does not involve primary empirical data. Therefore, the proposed relationships between Digital Transformation, Management Accounting Systems, Big Data Analytics Capability, and Organizational Performance have not been empirically tested within a specific organizational context. Second, although the literature was primarily obtained from international academic journals indexed in Scopus, differences in research contexts, measurement approaches, industries, and organizational characteristics may influence the consistency of findings across studies. Third, the conceptual model focuses on three direct relationships and does not incorporate other organizational factors that may influence performance.

Recommendation

Future research should empirically test the proposed conceptual model using quantitative or mixed-method approaches in different organizational contexts. Future studies may examine whether Digital Transformation, Management Accounting Systems, and Big Data Analytics Capability have direct effects on Organizational Performance and whether these relationships are mediated by organizational capabilities such as innovation, organizational learning, dynamic capabilities, or decision-making quality. Researchers may also consider contextual factors such as organizational size, environmental uncertainty, digital maturity, and data-driven organizational culture as potential moderating variables.

Future research is also encouraged to develop more integrated models that explain how these three capabilities interact rather than examining them independently. In particular, Digital Transformation may provide the technological foundation, Management Accounting Systems may function as an information mechanism, and Big Data Analytics Capability may strengthen the organization's ability to transform data into actionable insights. Empirical testing of these relationships can strengthen the theoretical contribution of the proposed framework and provide more practical

implications for organizations seeking to improve performance through digital and data-driven capabilities.

Author Contributions

Conceptualization, methodology, literature investigation, analysis and synthesis of the literature, development of the conceptual framework, writing original draft, and writing review and editing were conducted by the author. The author has read and approved the final version of the manuscript.

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