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Banking Management in the Digital Age: Toward Data-Driven Decision-Making Practices

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ABSTRACT

This study focuses on the digital transformation of the banking sector and the emergence of data-driven decision-making practices. In an environment marked by accelerating digitalization and increasing availability of information, banks are being forced to reconfigure their management methods, control systems, and decision-making processes. The main objective of this research is to analyze how bank branch managers integrate data into their daily practices, identify the benefits of this evolution, and highlight the obstacles that may limit its scope. A qualitative approach was chosen to address this issue. Semi-structured interviews were conducted with branch managers and directors, then subjected to thematic analysis using NVivo software to identify discursive patterns and significant dynamics. This methodological choice makes it possible to gain a detailed understanding of the perceptions, experiences, and representations of the actors involved in digitalization, going beyond simple descriptive data to grasp the complexity of the phenomena observed.

Keywords: Digital transformation; Data-driven; Banking management; Managerial innovation; Decision-making.

INTRODUCTION

Digital transformation is now a transformative phenomenon whose scale is permanently reshaping organizations, particularly in the banking sector. Far from being limited to the integration of technological tools, it is accompanied by a profound reconfiguration of business models, managerial practices, and value creation methods. Data, now regarded as a strategic resource on par with financial or human capital, plays a central role in this dynamic. The spread of analytical technologies, big data, artificial intelligence, and predictive analytics is driving a restructuring of decision-making mechanisms, based on the systematic and rigorous use of information.

In the banking sector, this evolution is challenging traditional practices, which have historically relied on intuition, professional experience, and individual judgment. The emergence of data-driven decision-making practices is thus part of a broader movement toward the rationalization of management, grounded in quantitative analysis, informational transparency, and the objectification of strategic and operational choices. The adoption of this decision-making approach, however, is not merely a change in tools. It entails a far-reaching cultural, organizational, and human transformation that challenges skills, professional perceptions, data governance, and change management strategies.

This transition is not without its tensions. While academic research highlights the benefits associated with the use of data for decision-making—particularly in terms of managerial efficiency, organizational innovation, and overall performance—it also brings to light the difficulties related to the adoption of digital tools, the quality of available data, and resistance from stakeholders. Digital transformation is therefore an evolving process, the success of which depends as much on technological variables as on human and structural factors. It requires alignment between strategic vision, governance mechanisms, skills development, and professional cultures oriented toward learning and experimentation.

In the Moroccan banking context, these challenges take on particular urgency. Financial institutions are facing accelerated digitalization, increased competition, and constantly evolving customer expectations, prompting them to rethink their management practices and decision-making processes. Bank branches serve as a prime vantage point for analyzing these transformations, as they represent the operational interface between global strategy and day-to-day practices. Studying how a data-driven culture is adopted within these structures thus allows us to examine the conditions for implementing effective digital management, the levers that promote the spread of data-driven decision-making practices, and the obstacles that may hinder their establishment.

The objective of this article is to rigorously examine the interactions between digital transformation, data-driven decision-making practices, and banking management. Using a conceptual framework that integrates organizational culture, managerial innovation, decision-making effectiveness, and performance, the study empirically analyzes the mechanisms of data adoption within bank branches, identifies the key factors driving their dissemination, and discusses the resulting managerial implications. Through this approach, the research aims to contribute to a better understanding of contemporary changes in the banking sector in the digital age, while shedding light on the theoretical and practical challenges associated with the implementation of data-driven decision-making management.

LITERATURE REVIEW

The digital transformation of banking toward an open and decentralized model

The digital transformation of the banking sector represents a major shift that is redefining traditional models and paving the way for more open and decentralized structures. Fintechs and neobanks have introduced a logic of disintermediation that undermines the monopoly of traditional institutions. Arner, Barberis, and Buckley (2016) view fintech as a new stage in the evolution of financial services, marked by increased modularity and fragmentation. This dynamic is reinforced by open banking, which mandates the sharing of customer data and fosters the creation of collaborative ecosystems. Zetzsche, Buckley, and Arner (2020) explain that open banking transforms the relationship between banks and customers into a triangular relationship involving multiple service providers.

At the same time, decentralized technologies such as blockchain are helping to reshape banking infrastructures. Tapscott and Tapscott (2018) demonstrate that blockchain replaces institutional trust with distributed trust embedded in code, paving the way for more transparent and inclusive financial services. More recently, Ristanović, Primorac, and Mulović Trgovac (2025) emphasize that integrating blockchain into banking services in emerging economies increases efficiency and reduces transaction costs.

Thus, modern banking is no longer limited to the digitization of existing services; it is moving toward a structural overhaul where openness, decentralization, and data utilization become strategic pillars. This evolution reflects a transition toward enhanced banking governance, where competitiveness depends on the ability to integrate digital innovations while meeting regulatory and security requirements.

Data at the heart of strategy and value creation

In today's banking landscape, data is no longer viewed merely as an operational asset, but as a true strategic lever. It constitutes an essential intangible resource for competitiveness and innovation. Davenport and Harris (2007) argue that the intensive use of data transforms decision-making into an evidence-based analytical process, thereby enhancing organizational performance. This line of reasoning is further developed by McAfee and Brynjolfsson (2012), who assert that data-driven companies outperform their competitors in terms of productivity and profitability.

In the banking sector, data utilization is part of a value-creation dynamic that goes beyond mere protection and compliance. Chen, Chiang, and Storey (2012) explain that data analytics not only optimizes internal processes but also creates new growth opportunities through service personalization. Similarly, Provost and Fawcett (2013) demonstrate that data science is a strategic tool for transforming raw information into a sustainable competitive advantage.

Thus, data becomes a central pillar of banking strategy, balancing protection, value creation, and innovation. It enables financial institutions to strengthen their governance, improve customer relationships, and develop more agile and inclusive business models. This evolution reflects a shift toward a paradigm where organizational value rests on the ability to transform information into actionable knowledge and strategic advantage.

Digital transformation of management in pursuit of efficiency and innovation

Digital transformation is profoundly changing managerial practices by introducing new tools and methods designed to increase efficiency and stimulate innovation. Brynjolfsson and McAfee (2014) explain that the digital revolution is forcing organizations to rethink their management models by integrating automation and data analysis to improve productivity. This line of reasoning is expanded upon by Bharadwaj et al. (2013), who argue that digital capabilities now constitute strategic resources enabling companies to develop sustainable competitive advantages.

In the banking sector, the impact of digital technology is reflected in the optimization of internal processes and a reorganization of decision-making structures. Kane et al. (2015) show that managers must adopt an agile approach, capable of adapting quickly to technological changes and customer expectations. Similarly, Hess et al. (2016) emphasize that digital transformation is not limited to the introduction of new technologies, but involves a redesign of organizational models and leadership practices.

Thus, contemporary management is defined by a dual imperative: pursuing operational efficiency through digital tools and fostering organizational innovation by integrating new collaborative approaches. This evolution reflects a transition toward augmented management, where competitiveness relies on the ability to leverage emerging technologies while cultivating a culture of innovation.

Data culture in support of sustainable organizational performance

Today, a data-driven organizational culture has emerged as a key determinant of sustainable performance. It is not limited to the adoption of technological tools but involves a profound transformation of mindsets and managerial practices. According to Davenport and Prusak (1998), an organization's ability to transform information into actionable knowledge constitutes a key competitive advantage. This idea is expanded upon by Schein (2010), who notes that organizational culture shapes collective behaviors and determines the effectiveness of change processes.

In the banking sector, the digital transformation of teams is becoming a strategic priority. McAfee and Brynjolfsson (2012) demonstrate that data-driven companies achieve better performance in terms of productivity and innovation because they base their decisions on tangible evidence rather than intuition. Similarly, Kiron et al. (2014) emphasize that a data-driven culture fosters more transparent governance and greater adaptability in the face of uncertainty.

Thus, data culture is not merely a technical matter; it constitutes a foundational element of identity that underpins organizational performance over the long term. It enables financial institutions to strengthen their competitiveness, improve customer relationships, and develop more resilient and inclusive models. This evolution reflects a shift toward a paradigm where organizational sustainability relies on the integration of data into daily practices and strategic vision.

RESEARCH METHODOLOGY ADOPTED

This study on digital transformation and data-driven decision-making practices adopts a qualitative approach in order to examine in depth the dynamics that shape managerial effectiveness, organizational innovation, and organizational performance. The use of a qualitative approach is justified by the exploratory nature of the subject, which requires an understanding of the perceptions and meanings that stakeholders attribute to the use of digital tools and the integration of data into their daily practices (Creswell & Poth, 2018).

The research field was located in the Moroccan banking sector, specifically in the Souss-Massa region. This choice is explained by the major economic and technological transformations taking place in this region, which provide a relevant framework for analyzing the impact of digitalization on managerial and decision-making practices.

Data collection relied on semi-structured interviews conducted exclusively with managers and branch directors. These stakeholders were selected due to their central role in leading teams, implementing digital tools, and making strategic and operational decisions. This focus provided in-depth insights into the mechanisms of adopting a data-driven culture, the resistance encountered, as well as the concrete effects of digitalization on organizational performance and managerial practices.

Research question, hypotheses, and conceptual Model

For this study, the research process was rigorously designed to ensure a strong link between the theoretical framework and the empirical analysis. The first step involved defining a clear research question and formulating specific hypotheses regarding the effects of digital transformation on managerial and decision-making practices. These hypotheses form the foundation of the investigation and guide both data collection and the resulting analysis (Creswell, 2014).

The second step involved developing a conceptual research model. This model enabled a visual representation of the relationships between the key concepts studied: data-driven culture, managerial effectiveness, managerial innovation, organizational performance, and data-driven decision-making practices. It served as a structuring framework throughout the research, guiding the integration of qualitative data into a coherent framework. This methodological approach ensures a systematic exploration of the subject and strengthens the study's validity by maintaining a constant connection between theoretical foundations and field observations.

Research Question

In a context where digital transformation is profoundly redefining the operational models of financial institutions, the ability of banks to effectively integrate advanced analytical technologies into their decision-making processes is becoming a major strategic challenge. However, this transition toward "data-driven" banking management raises significant challenges related to the structuring, governance, and reliable use of data, as well as the adoption of a data-oriented organizational culture and the implementation of change management tailored to new practices. Thus, the central question is: **how can banks foster a data-driven culture and manage change to ensure their decision-making processes are reliable and effective in the digital age?**

Research Hypotheses

In light of the theoretical contributions reviewed, it appears essential to structure the analysis around a set of hypotheses that allow for a precise examination of the effects of digital transformation on organizational dynamics. These hypotheses reflect the anticipated relationships between digitalization, managerial practices, data-driven culture, and performance, as identified in the literature. They thus constitute an analytical framework to guide the empirical study and verify the actual influence of digital transformation on key dimensions of organizational functioning. The proposed hypotheses are presented below.

a. Digital transformation → Data-driven Decision-Making

Digital transformation is profoundly changing the way organizations structure their decision-making processes by placing data at the heart of management practices. This shift is driven by the growing integration of advanced technologies, such as predictive analytics, artificial intelligence, and big data, which help support, accelerate, and objectify decision-making. In this context, data-driven decision-making practices have become a natural extension of digitalization, offering organizations the ability to leverage growing volumes of data to improve the accuracy and relevance of their strategic and operational choices (Gul & Al-Faryan, 2023).

The benefits associated with these practices are well documented. Organizations engaged in digital transformation are able to optimize resource allocation, anticipate market trends more accurately, and enhance their overall performance across sectors as diverse as finance, industry, education, and project management (Paucar et al., 2025). The transition to a data-driven decision-making approach, however, is not merely a technological change: it also involves organizational and cultural transformations. Indeed, the adoption of digital tools and the effective use of data require appropriate governance, an internal culture conducive to analysis, and leadership capable of supporting teams through this evolution (Grimaldi et al., 2025).

Furthermore, challenges related to data quality, infrastructure costs, cultural resistance, or a lack of data literacy skills can hinder the adoption of truly data-driven practices. These obstacles demonstrate that digital transformation must be viewed as a systemic process, linking technology, organization, and human capital (Ghafoori et al., 2024). When carried out consistently, it enables a virtuous hybrid of analytical capabilities and human judgment, strengthening the organization's decision-making maturity.

Thus, to the extent that digital transformation creates the technological, structural, and cultural conditions necessary for the rise of data-driven decision-making practices, it is expected to have a positive influence on their adoption. We therefore formulate the following hypothesis:

H1: Digital transformation has a positive influence on the adoption of data-driven decision-making practices within organizations.

b. Digital transformation → Managerial effectiveness

Digital transformation has a profound and multifaceted impact on managerial effectiveness, redefining the very nature of leadership and managerial practices. Indeed, the integration of advanced technologies such as artificial intelligence, big data, cloud computing, and automation is changing not only decision-making processes but also the skills required to steer these transformations (Alrousan et al., 2025; Ligonenko, 2025). This technological evolution requires managers to constantly adapt their expertise, particularly in the areas of change management, team engagement, and innovation, which are key dimensions of organizational performance (Paspalj, 2025).

Digital tools facilitate faster and more accurate decision-making, based on reliable data accessible in real time (Yang, 2025; Dabetić, 2024). This increased availability of information helps enhance managers' transparency and responsiveness to market shifts, thereby fostering the organizational agility essential in a constantly evolving economic environment. However, managerial effectiveness is not limited to the technical implementation of digital tools. It also relies on managers' ability to develop visionary leadership capable of anticipating technological challenges and fostering a culture of innovation within teams (Paspalj, 2025; Fernández-Vidal et al., 2022).

Furthermore, digital transformation underscores the need for dynamic skills and talent management, which includes continuous training and supporting employees as they adapt to new tools and ways of working (Heubeck, 2023). This dynamic fosters a redefinition of managerial roles toward greater autonomy and decentralization, thereby enabling better utilization of the potential offered by digital technologies (Yang et al., 2024). However, this transition also presents challenges, notably resistance to change and cybersecurity issues, which must be addressed through an integrated and proactive management strategy (Dabetić, 2024).

Thus, the relationship between digital transformation and managerial effectiveness is one of interdependence: technology alone does not guarantee effectiveness, which depends above all on the quality of management and the ability of organizations to support this transition. In this sense, the hypothesis that digital transformation improves managerial effectiveness is justified by the interplay between technological innovations and the development of managerial skills, a prerequisite for optimizing business performance and competitiveness.

We therefore formulate the following hypothesis:

H2: Digital transformation contributes to the improvement of managerial effectiveness.

c. Digital transformation → Managerial innovation

Digital transformation is now a key driver of managerial innovation, fundamentally redefining traditional management models and approaches to value creation. The integration of advanced technologies such as artificial intelligence, big data, cloud computing, and the Internet of Things goes beyond simply modernizing work tools; it transforms the very foundations of decision-making processes, collaboration methods, and organizational structures. By establishing new technological and cultural benchmarks, digital transformation paves the way for more agile, cross-functional management practices focused on continuous learning.

The mechanisms through which digital transformation stimulates managerial innovation are manifold. It fosters the emergence of new business models, the reconfiguration of organizational structures toward greater agility, and the decentralization of innovation processes, enabling a more fluid flow of knowledge within organizations and beyond their boundaries (Appio et al., 2021). Furthermore, digital transformation encourages experimentation, risk-taking, and organizational learning, thereby strengthening teams' ability to adapt in a context of high uncertainty (Paspalj, 2025).

However, the managerial innovation driven by digital transformation can only be fully realized if certain conditions are met. The development of digital skills, the establishment of a culture of innovation, investment in technological infrastructure, and the adaptation of governance mechanisms are key success factors (Chen et al., 2024; Ancillai et al., 2023). At the same time, organizations must overcome significant challenges, such as resistance to change, the growing complexity of digital environments, data protection requirements, and the need to mobilize transformational leadership capable of guiding teams through this transition (Biletskyi, 2025).

Companies capable of fully leveraging these digital dynamics see tangible effects on their performance, the quality of their innovations, and their sustainability. Enhanced agility, advanced data utilization, and the ability to anticipate market shifts contribute to increasing the overall competitiveness of organizations engaged in managerial innovation initiatives supported by digital transformation (Chen et al., 2024; Bresciani et al., 2021).

In this context, digital transformation thus emerges as an essential catalyst for managerial innovation, creating an environment conducive to the reinvention of management practices, experimentation, and continuous adaptation.

We therefore propose the following hypothesis:

H3: Digital transformation promotes the development of managerial innovation.

d. Digital transformation → Data-driven culture

Digital transformation is closely linked to the emergence of a data-driven culture, as the digitization of organizational processes significantly increases the availability, quality, and diversity of data that can be leveraged

in decision-making. By reorganizing internal operating methods and the tools used, digital transformation creates an environment conducive to the systematic use of data, while requiring an evolution in managerial and cultural practices to fully leverage it (Ghafoori et al., 2024; Deep, 2023). Thus, the transition to a data-driven culture cannot be separated from the technological transformations that underpin it.

Organizational culture is a central determinant in this process: organizations capable of valuing experimentation, collaboration, and continuous learning are better able to integrate data into their decision-making routines and foster effective digital governance (Ghafoori et al., 2024). The work of Arsal et al. (2022) and Butt et al. further highlights that leadership and internal communication play a key role in embedding a data-driven mindset, by encouraging the adoption of digital tools and reducing cultural resistance. Digital transformation therefore requires not only technological investments but also a profound shift in employees' perceptions, behaviors, and practices.

The development of data literacy represents another essential pillar of the link between digital transformation and a data-driven culture. The increase in available data is meaningful only if employees possess the necessary skills to understand, analyze, and integrate it into their daily activities. Organizations must therefore promote continuous training programs, support the development of analytical skills, and encourage cross-functional collaboration to create a truly data-oriented organizational fabric (Arsal et al., 2022; Trushkina et al., 2020). These efforts help reduce barriers related to resistance to change and strengthen the adoption of digital tools.

However, establishing a data-driven culture as part of digital transformation comes with significant challenges. Organizations must address issues of data quality and governance, ethical concerns and information security, as well as persistent cultural barriers (Ramadhani & Utami, 2025). Top-performing companies are therefore developing robust technological infrastructures, investing in data governance, and adopting hybrid approaches that combine managerial judgment with systematic data analysis to maintain decision-making flexibility in complex environments (Yang, 2025).

From this perspective, digital transformation emerges as an essential catalyst for the deployment of a data-driven culture, by providing the tools, processes, and organizational conditions necessary for the strategic use of data. The hypothesis that digital transformation fosters the emergence and consolidation of a data-driven culture is thus fully justified: by transforming practices, skills, and cultural norms, digitalization amplifies organizations' capacity to innovate, anticipate, and adapt, thereby enhancing their agility and overall performance.

The increasing digitization of organizations places data at the center of decision-making processes. Hence the formulation of the following hypothesis:

H4: Digital transformation reinforces the establishment of a data-driven organizational culture.

e. Digital transformation → Organizational performance

Digital transformation is now a key driver of organizational performance, as it fundamentally reshapes internal processes, coordination methods, and value creation models. By integrating advanced technologies and digitizing operations, organizations enhance their operational efficiency, innovation capacity, and responsiveness to competitive dynamics (Daud, 2024; Rahman et al., 2024). These technological advancements increase productivity, improve customer satisfaction, and accelerate decision-making, thereby contributing to a sustainable competitive advantage for companies committed to coherent digital strategies (Chauhan et al., 2025).

The positive impact of digital transformation on performance, however, depends on organizations' ability to effectively manage the changes it entails. Research highlights that the benefits are neither automatic nor uniform: they vary depending on the company's size, industry, organizational culture, strategy, and ability to drive change (Alkhazali et al., 2025). Challenges related to investment costs, resistance to change, risk management, or the quality of implementation can limit the expected performance improvements (Ramadhani & Utami, 2025). In this context, strong leadership, a clear strategy, and proactive change management emerge as essential levers for optimizing organizational outcomes (Qiao et al., 2024).

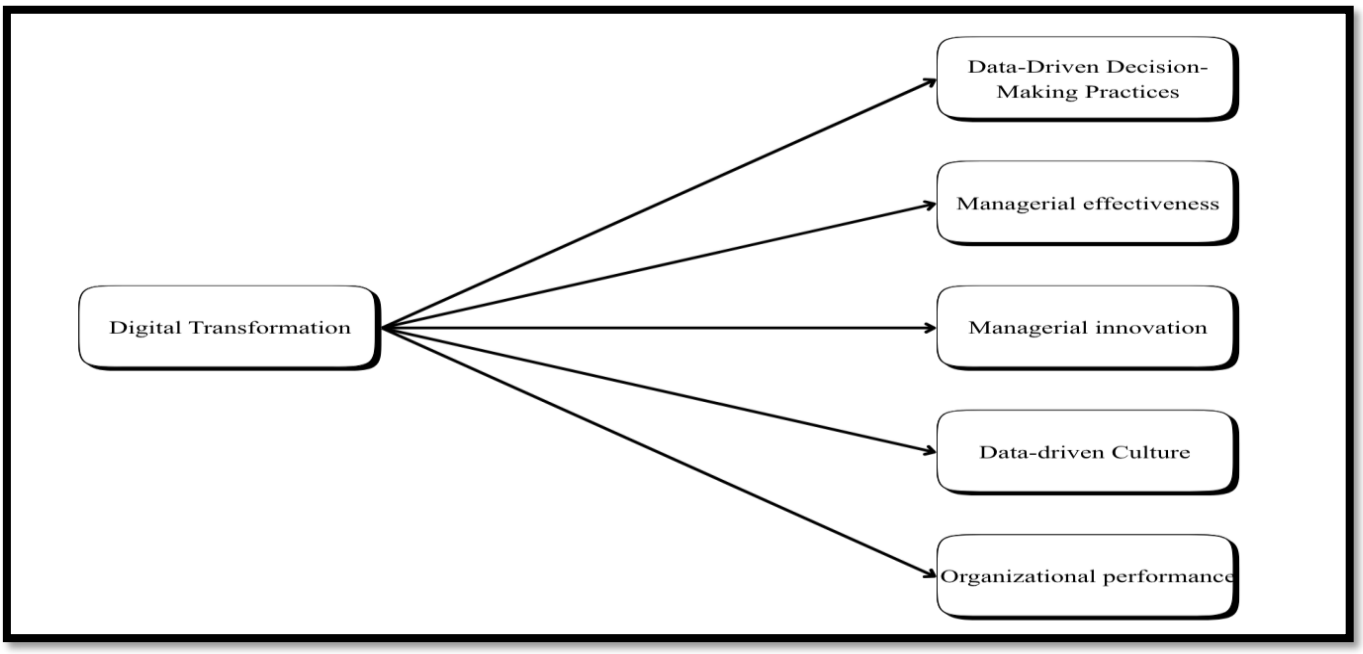
The mechanisms through which digital transformation improves performance are numerous. Task automation, data integration and utilization, improved collaborative processes, and personalized customer experiences are essential drivers of value creation (Wang & Zhang, 2024). Furthermore, organizational agility and big data capabilities play a key mediating role by enabling companies to adapt quickly to technological changes and market needs (Chauhan et al., 2025).

Thus, digital transformation emerges as a powerful driver of performance for organizations, provided it is accompanied by a clear strategy, a culture of innovation, and effective management of resources and skills. When carried out in a structured and proactive manner, digitalization enhances agility, stimulates innovation, and sustainably improves competitiveness. From this perspective, it is appropriate to formulate the hypothesis that digital transformation has a positive impact on organizational performance.

H5: Digital transformation has a positive impact on organizational performance.

Conceptual model

Figure 1: Conceptual model



Source: Authors

The proposed conceptual model examines the central role of digital transformation as an explanatory variable influencing several key dimensions of organizational functioning. It posits that the digitization of processes, tools, and practices has a direct impact on data-driven decision-making practices, managerial effectiveness, managerial innovation, a data-oriented organizational culture, and organizational performance. These five variables reflect the main levers through which digital transformation reconfigures the internal dynamics of organizations, simultaneously altering decision-making modes, management capabilities, innovation approaches, and cultural foundations.

This model thus allows for structuring the scientific analysis around clearly defined theoretical relationships, with the aim of understanding how digitization shapes managerial practices and organizational outcomes.

Development of the interview guide and data collection:

As part of this qualitative study, a semi-structured interview guide was developed to collect in-depth data from bank managers and branch directors. The use of semi-structured interviews was chosen due to their ability to combine structure and flexibility: this method allows for the coverage of all essential topics while giving participants the freedom to elaborate on their perceptions, experiences, and practices within the specific context of the banking sector.

The development of the interview guide was based on the literature review, the study's objectives, and the variables of the conceptual model. The questions were organized around five main themes: the implementation of digital transformation within branches; decision-making practices and data usage; management effectiveness and styles; managerial innovation practices; and data-driven culture and organizational performance. Open-ended questions were formulated to encourage spontaneous discussion, accompanied by follow-up questions to clarify certain points or explore topics deemed relevant in greater depth. This structure ensures analytical consistency while respecting the uniqueness of each participant.

Data collection was conducted with a sample of 28 managers and branch directors who are operationally involved in the banking sector's digitalization processes. The interviews were conducted in person at the branches or, when necessary, via videoconference depending on the participants' availability. Lasting an average of 45 minutes to one hour, they were recorded with the interviewees' prior consent and then transcribed in full to ensure the rigor of the qualitative analysis.

Data analysis

Data analysis is a central step in any qualitative research process, as it is at this stage that the collected information truly takes on meaning. As Miles and Huberman (1994) point out, this work involves moving from raw material, in this case, interviews conducted with bank managers and branch directors, to a clear and usable structure, paving the way for rigorous interpretation. The goal is to organize the statements, identify key ideas, and articulate them in a way that helps us understand how the participants experience and perceive digital transformation in their professional environment.

In this study, which examines changes in banking management in the face of digitalization and the rise of data-driven decision-making practices, thematic analysis is a natural choice. According to Braun and Clarke (2006), this method allows for the identification and structuring of recurring themes in the discourse, while linking them to existing conceptual frameworks. It thus offers a particularly relevant tool for exploring how managers integrate digital technologies, adapt their management styles, and transform their decision-making practices within an increasingly data-driven framework.

The analysis was constructed through a constant back-and-forth between the collected testimonies and the concepts employed, making it possible to highlight the organizational mechanisms, cultural shifts, and new managerial reflexes associated with the digitalization of the banking sector. This approach sheds light on how digital transformation concretely influences daily practices, decision-making responsibilities, and internal dynamics within branches.

Finally, the entire process is grounded in an abductive approach, which involves continuously linking field observations with theoretical contributions (Dubois & Gadde, 2002). This approach, rooted in the experiences of those involved and informed by the scientific literature, ensures a detailed and nuanced understanding of the changes that are currently redefining banking management in the digital age.

Presentation of the collected data

The analysis of data from the semi-structured interviews serves as the starting point for this section, which is devoted to the presentation and interpretation of the results generated using NVivo software. Once the statements from bank managers and branch directors have been coded and organized according to a rigorous thematic structure, the analysis aims to highlight the salient trends and underlying dynamics associated with digital transformation and the emergence of data-driven decision-making practices. This work allows for the systematization of the perceptions, experiences, and representations articulated by the participants, while linking them to the selected theoretical concepts and initial hypotheses. The goal is thus to offer an enriched and nuanced analysis of the managerial mechanisms and cultural shifts observed, before comparing these empirical findings with the insights from the literature to better shed light on the ongoing transformations in banking management in the digital age.

Data Analysis

Data analysis plays a central role in this research, as it aims to provide an in-depth understanding of how digital transformation is reshaping managerial and decision-making practices within bank branches. Based on semi-structured interviews with managers and branch directors, the data was meticulously transcribed and then analyzed using NVivo software, enabling a systematic and rigorous thematic structuring. This approach aims to identify the perceptions, behaviors, and organizational logics that emerge in response to increasing digitalization and the spread of a data-driven culture. The analysis thus highlights the key dynamics and underlying mechanisms shaping the evolution of banking management, while providing a solid foundation for interpreting the results in light of the theoretical framework employed.

Manual thematic analysis

Manual thematic analysis is a rigorous qualitative method that allows for in-depth exploration of textual data to identify meaningful patterns. It is based on a structured process, familiarization, coding, and synthesis of themes, that takes into account the cultural and organizational context, thereby offering a nuanced understanding of the data (Nowell et al., 2017). This approach is particularly well-suited to capturing the subtleties and complex dynamics, often invisible in quantitative analyses, by giving a voice to the participants and revealing the underlying social and cultural dimensions.

The analysis highlights a crucial initial aspect: the adoption and integration of data at the heart of organizational practices, revealing how these are gradually establishing themselves as a central lever in decision-making processes.

This evolution is driving a profound transformation of managerial roles and competencies, where managers must now adapt to a data-driven environment by adopting more collaborative and agile practices. Consequently, these organizational changes have tangible impacts on the overall performance of organizations, strengthening their resilience and competitiveness in the face of contemporary challenges.

The findings confirm that the systematic integration of data promotes more objective and informed decision-making, while the shift in managerial practices toward innovation and flexibility enhances teams' adaptability. Furthermore, the synergy between these factors contributes to significantly improving organizational performance in terms of efficiency, innovation, and competitiveness. This analysis, through its interpretive nature, has revealed cultural and contextual nuances specific to the organizations studied, thereby enriching our understanding of the underlying dynamics (Al-Fattal & Singh, 2025). These insights have served as a solid foundation for the development of a relevant conceptual model grounded in empirical reality.

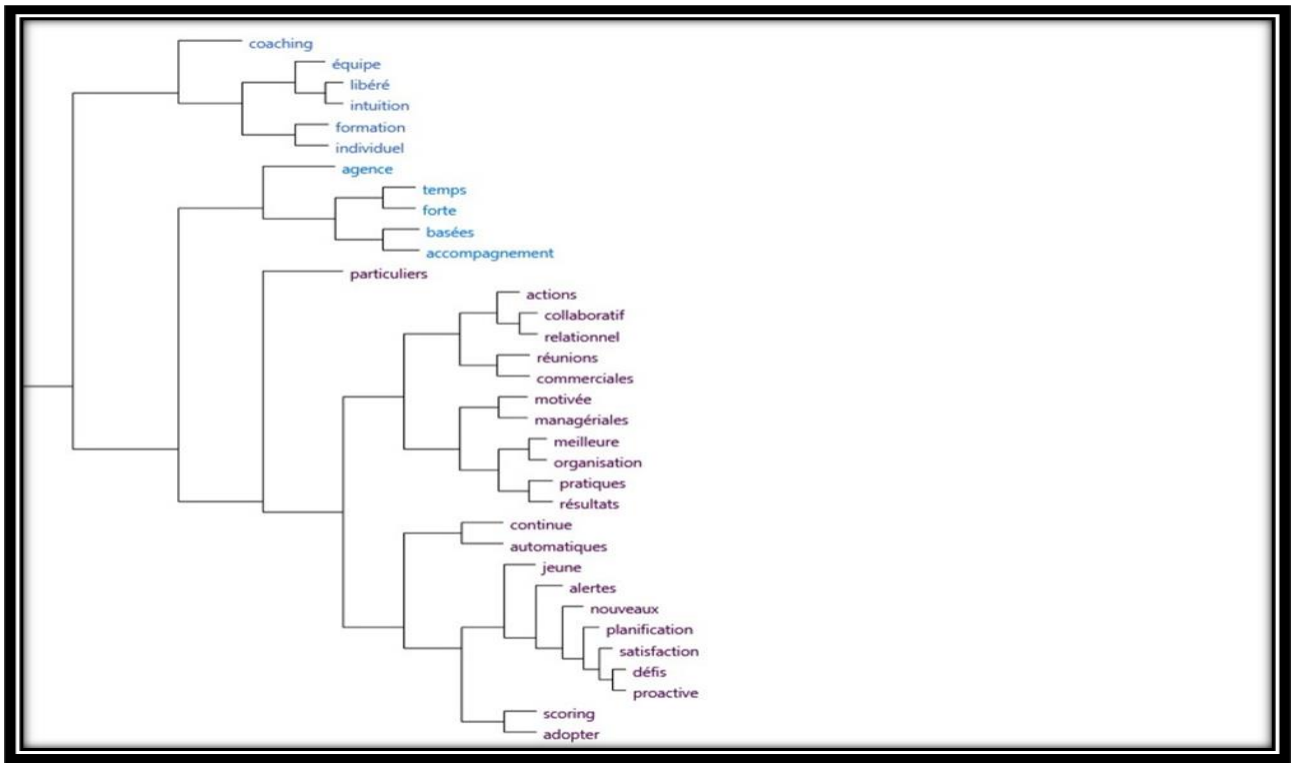
Thematic Analysis Using NVivo

To analyze the qualitative data, we chose to use NVivo, a tool that greatly helped us structure and organize the information we collected. This software allowed us to code the data clearly and methodically, while maintaining an overall view of the ideas that were emerging. But beyond this tool, it was above all our careful observation that allowed us to understand the nuances, make connections, and give meaning to the data. This combined approach provided us with a rich and in-depth understanding, essential for revealing the true dynamics present in our study.

Word density analysis

Thematic interviews highlighted the key dynamics and perceptions related to digital transformation and data-driven decision-making in the banking sector. The results underscore the importance of several essential dimensions, notably coaching, support agencies, and collaborative practices, which foster the adoption and effectiveness of digital initiatives.

Figure 2:The words most frequently used by the interviewees



Source: Output NVivo 12

Coaching emerges as a key driver for helping teams embrace digital tools and adapt to evolving management practices. Whether focused on the team, the individual, or delivered as training, it aims to unlock intuition and strengthen skills, thereby fostering a gradual and personalized adoption of technologies.

The support agency plays a structuring role by providing an organized framework based on intensive interaction and continuous support. It helps structure innovation efforts around specific, motivated, and collaborative actions,

such as holding relationship-building and sales meetings, that stimulate stakeholder engagement and facilitate the implementation of initiatives.

Furthermore, collaborative and managerial practices are at the heart of the transformation, with a particular focus on improving organization, practices, and results. This aspect is reinforced by a proactive planning and monitoring approach, incorporating automatic alerts and scoring tools that optimize real-time decision-making.

The role of younger generations and new data-driven approaches is also highlighted, particularly through their ability to incorporate new satisfaction metrics and tackle complex challenges using an agile and continuous approach. This integration fosters the adoption of a digital culture grounded in reliable data and predictive analytics.

In summary, this analysis highlights the interdependence of human, organizational, and technological factors in the success of digital transformation in the banking sector. The effectiveness of these transformations relies on a harmonious balance between personalized coaching, structured support, innovative collaborative practices, and the adoption of data-driven solutions. These interactions serve as powerful levers for enhancing banks' competitiveness and agility in an environment undergoing rapid digital transformation.

Word importance by density

Figure 3:WordCloud

Source: Output NVivo 12

The keyword cloud highlights the profound transformation of banking management in the digital age, with a strong emphasis on the emergence of a data-driven decision-making culture. The size of the words reflects their frequency of appearance in the interviews, highlighting the key concepts that shape this evolution. Terms such as "monitoring," "employees," "tools," "data," and "training" stand out, indicating that the adoption of digital tools and team engagement are at the heart of current managerial practices.

There is a strong correlation between the concepts of "digital," "decisions," and "customers," illustrating that digitalization now guides decision-making processes to better meet the expectations of banking customers. The importance of dashboards and alerts shows that data is a fundamental lever for driving performance and ensuring greater responsiveness in a competitive environment.

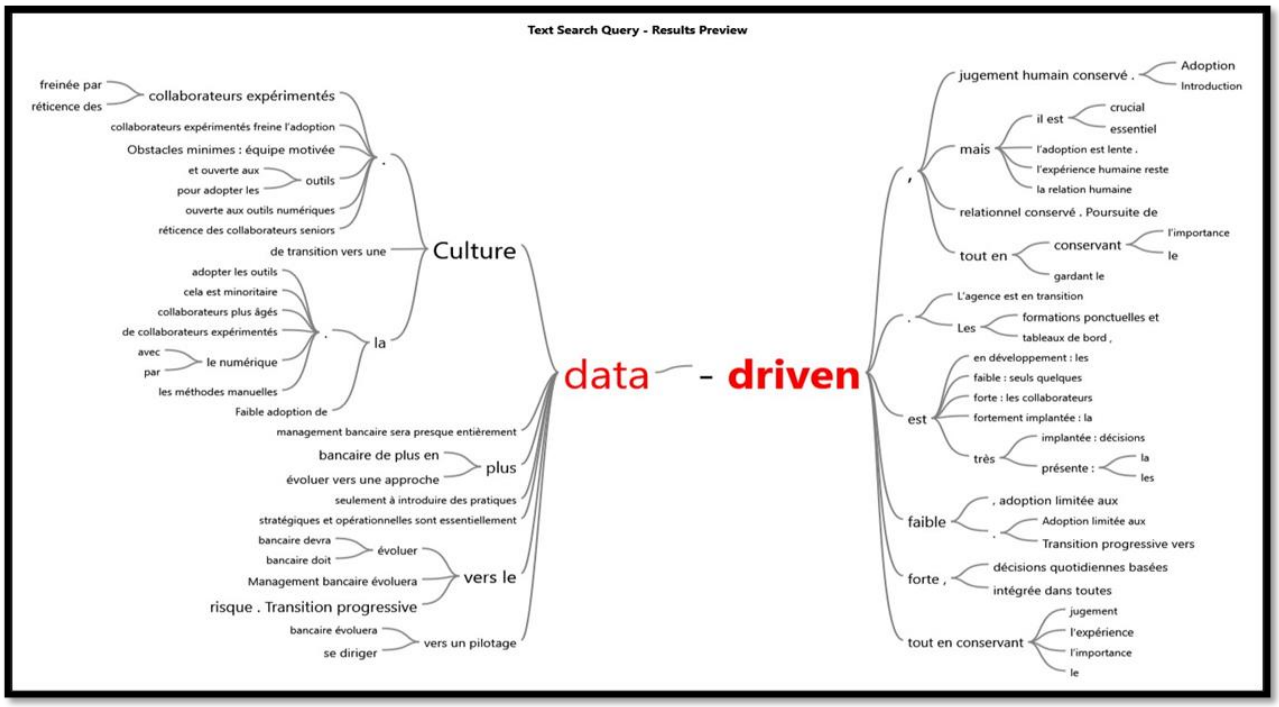
The role of "teams" and "training" is also highlighted, underscoring that building employees' skills is essential for a successful transition to a data-driven culture. Terms such as "coaching," "resistance," and "support" underscore

the human challenges associated with this change and the need for adapted management to foster the adoption of new practices.

Furthermore, the words "planning," "organization," and "priorities" indicate that structuring work around data is a strategic priority for improving productivity and day-to-day decision-making. Finally, the presence of concepts such as "innovation," "performance," and "projects" underscores that digitalization in the banking sector is viewed as a driver of continuous improvement and adaptation to market changes.

Associations and connections between the words used by the interviewees:

Figure 4: WordTree



Source: Output NVivo 12

The concept map highlights that a data-driven approach is part of a broader transition toward a digital culture within banking agencies. The left side of the diagram shows that this digital culture is a necessary foundation, but that its adoption remains uneven. While some teams are open and motivated, resistance from experienced or older employees still hinders the full integration of digital tools. This situation underscores the importance of managerial support, particularly through training and raising awareness of the benefits of technology.

The figure also indicates that the development of a digital culture aims to gradually support data-driven management. Innovations such as the automation of dashboards, real-time monitoring of indicators, or improved reporting are concrete levers that facilitate the shift toward performance- and responsiveness-focused management.

The right side of the diagram, however, reminds us that this transformation cannot occur at the expense of human judgment. The respondents emphasize the need to preserve relational experience and business expertise, which are considered essential in the banking context. Thus, the adoption of a data-driven culture is perceived as gradual and complementary, where data informs decision-making without replacing it.

Overall, the mapping reveals a gradual transition, marked by adoption that is still partial but growing, and based on a balance between digital tools, human skills, and organizational practices. It confirms that the shift to data-driven management depends as much on available technologies as on teams' ability to integrate these new decision-making approaches.

DISCUSSION OF THE RESULTS

The results of the thematic analysis provide nuanced insights into the dynamics of digital transformation in the banking sector. The integration of data into decision-making processes reinforces the idea that digitization promotes more objective and informed decision-making. Managers emphasize the importance of dashboards and automated alerts, which aligns with the work of Gul & Al-Faryan and Paucar et al. on the accuracy of strategic

choices. However, the cultural resistance and challenges related to data quality observed do not fully support this perspective and confirm the findings of Ghafoori et al. on organizational and human obstacles.

Managerial effectiveness is also influenced by digital transformation. Real-time monitoring tools and CRMs improve transparency and responsiveness, which reinforces the contributions of Yang and Dabetić. However, the results show that effectiveness also relies on coaching, training, and support, which reinforces the conclusions of Heubeck and Paspalj. The resistance and low digital literacy observed do not support the idea of automatic effectiveness and align with the reservations of Kraft et al., who note that technology alone is not enough without a proactive strategy.

Digital transformation also influences managerial innovation, but only partially and gradually. The collaborative and agile practices observed reinforce the work of Appio et al. and Chen et al. on the reconfiguration of organizational structures. However, the persistence of traditional hierarchical models does not fully reinforce this dynamic and puts Paspalj's conclusions into perspective. Managerial innovation thus appears to be a process dependent on digital maturity and team autonomy, which reinforces the observations of Ancillai et al. on the conditions for innovation success.

A data-driven culture is being implemented but remains heterogeneous. The importance of training, coaching, and support reinforces the work of Arsal et al. and Trushkina et al. on data literacy. The resistance of experienced employees and the observed digital skills gap do not support the idea of a smooth adoption and confirm the findings of Loeillet and BARC. The analysis highlights that a data-driven culture cannot take root sustainably without explicit governance and awareness-raising, which reinforces the conclusions of Ramadhani & Utami on ethical and organizational challenges.

Finally, digital transformation has an impact on organizational performance, but indirectly. Performance stems from the synergy between data, collaborative practices, and innovation, which reinforces the work of Daud and Rahman et al. on technological integration and competitiveness. Challenges related to resistance to change and the quality of implementation do not fully reinforce this dynamic and align with the analyses of Alkhazali et al. Organizational agility and the gradual adoption of a digital culture emerge as essential mediators, reinforcing the conclusions of Chauhan et al. on the role of big data and agility in improving performance.

Overall, the results reinforce several theoretical contributions regarding the role of digital transformation, while demonstrating that its impact depends heavily on human, organizational, and cultural factors. The success of data-driven banking management relies on alignment between technology, skills, and organizational culture, where data becomes a true strategic lever for performance and innovation.

CONCLUSION

The analysis conducted as part of this research highlights the central role of digital transformation in reshaping managerial and decision-making practices within the banking sector. Far from being merely a technological integration initiative, this transformation appears to be a systemic process that simultaneously engages organizational, cultural, and human dimensions. The results show that digitalization acts as a catalyst for change, redefining work routines, management methods, and forms of coordination among stakeholders, while gradually establishing a decision-making culture oriented toward the strategic use of data.

Data-driven decision-making practices play a decisive role in this dynamic. They promote the objectification of decisions, the anticipation of risks, and improved performance monitoring thanks to the increased availability of reliable and structured information. However, their implementation is neither an automatic process nor a uniform evolution. It remains contingent on the level of digital maturity within organizations, the quality of data governance, the availability of analytical skills, and the ability of stakeholders to adapt to new decision-making frameworks. In this regard, the presence of cultural resistance and the persistence of practices rooted in intuition or experience reflect the tensions inherent in any large-scale organizational transformation.

This study also confirms the pivotal role of managerial innovation and effective leadership in the success of the digital transition. When digitalization is accompanied by an evolution in leadership styles, investment in training, change management support, and a commitment to continuous learning, the effects on organizational performance become tangibly evident, particularly in terms of productivity, customer satisfaction, and decision-making agility. Conversely, in environments where these conditions are not met, digital tools tend to remain underutilized, reducing digitalization to a secondary role and limiting its impact on results.

On a theoretical level, the research contributes to a deeper understanding of the links between digital transformation and data-driven decision-making practices, highlighting the importance of human and organizational mediations in the effectiveness of technological systems. Empirically, the study offers contextualized insights into the specificities of the Moroccan banking sector, demonstrating that branches serve as a prime setting for observing the dynamics of adoption and the tensions associated with digital change. It invites us to reconsider

digital transformation not as an end in itself, but as an evolving trajectory, made up of adjustments, learning, and negotiations among stakeholders.

Finally, this research opens up several avenues for further investigation. It would be worthwhile to deepen the analysis of data governance mechanisms, to examine more closely the differentiated effects of digital transformation according to managers' profiles, or to study the links between organizational culture, digital leadership, and sustainable performance. Similarly, the interplay between human judgment and analytical decision-making deserves renewed attention, in order to develop a hybrid model where data informs action without replacing professional expertise. In this sense, banking management in the digital age represents not merely a change in tools, but a shifting of boundaries between technology, strategic steering, and human intelligence.

REFERENCES

Alkhazali, Z., Al-Aqrabawi, R., Al-Abbadi, L., Rumman, A., & Alshawabkeh, R. (2025). Sustainability strategy: Potential moderating role in the relationship between digital transformation and organizational performance among the Jordanian commercial banks. Humanities and Social Sciences Letters. https://doi.org/10.18488/73.v13i2.4179

Alrousan, A., Aloqaily, A., & Tawalbeh, J. (2025). Enhancing Organizational Effectiveness Through Digital HR Transformation. Journal of Posthumanism. https://doi.org/10.63332/joph.v5i5.1519

Ancillai, C., Sabatini, A., Gatti, M., & Perna, A. (2023). Digital technology and business model innovation: A systematic literature review and future research agenda. Technological Forecasting and Social Change. https://doi.org/10.1016/j.techfore.2022.122307

Appio, F., Frattini, F., Petruzzelli, A., & Neirotti, P. (2021). Digital Transformation and Innovation Management: A Synthesis of Existing Research and an Agenda for Future Studies. Journal of Product Innovation Management, 38, 4-20. https://doi.org/10.1111/jpim.12562

Arner, D. W., Barberis, J., & Buckley, R. P. (2016). The Evolution of Fintech: A New Post-Crisis Paradigm? Georgetown Journal of International Law, 47(4), 1271–1319.

Arsal, R., Durdu, H., & Tongarlak, M. (2022). Organizational Enablers of Data-Driven Digital Transformation: A Case Study from Banking Industry. 2022 IEEE Technology and Engineering Management Conference (TEMSCON EUROPE), 210-216. https://doi.org/10.1109/temsconeurope54743.2022.9802044

Bharadwaj, A., El Sawy, O. A., Pavlou, P. A., & Venkatraman, N. (2013). Digital Business Strategy: Toward a Next Generation of Insights. MIS Quarterly, 37(2), 471–482.

Biletskyi, O. (2025). MANAGEMENT OF INNOVATIVE ACTIVITY OF ENTERPRISES IN THE CONTEXT OF DIGITAL TRANSFORMATION. MODELING THE DEVELOPMENT OF THE ECONOMIC SYSTEMS. https://doi.org/10.31891/mdes/2025-16-41

Bresciani, S., Huarng, K., Malhotra, A., & Ferraris, A. (2021). Digital transformation as a springboard for product, process and business model innovation. Journal of Business Research. https://doi.org/10.1016/j.jbusres.2021.02.003

Brynjolfsson, E., & McAfee, A. (2014). The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies. W. W. Norton & Company.

Butt, A., Imran, F., Helo, P., & Kantola, J. (2024). Strategic design of culture for digital transformation. Long Range Planning. https://doi.org/10.1016/j.lrp.2024.102415

Chauhan, R., Thangavelu, C., & Thangarajan, R. (2025). Strategic Orientation, Digital Transformation Capabilities, and Their Impact on Organizational Performance: A Comprehensive Analysis. Journal of Information Systems Engineering and Management. https://doi.org/10.52783/jisem.v10i23s.3752

Chen, A., Li, L., & Shahid, W. (2024). Digital transformation as the driving force for sustainable business performance: A moderated mediation model of market-driven business model innovation and digital leadership capabilities. Heliyon, 10. https://doi.org/10.1016/j.heliyon.2024.e29509

Chen, H., Chiang, R. H. L., & Storey, V. C. (2012). Business Intelligence and Analytics: From Big Data to Big Impact. MIS Quarterly, 36(4), 1165–1188.

Dabetić, A. (2024). The impact of digital transformation on organizational structure and decision-making processes. Ekonomski pogledi. https://doi.org/10.5937/ep26-53827

Daud, I. (2024). THE EFFECT OF DIGITAL TRANSFORMATION ON ORGANIZATIONAL PERFORMANCE: A META ANALYSIS. DiE: Jurnal Ilmu Ekonomi dan Manajemen. https://doi.org/10.30996/die.v15i1.10643

Davenport, T. H., & Harris, J. G. (2007). Competing on Analytics: The New Science of Winning. Harvard Business School Press.

Davenport, T. H., & Prusak, L. (1998). Working Knowledge: How Organizations Manage What They Know. Harvard Business School Press.

Deep, G. (2023). Digital transformation's impact on organizational culture. International Journal of Science and Research Archive. https://doi.org/10.30574/ijsra.2023.10.2.0977

Fernández-Vidal, J., Perotti, F., González, R., & Gascó, J. (2022). Managing digital transformation: The view from the top. Journal of Business Research. https://doi.org/10.1016/j.jbusres.2022.07.020

Ghafoori, A., Gupta, M., Merhi, M., Gupta, S., & Shore, A. (2024). Toward the role of organizational culture in data-driven digital transformation. International Journal of Production Economics. https://doi.org/10.1016/j.ijpe.2024.109205

Grimaldi, M., Troisi, O., Papa, A., & De Nuccio, E. (2025). Conceptualizing data-driven entrepreneurship: from knowledge creation to entrepreneurial opportunities and innovation. The Journal of Technology Transfer. https://doi.org/10.1007/s10961-024-10176-5

Gul, R., & Al-Faryan, M. (2023). From insights to impact: leveraging data analytics for data-driven decision-making and productivity in banking sector. Humanities and Social Sciences Communications, 10, 1-8. https://doi.org/10.1057/s41599-023-02122-x

Hess, T., Matt, C., Benlian, A., & Wiesböck, F. (2016). Options for Formulating a Digital Transformation Strategy. MIS Quarterly Executive, 15(2), 123–139.

Heubeck, T. (2023). Managerial capabilities as facilitators of digital transformation? Dynamic managerial capabilities as antecedents to digital business model transformation and firm performance. Digital Business. https://doi.org/10.1016/j.digbus.2023.100053

Kane, G. C., Palmer, D., Phillips, A. N., Kiron, D., & Buckley, N. (2015). Strategy, Not Technology, Drives Digital Transformation. MIT Sloan Management Review and Deloitte University Press.

Kiron, D., Prentice, P. K., & Ferguson, R. B. (2014). The Analytics Mandate. MIT Sloan Management Review, 55(4), 1–25

Ligonenko, L. (2025). DIGITALIZATION IN ENTERPRISE PERFORMANCE MANAGEMENT AND STRATEGY FORMATION: IMPACT AND TRANSFORMATIONAL POTENTIAL. Economic scope. https://doi.org/10.30838/ep.199.220-227

McAfee, A., & Brynjolfsson, E. (2012). Big Data: The Management Revolution. Harvard Business Review, 90(10), 60–68.

Paspalj, D. (2025). Managerial Styles and Digital Innovation for Sustainable Business Growth. Journal of Agronomy, Technology and Engineering Management (JATEM). https://doi.org/10.55817/tnen6732

Paucar, L., Larico, J., Hancco, C., & Apaza, J. (2025). Impact of Digital Transformation on Administrative Management: Perspectives from Cloud Computing and Big Data in Industry 4.0. Journal of Ecohumanism. https://doi.org/10.62754/joe.v4i2.5932

Provost, F., & Fawcett, T. (2013). Data Science for Business: What You Need to Know About Data Mining and Data-Analytic Thinking. O'Reilly Media.

Qiao, G., Li, Y., & Hong, A. (2024). The Strategic Role of Digital Transformation: Leveraging Digital Leadership to Enhance Employee Performance and Organizational Commitment in the Digital Era. Syst., 12, 457. https://doi.org/10.3390/systems12110457

Rahman, A., Esa, N., & Ahmad, N. (2024). THE EFFECTIVENESS OF DIGITAL TRANSFORMATION ON ORGANIZATIONAL PERFORMANCE: A LITERATURE REVIEW. International Journal of Entrepreneurship and Management Practices. https://doi.org/10.35631/ijemp.725018

Ramadhani, Y., & Utami, D. (2025). Digital Transformation and Change Management: An Analysis of the Impact of Artificial Intelligence and Big Data Implementation on Organizational Performance. Maneggio. https://doi.org/10.62872/tsp44n91

Ristanović, V., Primorac, D., & Mulović Trgovac, A. (2025). Blockchain and Fintech Synergies in Emerging Economies. Journal of Banking Innovation, 12(1), 45–62.

Schein, E. H. (2010). Organizational Culture and Leadership. Jossey-Bass.

Tapscott, D., & Tapscott, A. (2018). Blockchain Revolution: How the Technology Behind Bitcoin and Other Cryptocurrencies is Changing the World. Penguin.

Tarasov, S. (2024). IMPACT OF DIGITAL TECHNOLOGIES ON CHANGE MANAGEMENT AND DEVELOPMENT OF INNOVATIVE CULTURE. Business Navigator. https://doi.org/10.32782/business-navigator.76-37

Teng, X., Wu, Z., & Yang, F. (2022). Research on the Relationship between Digital Transformation and Performance of SMEs. Sustainability. https://doi.org/10.3390/su14106012

Trushkina, N., Abazov, R., Rynkevych, N., & Bakhautdinova, G. (2020). Digital Transformation of Organizational Culture under Conditions of the Information Economy. Virtual Economics. https://doi.org/10.34021/ve.2020.03.01(1)

Wang, S., & Zhang, H. (2024). Enhancing SMEs Sustainable Innovation and Performance through Digital Transformation: Insights from Strategic Technology, Organizational Dynamics, and Environmental Adaptation. Socio-Economic Planning Sciences. https://doi.org/10.1016/j.seps.2024.102124

Yang, H., Liu, X., Meng, Y., Feng, B., & Chen, Z. (2024). Digital transformation and the allocation of decision-making rights within business groups – Empirical evidence from China. Journal of Business Research. https://doi.org/10.1016/j.jbusres.2024.114715

Yang, X. (2025). The Role of Data-Driven Decision-Making in Corporate Digital Transformation. Studies in Social Science & Humanities. https://doi.org/10.63593/sssh.2709-7862.2025.05.004

Zetzsche, D. A., Buckley, R. P., & Arner, D. W. (2020). Open Banking, RegTech and the Future of Financial Regulation. European Economy, 2020(2), 29–40.

