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THE TRANSFORMATIVE EFFECT OF COGNITIVE BIASES AND THE DIGITALIZATION PROCESS ON FIRM PERFORMANCE

BİLİŞSEL ÖNYARGILAR VE DİJİTALLEŞME SÜRECİNİN FİRMA PERFORMANSI ÜZERİNDEKİ DÖNÜŞTÜRÜCÜ ETKİSİ

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Abstract

The digitalization process is a transformation that deeply affects companies' business practices and strategic decision-making mechanisms. It is not limited to the adoption of technological innovations but also includes the cognitive biases that influence managers' decision-making processes. The aim of this study is to deeply understand the effects of cognitive biases and the digitalization process on company performance. To explore the transformational effects of digitalization on companies and the role of cognitive biases in this process, qualitative data collection and analysis methods were used. For the research, companies that have adopted the digitalization process and are influenced by cognitive biases during this process were selected. The participants, chosen through purposeful sampling, consisted of managers, top decision-makers the digitalization processes from companies of various sizes and sectors. The firms vary in terms of size and industry, and a participant count of 15 has been reached to allow for in-depth analysis. The study employed a semi-structured interview technique. The collected data were analyzed using thematic analysis, and the identified themes were interpreted to understand the relationship between digitalization and cognitive biases. The research findings reveal that cognitive biases pose a significant barrier in the digitalization processes. As a result of the study, strategies and recommendations have been presented to reduce cognitive biases among top-level managers in firms and to enhance the digitalization process.

Keywords: Digitalization, Cognitive Biases, Firm Performance, Perceived Lack of Control.

Öz

Dijitalleşme süreci firmaların iş yapış biçimlerini ve stratejik karar alma mekanizmalarını derinden etkileyen bir dönüşüm, sadece teknolojik yeniliklerin benimsenmesiyle sınırlı kalmayıp, aynı zamanda yöneticilerin karar alma süreçlerinde etkili olan bilişsel önyargıları da kapsamaktadır. Çalışmanın amacı, bilişsel önyargıların ve dijitalleşme sürecinin firma performansı üzerindeki etkilerini derinlemesine anlamaktır. Dijitalleşmenin firmalar üzerindeki dönüşüm etkilerini ve bilişsel önyargıların bu süreçteki rolünü keşfetmek amacıyla, nitel veri toplama ve analiz yöntemleri kullanılmıştır. Araştırma için dijitalleşme sürecini benimsemiş ve bu süreçte bilişsel önyargılardan etkilenen şirketler seçilmiştir. Amaçlı örnekleme yoluyla seçilen katılımcılar, farklı büyüklüklerde ve sektörlerdeki şirketlerden dijitalleşme süreçlerini yönlendiren yöneticiler, üst düzey karar vericilerden oluşmuştur.Firmalar büyüklük ve sektör açısından farklılık göstermektedir ve derinlemesine analiz yapılabilmesi için 15 katılımcı sayısına ulaşılmıştır.Çalışmada yarı yapılandırılmış görüşme tekniği kullanılmıştır. Toplanan veriler, tematik analiz yöntemiyle analiz edilmiş, ve belirlenen temalar, dijitalleşme ve bilişsel önyargılar arasındaki ilişkiyi anlamak amacıyla yorumlanmıştır. Araştırma bulguları, bilişsel önyargıların dijitalleşme süreçlerinde önemli bir engel oluşturduğunu ortaya koymaktadır. Sonuçlarda, firmalardaki üst düzey yöneticilerinin bilişsel önyargılarını azaltmaya ve dijitalleşme sürecini etkinleştirmeye yönelik stratejiler ve öneriler sunulmuştur.

Anahtar Sözcükler: Dijitalleşme,Bilişsel Önyargılar,Firma Performansı,Algılanan Kontrol Eksikliği

INTRODUCTION

With the influence of technological advancements and globalization, digitalization elements have become fundamental pillars of the business world in recent years. To make their business processes more efficient, competitive, and flexible, as well as to enhance operational productivity, improve customer satisfaction, and develop new business models, firms have been compelled to adopt digital transformation strategies. For companies to implement their digitalization strategies effectively, not only technological investments but also elements such as organizational change management and human resource development have become critically important (Fitzgerald et al., 2014).

However, digitalization brings various challenges for businesses. In addition to technical obstacles such as transitioning from legacy systems to modern systems and the need to train employees to adapt to new technologies, human factors like cognitive biases in decision-making emerge as the most significant barriers in companies' digital journeys. These barriers make it difficult for firms to implement digital transformation effectively (Kane et al., 2015). Moreover, individuals' decision-making processes are often influenced, consciously or unconsciously, by cognitive biases. These biases frequently result in missed opportunities and the misallocation of resources (Kahneman, 2011). In this context, digitalization, through the use of tools provides powerful mechanisms to help companies make more rational and objective decisions, thereby playing a critical role in overcoming these problems. However, there is limited research in the literature aimed at developing strategies to help firms address these challenges(Vial,2019; Brynjolfsson and Hitt, 2000; Moore, 2012; Tversky,1974),

Vial (2019), in the article *"Understanding Digital Transformation: A Review and a Research Agenda,"* comprehensively examined the effects of digital transformation processes on organizations. The study highlighted that digitalization requires strategic transformation and has long-term impacts on firm performance. Similarly, Brynjolfsson and Hitt (2000), in their work *"Beyond Computation: Information Technology, Organizational Transformation, and Business Performance,"* explored how digitalization transforms business processes and emphasized the positive effects of information technologies on firm performance. They underscored the role of digitalization in enhancing operational efficiency, innovation, and competitiveness. Bazerman and Moore (2012), in their work *"Judgment in Managerial Decision Making,"* addressed how cognitive biases influence managers' decision-making processes and the implications for organizational transformation. They focused on how biases can slow down innovation processes during the adoption of digitalization. Kahneman and Tversky (1974), in their seminal work *"Judgment under Uncertainty: Heuristics and Biases,"* analyzed the impact of cognitive biases on decision-making processes. Their findings provided insights into how decision-makers are affected by biases such as status quo bias, confirmation bias, and overconfidence during digital transformation processes. These studies collectively emphasize significant gaps in the literature and highlight the importance of examining these topics in future research. The recommendations from these prior studies form the foundational factors driving the purpose of this article. Drawing upon these suggestions, the theoretical framework of this research has been established.

The aim of this study is to understand the effects of cognitive biases and the digitalization process on firm performance. To explore the transformative effects of digitalization on firms and the role of cognitive biases in this process, qualitative data collection and analysis methods were employed, and the study was conducted within the framework of a phenomenological research design. For the research, firms that have embraced the digitalization process and have been influenced by cognitive biases during this journey were selected through a systematic sampling method and analyzed using qualitative research techniques. The purposive sampling method was chosen to ensure that firms meeting specific criteria were selected in a balanced and representative manner in the study. In order to gain detailed information about participants' perceptions of the digitalization process, the challenges they encountered, and the impact of cognitive biases during this process, a semi-structured interview technique was used during data collection. The collected data were analyzed using thematic analysis, and the identified themes were interpreted to understand the relationship between digitalization and cognitive biases.

COGNITIVE BIASES

Cognitive biases can be defined as mental shortcuts or deviations that lead to systematic errors in the

information processing of individuals. These biases, which affect decision-making processes, can lead both individuals and organizations to make subjective and irrational decisions. As Ariely (2009) states, "Cognitive biases often prevent people from making rational decisions, despite their best efforts." This study, while addressing the entire literature, is based on Tversky and Kahneman's (1974) previous research on heuristic methods and biases in the context of selecting cognitive biases. While the general overview of cognitive biases is not exhaustive, the literature identifies certain biases such as perceived control deficiency and herd behavior, which influence decisions in communication with customers. These biases are often referred to as fixed-slice (fixed-pizza) biases.

Based on this foundation, the study focuses on three cognitive biases: perceived control deficiency, herd behavior, and the fixed-slice bias. Detailed explanations of these cognitive biases are provided in the following section.

Perceived Control Deficiency

Perceived Control Deficiency is described because the tendency of people to underestimate their manipulate over occasions. Evidence indicates that human beings have a tendency to downplay their manipulate in conditions wherein they surely have it (Gino, Sharek, and Moore, 2011). Perceived Control Deficiency is the notion of an man or woman approximately who can manipulate and affect outcomes (Rotter, 1966). According to Rotter, people with an inner locus of manipulate sense assured that they are able to actively affect outside occasions via their movements and behaviors. On the contrary, people with an outside locus of manipulate understand that luck, chance, or the movements of others form outside occasions that they passively ought to endure. It need to be cited that Perceived Control Deficiency can range on a continuum, with one intense representing a totally inner recognition and the alternative intense representing a totally outside recognition (Rotter, 1966).

In the digitalization process, firms often encounter cognitive biases that shape their decision-making and strategic approaches. These biases can influence how managers perceive control over outcomes and how they respond to industry trends. Understanding these psychological tendencies is crucial for evaluating their impact on firm performance. While Perceived Control Deficiency affects how individuals assess their influence over events, Herding bias leads decision-makers to follow majority behavior rather than independent analysis. Both biases can significantly alter a firm's digital transformation journey, affecting innovation, competitiveness, and strategic adaptability (Dolan & Simon,1996)

Herding

Herding is described as basing selections at the discovered movements of the bulk, assuming that the selections made with the aid of using the bulk offer precious records for the decision-making processes. Dolan & Simon (1996) stated that managers frequently specific this as "we need to suit our competitor." This tendency to enroll in the herd can cross past character managerial bias and come to be institutionalized. In their study, Lancioni (2005) discovered that a widespread challenge of organisation committees is to reply to competition, which serves as brief proof of herding. The fundamental problem with herding is its reactive nature and the ability forget of precious records approximately fees and client segments.

Although a organisation`s achievement is partly depending on carrying out complete aggressive analysis, companies that surely suit competition' expenses without thinking about fees and client elements are mimicking their competition in preference to studying them, indicating herd mentality in preference to competition-primarily based totally pricing (Johansson et al., 2012). Therefore, charge herding does now no longer create competition-primarily based totally pricing. Most studies indicates that charge herding is performed out of habit, now no longer strategically (Rusetski, 2014). As a result, herd mentality is narrow-minded as it generally ignores widespread product features (Shapiro & Jackson, 1978). Hence, it's miles critical for companies to apprehend product variations and withstand aggressive charge pressure.

During times of crisis, decision-makers often face uncertainty and pressure, which can lead to cognitive biases that hinder strategic thinking. The inability to recognize and capitalize on emerging opportunities

is a clear manifestation of these biases. For instance, managers influenced by loss aversion may focus excessively on minimizing risks rather than exploring potential gains, causing them to miss valuable opportunities for growth and innovation. Similarly, confirmation bias may lead firms to rely on outdated strategies instead of adapting to new market conditions. As a result, cognitive biases can prevent companies from making proactive and forward-thinking decisions, ultimately affecting their competitiveness and long-term success(Hinterhuber & Liozu, 2012).

Fix Slice Bias

The fixed-slice bias is defined as "the judgment that one's interests are in opposition to the interests of competitors" (Gelfand & Christakopoulou, 1999). Rubin (2003) argues that during the evolutionary process of the human brain, it developed in a way that allowed it to handle simple types of exchanges, suited to the conditions of small, portable hunter-gatherer societies. In this context, evolutionary psychology can provide a strong foundation for explaining the focus on transactional and distributive changes in human relationships. Rubin states that people often approach situations with a thinking style called "fixed-pie reasoning." This logic is based on the assumption that in a change or negotiation situation, the resources are limited and one party's gain means the other party's loss. However, Rubin emphasizes that in the evolutionary process, our ancestors were not limited to this simple logic. He suggests that more complex types of exchanges, known as positive-sum games, where both parties can benefit, are cognitively more difficult to understand. Nevertheless, he proposes that such exchanges could have been intuitively understood by our ancestors if needed. Consequently, Rubin argues that evolutionary psychology can explain not only individual decision-making and exchange mechanisms but also behavioral patterns in business relationships. From this perspective, the challenges encountered at the organizational level aside, the focus on transactional and distributive changes may trace back to the evolutionary adaptation processes of the human brain. This suggests that the behavior patterns and strategies observed in the business world are influenced by the evolutionary foundations of human nature.

DIGITALIZATION

Digitalization is the process through which companies reshape their business processes with the help of digital technologies. Digitalization goes beyond just transferring analog processes to a digital environment; it involves using technology to create more efficient, flexible, and competitive business models. This process can fundamentally change companies' product development, customer management, supply chain, and decision-making mechanisms. Digitalization is important for reasons such as increasing efficiency, enhancing customer experience, and gaining a competitive advantage (Matt et al., 2015). The digitalization process can impact firm performance in various ways. Automation and digital tools accelerate processes and reduce error rates. With reduced dependence on physical infrastructure and optimized processes, costs decrease. Digitalization also creates new revenue models and channels for delivering products/services. It speeds up new product and service development processes and encourages creativity (Vial, 2019).

Challenges that companies may face during the digitalization process include situations where small firms cannot keep up with larger players due to a lack of resources. Additionally, challenges include the protection of digital data and measures against cyberattacks, difficulties in employee adaptation to new technologies, and the high initial costs of digital transformation projects. While digitalization is a transformation process that can provide firms with a wide range of advantages, such as operational efficiency, cost reduction, and market competition, just like firms, employees, and competitors in the digitalization phase, it is crucial for managers to avoid being influenced by cognitive biases in their decision-making processes in order to benefit from these advantages. Although the effects of digitalization on firm performance are discussed in various aspects in the literature, the role of cognitive biases in these effects has been inadequately explored. Digitalization is inherently linked with cognitive biases in various ways that can influence firm performance, especially during decision-making processes. As companies adopt new technologies and processes, managers and employees may unknowingly fall prey to biases that hinder effective implementation. For example, cognitive biases such as confirmation bias can lead decision-makers to seek information that supports their preconceived notions about digital technologies, instead of objectively evaluating the full range of available data.

Similarly, anchoring bias could result in an overreliance on initial assessments or past experiences, preventing firms from fully embracing new digital solutions or adapting to changing technological landscapes. These biases, if left unchecked, can obstruct the company's ability to realize the full potential of digitalization, leading to missed opportunities, inefficiencies, or incorrect strategic decisions. Moreover, the digitalization process itself can exacerbate cognitive biases due to the complex and fast-paced nature of technological advancements. Managers, overwhelmed by the rapid influx of new digital tools and methodologies, may feel a loss of control, which can heighten their reliance on cognitive shortcuts or heuristics to make decisions. For instance, the uncertainty associated with new technologies and processes can trigger the use of default strategies, which might not be suitable in a digital context. This can lead to herd behavior, where companies blindly follow competitors' actions without fully understanding their unique needs or circumstances. Addressing these cognitive biases is crucial for firms to harness the transformative power of digitalization and achieve sustainable competitive advantages. Integrating awareness of these biases into the digital transformation process will help mitigate their negative effects and enable more rational, data-driven decision-making(Cavusoglu et al., 2004).

FIRM PERFORMANCE

Firm overall performance, described as "the diploma to which the enterprise achieves its dreams or goals inside a selected period," is a critical however hard idea to degree for businesses. The significance of defining and measuring organization overall performance stems from the truth that overall performance development is on the center of strategic management. For this reason, it's miles taken into consideration a key variable. Firm overall performance is decided thru dimension, comparison, or evaluation, and dimension is normally preferred (Ceylan, 2001). Business overall performance may be measured thru foremost approaches: subjective and goal scales. The subjective technique is based at the critiques and predictions acquired from people requested to evaluate enterprise overall performance. The goal technique, on the opposite hand, is based on real data, both via way of means of asking the person/human beings to record particular values or via way of means of having access to secondary sources, independently observed (Brown, 2003).

METHODOLOGY AND FINDINGS

The qualitative research method is an appropriate approach for understanding individuals' experiences, perceptions, and perspectives. In order to explore the transformation effects of digitalization on companies and the role of cognitive biases in this process, qualitative data collection and analysis methods have been employed in the study. The research was conducted within the framework of a phenomenological research design. The phenomenological approach offers an in-depth examination to understand how the research topic is experienced by the participants, how these experiences reflect on company performance, and how they are shaped during the digitalization process. For the research, companies that have adopted the digitalization process and are influenced by cognitive biases during this process were selected. The participants, chosen through purposeful sampling, consisted of managers, top decision-makers, and individuals guiding the digitalization processes from companies of various sizes and sectors. The selected firms varied in terms of size and industry, with at least one manager or decision-maker selected from each firm, resulting in a participant count of 15 to allow for in-depth analysis.

During the data collection process, semi-structured interviews were used, and each interview was planned to last approximately 30 minutes. Prior to each interview, participants' consent was obtained, and all interviews were recorded. Semi-structured interviews provided an environment where participants could freely express their experiences and the researcher could ask in-depth questions on specific themes. This allowed for detailed information to be gathered about the participants' perceptions of the digitalization process, the challenges they encountered, and the impact of cognitive biases in this process. During the interviews, questions were asked on the following key topics.

- How did the digitalization process start in your company, and which digital tools were used?
- What challenges were encountered during the digitalization process?
- Which cognitive biases do you think influence decision-making processes?
- How do cognitive biases shape the digitalization process?

- How did the digitalization process affect company performance, and in which areas were improvements or challenges experienced?

The collected data were analyzed using thematic analysis. Thematic analysis allows for the categorization of qualitative data into meaningful patterns and themes. This approach helps the researcher identify specific topics, attitudes, experiences, and themes from the data gathered during the interviews. In the analysis process, after the interviews were recorded, all of them were transcribed. The transcribed data were categorized according to pre-determined topics, and key themes related to the participants' experiences, cognitive biases, and company performance in the digitalization process were extracted. After coding, the obtained data were grouped into main themes and subthemes. The themes identified through thematic analysis were interpreted to understand the relationship between digitalization and cognitive biases. Based on the data obtained from the coding process, main themes and subthemes were defined. The main themes include the effects of the digitalization process on company performance, challenges encountered during the digitalization process, the role of cognitive biases in the digitalization process, and their effects on company performance. In the following section, participants' thoughts on these main themes and subthemes are presented.

Effects of the Digitalization Process on Company Performance

The subthemes identified under this main theme are the use of digital tools, productivity and cost optimization, and factors influencing performance improvement. The data obtained from these subthemes are explained below:

Use of Digital Tools: Participants emphasized how the tools used in the digitalization process impacted their performance, particularly how tools such as ERP systems, CRM software, and cloud technologies optimized business processes. Additionally, it was highlighted that the use of artificial intelligence-supported analytical tools and automation systems helped speed up decision-making processes, with some participants noting that big data analytics played a crucial role in better understanding customer behavior.

Productivity and Cost Optimization: Participants stated that digitalization reduced operational costs for businesses and increased process efficiency, particularly contributing to cost reduction and productivity improvement in production and logistics processes. Moreover, they noted that by minimizing human error and improving workflows, significant improvements in labor productivity were achieved.

Factors Influencing Performance Improvement: Participants explained that digitalization led to faster decision-making mechanisms and increased customer satisfaction. In evaluating the impact of digitalization on performance improvement, they emphasized the importance of real-time data analytics and rapid decision-making mechanisms, as well as the implementation of innovative solutions, which significantly increased customer satisfaction.

Challenges Encountered in the Digitalization Process

The subthemes identified under this main theme are technical and operational barriers, human resource and training deficiencies, and high costs and investment risks. The data obtained from these subthemes are explained below:

Technical and Operational Barriers: Participants pointed out that technological infrastructure deficiencies posed a significant barrier in the digitalization process. It was found that some companies faced serious challenges in transitioning from outdated infrastructure to modern digital systems. Additionally, participants mentioned that technical shortcomings in developing industry-specific software slowed down the process.

Human Resource and Training Deficiencies: According to participants, one of the biggest factors affecting the digitalization process was the challenges faced by employees in adapting to new technologies. It was noted that more training was needed for employees to adapt to digital tools, and in companies with low digital literacy, the digitalization process took longer and was sometimes met with

resistance.

High Costs and Investment Risks: Participants explained that the initial costs of the digitalization process were high, and some companies found the process risky. They highlighted that the high initial costs of digitalization investments and the potential for delayed returns made some companies hesitant to adopt the process.

The Role of Cognitive Biases in the Digitalization Process

The subthemes identified under this main theme are confirmation bias, status quo bias, and overconfidence bias. The data obtained from these subthemes are explained below:

Confirmation Bias: Participants indicated that decision-making in the digitalization process often focuses on information that confirms pre-existing beliefs, with decision-makers tending to focus on data that supports their current strategies and ignoring new ideas. They particularly noted that, in digital transformation processes, there could be a limited perspective when evaluating the potential benefits of innovative technologies.

Status Quo Bias: Analysis revealed that some managers are reluctant to change the status quo and resist the digitalization process. Participants highlighted that, in organizational change processes, some managers tend to maintain the existing order, which hinders digitalization efforts. This tendency was particularly noticeable in established companies.

Overconfidence Bias: Participants emphasized that some decision-makers acted overly optimistic during the digitalization process, leading to resource wastage. They mentioned that excessive optimism in digitalization processes resulted in both financial and time-related resource waste. This was especially the case due to a lack of proper planning and strategy, which led to unforeseen costs and operational issues.

Effects on Company Performance

The subthemes identified under this main theme are increased customer satisfaction, efficiency in internal processes, innovation, and competitive advantage. The data obtained from these subthemes are explained below:

Increased Customer Satisfaction: Participants stated that digitalization enables companies to provide faster and more effective services to customers. They highlighted that digitalization processes significantly improved customer service, and personalized services increased customer loyalty, particularly emphasizing the impact of e-commerce and digital marketing tools.

Efficiency in Internal Processes: Participants explained that automation and the integration of digital tools into internal processes reduced the workload and minimized errors. They mentioned that the process decreased internal process errors, optimized the workload, took less time, and thus provided a cost advantage.

Innovation and Competitive Advantage: Participants noted that companies implementing digitalization processes developed innovative solutions and gained a competitive advantage. They explained that by using digital tools, companies could obtain significant competitive advantages in the market.

CONCLUSION

This study examined the effects of cognitive biases and digitalization processes on company performance and revealed significant findings. The research results strongly emphasize that digitalization offers numerous advantages to firms, such as operational efficiency, cost optimization, innovation, and competitive strength. However, to fully benefit from these advantages, it is essential for managers and employees to be aware of cognitive biases in decision-making processes and effectively deal with these biases. The findings reveal that cognitive biases pose a significant barrier in digitalization processes. Specifically, the perceived lack of control, the complexity and uncertainty of digitalization

processes, creates a sense of loss of control among managers, negatively affecting decision-making processes. Herd Behavior, the tendency to blindly follow other firms' strategies, may lead companies to adopt solutions that do not suit their own needs. Anchoring Bias, the misallocation of limited resources, especially digital transformation investments, can harm other strategic priorities. These biases not only lead to errors in decision-making processes but also prevent companies from fully evaluating the opportunities that digitalization provides.

Additionally, the research identified that factors such as technical, financial, and human resource deficiencies create significant challenges in digitalization processes. Technical infrastructure shortcomings, the lack of suitable infrastructure for advanced digital technologies, restrict the feasibility of processes. Training and human resources in digital transformation require not only technology but also the adaptation of employees to these technologies. A lack of training can lead to resistance to change and a loss in efficiency. Financial challenges, including high initial costs for digitalization processes, constitute a significant barrier, particularly for small and medium-sized enterprises. These costs include investments in technological infrastructure, specialized consulting services, and the retraining of employees.

Based on these findings, the following strategies can be recommended for companies to successfully implement digitalization processes and minimize the impact of cognitive biases:

Strategies to Reduce Cognitive Biases: Cognitive biases are psychological tendencies that lead individuals to be influenced by certain perceptions and false beliefs, rather than rational thinking, in their decision-making processes. These biases are a significant factor that prevents managers and employees from effectively evaluating digitalization processes. Cognitive biases not only shape decision-making processes but also influence the perception of risks in digitalization processes. The limitations of managers and employees' existing knowledge and experience can trigger cognitive biases when evaluating digitalization and technology investments. Managing these biases is critical for reducing errors in digitalization processes. Biases can lead managers to focus only on data that supports their assumptions and beliefs, thus ignoring the different perspectives needed for digital transformation. Cognitive biases are a major obstacle in strategic change processes. In this context, strategies to reduce biases should include: organizing training sessions for managers and employees about cognitive biases, and implementing awareness programs on how to overcome these biases. These training programs will help individuals understand how biases affect decision-making in digitalization processes. Additionally, data-driven decision-making methods should be used, and objective data and analysis should be utilized as key tools to minimize biases.

To manage the digitalization process effectively, cognitive biases must be more clearly defined and managed. This is not only a technological transformation but also a cultural and human-centered transformation process. By being aware of biases, investments should be made in both human resource management and cultural transformation alongside technological infrastructure. In this way, companies can fully benefit from digitalization processes. Integrating strategic change into corporate culture will play a critical role in minimizing the impact of biases.In conclusion, the definition of cognitive biases in the digitalization process, as well as a deeper discussion on how these biases hinder companies' strategic transformation and limit digitalization opportunities, is essential. Companies should not only focus on technological investments but should also adopt a systematic approach to eliminate cognitive biases that affect decision-making processes. This will allow for the more efficient use of the opportunities offered by digitalization.

Training and awareness programs should be implemented to educate both managers and employees about cognitive biases, explaining how these biases affect decision-making processes. Data-driven decision-making methods should be used to minimize biases in decision-making, utilizing objective data analysis tools. Big data analytics and artificial intelligence can make decision-making processes more rational. Additionally, external expert support can help by offering independent opinions from external consultants and specialists, which can reduce the effects of herd behavior and confirmation bias.

Strategies to Activate the Digitalization Process: With comprehensive strategic planning, the digitalization process should align with company goals and be implemented through clear phases. Before large-scale transformation initiatives, pilot projects should be conducted to test the feasibility and impact of the technology. Increasing employee participation is essential for active involvement in the change process, with resistance points identified early and addressed. For small and medium-sized enterprises (SMEs), support mechanisms, including government incentives and support programs, are crucial to helping these companies overcome digitalization costs.

This research shows that digitalization is not just a technological integration for firms but also a strategic transformation process. However, this process is not limited to technological investments; it also requires awareness and management of cognitive biases. For companies to fully benefit from digitalization, they must eliminate biases from decision-making processes, focus on human resources and cultural transformation while investing in technological infrastructure, and adopt digitalization as a sustainable strategic priority. In order for the idea of strategic change to spread throughout the organization, the decisions made by top management must be embedded in the corporate culture. Companies should focus not only on the potential of digitalization but also on how it affects decision-making processes and how these processes can be made more rational. This will contribute to both short-term operational success and long-term strategic transformation goals.

Although the study has explored the effects of cognitive biases in the digitalization process, digitalization has broader and more multifaceted effects on businesses. Digitalization is not only about adopting new technologies but also a transformation process where organizational structures, business models, and strategies align with the evolving digital environment. Therefore, a deeper examination is needed of how digitalization affects not only operational processes but also corporate culture, leadership, and employee engagement. A more detailed analysis of the technological, strategic, and human factors involved in the digitalization process will provide a more comprehensive understanding of the challenges and opportunities. By focusing on these aspects, companies can better leverage the full potential of digitalization and turn it into a key to long-term success and innovation.

Future research should explore the interactions between cognitive biases and digitalization in various industries to fill knowledge gaps in this area. Furthermore, investigating digitalization dynamics in different geographic regions and according to company sizes for future studies is also recommended.

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