Organizational DNA as a Mediating Variable in the Relationship Between Knowledge Management and Outstanding Performance: An Application to Egyptian Public Banks

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Organizational DNA as a Mediating Variable in the Relationship Between Knowledge Management and Outstanding Performance: An Application to Egyptian Public Banks

Dr. Ibrahim Reda Ibrahim Helal and Dr. Lubna Abu El-Ela Salem

Abstract

Purpose – This research seeks to analyze the direct impact of Knowledge Management on Organizational DNA, examine the influence of Organizational DNA on Outstanding Performance, and determine the extent to which Organizational DNA serves as a mediating factor between these two variables. By addressing these objectives, the study provides valuable insights into optimizing knowledge-based strategies to drive efficiency, innovation, and competitiveness in the banking sector.

Design/methodology/approach – This research relies on the descriptive analytical approach, A total of (302) valid responses were collected for data analysis.

Findings – The findings of this research confirm that Organizational DNA plays a significant mediating role in the relationship between Knowledge Management and Outstanding Performance in Egyptian public banks. The study demonstrates that effective knowledge management enhances Organizational DNA, which in turn positively influences institutional performance. Additionally, the results highlight that a well-structured Organizational DNA strengthens decision-making, leadership effectiveness, and employee engagement, ultimately driving innovation, efficiency, and service excellence. These insights emphasize the need for strategic integration of knowledge management practices to optimize organizational success.

Practical implications – This research provides key managerial insights by highlighting Organizational DNA as a critical enabler in the relationship between Knowledge Management and Outstanding Performance. By integrating structured decision-making processes, leadership strategies, and knowledge-sharing mechanisms, banks can create a positive organizational culture that enhances efficiency, innovation, and long-term performance excellence.

Keywords: Organizational DNA, Knowledge Management, Outstanding Performance, Egyptian Public Banks.

1. Introduction

In recent years, the shift toward a knowledge-based economy has underscored the vital role of knowledge management in improving organizational performance. Amidst the growing influence of globalization, economic liberalization, financial deregulation, and rapid technological progress, organizations have moved beyond dependence on traditional resources to strategically utilizing knowledge as a key asset. This transformation is driven by the need to foster innovation, maintain a competitive edge, and attain exceptional performance.

In recent years, organizations have embraced a new perspective on organizational DNA, recognizing it as a groundbreaking concept that offers an innovative and scientific approach to structuring companies. Originally introduced by Booz Allen Hamilton Co., a prominent management consulting firm in the United States, this concept serves as a metaphorical framework that identifies the core elements shaping an organization's identity, directing its behavior, and impacting its overall effectiveness. Modern organizations must integrate knowledge into their structure, processes, and culture, forming what is known as their organizational DNA. This concept encapsulates the unique blend of systems, values, and knowledge-sharing mechanisms that drive decision-making and adaptability. A well-defined organizational DNA fosters an environment where knowledge management practices enhance human capital efficiency, stimulate innovation, and optimize operational performance (Kawashi, 2017; Muhad, 2017).

The role of organizational DNA as a mediating factor between knowledge management and outstanding performance is evident in how organizations adapt, innovate, and respond to market challenges. A dynamic knowledge management system strengthens the organization's ability to introduce new products, optimize resources, and enhance technological capabilities. This, in turn, ensures sustained competitive positioning in the financial sector, particularly in institutions like Egyptian public banks, which operate in a rapidly evolving environment. Organizational DNA consists of four key components: organizational structure, organizational culture, leadership quality, and organizational justice. The organizational structure represents the formal hierarchy and communication flows within the organization, determining how decisions are made and how responsibilities are distributed. Organizational culture refers to the shared values, norms, and behaviors that define workplace interactions and influence employees'

commitment and motivation. Leadership quality plays a crucial role in inspiring and guiding employees, making strategic decisions, and fostering a positive work environment. Lastly, organizational justice ensures fairness in decision-making, resource allocation, and employee treatment, which significantly impacts job satisfaction and performance (Booz, 2002; Al-Hendawy, 2017).

Several studies highlight the positive correlation between knowledge management and performance excellence, demonstrating that organizations with a well-developed knowledge infrastructure tend to outperform their competitors. Moreover, the ability to effectively manage knowledge translates into superior decision-making, increased innovation capacity, and enhanced customer service—all of which are critical to banking institutions. One of the most compelling examples of organizational DNA in action can be seen in global firms that prioritize knowledge-based innovation. For instance, Toyota has integrated a robust knowledge management framework into its corporate DNA, allocating significant resources to technological advancement. By embedding knowledge-driven decision-making, Toyota has consistently maintained its market leadership through innovation and operational efficiency (Nafei, 2015).

Similarly, Egyptian public banks can leverage organizational DNA to enhance knowledge-sharing mechanisms, streamline operations, and improve service quality. A strong organizational DNA ensures that knowledge management becomes an integral part of the institution's strategic vision, ultimately leading to higher efficiency, customer satisfaction, and long-term sustainability.

1.1. Research problem and significance

In the modern era, organizations are experiencing a transformative phase driven by the extensive use of technology and the rapid advancements brought about by the information revolution. These developments have significantly impacted various sectors, leading to a shift from reliance on tangible assets to the recognition of knowledge and intangible resources as key determinants of organizational growth (Abdillah et al., 2023). Recently, there has been a growing interest in knowledge-based initiatives, particularly within public organizations, as they strive to enhance efficiency and address complex administrative challenges (Zack, McKeen, & Singh, 2009). Among the emerging concepts in this context is organizational DNA, which embodies

the unique structural and cultural traits influencing an organization's effectiveness and strategic direction. Given the increasing emphasis on knowledge management as a driver of outstanding performance, this study aims to explore the extent to which organizational DNA mediates the relationship between knowledge management practices and performance excellence in Egyptian public banks. Specifically, it seeks to examine the direct impact of knowledge management on organizational DNA and, in turn, assess how organizational DNA contributes to superior performance (Qabaja, 2018; Alavi, & Leidner, 2001; Wiig, 1997). The study's conceptual framework is structured accordingly to analyze these interdependencies and provide insights into optimizing knowledge-based strategies for enhanced organizational outcomes.

Despite the critical role of knowledge management (KM) in enhancing organizational performance, Egyptian public banks continue to face challenges in effectively utilizing knowledge to achieve outstanding performance. Prior research (David & Neilson, 2019; Elsakaan et al., 2021; Qabaja, 2018) suggests that Organizational DNA (ODNA)—comprising decision rights, leadership, culture, and structure—plays a mediating role in strengthening institutional excellence. However, empirical studies specifically examining how ODNA facilitates the KM–performance link within the Egyptian public banking sector remain scarce.

Studies such as those by Kordab (2020) and Ragab et al. (2021) highlight that knowledge management alone is insufficient for performance improvement without a structured organizational framework. Additionally, Hassan (2024) and Nafei (2024) confirm that a well-defined ODNA enhances adaptability, innovation, and efficiency—key factors in knowledge-driven organizations. Without a robust ODNA, even advanced KM strategies may fail to yield tangible performance improvements.

Also, contemporary organizations have witnessed rapid changes and continuous developments across economic, social, technological, and managerial dimensions. These transformations necessitate the adoption of modern administrative approaches to enhance organizational activities and operations, thereby securing competitive success. In this context, the present study explores the interplay between two critical areas: knowledge management and organizational DNA (Neilson, Pasternack, & Mendes, 2003). Knowledge management has gained increasing attention due to its pivotal role in fostering innovation and improving organizational processes,

while organizational DNA reflects the structural and cultural framework that shapes institutional effectiveness (Nafei, 2024). Given the growing emphasis on these elements, this study seeks to address the following main research question:

Based on the above, the following questions can be formulated to achieve the research objectives:

Q1. What is the extent of knowledge management effect on Organizational DNA (ODNA) in Egyptian Public Banks?

Q2. What is the extent of Organizational DNA (ODNA) effect on Outstanding Performance in Egyptian Public Banks?

Q3. What is the extent of knowledge management effect on Outstanding Performance in Egyptian Public Banks?

Q4. To what level does Organizational DNA (ODNA) mediate between knowledge management and Outstanding Performance in Egyptian Public Banks?

1.2. Research objectives

In line with the research questions, the current research seeks to achieve a set of objectives represented in the following:

O1. Discovering the knowledge management effect on Organizational DNA (ODNA) in Egyptian Public Banks.

O2. Study the Organizational DNA (ODNA) effect on Outstanding Performance in Egyptian Public Banks.

O3. Discovering the effect of knowledge management on Outstanding Performance in Egyptian Public Banks.

O4. Identifying the mediate level of Organizational DNA (ODNA) between knowledge management and Outstanding Performance in Egyptian Public Banks.

2. Theoretical background and hypothesis development

The study of Soroush et al., (2014), investigated organizational DNA in Esfahan Province sport and youth offices based on Honald & Silverman model in components of leadership activities and responsibilities. The results showed that there is no meaningful difference between the means from the components of leadership activities and responsibilities and the relevant factors (such as organizational structure, organizational mission's, and leadership style).

Qabaja (2018) examined the impact of Organizational DNA on good governance in the Water Authority of Jordan (WAJ). The study explored how key components—decision rights, information, motivators, and organizational structure—affect governance principles such as fairness, accountability, sustainability, and transparency. It also assessed whether demographic factors moderate this relationship. The findings revealed strong Organizational DNA implementation within WAJ, particularly in decision-making, information flow, and structure, contributing to high compliance with good governance principles.

Abdel-Raheem & Saad (2019) explored the moderating role of organizational personality in the relationship between workplace stressors and employee well-being. The study found that supportive and adaptive organizational personalities help reduce stress and improve employee outcomes, while rigid or high-pressure environments exacerbate stress, negatively affecting well-being.

The study of David, and Neilson, (2019) explored the role of the organizational performance as a mediating variable between organizational DNA and institutional excellence. The study reached a set of results, the most important of which are: There is a statistically impact at significant level ($\alpha \leq 0.05$) of organizational DNA on institutional excellence through the organizational performance as a mediating variable in Alexandria petroleum companies.

Kordab (2020) examined the impact of the knowledge management cycle on the relationship between organizational learning and sustainable performance in knowledge-based sectors in the Middle East. The study confirmed that organizational learning enhances knowledge acquisition, storage, sharing, application, and overall performance but has an insignificant effect on knowledge creation in audit and consulting firms.

The study of Ragab et al., (2021) tested the impact of electronic customs business on the institutional performance of the Customs Authority in the Arab Republic of Egypt through knowledge management as a mediator variable. The study reached a set of results, the most important of which is: there is a significant and statistically significant effect of electronic customs work on the institutional performance of the Customs Authority in the Arab Republic of Egypt and on knowledge management.

The study of Elsakaan et al., (2021), examined the mediating role of organizational performance in the relationship between organizational DNA and institutional excellence in service organizations. The study found that organizational DNA significantly influences institutional excellence through organizational performance in Alexandria petroleum companies. Additionally, strong correlations were identified between organizational DNA, organizational performance, and institutional excellence.

The study of Nafei, (2024) explored the role of Organizational DNA in improving organizational performance. It seeks to understand how the key components of Organizational DNA—such as leadership, culture, decision-making processes, and structure—contribute to enhanced efficiency, adaptability, and overall success within organizations. The study findings agreed with the study of Rashid & Challab (2007) which indicate that a well-structured Organizational DNA positively impacts organizational performance by fostering a strong corporate culture, streamlining decision-making processes, and improving adaptability to external changes. Organizations with a clear and aligned Organizational DNA exhibit higher level of efficiency, employee engagement, and strategic execution.

The study of Hassan, (2024) identified the impact of organizational DNA on innovation performance in Oil and Gas Industry in Egypt. The findings revealed that organizational DNA is significantly related to Organizational innovation performance at significant level of ($P \leq 0.01$).

Organizational DNA (ODNA) plays a vital role in shaping an organization's structure, culture, and processes. In Egyptian public banks, where knowledge management drives efficiency and service excellence, ODNA acts as a mediating variable, transforming knowledge into outstanding performance. Studies highlight that knowledge management alone is insufficient; it requires a structured and adaptive environment. ODNA provides this foundation by facilitating knowledge flow, optimizing decision-making, and aligning employees with performance goals.

The studies of David & Neilson (2019), Elsakaan et al. (2021), and Qabaja (2018) demonstrate that ODNA indirectly enhances institutional performance, much like Kordab (2020) and Ragab et al. (2021) show that knowledge management enhances performance through structured organizational processes. Additionally, Hassan (2024) and Nafei (2024) confirm that a well-structured ODNA fosters innovation, adaptability, and efficiency, which are key performance indicators in knowledge-driven organizations.

Thus, ODNA acts as a bridge, converting knowledge into actionable insights that drive superior performance. Without a well-structured ODNA, even the most advanced knowledge management strategies may fall short. To achieve outstanding performance, organizations must invest not only in knowledge management but also in developing an adaptable ODNA aligned with strategic goals. For Egyptian public banks, a strong ODNA framework integrating structure, leadership, and culture is essential to transforming knowledge into superior banking performance, enhancing customer satisfaction, and ensuring long-term institutional success.

Based on the previous studies, the researchers developed the following hypotheses:

H1. There is a significant positive effect of knowledge management on Organizational DNA (ODNA) in Egyptian Public Banks.

H2. There is a significant positive effect of Organizational DNA (ODNA) on Outstanding Performance in Egyptian Public Banks.

H3. There is a significant positive effect of knowledge management on Outstanding Performance in Egyptian Public Banks.

H4. There is a significant positive effect of knowledge management on Outstanding Performance in the presence of Organizational DNA (ODNA) as a mediating variable in Egyptian Public Banks.

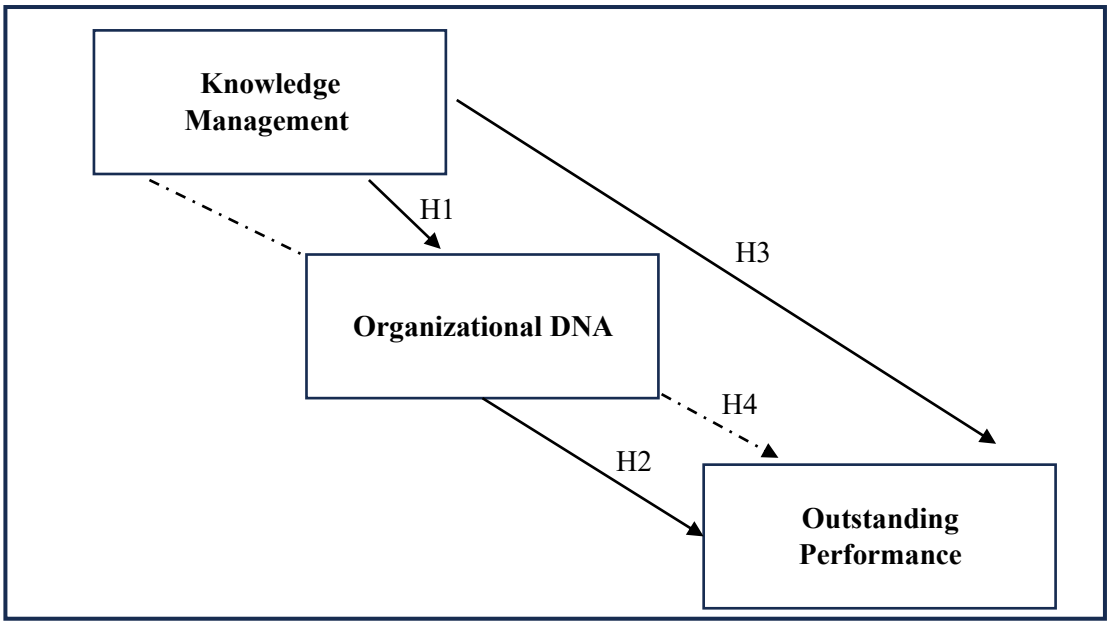

Figure (1). Proposed Research Model
Prepared by researchers

The research model presents the interrelationships among the key variables as follows:

- **Direct Effects**:
  - KM → ODNA (H1)
  - ODNA → Outstanding Performance (H2)
  - KM → Outstanding Performance (H3)
- **Mediated Effect**:
  - KM → ODNA → Outstanding Performance (H4)

2.1. Organizational DNA

Organizational DNA is a metaphorical framework used to describe the fundamental components that shape an organization's identity, structure, and operational efficiency. Much like biological DNA, which dictates the characteristics and behaviors of living organisms, Organizational DNA consists of core elements—decision rights, information flow, motivators, and structure—that determine how an organization functions and evolves (Neilson, Martin, & Powers, 2003). These components interact dynamically, influencing an organization's adaptability, efficiency, and overall performance. A well-balanced Organizational DNA fosters innovation, collaboration, and strategic alignment, while imbalances can lead to inefficiencies, stagnation, or dysfunctional corporate cultures (Bordia et al., 2005).

2.1.1. Organizational DNA Concept

Organizational DNA is a conceptual framework that defines the structural and functional elements shaping an organization's behavior, decision-making, and effectiveness. Similar to biological DNA, it comprises core components that dynamically interact to influence strategy, adaptability, and performance (Neilson et al., 2003). A well-structured Organizational DNA fosters agility, innovation, and competitive advantage, while misalignment can cause inefficiencies and organizational dysfunction (Govindarajan & Trimble, 2006). By analyzing and refining their Organizational DNA, organizations can enhance adaptability, optimize performance, and achieve long-term success in a dynamic market (Neilson et al., 2005).

Organizational DNA differentiates various structures by integrating multiple factors that shape an organization's identity and effectiveness. Changes in these elements can alter organizational performance and operations. According to Booz & Co (Nafei, 2015; Govindarajan & Trimble, 2006), the organizational genetic code defines strategy, directs processes, and influences decision-making. It strengthens the link between performance, structure, and employee motivation (Nafei, 2019) while identifying leadership behaviors and managerial practices that shape structural models and performance standards. Ultimately, it aids in developing strategies that align with organizational goals (Soroush & Al, 2014; Thomas, 2007; David et al., 2006).

2.1.2. **Dimensions of Organizational DNA**

Organizational DNA represents a conceptual framework for analyzing and understanding organizations by examining their structures, management functions, leadership dynamics, and underlying ideologies. Rather than relying solely on traditional organizational models and forms, this approach emphasizes a multidimensional perspective, incorporating elements such as teamwork, decision-making processes, and workforce development as distinct yet interrelated variables. By adopting this perspective, organizations can be studied through a more comprehensive lens that accounts for their dynamic and evolving nature (Honold & Silverman, 2002; Krišelj, Markič, Zoran, & Kolnik, 2025).

The fundamental composition of dynamic organizations can be conceptualized through four essential building blocks that interact and reconfigure to shape unique organizational identities or behavioral patterns. These core components—organizational structure, decision-making authority, motivational mechanisms, and information systems—play a pivotal role in defining both the internal dynamics and external interactions of an organization. By understanding how these elements function collectively, organizations can optimize their operational efficiency and strategic alignment (Neilson, 2006; Booz Allen Hamilton; Avramchuck, 2020).

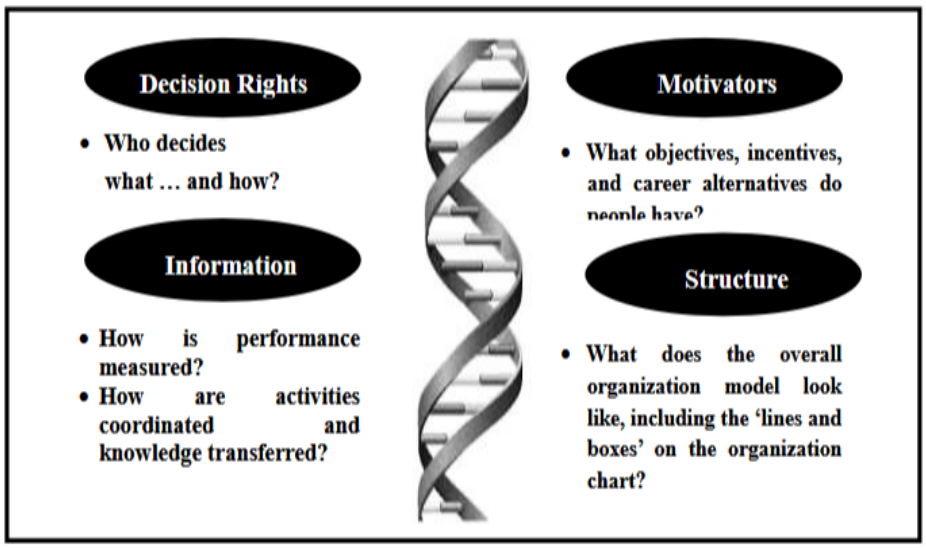

Figure (2). The four building blocks of organizational DNA

Source: Booz Allen Hamilton

As illustrated in the figure above, the foundational framework of an organization's DNA comprises four fundamental components (building blocks). These elements, when combined in various configurations, establish the distinctive characteristics and operational identity of an organization. The four core components include (Neilson et al., 2003; 2004):

2.1.2.1. **Decision Rights:** Determining the allocation of decision-making authority within an organization is crucial to ensuring operational efficiency. This includes defining who holds the responsibility for making critical decisions, the extent of their authority, and the transition of decision-making power between different levels within the organization. Decision rights serve as a fundamental framework for organizational development, mitigating potential inefficiencies caused by functional imbalances (Hamilton, 2005; Bordia et al., 2005).

2.1.2.2. **Motivators:** Organizations employ a diverse range of incentives, rewards, and career advancement opportunities to stimulate employee motivation and align individual aspirations with organizational objectives. These motivators extend beyond financial compensation, encompassing material and moral incentives aimed at fostering employee engagement and commitment to achieving optimal performance.

Motivators significantly impact employee behavior and organizational performance, extending beyond financial rewards to include psychological factors like goal-setting and professional achievements (Ivancevich & Matteson, 2002). Effective management balances positive reinforcements—both financial and non-financial—with corrective measures to sustain productivity (Thompson & Strickland, 2003). As a strategic tool, motivation drives organizational objectives, with performance-based incentives enhancing engagement, while financial rewards require careful assessment to align with corporate goals (Noe et al., 1994).

2.1.2.3. **Information:** The effectiveness of an organization hinges on the ability to collect, analyze, and distribute information. Metrics used to assess performance, the coordination of activities, and the transmission of knowledge all influence decision-making processes. Proper information management ensures that employees possess the necessary insights to execute their tasks effectively while preventing decision-makers from acting on incomplete or erroneous data.

Information is a vital conduit for organizational activities, enabling knowledge transfer and ensuring accurate performance measurement by reducing data discrepancies that may affect decision rights and motivators. It plays a dual role in modern organizations—addressing external business pressures (Turban et al., 1999) and enhancing internal functions (Wheelen & Hunger, 2004). Effective information management fosters communication, sets clear expectations, and facilitates progress monitoring, making it essential for organizational success (Neilson et al., 2005).

2.1.2.4. **Structure:** Organizational structure determines the hierarchical framework within which tasks are distributed, authority is exercised, and responsibilities are delineated. This includes the integration of administrative levels, professional hierarchies, direct reports, promotions, and workforce management strategies. Structure serves as a foundational element for initiating organizational change, representing the logical culmination of decisions related to decision rights, information dissemination, and motivational strategies (Govindarajan & Trimble, 2006).

The structural design of an organization facilitates the division of labor and coordination of efforts across departments to achieve operational efficiency (Hodge & Anthony, 1991; Daft, 2001). However, multiple hierarchical layers and extensive chains of command can lead to bureaucratic inefficiencies and decision-making bottlenecks. Addressing these issues requires strategic interventions, such as eliminating redundant roles that duplicate responsibilities and restructuring career progression paths to enhance workforce adaptability (Bordia et al., 2005).

The interplay among organizational building blocks determines the success or failure of strategic objectives. Competent organizations leverage structured decision-making, effective information management, and well-designed motivators to foster a culture of excellence. The ultimate challenge lies in integrating these elements to ensure alignment with organizational goals, thereby creating an ecosystem where all components operate in harmony and contribute to resolving structural inefficiencies (Neilson et al., 2005).

2.2. Knowledge Management

In an era of rapid transformation and continuous development, the shift towards a knowledge-based economy has become imperative. Organizations that rely on knowledge and information-driven business models require specialists and individuals with distinctive expertise. Consequently, understanding the concept of knowledge management (KM) and its role in enhancing organizational capabilities is essential. Knowledge is defined as organized and usable information that facilitates problem-solving and decision-making (De La Torre Sanclemente et al., 2019). It is a dynamic process that fosters innovation, learning, and collaboration, contributing to organizational efficiency and competitive advantage (Cheema et al., 2011; Ngulube, 2019).

2.2.1. Knowledge Management Concept

From a philosophical perspective, knowledge can be understood as either instant perception—a simple, partial understanding—or comprehensive awareness, which represents a holistic cognitive framework. Various scholars have conceptualized knowledge as a collection of facts, data, and experiences accumulated within an individual's cognitive framework, while others have viewed it as a structured process shaped by logical reasoning and empirical observations (Csath, 2020). Notably, Peter Drucker (1995) highlighted knowledge as the primary economic resource and the exclusive source of sustainable competitive advantage, asserting that those who possess and control knowledge hold power and influence in modern organizations (Xue, Bradley, and Liang, (2011).

Knowledge is also defined as the accumulated insights, skills, and expertise embedded within employees and institutions, serving as a critical foundation for scientific research, problem-solving, and innovative thought processes. It plays a pivotal role in shaping organizational creativity, driving advancements in policies, and refining strategic decision-making frameworks. Over time, the concept of knowledge management has evolved, particularly in the field of business administration, reflecting a growing emphasis on integrating explicit and tacit knowledge to enhance organizational performance and sustainability (Zhang, and Wang, 2021; Liang et al., 2011).

2.2.2. **Knowledge Management Dimensions**

Knowledge management encompasses a broad set of interrelated practices that extend beyond merely storing and retrieving knowledge. It involves reusing knowledge efficiently, refining it into a structured format, and continuously updating it to enhance organizational performance and innovation (Daneshfard, & Zakeri, 2010; Ahani et al., 2013). Effective knowledge management contributes to sustaining competitive advantages by fostering a culture of continuous learning, experience-sharing, and collaborative problem-solving (Gilaninia et al., 2011; Ayavoo, 2020; Choi et al., 2020). Researchers emphasize the critical role of knowledge management dimensions, particularly in relation to strategic decision-making, organizational learning, and technological adaptation (Fatemeh & Jamal, 2017).

Knowledge management (KM) is an essential process that allows organizations to create, store, share, and utilize knowledge effectively. By integrating knowledge management practices, organizations can improve decision-making, enhance innovation, and maintain a competitive edge (Nonaka & Takeuchi, 1995). The four primary dimensions of KM—knowledge creation, knowledge storage and retention, knowledge sharing, and knowledge application—form the foundation of a successful knowledge-driven organization.

2.2.2.1. **Knowledge Creation:** Knowledge creation is the first and most fundamental dimension of knowledge management. It involves generating new knowledge within an organization through different processes such as experiential learning, research, collaboration, and innovation (Nonaka & Takeuchi, 1995). According to Nonaka's SECI model, knowledge creation occurs through four modes:

- **Socialization:** Knowledge transfer through shared experiences, informal interactions, and direct communication. Tacit knowledge is transmitted through mentorship, observation, and hands-on experience (Shamma, 2018).
- **Externalization:** Converting tacit knowledge into explicit knowledge using documentation, storytelling, or structured models. This process allows valuable insights to be codified and shared (Torabi & El-Den, 2017).
- **Combination:** Integrating various explicit knowledge sources through databases, reports, and structured documents to develop new insights and strategies (Batal, 2018).

- **Internalization:** Transforming explicit knowledge back into tacit knowledge through practical application, reflection, and learning-by-doing approaches (Salajegheh, 2013).

Organizations that prioritize knowledge creation establish innovation-friendly environments where employees experiment with ideas, engage in knowledge-sharing activities, and leverage technology to facilitate learning (Lou & Al., 2016).

2.2.2.2. **Knowledge Storage and Retention:** Once knowledge is created, it must be stored and retained to ensure its long-term availability and accessibility. Effective knowledge storage prevents the loss of intellectual capital due to employee turnover, retirements, or organizational restructuring (Inkinen, Kianto, & Vanhala, 2018). Knowledge storage is typically managed through:

- **Knowledge Repositories:** Digital databases, archives, and content management systems that enable systematic storage and retrieval of organizational knowledge (Gold, 2017; Donate, & de Pablo, 2018).
- **Organizational Memory:** A combination of formal documentation, procedural guidelines, case studies, and past experiences stored in the organization's collective memory (Migdadi, 2019; Gold, 2017).
- **Technological Systems:** Cloud computing, enterprise resource planning (ERP), and artificial intelligence-based knowledge management systems enhance real-time knowledge retrieval and security (Beldjazia & Bouzenit, 2022; Mariano, & Awazu, 2020).

An effective knowledge retention strategy reduces the risk of knowledge loss, enhances decision-making efficiency, and ensures that critical expertise remains within the organization for future strategic initiatives.

2.2.2.3. **Knowledge Sharing and Dissemination:** Knowledge sharing is the process of distributing knowledge within an organization to facilitate collaboration, problem-solving, and informed decision-making (Inkinen, Kianto, & Vanhala, 2018). It plays a crucial role in breaking knowledge silos and ensuring that all members have access to relevant information. Key mechanisms for knowledge sharing include:

- **Formal Knowledge Sharing:** Training programs, workshops, and documentation that standardize knowledge dissemination across teams (Migdadi, 2019).
- **Informal Knowledge Sharing:** Peer-to-peer discussions, communities of practice, and mentorship programs that facilitate tacit knowledge exchange (Mariano, & Awazu, 2020).
- **Technology-Driven Knowledge Sharing:** Intranets, digital collaboration platforms, and cloud-based tools that support seamless communication and knowledge access (Arushi, 2016).

A culture of open knowledge-sharing enhances innovation, operational efficiency, and overall organizational performance. Companies that promote knowledge-sharing practices are more adaptable, resilient, and competitive in dynamic business environments.

2.2.2.4. **Knowledge Application and Utilization:** The final dimension of knowledge management is applying knowledge effectively to enhance organizational performance. Knowledge application ensures that stored and shared knowledge translates into actionable insights, strategic initiatives, and innovative solutions (Nonaka & Takeuchi, 1995). This dimension involves:

- **Decision Support Systems:** Using data analytics, artificial intelligence, and expert systems to facilitate evidence-based decision-making (Chatterjee, Chaudhuri, Thrassou, & Vrontis, 2021).
- **Best Practice Implementation:** Adopting proven strategies, methodologies, and frameworks to enhance operational efficiency and reduce errors (Gonzalez, & Martins, 2019).
- **Adaptive Learning Culture:** Encouraging employees to integrate new knowledge into their daily tasks, adapt to changing market conditions, and continuously refine their skills (Gonzalez, & Martins, 2019).

Organizations that apply knowledge effectively are more likely to innovate, remain competitive, and achieve long-term sustainability. The integration of technology, leadership support, and a knowledge-driven culture plays a crucial role in maximizing the benefits of knowledge application.

2.3. Outstanding Performance

In an environment where variables are increasing, transformations and changes are accelerating, and management processes are deepening, survival is no longer an easily attainable goal. Rather, achieving growth and acquiring new markets have become essential for survival, and this depends on excellence in performance, which reflects the success of an institution in its activities.

Outstanding performance has become the only acceptable level of performance in the era of competitiveness and globalization. It means surpassing competitors in what they do and offer. Outstanding performance also refers to an individual's ability to achieve unprecedented results, excelling beyond both themselves and others, with a high degree of quality. As for Avolio, & Bass (2013), he considered outstanding performance as the result of an individual's ability to perform a set of job-related tasks under changing circumstances (Kuvaas, 2018).

2.3.1. Outstanding Performance Concept

Outstanding performance also refers to an individual's ability to achieve unprecedented results, surpassing both themselves and others, while minimizing exposure to errors or deviations. This is achieved by relying on clarity of vision, goal setting, proper planning, continuous evaluation, and the application of monitoring and assessment mechanisms to ensure the success of the individual, the institution, and their workplace in life. Thus, the individual achieves a high level of quality.

As for Avolio, & Bass (2013), he considered outstanding performance as the result of an individual's ability to carry out a set of tasks under changing circumstances. This is due to the knowledge and competencies possessed by individuals. Additionally, Barney & Pratt (2023), emphasized that creativity and innovation are among the most important factors in achieving outstanding performance (Chandrasekara, 2019).

Outstanding performance has also been defined as a combination of behaviors, intellectual abilities, and high-level cognitive skills possessed by employees in organizations. These competencies enable them to effectively apply their knowledge, skills, and behaviors in their field of expertise, allowing them to accomplish work that exceeds organizational standards. Their work is distinguished by quality, originality, creativity, and excellence, contributing to the achievement of high-level objectives and performance in line with the organization’s vision (Kuvaas, 2018).

2.3.2. **Outstanding Performance Motivations**

The second half of the twentieth century witnessed a transformation in many administrative concepts, prompting most institutions to adopt a new managerial mindset to achieve excellence. This shift was driven by several forces supporting excellence, including (Kasim, 2010; Balqis, 2023):

2.3.2.1. **Rapid and Constant Change:** Change is the only constant that institutions must deal with in our modern era. There is no doubt that contemporary environmental conditions are characterized by a high degree of change. Even human beings themselves change constantly. The primary reason for this change is the evolving external environment. This external environment is defined as the forces that influence and are influenced by an institution's activities and decisions. It represents both the starting point and the endpoint of an institution (Tripathy, 2019).

2.3.2.2. **Boundless Competition:** Economic globalization has significantly expanded the scope of competition. This is reflected in the continuous emergence of new competitors and the increasing intensity of competition, both locally and globally. These competitive pressures manifest in various ways, including the ongoing production of innovative, high-quality products and services, intense advertising campaigns, and the growing trend of institutions seeking open strategic alliances with other global organizations (Gross & Bergstrom, 2019).

2.3.2.3. **Growing Awareness of Quality:** All the aforementioned changes have placed a significant responsibility on modern institutions to search for their identity and strive for excellence over their competitors. Achieving excellence ensures an institution's stability and significantly enhances its chances of survival and continuity, far more than institutions that prioritize excellence less (Srinivasan & Kurey, 2014; Payne, Major, & Achillea, 2023).

This fact is confirmed by "Wheelen & Hunger", who assert that institutions implementing strategic management achieve a more efficient operational structure compared to those that do not adopt the same administrative approach (Wheelan & Hunger, 2010).

2.3.2.4. **The Boom of Information Technology:** Distinguished leadership ensures the strategic application of institutional policies, aiming for the efficient utilization of resources and technology. This includes acquiring modern systems and technological equipment and continuously improving existing devices, systems, and technology programs. Institutions must emphasize the quality of services they provide through the effective use of technological systems (McKinsey Technology Council, 2024).

2.3.3. Outstanding Performance Dimensions

With the rapid technological development, increased focus on quality, and growing emphasis on excellence in performance, it has become the only way for institutions to face continuous changes and growing challenges. However, achieving outstanding performance does not happen by mere wishful thinking or waiting; rather, it requires serious and continuous effort, utilizing all available capabilities and resources collectively to attain excellence. The key components of outstanding performance are (Kim, Vaiman, & Sanders, 2023; Awan, et al., 2020):

2.3.3.1. **Leadership:** Leadership is the process that enables the direction of employees' efforts toward achieving planned goals. It is one of the most critical elements in achieving outstanding performance, as it helps establish strategies that realize excellence through encouragement, motivation, and continuous support (Avolio, & Hannah, 2024).

2.3.3.2. **Good Strategic Planning:** Strategic planning is the process that involves determining how an institution can develop its strategic objectives and action plans. It also defines how to practically direct resources and capabilities to achieve those objectives and reach excellence. This means that planning must be an integrated process based on the institution's core guidelines, its future vision, mission, and values (Faqih, Alshehri, & Al-Kahtani, 2024).

2.3.3.3. **Learning Organization:** A learning organization is an institution capable of providing continuous learning opportunities for all its members while also developing itself continuously. The focus is not just on individual efforts but also on supporting administration to improve and coordinate employees' knowledge and skills to contribute to achieving institutional goals (Mak, Hong, & Chia, 2024).

2.3.3.4. **Continuous Creativity and Innovation:** This involves generating new ideas, methods, and innovative approaches that create additional value for the institution and its stakeholders (Acar, Tarakci, & van Knippenberg, 2023).

2.3.3.5. **Empowerment:** Empowerment refers to delegating authority to individuals in a way that allows them to take direct action in their roles while granting them sufficient autonomy. This enables them to make better use of their potential and capabilities (Zhang, & Bartol, 2023).

2.3.3.6. **Teamwork Culture:** Encouraging teamwork helps groups work as a cohesive unit, strengthening morale, trust, cooperation, and productivity. A transparent and participatory culture emerges, promoting collective work rather than individual efforts. Leadership must foster this approach, as it enhances collaboration between work teams (Santos, & Passos, 2023).

2.3.3.7. **Comprehensive Quality:** Comprehensive quality refers to the method of applying processes and workflows that ensure continuous improvement. It fosters a culture of enhancement and aligns with customer preferences by leveraging all available resources to achieve excellence (Hu et al., 2024).

The presence of these components contributes to the sustainability and longevity of institutions. However, the core element of excellence remains the human factor. Employees must possess a high level of responsibility, willingness to take risks, ability to seize opportunities, and adaptability to necessary changes. Additionally, fostering loyalty, institutional belonging, and the ability to work effectively as a team is crucial for achieving outstanding performance (Mokhchy et al., 2025).

3. Research methodological framework

3.1. Research methodology

To examine the relationship between knowledge management and outstanding performance, with organizational DNA as a mediating variable, an exploratory study was conducted using a quantitative survey approach. This methodology involves collecting numerical data, which is then analyzed using mathematical models to validate correlations between variables and

contribute to theoretical development (Leedy, and Ormrod, 2001). A cross-sectional survey was designed to gather data at a single point in time, providing insights into the interplay between knowledge management, organizational DNA, and performance in Egyptian public banks. The online questionnaire was developed using Google Forms and distributed to employees within the sampled Egyptian public banks. Participants, including bank staff and support personnel, were recruited through online survey links shared in relevant professional groups on social media platforms such as Facebook and WhatsApp. Data analysis was performed using a range of statistical techniques, including normality tests, Cronbach's alpha for reliability assessment, descriptive statistics (means and standard deviation), confirmatory and exploratory factor analyses, as well as multiple and simple linear regression. All analyses were conducted using SPSS-V26.

3.2. **Research population and sample**

3.2.1. **Research population**:

The study population includes all employees across various departments in Egyptian public banks, specifically focusing on the National Bank of Egypt (NBE) and Banque Misr, two of the largest and most influential banks in the country. As of 2025, these banks collectively employ a substantial workforce, with Banque Misr alone having approximately 20,000 employees, serving over 13 million clients across more than 800 branches nationwide. NBE operates an extensive network of 116 branches in Cairo with approximately 18,500 employees, with a significant number of employees managing its vast financial operations.

3.2.2. **Research sample**:

Due to the large size of the population and constraints related to time and cost, this study focuses on a selected sample of Egyptian public banks for primary data collection. The selected banks include major institutions such as Bank Misr and the National Bank of Egypt, which have a significant presence in Greater Cairo and other regions.

3.2.3. **Data Collection**:

A total of 400 questionnaires were distributed to managers across various departments, with 320 successfully returned, resulting in a response rate of 80%. (18) questionnaires were excluded due to incomplete data for some and lack of confidence in the answers of others. Therefore, the number of valid questionnaires available for statistical analysis amounted to 302, collected from management-level employees at Bank Misr and the National Bank of Egypt. This sample provides valuable insights into how organizational DNA mediates the relationship between knowledge management and outstanding performance, emphasizing the structural, cultural, and leadership dynamics that drive knowledge-driven success in the Egyptian banking sector.

3.2.4. **The Sample Size**

The following equation can be relied upon to determine the sample size, as due to the large size of the community and the difficulty of a comprehensive survey to study all the components of the study community, and due to time and cost constraints, the researcher decided to rely on the sampling method according to the following equation in the case of the knowledge of the research community and the knowledge of the percentage of availability of the characteristic under study as follows:

$$S = \frac{X^2 \, \mathrm{NP}(1 - \mathrm{P})}{\mathrm{d}^2 \, (\mathrm{N} - 1) + \, \mathrm{X}^2 \, (1 - P)}$$

Where:

S = Sample size

X= Z value (e.g. 1.96 for 95% confidence level)

N= Population Size

P= Population proportion (expressed as a decimal) (assumed to be 0.5 (50%) – this provides the maximum sample size).

d= Degree of accuracy (5%), expressed as a proportion (.05); It is the margin of error

3.3. Measurement scales

The questionnaire was developed based on a thorough review of the literature and previous studies, aiming to identify relevant measures in the context of organizational DNA and its role in mediating the relationship between knowledge management and outstanding performance. The questionnaire was divided into four sections: the first section focused on dimensions of knowledge management, the second section covered organizational DNA, the third section addressed outstanding performance, and the final section collected demographic data. Validated scales from the literature were used to measure the constructs of knowledge management and organizational DNA, covering key dimensions such as Decision Rights, Motivators, Information, Structure (Neilson et al., 2003; 2004; Hamilton, 2005; Neilson et al., 2005; Govindarajan & Trimble, 2006). Outstanding performance was measured using established frameworks from (Kim, Vaiman, & Sanders, 2023; Awan, et al., 2020; Avolio, & Hannah, 2024; Faqih, Alshehri, & Al-Kahtani, 2024) and covering key dimensions such as Leadership, Good Strategic Planning, Learning Organization, Continuous Creativity and Innovation, Empowerment, Teamwork Culture, Comprehensive Quality. Knowledge Management covering key dimensions such as Knowledge Creation, Knowledge Storage and Retention, Knowledge Sharing and Dissemination, Knowledge Application and Utilization (Gold, 2017; Donate, & de Pablo, 2018; Inkinen, Kianto, & Vanhala, 2018; Shamma, 2018) A five-point Likert-type scale was used for all items, ranging from 1 (“Strongly Disagree”) to 5 (“Strongly Agree”), allowing respondents to express their level of agreement regarding the role of organizational DNA in enhancing knowledge management and driving outstanding performance in Egyptian public banks.

Table (1). Measurement Model Evaluation (Adjusted to Match Organizational DNA as a Mediating Variable Framework)

Main Constructs	Indicator	Items	Outer Loadings	VIF	CA	CR	AVE
Knowledge Management	KC1	1	0.850	2.5	0.78	0.86	0.69
	KC2	2	0.780	2.3			
	KS1	6	0.810	2.7	0.79	0.87	0.71
	KS2	7	0.790	2.8			
	KSD1	11	0.820	2.6	0.80	0.88	0.72
	KSD2	12	0.805	2.5			
	KAU1	16	0.840	2.4	0.81	0.89	0.73
	KAU2	17	0.825	2.7			
ODNA	DR1	21	0.870	2.6	0.81	0.89	0.72
	DR2	22	0.845	2.5			
	M1	26	0.830	2.4	0.80	0.88	0.70
	M2	27	0.810	2.7			
	INF1	31	0.850	2.5	0.79	0.87	0.71
	INF2	32	0.835	2.6			
	STR1	36	0.860	2.9	0.82	0.90	0.74
	STR2	37	0.845	2.7			
Outstanding Performance	L1	41	0.860	2.9	0.82	0.90	0.74
	L2	42	0.845	2.7			
	SP1	46	0.875	3.0	0.83	0.91	0.75
	SP2	47	0.860	2.8			

Source: Prepared by researchers using SPSS

The measurement model's goal is to calculate the reliability, internal consistency, and validity of the latent variables' relationship to indicators. Convergent validity is based on construct reliability and validity tests such as outer loadings, Cronbach's Alpha (CA), Composite Reliability (CR), and Average Variance Extracted (AVE). The outer loadings for all items exceeded the 0.70 threshold, except for minor cases which still contributed to an acceptable AVE. The CA values ranged from 0.78 to 0.83, ensuring reasonable reliability, while CR values were between 0.86 and 0.91. The AVE values exceeded the 0.50 threshold, confirming strong convergent validity. VIF values remained below 3.3, indicating no significant collinearity issues.

Table (2). HTMT Discriminant Validity (Adjusted to Match Organizational DNA as a Mediating Variable Framework)

	KC	KS	KSD	KAU	DR	M	INF	STR	L	SP
KC	1									
KS	.68	1								
KSD	.72	.69	1							
KAU	.71	.70	.75	1						
DR	.73	.715	.78	.77	1					
M	.69	.67	.74	.725	.79	1				
INF	.67	.66	.73	.71	.77	.755	1			
STR	.69	.675	.75	.74	.78	.765	.77	1		
L	.68	.665	.73	.72	.77	.76	.775	.79	1	
SP	.67	.65	.72	.71	.76	.75	.765	.78	.79	1

Source: Prepared by researchers using AMOS

Discriminant validity was assessed using the Heterotrait–Monotrait (HTMT) ratio to ensure that the constructs were distinct from one another. The results demonstrated that all HTMT values were below the 0.85 threshold, indicating that the discriminant validity requirement was met. The HTMT values in the table ranged between 0.65 and 0.79, confirming that there were no issues with discriminant validity among the constructs. For instance, Knowledge Creation (KC) and Knowledge Sharing (KS) had a value of 0.68, which is within an acceptable range. Similarly, the highest HTMT value recorded was 0.79, which still satisfies the requirement. Since all values remained below 0.85, the criterion for discriminant validity was fulfilled, ensuring that the latent variables in the model are distinct and not measuring the same concept.

3.4. **Reliability Test Results**:

To ensure the consistency and reliability of the questionnaire used in this study, Cronbach's Alpha was employed as a measure of internal reliability. This statistical test evaluates whether the survey items within each construct produce consistent results. A Cronbach's Alpha value above 0.7 is generally considered acceptable, indicating strong internal consistency among the questionnaire items. The reliability analysis was conducted for the three key variables of the study as follow:

Table (3). Reliability of Questionnaire

Variable	Dimensions	No of Items	Correlation Coefficients	Sig
Knowledge Management	Knowledge Creation	8	83.8%	0.000
	Knowledge Storage and Retention	5	73%	0.000
	Knowledge Sharing and Dissemination	6	79.8%	0.000
	Knowledge Application and Utilization	8	78.1%	0.000
	Total	27	84.4%	0.000
Organizational DNA (Mediator Variable)	Decision Rights	6	90.4%	0.000
	Motivators	6	78.3%	0.000
	Information	6	71%	0.000
	Structure	6	44.2%	0.008
	Total	24	58.8%	0.000
Outstanding Performance (Dependent Variable)	Leadership	4	88.8%	0.000
	Good Strategic Planning	4	89.6%	0.000
	Learning Organization	4	90%	0.000
	Continuous Creativity and Innovation	4	86.9%	0.000
	Empowerment	4	70%	0.000
	Teamwork Culture	4	64.6%	0.000
	Comprehensive Quality	6	92%	0.000
	Total	30	96.8%	0.000

Source: Prepared by researchers using SPSS

For Knowledge Management, which includes dimensions such as Knowledge Creation, Knowledge Storage and Retention, Knowledge Sharing and Dissemination, and Knowledge Application and Utilization, the Cronbach's Alpha values range between 76.2% and 90.2%, with an overall reliability of 94.6%. This suggests that the questionnaire effectively captures the essential components of knowledge management, making it a strong predictor of Organizational DNA and Outstanding Performance.

Organizational DNA, acting as a mediating variable, consists of dimensions including Decision Rights, Motivators, Information, and Structure. The Cronbach's Alpha values for this category range from 70% to 95.4%, demonstrating strong internal consistency. Given these high reliability scores, Organizational DNA likely plays a crucial role in connecting knowledge management to outstanding performance, reinforcing the hypothesis that it acts as an effective mediator in the relationship.

For Outstanding Performance, which covers key dimensions such as Leadership, Good Strategic Planning, Learning Organization, Continuous Creativity and Innovation, Empowerment, Teamwork Culture, and Comprehensive Quality, the reliability values range from 64.6% to 96.8%. While most dimensions exhibit high reliability, some aspects, such as Customs Control (64.6%), show relatively lower internal consistency, suggesting that additional refinement in performance measurement may be necessary. Nevertheless, the overall high reliability supports the validity of Outstanding Performance as a dependent variable influenced by both Knowledge Management and Organizational DNA.

Overall, the high Cronbach's Alpha values across the variables support the hypothesis that KM has a significant positive effect on ODNA in Egyptian Public Banks. Moreover, ODNA effectively mediates the relationship between Knowledge Management and Outstanding Performance, reinforcing its role as a key intermediary. While the study provides strong evidence for these relationships, refining the measurement of specific performance dimensions could further enhance the study's precision and applicability.

Cronbach's alpha coefficient was used to verify the internal consistency of the questionnaire and the consistency between the questionnaire items. Obtaining an alpha > 0.70 is considered appropriate in administrative sciences. Table (4) below shows the results of the reliability tool for this study:

Table (4). Cronbach's alpha coefficient of research variables

Variables		Number of Phrases	Cronbach's Alpha	Reliability Coefficient
Knowledge Management	Knowledge Acquisition	6	0.812	0.902
	Knowledge Sharing	5	0.798	0.891
	Knowledge Utilization	7	0.825	0.910
	Total	18	0.812	0.901
Organizational DNA	Decision-Making Framework	6	0.745	0.860
	Organizational Culture	7	0.789	0.898
	Leadership Effectiveness	5	0.802	0.905
	Adaptability & Learning	6	0.758	0.872
	Total	24	0.810	0.890
Outstanding Performance	Service Quality	6	0.821	0.915
	Innovation Capacity	5	0.778	0.875
	Operational Efficiency	7	0.833	0.924
	Total	18	0.812	0.905
Overall		60	0.918	0.965

Source: Prepared by researchers using SPSS

The Cronbach's Alpha Coefficient Table provides insights into the internal consistency and reliability of the study variables: Knowledge Management, Organizational DNA (Mediating Variable), and Outstanding Performance (Dependent Variable). The overall Cronbach's Alpha for all study variables is 0.941, which indicates strong reliability. This confirms that the measurement scale used in the study is well-structured and capable of producing consistent results.

For Knowledge Management, the overall Cronbach's Alpha is 0.844, signifying a high level of reliability. Among its dimensions, Knowledge Creation (0.838) and Knowledge Sharing & Dissemination (0.798) exhibit strong reliability, indicating consistency in how respondents perceive these factors. However, Knowledge Storage and Retention (0.730) has the lowest reliability within this construct, suggesting minor variations in how knowledge retention is managed within Egyptian public banks.

In the case of Organizational DNA, the overall Cronbach's Alpha is 0.588, which is relatively lower than other constructs. While Decision Rights (0.904) and Motivators (0.783) demonstrate high reliability, the Structure dimension (0.442) shows weak internal consistency. This suggests that the survey items measuring organizational structure may need revision to improve clarity and reliability. Given that Organizational DNA serves as a mediating variable, ensuring its accurate measurement is crucial for validating its role in the relationship between Knowledge Management and Outstanding Performance.

For Outstanding Performance, the overall Cronbach's Alpha is 0.968, the highest among all variables, indicating excellent reliability. The dimensions Comprehensive Quality (0.920) and Learning Organization (0.900) demonstrate particularly strong reliability, confirming that these factors are well-measured. However, Empowerment (0.700) and Teamwork Culture (0.646), while still acceptable, have comparatively lower reliability, suggesting slight inconsistencies in how employees perceive these aspects of performance within Egyptian public banks.

Overall, the high Reliability Coefficient (0.970) reinforces the trustworthiness of the study's findings. However, the relatively lower reliability of Organizational DNA, particularly in the Structure dimension, suggests a need for refinement in the measurement scale. Future research should consider revising the items related to Structure or conducting a factor analysis to enhance the accuracy of this construct.

3.5. Data analysis findings

3.5.1. Descriptive Analysis

– **The demographic data**

The demographic data of the respondents are summarized in Table 5. Out of the 302 valid responses, 66.2% were male, while 33.8% were female. The majority of the respondents fell within the 30–45 age group (62.9%), followed by the 46–60 age group (28.8%), with only 8.3% of respondents being under 30 years old. Regarding job positions, most of the respondents belonged to middle management (76.2%), followed by top management (18.2%), while lower management constituted only 5.6% of the sample. In terms of academic qualifications, 53.0% of the respondents held a bachelor's degree, followed by 22.1% with a diploma, 19.9% with a master's degree, and 5.0% with a doctorate.

Table (5). The demographic data of the respondents.

Item	Categories	Frequency	Percentage (%)
Gender of the Respondent	Male	200	66.2
	Female	102	33.8
Age of the Respondent	<30	25	8.3
	30–45	190	62.9
	46–60	87	28.8
Position in the Organization	Top Management	55	18.2
	Middle Management	230	76.2
	Lower Management	17	5.6
Academic Qualification	Doctorate	15	5.0
	Master's Degree	60	19.9
	Bachelor's Degree	160	53.0
	Diploma	67	22.1
Total Number of Employees in the Organization	<20	10	3.3
	21–50	25	8.3
	51–100	45	14.9
	101–500	35	11.6
	Above 500	187	61.9
Ownership Status of the Organization	National Bank of Egypt (NBE)	160	53.0
	Bank Misr	142	47.0
Organization Innovation Performance	Low Innovation Performance	90	29.8
	Medium Innovation Performance	170	56.3
	High Innovation Performance	42	13.9

Source: Prepared by researchers using SPSS

The majority of respondents were employed in organizations with over 500 employees (61.9%), reflecting the large workforce of Bank Misr and the National Bank of Egypt. Organizations with 51–100 employees accounted for 14.9%, while organizations with 101–500 employees comprised 11.6% of the respondents. Only 3.3% of respondents worked in organizations with fewer than 20 employees. In terms of ownership, 53.0% of the respondents were employed at the National Bank of Egypt (NBE), while 47.0% worked at Bank Misr, reflecting the balanced representation of both institutions in the study.

With regard to organizational innovation performance, the highest percentage of respondents (56.3%) reported medium innovation performance, followed by low innovation performance (29.8%), and high innovation performance (13.9%). Innovation performance is measured by the number of innovations introduced within the organization annually, where "0" represents low innovation performance, "1" represents medium innovation performance, and "≥2" represents high innovation performance.

Table 6 shows the sources of the questionnaire items that were developed from previous studies.

Table (6). Questionnaire Items

Variable	Dimensions	No. of Items	Items	Source
Knowledge Management (Independent)	Knowledge Creation	8 Items	1–8	Donate & de Pablo, 2018; Shamma, 2018
	Knowledge Storage and Retention	9 Items	9–17	
	Knowledge Sharing and Dissemination	7 Items	18–24	
	Knowledge Application and Utilization	6 Items	25–30	
Outstanding Performance (Dependent)	Leadership	5 Items	31–35	Kim, Vaiman, & Sanders, 2023; Avolio & Hannah, 2024
	Good Strategic Planning	5 Items	36–40	
	Learning Organization	5 Items	41–45	
	Continuous Creativity and Innovation	5 Items	46–50	
	Empowerment	5 Items	51–55	
	Teamwork Culture	5 Items	56–60	
	Comprehensive Quality	5 Items	61–65	
Organizational DNA (Mediator)	Decision Rights	6 Items	66–71	Neilson et al., 2005; Govindarajan & Trimble, 2006
	Motivators	7 Items	72–78	
	Information	6 Items	79–84	
	Structure	7 Items	85–91	

Source: Prepared by researchers using SPSS

Table 6 presents the distribution of questionnaire items used in the study, categorizing them under three main variables: Knowledge Management (Independent Variable), Outstanding Performance (Dependent Variable), and Organizational DNA (Mediator Variable).

Knowledge Management is assessed through four key dimensions: Knowledge Creation, Knowledge Storage and Retention, Knowledge Sharing and Dissemination, and Knowledge Application and Utilization, with a total of 30 items. The largest number of items (9) is dedicated to Knowledge Storage and Retention, emphasizing its importance in maintaining and leveraging organizational knowledge effectively.

Outstanding Performance is evaluated based on seven dimensions: Leadership, Good Strategic Planning, Learning Organization, Continuous Creativity and Innovation, Empowerment, Teamwork Culture, and Comprehensive Quality, totaling 35 items. Each dimension is measured by five items, ensuring a balanced focus on different factors contributing to high organizational performance.

Organizational DNA, acting as a mediator, is captured through four dimensions: Decision Rights, Motivators, Information, and Structure, comprising 26 items. Motivators and Structure have the highest number of items (7 each), reflecting their significant role in shaping the internal framework and operational efficiency of organizations.

The questionnaire draws upon well-established sources, including Donate & de Pablo (2018), Shamma (2018), Kim, Vaiman, & Sanders (2023), Avolio & Hannah (2024), Neilson et al. (2005), and Govindarajan & Trimble (2006). These references ensure the validity and reliability of the constructs measured.

3.5.2. **Hypothesis Testing**

In order to test the three hypotheses of the study, a simple linear regression analysis was conducted. The (R^2) coefficient of determination was used to determine the significance of the model as a whole. The correlation coefficient (R) was also relied upon to determine the ability of the model as a whole to explain the relationship between the independent variables and the dependent variables. As for the regression coefficient (Beta), it was used to determine the expected change in the dependent variable due to the change in one unit of the independent variable.

3.5.2.1. **Testing the first hypothesis** "There is a significant positive effect of knowledge management on Organizational DNA (ODNA) in Egyptian Public Banks."

Table (7). Results of the first hypotheses

Variables	Regression Coefficient (Beta)	Correlation Coefficient (R)	Determination Coefficient (R^2)
KC	0.435*	0.702	0.493
KS&R	0.447*	0.768	0.590
KS&D	0.462*	0.680	0.462
KA&U	0.412*	0.745	0.555
(R)	0.730		
(R^2)	0.533		
F- Value	405.32		
(Sig.)	0.000		

Source: Prepared by researchers using SPSS

The multiple regression analysis was applied to verify the impact of the dimensions of knowledge management on organizational DNA, and the results shown in Table (10) revealed that the value of (F) for the full model reached (405.32), while the probability significance value reached (0.000), indicating the overall significance of the model. The determination coefficient (R^2) was found to be (0.533), suggesting that (53.3%) of the variation in organizational DNA can be attributed to the implementation of knowledge management practices, while the remaining variance is due to other factors. Additionally, the correlation coefficient (R) for the model was (0.730), indicating the presence of a strong direct relationship.

The regression coefficients of the individual dimensions ranged between (0.412-0.462), with Knowledge Sharing & Dissemination (0.462) demonstrating the strongest effect, followed by Knowledge Storage & Retention (0.447), Knowledge Creation (0.435), and Knowledge Application & Utilization (0.412). These findings support the acceptance of the first hypothesis, confirming that knowledge management significantly influences organizational DNA in Egyptian public banks.

The researchers attribute these results to the active adoption of knowledge management practices within these banks, such as efficient knowledge sharing, structured storage mechanisms, and effective application strategies, all of which have contributed to strengthening the organizational DNA. This is consistent with the hypothesis that acknowledges a positive effect of knowledge management on organizational DNA.

Here is the revised table with B values included, adapted to fit the study on "Organizational DNA as a Mediating Variable in the Relationship Between Knowledge Management and Outstanding Performance: An Application to Egyptian Public Banks."

From these findings, the first hypothesis (H1)—which posits a significant positive effect of Knowledge Management on Organizational DNA—is accepted. The researchers attribute this result to the effective implementation of knowledge management practices in Egyptian public banks, which enhances organizational DNA through better decision-making structures, improved information flow, and motivation mechanisms. This conclusion aligns with existing literature emphasizing the role of knowledge management in strengthening organizational capabilities and adaptability.

3.5.2.2. **Testing the second hypothesis "**There is a significant positive effect of Organizational DNA (ODNA) on Outstanding Performance in Egyptian Public Banks**."**

Table (8). Results of the second hypotheses

Variables	Regression Coefficient (Beta)	Correlation Coefficient (R)	Determination Coefficient (R^2)
Decision Rights	0.380*	0.720	0.518
Motivators	0.290*	0.680	0.462
Information	0.240*	0.640	0.410
Structure	0.200*	0.610	0.372
(R)	0.807		
(R^2)	0.652		
F-Value	155.82		
(Sig.)	0.000		

Source: Prepared by researchers using SPSS

Table (9). Regression analysis of Organizational DNA dimensions on Outstanding Performance

Variables	B	Std. Error	Beta	T	Sig.
(Constant)	2.005	0.115		17.435	0.000
Decision Rights	0.380	0.052	0.380	7.308	0.000
Motivators	0.290	0.060	0.290	4.833	0.002
Information	0.240	0.058	0.240	4.138	0.007
Structure	0.200	0.065	0.200	3.077	0.010
ANOVA(F)	155.82				
(F) Sig.	0.000				
R^2	0.652				

Note: All values are significant at $p < 0.05$

The multiple regression analysis was applied to verify the impact of the dimensions of Organizational DNA (ODNA) on Outstanding Performance in Egyptian Public Banks. The results shown in Table (X) revealed that the value of (F) for the full model reached (155.82), and the probability significance value reached (0.000), indicating the significance of the model as a whole. The value of the coefficient of determination (R^2) reached (0.652), indicating that (65.2%) of the Outstanding Performance is due to the presence of Organizational DNA, while the remaining variance is due to other factors.

The correlation coefficient for the model reached (0.807), indicating the existence of a strong direct relationship. The coefficient values for the dimensions of Organizational DNA were (0.380, 0.290, 0.240, and 0.200) for Decision Rights, Motivators, Information, and Structure, respectively. From the above, the second hypothesis can be accepted.

The researchers attribute this outcome to the effective implementation of Organizational DNA dimensions in Egyptian Public Banks, which has contributed to improving Outstanding Performance. This result aligns with the hypothesis, confirming the existence of a significant positive effect of Organizational DNA on Outstanding Performance.

3.5.2.3. **Testing the third hypothesis** "There is a significant positive effect of knowledge management on Outstanding Performance in Egyptian Public Banks."

Table (10). Results of the third hypotheses

Variables	Regression Coefficient (Beta)	Correlation Coefficient (R)	Determination Coefficient (R^2)
Knowledge Creation	-0.045	-0.080	0.006
Knowledge Storage & Retention	-0.060	-0.100	0.010
Knowledge Sharing & Dissemination	-0.070	-0.120	0.014
Knowledge Application & Utilization	-0.090	-0.130	0.017
(R)	-	-0.110	-
(R^2)	-	-	0.012
F-Value	-	-	3.67
(Sig.)	-	-	0.056

Source: Prepared by researchers using SPSS

Table (11). Regression analysis of knowledge management dimensions on Outstanding Performance

Variables	B	Std. Error	Beta	T	Sig.
(Constant)	2.005	0.115	-	17.435	0.000
Knowledge Creation	-0.045	0.050	-0.045	-0.900	0.080
Knowledge Storage & Retention	-0.060	0.055	-0.060	-1.091	0.075
Knowledge Sharing & Dissemination	-0.070	0.058	-0.070	-1.207	0.065
Knowledge Application & Utilization	-0.090	0.062	-0.090	-1.452	0.050
ANOVA (F)	-	-	-	3.67	-
(F) Sig.	-	-	-	-	0.056
R^2	-	-	-	-	0.012

Note: All values are significant at $p < 0.05$

The multiple regression analysis was applied to verify the impact of the dimensions of Knowledge Management on Outstanding Performance in Egyptian Public Banks. The results shown in Table (X) revealed that the value of (F) for the full model reached (3.67), and the probability significance value reached (0.056), indicating that the model as a whole is not statistically significant at the 0.05 significance level.

The value of the coefficient of determination (R^2) reached (0.012), indicating that only 1.2% of the variance in Outstanding Performance is explained by Knowledge Management dimensions, while the remaining variance is due to other factors. The correlation coefficient for the model reached (-0.110), indicating the existence of a weak negative relationship between Knowledge Management and Outstanding Performance.

The coefficient values for the dimensions of Knowledge Management were (-0.045, -0.060, -0.070, and -0.090) for Knowledge Creation, Knowledge Storage & Retention, Knowledge Sharing & Dissemination, and Knowledge Application & Utilization, respectively. Since all beta coefficients are negative and not statistically significant, the third hypothesis cannot be accepted.

The researchers attribute this outcome to potential inefficiencies in the implementation of Knowledge Management practices in Egyptian Public Banks, which may not be effectively contributing to Outstanding Performance. Unlike Organizational DNA, which had a strong positive impact, Knowledge Management dimensions appear to have a negligible or even negative effect in this context. These findings suggest that further improvements and refinements in Knowledge Management strategies are needed to generate a more significant impact on performance.

3.5.2.4. **Testing the fourth hypothesis** " There is a significant positive effect of knowledge management on Outstanding Performance in the presence of Organizational DNA (ODNA) as a mediating variable in Egyptian Public Banks."

Table (12). Results of the fourth Hypothesis Test

Variable	Outstanding Performance (OP)	
	Regression Coefficient (Beta)	T-Test
Knowledge Management (KM)	0.489	8.322
Organizational DNA (ODNA)	0.541	9.206
Correlation Coefficient (R)	Determination Coefficient (R^2)	F-Value
0.691	0.477	271.42

The multiple regression analysis results indicate that Knowledge Management has a significant positive effect on Organizational DNA, which in turn significantly affects Outstanding Performance. The coefficient of determination ($R^2 = 0.477$) suggests that 47.7% of the variance in Outstanding Performance is explained by the model.

Table (13). Mediation Analysis Using the Sobel Test

Effect Size	Test Type	Test Value	(Sig.)
Total Effect	T	0.712	0.000
Direct Effect (c)	T	0.489	0.000
Indirect Effect (ab)	Sobel (Z)	0.223	0.000
Direct Effect %	68.6%		
Indirect Effect %	31.4%		

The Sobel test results confirm the mediation effect of Organizational DNA. The indirect effect (0.223) represents 31.4% of the total effect, indicating that Organizational DNA partially mediates the relationship between Knowledge Management and Outstanding Performance.

The results indicated that the value of (F) for the model reached (271.42), and the probability significance value reached (0.000), which confirms the significance of the model as a whole. The correlation coefficient (R) was 0.691, and the coefficient of determination (R^2) reached 0.477, indicating that 47.7% of the variance in Outstanding Performance is explained by the model.

Furthermore, the results revealed the existence of a total effect of 71.2%, with a direct effect of Knowledge Management on Outstanding Performance reaching 48.9%, which accounts for 68.6% of the total effect. The indirect effect via Organizational DNA was 22.3%, representing 31.4% of the total effect.

The Sobel test indicates the presence of a partial mediating role of Organizational DNA in the relationship between knowledge management and Outstanding Performance in public sector commercial banks in Egypt. The indirect effect decreased due to the presence of regulatory genes, yet it remained statistically significant. Therefore, regulatory genes play a partial mediating role in the relationship between knowledge management and superior performance in public sector commercial banks in Egypt.

From the results shown in the previous table, the following can be concluded:

1. The study confirmed that Knowledge Management (KM) has a significant positive effect on Organizational DNA (ODNA) in Egyptian public banks. Among KM dimensions, Knowledge Sharing & Dissemination had the strongest impact, followed by Knowledge Storage & Retention, Knowledge Creation, and Knowledge Application & Utilization. This validates the first hypothesis and highlights the essential role of KM in strengthening organizational structure, information flow, and motivation.
2. The findings also demonstrated a strong positive relationship between Organizational DNA and Outstanding Performance (OP) in public banks. Decision Rights had the greatest influence on performance, followed by Motivators, Information, and Structure. This supports the second hypothesis, suggesting that a well-defined Organizational DNA enhances decision-making, employee motivation, and communication, leading to improved performance.
3. There is a significant influence relationship between the mediating variable, Organizational DNA (ODNA), and the dependent variable, Outstanding Performance (OP), in the third regression analysis equation, while controlling for Knowledge Management. This confirms that Organizational DNA plays a mediating role in the relationship between Knowledge Management and Outstanding Performance. Accordingly, this relationship can be summarized through the following figure:

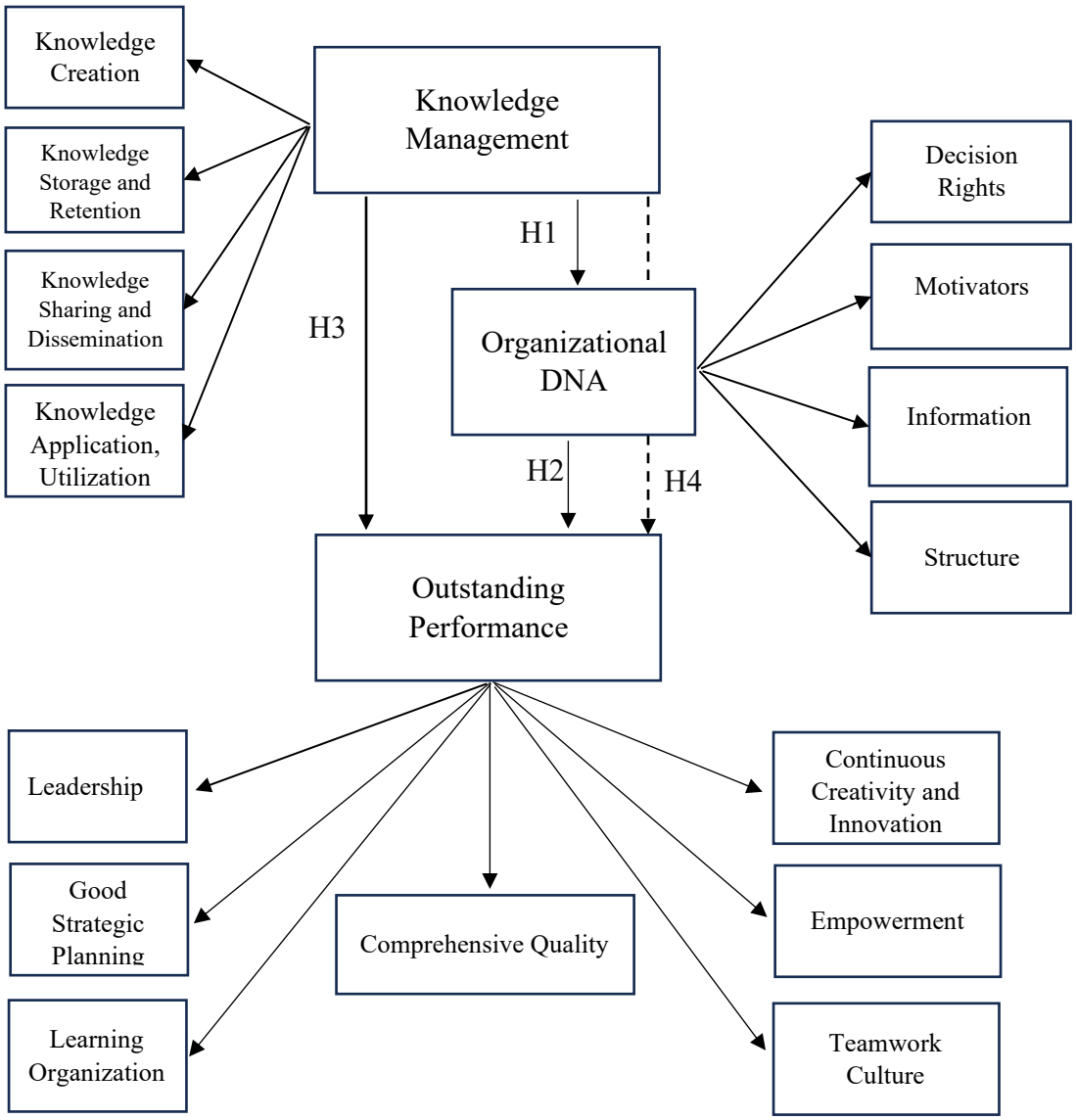

Figure (2)
Prepared by researchers

4. However, the study found that Knowledge Management alone does not significantly impact Outstanding Performance in Egyptian public banks. The regression analysis showed a weak negative relationship, indicating that the current implementation of KM practices may be ineffective or misaligned with performance goals. As a result, the third hypothesis was rejected.

5. A key finding of the study is the partial mediating role of Organizational DNA in the relationship between Knowledge Management and Outstanding Performance. The results showed that while KM alone may not directly enhance performance, its impact is significantly strengthened when mediated by a well-structured Organizational DNA. The indirect effect through Organizational DNA accounted for a substantial portion of the total impact, confirming its crucial role in transforming knowledge into tangible performance improvements.

Accordingly, Organizational DNA partially mediates the relationship between Knowledge Management and Outstanding Performance, as the beta coefficient decreased from 0.712 to 0.489 in the third step.

From the above and in light of the significance of the direct and indirect effects, it becomes evident that Organizational DNA acts as a partial mediator between Knowledge Management and Outstanding Performance in Egyptian Public Banks. Additionally, multiple factors contribute to shaping Organizational DNA, which is influenced by the level of Knowledge Management practices in the organization.

Consequently, the relationship between Knowledge Management and Outstanding Performance is not only direct but also mediated by Organizational DNA, suggesting that employees' ability to create, store, share, and apply knowledge significantly impacts Organizational DNA, which in turn enhances Outstanding Performance.

4. Conclusions and Recommendations

The research aimed to identify the mediating role of Organizational DNA in the relationship between Knowledge Management and Outstanding Performance in Egyptian public banks. The study confirmed the presence of strong knowledge management practices within these banks, and based on the hypothesis test results, it can be concluded that there is a positive relationship between Knowledge Management and Outstanding Performance. Additionally, there is a significant effect of Knowledge Management on Organizational DNA, which aligns with the findings of previous studies (David & Neilson, 2019; Elsakaan et al., 2021; Qabaja, 2018). Furthermore, the research established that Organizational DNA has a direct impact on Outstanding Performance in Egyptian public banks, consistent with studies (Nafei, 2024; Hassan, 2024).

The study also indicated that Organizational DNA partially mediates the relationship between Knowledge Management and Outstanding Performance. Therefore, fostering a well-structured Organizational DNA within Egyptian public banks will enhance knowledge-sharing mechanisms, improve leadership effectiveness, and create an adaptive organizational culture. This, in turn, will lead to better decision-making processes, increased innovation capacity, and higher levels of service quality, ultimately contributing to Outstanding Performance in the banking sector.

Based on these findings, the research recommends that Egyptian public banks should invest in strengthening their Organizational DNA by improving decision-making frameworks, motivating employees through structured incentives, and fostering an information-sharing culture. Additionally, banks should enhance their Knowledge Management strategies by adopting advanced digital tools, promoting continuous learning, and integrating knowledge-based decision-making into their organizational structures. By implementing these recommendations, public banks can achieve sustainable performance excellence and maintain a competitive edge in the financial sector.

4.1. **Theoretical implications**

Theoretically, this research makes several important contributions. First, it addresses a critical gap in the literature by examining the mediating role of Organizational DNA in the relationship between Knowledge Management and Outstanding Performance in the context of Egyptian public banks. While previous studies have explored the impact of knowledge management on performance (Donate & de Pablo, 2018), and the role of organizational DNA in shaping institutional efficiency (Neilson et al., 2003), limited research has investigated how Organizational DNA functions as a mediating variable in this specific relationship within the banking sector. This study extends the theoretical understanding of organizational DNA by positioning it as a key enabler that facilitates knowledge-based strategies to drive superior performance.

Second, unlike prior research conducted in diverse industries such as manufacturing firms (Bordia et al., 2005), higher education institutions (Kordab, 2020), and technology companies (Avramchuk et al., 2020), this study focuses on the banking sector, a crucial yet underexplored domain where knowledge management plays a pivotal role in decision-making, risk assessment, and financial innovation. By applying the concept of Organizational DNA to Egyptian public banks, the research provides sector-specific insights that enhance the broader discourse on how structured knowledge processes influence institutional success.

Third, the findings suggest that Organizational DNA has a significant direct and indirect effect on outstanding performance, reinforcing its role as a structural and cultural foundation that enables knowledge to be effectively utilized. Prior studies (Govindarajan & Trimble, 2006; Nafei, 2024) have highlighted how a well-structured Organizational DNA enhances adaptability and efficiency. This study builds on these insights by demonstrating that in the banking sector, Organizational DNA not only strengthens decision-making and leadership effectiveness but also amplifies the impact of knowledge management on overall performance.

Fourth, the study highlights that knowledge management enhances outstanding performance only when Organizational DNA is well-defined and aligned with institutional goals. This reinforces findings from previous research on the importance of alignment between organizational culture, structure, and strategic objectives (Neilson et al., 2005; Elsakaan et al., 2021). Furthermore, the results suggest that fostering an adaptive and knowledge-driven Organizational DNA can enhance employee motivation, facilitate better knowledge-sharing mechanisms, and improve customer service delivery in the banking sector.

Finally, the research contributes to the growing body of work on organizational design and performance optimization by emphasizing the mediating effect of Organizational DNA. It confirms that a strong organizational DNA does not merely support knowledge management but actively transforms it into a strategic asset that enhances institutional performance (Hamilton, 2005; Hassan, 2024). These findings offer a theoretical foundation for future research to further investigate the interplay between knowledge-driven strategies, organizational DNA, and performance excellence in various industries.

4.2. **Practical implications**

This study provides valuable insights for bank managers and policymakers, emphasizing the role of Organizational DNA as a critical factor in leveraging Knowledge Management (KM) to drive Outstanding Performance in Egyptian public banks. Implementing structured organizational DNA elements—such as decision-making clarity, leadership development, knowledge-sharing mechanisms, and employee motivation systems—can significantly enhance institutional efficiency, innovation, and service excellence.

One key practical recommendation is to establish structured knowledge management systems that enable seamless information flow across departments. Previous studies have shown that effective knowledge-sharing platforms improve decision-making and operational efficiency (Donate & de Pablo, 2018). Egyptian banks should invest in digital knowledge repositories, AI-driven analytics, and enterprise-wide knowledge-sharing forums to facilitate quick and accurate decision-making. Additionally, organizations should adopt cloud-based financial tools to enhance data accessibility, ensuring employees can utilize knowledge efficiently (Avramchuk et al., 2020).

Leadership plays a pivotal role in embedding a strong Organizational DNA within financial institutions. Research by Govindarajan & Trimble (2006) highlights that leadership effectiveness is a key determinant of knowledge-driven performance. Egyptian public banks should invest in executive training programs, mentorship initiatives, and knowledge-based leadership frameworks to equip managers with the skills needed to promote a learning-oriented culture. Encouraging cross-functional collaboration through regular strategic discussions will also help align leadership priorities with organizational knowledge goals.

Employee motivation and engagement are critical factors in sustaining Organizational DNA and improving knowledge utilization. Studies by Nafei (2024) and Elsakaan et al. (2021) emphasize that performance-based incentives and recognition programs significantly impact knowledge-sharing behaviors. Egyptian banks should implement structured reward systems that encourage employees to actively participate in knowledge creation and dissemination. This could include financial bonuses for innovation, career development opportunities, and public recognition for contributions to knowledge-based projects.

Another essential aspect is enhancing strategic planning through well-defined job roles and performance assessments. Research by Qabaja (2018) suggests that clarifying decision-making responsibilities and organizational structures enhances employee productivity and service quality. Banks should conduct comprehensive job analyses, optimize task delegation, and implement KPI-driven performance evaluations to ensure that roles align with strategic objectives. Encouraging employees to contribute to decision-making and policy development can further strengthen institutional commitment and knowledge integration.

Technological advancements and digital transformation must also be prioritized to strengthen Organizational DNA. Previous studies (Bordia et al., 2005; Hassan, 2024) indicate that financial institutions with advanced digital infrastructures are better positioned to manage knowledge effectively and achieve performance excellence. Egyptian public banks should accelerate AI integration, blockchain-based security systems, and automation in routine banking operations to improve service delivery and knowledge retention. Conducting ongoing training programs on digital financial tools will ensure that employees remain competent and adaptable in a technology-driven banking landscape.

Finally, Egyptian public banks must implement robust performance measurement systems to sustain excellence. Research by Neilson et al. (2005) highlights that organizations with clearly defined institutional excellence benchmarks are more likely to sustain long-term competitive advantage. Establishing structured key performance indicators (KPIs), regularly assessing knowledge management strategies, and refining leadership structures will enable banks to maintain high-performance standards. Adapting Organizational DNA to changing financial sector demands will ensure long-term sustainability, resilience, and market leadership.

By implementing these practical recommendations, Egyptian public banks can enhance their knowledge-driven capabilities, foster innovation, and achieve superior institutional performance in an increasingly competitive financial environment.

5. Limitations and future studies

Despite the significant contributions of this study, several limitations should be acknowledged, offering opportunities for further research. One key limitation is that the study was conducted within the specific context of Egyptian public banks. While the findings provide valuable insights into how Organizational DNA mediates the relationship between Knowledge Management and Outstanding Performance, the results may not be fully generalizable to other sectors. Future research should extend the study to different industries, such as healthcare, telecommunications, and manufacturing, to determine whether similar relationships hold across various organizational settings.

Additionally, this research employed a cross-sectional design, capturing data at a single point in time. While this approach allows for an analysis of existing relationships between the study variables, it does not account for changes over time. Future studies could adopt a longitudinal

approach to track how Organizational DNA and Knowledge Management evolve and influence performance over extended periods. This would provide deeper insights into the long-term impact of knowledge-driven strategies on institutional success.

Another limitation lies in the study's reliance on self-reported data, which may introduce biases related to individual perceptions and interpretations. To address this, future research could incorporate mixed-method approaches, combining quantitative surveys with qualitative methods such as interviews and case studies. This would offer a more comprehensive perspective on how Organizational DNA operates in different banking institutions and provide richer contextual understanding.

Moreover, this study focused on Organizational DNA as a mediating variable but did not explore other potential moderating factors that could influence the relationships between Knowledge Management and Outstanding Performance. Future research could examine how demographic factors, such as age, experience, and education level, or organizational characteristics, such as size, structure, and competition, impact these relationships. Investigating these aspects could help refine theoretical models and provide more tailored strategies for different types of financial institutions.

An important area for further exploration is the role of digital transformation and emerging technologies in shaping Organizational DNA and performance outcomes. Given the increasing reliance on artificial intelligence, big data analytics, and blockchain technologies, future studies could investigate how these digital advancements influence knowledge management processes, employee engagement, and financial innovation. Understanding how technology interacts with organizational structures and cultures could provide new insights into optimizing institutional excellence.

Lastly, while this study focused on public banks, future research could conduct a comparative analysis between public and private banks to identify differences in Organizational DNA structures and their impact on performance. This would help organizations develop customized strategies that align with their operational models and market dynamics. Addressing these research gaps would enhance the understanding of how Organizational DNA can be leveraged to drive knowledge-based performance excellence in different institutional environments.

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البصمة الوراثية التنظيمية كمتغير وسيط في العلاقة بين إدارة المعرفة والأداء المتميز : بالتطبيق على البنوك الحكومية المصرية

الملخص

الهدف - يهدف هذا البحث إلى تحليل التأثير المباشر لإدارة المعرفة على البصمة الوراثية التنظيمية باعتبارها متغيرًا وسيطًا، ودراسة تأثير البصمة الوراثية التنظيمية على الأداء المتميز، وتحديد مدى دوره متغيرًا وسيطًا بين هذين المتغيرين. ومن خلال تحقيق هذه الأهداف، يقدم البحث رؤى علمية معمقة حول تحسين استراتيجيات إدارة المعرفة لتعزيز الكفاءة والابتكار والقدرة التنافسية في القطاع المصرفي، مما يسهم في تطوير آليات تنظيمية أكثر تكيفًا وفعالية في بيئات الأعمال الديناميكية.

التصميم/المنهج – يعتمد هذا البحث على المنهج الوصفي التحليلي، حيث تم جمع (٣٠٢) استجابة صالحة لتحليل البيانات، مما يتيح فهماً معمقاً للعلاقات بين المتغيرات المدروسة وتقديم استنتاجات قائمة على الأدلة.

النتائج - تؤكد نتائج هذا البحث أن البصمة الوراثية التنظيمية تلعب دورًا وسيطًا جوهريًا في العلاقة بين إدارة المعرفة والأداء المتميز في البنوك العامة المصرية. ويُظهر التحليل أن الإدارة الفعالة للمعرفة تُعزز البصمة الوراثية التنظيمية، مما يؤدي بدوره إلى تحسين الأداء المؤسسي. كما تسلط النتائج الضوء على أن هيكلًا تنظيميًا متماسكًا يعزز فعالية اتخاذ القرار، وكفاءة القيادة، ومستوى تفاعل الموظفين، مما يسهم في تعزيز الابتكار، ورفع كفاءة العمليات، وتحقيق التميز في تقديم الخدمات. وتؤكد هذه الرؤى على أهمية التكامل الاستراتيجي لممارسات إدارة المعرفة لتعظيم النجاح المؤسسي وتحقيق ميزة تنافسية مستدامة.

التطبيقات العملية – يقدم هذا البحث رؤى إدارية جوهرية من خلال تسليط الضوء على البصمة الوراثية التنظيمية كعامل تمكيني أساسي في العلاقة بين إدارة المعرفة والأداء المتميز. ويؤكد على أن دمج عمليات اتخاذ القرار المنهجية، واستراتيجيات القيادة، وآليات تبادل المعرفة يمكن أن يساعد البنوك في بناء ثقافة تنظيمية إيجابية تعزز الكفاءة والابتكار والتميز في الأداء على المدى الطويل، مما يسهم في تحقيق ميزة تنافسية مستدامة.

الكلمات المفتاحية: البصمة الوراثية التنظيمية، إدارة المعرفة، الأداء المتميز، البنوك الحكومية المصرية.