Hungarian University of Agriculture and Life Sciences, Hungary

UNLOCKING ORGANIZATIONAL TRANSFORMATION: EXAMINING CHANGE MANAGEMENT, DISTRIBUTED LEADERSHIP, KNOWLEDGE SHARING AND ORGANIZATIONAL TRUST IN TUNISIAN CONTEXT

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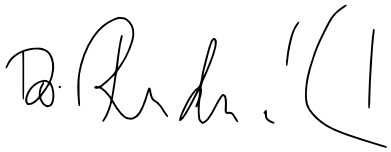

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1. INTRODUCTION

1.1. Importance of the Study

In our modern world, most organizations are facing continuous and frequent changes initiated by an increasingly complex and dynamic business environment, enhanced by technological advancement, a changing workforce, high competitiveness, and globalization (Stouten *et al*., 2018; Cho, 2024). To face these changes companies were asked to adapt their operations and make significant investments for implementing various, meaningful, and sustainable change strategies and realize great outcomes (Abdelouahab and Bouchra, 2021). Organizational change was defined as a transition of an organization from one situation to another, and that movement could affect the company's structure, strategy, processes, procedures, culture, or even the company's use of technology (Hubbart, 2023). To deal with these transformations companies usually try to implement change management methods to control that change, helping people to adapt, and avoid resilience, turnovers, and bad behaviors and attitudes (Phillips and Klein, 2023). The current study will go behind the general conceptualization of organizational change management, to understand its impact on the actual environment, and how a great change management strategy could be a way to success for the organization and a way to ensure its long survival and prosperity.

To deeply explain the notion, two types of change management were discussed which are planned change and emergent change. Regarding planned change, the theory was dominant in literature and many organizations were practicing it. Accordingly, this approach describes organizational change as a process that transitions from one state to another through a series of planned steps, followed by a structured analysis (Bamford and Forrester, 2003). In addition, planned change asserts that all organization members work collectively in one direction to avoid conflicts and disagreements. Regarding emergent change, it has been mentioned that it is used to largely understand the conflicts and problems emanating from an uncertain and complex environment. The theory points out that organizational change does not follow any prepared and detailed plans, and a range of possible options could take place.

In addition, the literature presented three management models. The first was proposed by Kotter (1995), which outlines an eight-step model developed after recognizing that many organizations struggle with managing transformations (Mento *et al.,* 2002).

The second model was created by Jick (1991), which features a ten-step approach detailing how to establish and evaluate a change process. Jick emphasized that implementing change is a journey of discovery, where the process of implementation is often more crucial than the change itself.

The success of this implementation depends on the nature of the change, the process, and the sensitivity of the implementers (Mento *et al.,* 2002).

The third model is a seven-step change model proposed by Garvin (2000). This model focuses on a leader's roles in considering how urgent the change is, how they shape and communicate the vision, how they lead the change and evaluate it and its progress, and finally how they institutionalize the change. The following study will mainly consider this model, as one of the aims of this research is to adopt leadership as an important component able to boost change management implementation.

Many previous studies have explored the concept of change management and its impact on organizations and employees' behaviors and attitudes. However, few studies have considered it from managers' perspective, more exactly on how they deal with it and what kind of plans and strategies they use to succeed it, particularly within the Tunisian service companies' context. Additionally, limited research has focused on the elements that can enhance change implementation, acceptance, and engagement among organizational members. Accordingly, leadership has been identified as a crucial factor in promoting change management, as it plays a key role in setting directions and inspires members to engage with the change implementation.

In times of change, leadership plays a crucial role in achieving performance by developing essential competencies to facilitate the implementation of change strategies and build change capability (Oakland and Tanner, 2007). Numerous studies have emphasized the significance of leadership in influencing employees' perceptions of change. When leaders demonstrate passion and optimism, they help conceptualize the new strategic direction and efficiently allocate resources necessary for the transformation process (Magliocca and Christakis, 2001; Aarons *et al.,* 2015).

Recently, studies increasingly focused on the impact of various leadership styles on change management, such as transformational leadership (Hamza e*t al.,* 2022; Hamza *et al,* 2024). Authors have noted that transformational leaders can provide psychological support to boost employees' motivation and dedication (Nadler and Tushman, 1990). They are particularly effective in managing crises and adapting structures and procedures. Strategic leadership (Bhardwaj *et al.,* 2020), where investigators confirmed that effective strategic leadership is a crucial factor in effectively managing the organizations' operations running in an increasingly dynamic environment.

Finally, change leadership (Imran and Iqbal, 2021) where scholars committed that change leadership can transform organizations swiftly, as change leaders can motivate the organization's members, shape the change, the vision, and the culture, and provide coaching for the members (Burnes *et al.,* 2018). Additionally, change leadership attracts people's interest by engaging them and by dealing with their cognitive beliefs.

The focus of this study is on the distributed leadership style, a concept extensively studied in the educational field but only recently gaining interest in the business sector. As a relatively new and fertile area of research, this investigation aims to address the empirical and theoretical gap by examining the effect of distributed leadership on change management, particularly in the Tunisian context, which has not been previously explored. Distributed leadership asserts that "leadership activities should not be accreted into the hands of a sole individual but, on the contrary, they should be shared between several people in an organization or team" (Storey, 2004, p. 252). This style encourages multiple individuals to participate in leadership practices, aiding in decision-making and problem-solving during organizational changes (Kempster and Parry, 2014).

In addition, to examining leadership as a key factor in change management, numerous other studies have underscored the importance of elements such as knowledge sharing and organizational trust in effectively managing change (Adam, 2022). Knowledge sharing is considered a culture of formally and informally transferring information, experiences, and skills related to work between the organization's members using several channels and networks. The purpose of sharing knowledge is to facilitate access to different information and to solve the organization's problems, knowledge sharing also considers the fact of helping coworkers by providing the needed information, or advice related to assigned activities and tasks to develop new ideas, accomplish the organization's objectives and ensure success (Ahmad and Karim, 2019). The "voluntary exchange of information between individuals in an organization" (Adam, 2022, p.4) is crucial for effective change management. Studies have consistently shown that knowledge sharing is essential for the successful implementation of organizational change programs (Leith and Yerbury, 2019). They have accordingly indicated that knowledge sharing positively reshapes organizational structures and enhances task performance during change. Additionally, some authors highlighted the relationship between distributed leadership and knowledge sharing, noting that distributed leadership significantly boosts organizational change and helps generate new knowledge, thereby enhancing the organization's competitiveness (Nonaka *et al.,* 2016). This fact confirmed then that this leadership style can foster social interactions among organization members, leading to increased knowledge-sharing initiatives (Liao *et al.,* 2018). It also encourages supportive behaviors and collaborative activities by facilitating knowledge sharing (Millar *et al.,* 2017).

Despite the extensive analysis of the impact of distributed leadership on knowledge sharing and the influence of knowledge sharing on change management, previous literature has overlooked the critical role of knowledge sharing as a mediator in the relationship between distributed leadership and change management. Therefore, this study will focus on examining the significant mediating role of knowledge sharing in that relationship.

Usually, when change is initiated in an organization, employees may feel uncertain and hope that their needs will be prioritized, and the outcomes will be favorable. Therefore, trust was considered a crucial element in such a situation, especially in influencing employees to accept and engage with the transformation.

Correspondingly, trusting leaders is mandatory to build great relationships while facing organizational changes. Indeed, earlier studies considered the concept of trust from cognitive, affective, and behavioral levels, where authors highlighted that trust is a social construction that facilitates decision-making (Lewis and Weigert, 1985) and influences the organization's future behavior (Weick *et al.,* 2005). They approved that trust increases communication, interactions, and feedback. It has also been mentioned that as distributed leadership contributes to the implementation of positive changes (Berraies *et al.,* 2021), it also focuses on improving the existence of organizational trust. It is able then to provide a healthy and trustworthy work environment atmosphere that nurtures organizational trust.

Inquiries into the impact of distributed leadership on organizational trust are increasing, and investigations into the relationship between organizational trust and change management are gaining more attention in recent literature. However, the role of organizational trust as a mediator between distributed leadership and change management remains underexplored. This study aims then, to thoroughly examine the moderating role of organizational trust in the relationship between distributed leadership and change management within the Tunisian context.

To conclude the existing research is dedicated to managers and middle managers working for different service companies based in the Tunisian context, to study the impact of their use of distributed leadership style on their change management effectiveness (Planned and emergent change) with the mediating role of knowledge sharing and organizational trust.

Tunisia has nearly 12 million inhabitants is situated near Italy, and shares historical ties with Morocco, having both been under French control until 1956. Renowned for its struggle for independence and its commitment to minimizing the role of change in societal governance for the sake of economic and social progress, Tunisia has garnered recognition as a pioneer in implementing innovative policies (Kacem and El Harbi, 2014; Harbi *et al.,* 2009).

Notably, Tunisia has been recognized as an early adopter of a unique change strategy that incorporates innovation, distinguishing itself in Africa and the Middle East (Patrick, 2006; Tufan, 2007). Small and medium enterprises (SMEs) in the service sector, which are more adaptable than larger firms, have emerged as key drivers of innovation (Harbi *et al.,* 2009).

Consequently, this sector has played a pivotal role in spearheading change processes in emerging economies. This shift is particularly evident in Tunisia's proactive approach, as reflected in its establishment of numerous support structures and incubators aimed at fostering entrepreneurial change behaviors.

Additionally, the advent of digitization has posed significant challenges for Tunisian firms, compelling them to embark on a transformative journey involving substantial changes at various levels. This included the necessity for a more disruptive business model, the reinvention of business processes to adapt to increasing digitalization, and the accommodation of a new breed of consumers who are more connected, mobile, and demanding.

Hence, digital transformation has become a source of apprehension for top management, prompting them to reevaluate traditional working methods and redefine strategic parameters such as teamwork, stakeholder relationships, organizational culture, creativity, and innovation.

Another significant change, in addition to digitalization, is the impact of the COVID-19 pandemic on organizations and employees in Tunisia, which has transformed the work and business landscape. Due to strict lockdown measures and social distancing protocols, many Tunisian companies had to swiftly shift to remote work arrangements to maintain operations. This transition posed significant challenges, particularly for sectors reliant on in-person interactions such as retail, tourism, and hospitality, leading to economic strains and job losses. Employees faced heightened anxiety and uncertainty regarding their livelihoods, exacerbated by the country's already fragile economic situation. However, the pandemic also sparked resilience and innovation within the Tunisian workforce, with organizations leveraging digital technologies to adapt and stay afloat. Flexible work arrangements and remote collaboration tools became the new norm, allowing businesses to maintain productivity while prioritizing employee safety. Looking ahead, as Tunisia navigates the path to recovery, organizations and employees must continue to embrace agility and

innovation, leveraging the lessons learned from the pandemic to build a more resilient and sustainable future for work in the country.

In June 2020, over 58% of Tunisian business managers faced financial difficulties when resuming operations post-COVID-19 lockdown. Even after businesses reopened with eased containment measures, approximately 57% experienced reduced workflow and productivity.

Common issues included delayed supplier payments, labor shortages, and an overwhelming volume of orders. Consequently, managers need to consider the appropriate leadership style to address these challenges effectively and to develop new strategies for better implementing and managing change.

For that reason, the following study will suggest the importance of Distributed Leadership adopted by managers and middle managers in managing the change in service companies existing in the Tunisian context.

1.2. The significance of study

This study holds substantial significance in expanding the understanding of distributed leadership, particularly within the business sector. Traditionally emphasized within the educational field, distributed leadership has recently gained traction in organizational contexts, making this research relevant in exploring its impact on managing change within dynamic business environments, such as those in Tunisia. The study examines how distributed leadership, characterized by shared decision-making and responsibility, influences organizational change, with a specific focus on knowledge sharing and organizational trust as mediating factors. By exploring these relationships, this research offers critical insights into the mechanisms that promote successful change management, helping organizations adapt more effectively to emerging challenges.

Moreover, it addresses gaps in the literature by emphasizing the applicability of distributed leadership beyond academic institutions, positioning it as a transformative approach in business management. The findings aim to enhance understanding of how leadership styles affect change management, providing practical insights for leaders striving for adaptability, innovation, and resilience in competitive and unpredictable business environments.

This approach aligns with the broader objective of fostering a culture of collaboration, transparency, and trust within organizations, which are critical for achieving sustainable growth and maintaining a competitive edge. The study's focus on the Tunisian context adds a unique dimension, considering the specific challenges and dynamics faced by organizations operating in emerging markets, particularly post-2011 transformations.

Overall, this research not only contributes to academic knowledge but also offers practical recommendations for leaders navigating complex organizational transformation.

1.3. Problems To Solve

In response to the multifaceted challenges faced by Tunisian firms in managing change, particularly exacerbated by the absence of a suitable leadership style, it becomes essential to address the pressing need for effective adaptation. The contemporary business environment is characterized by rapid transformations driven by globalization, technological advancements, innovation, health crises, wars, and heightened competitiveness. Consequently, Tunisian service companies find themselves compelled to restructure their operations, processes, and strategies to remain competitive and relevant in this dynamic environment.

Multiple studies highlight the significance of adopting change management strategies in organizations, referencing concepts like planned change and emergent change (Trzeciak, 2024; Hamza *et al.,* 2022; Hamza *et al.,* 2024). These research efforts explore how organizational change affects employee behavior and attitudes, and they pinpoint effective methods to engage employees while minimizing resistance and turnover.

However, despite the extensive literature on change management, the inquiry into how managers can plan, implement, and manage the change and which leadership style they use is the most conducive to navigating these challenges remains largely unexplored, especially in the context of Tunisian service providers firms and particularly from the perspective of distributed leadership style. While distributed leadership was extensively examined in the realm of education, there exists a notable theoretical and empirical gap concerning its application in the business management field.

Therefore, this study aims to fill the gap by examining the role of distributed leadership in change management, particularly its impact on organizational trust and knowledge sharing. These two elements are crucial for building relationships, improving employees' interactions and collaborations, and ultimately boosting performance, motivation, satisfaction, and engagement. By analyzing these factors as mediators, the following research intends to offer valuable insights into managing change effectively within Tunisian service firms, providing practical advice for leaders navigating the complexities of today's business landscape.

1.4. Objectives to Achieve

Distributed leadership has become a transformative model in the field of education, challenging traditional hierarchical structures and fostering a culture of collaborative decision-making among teachers, administrators, and students.

This model acknowledges and utilizes the combined expertise of the entire educational community, enhancing shared responsibility and empowering participants. It is linked to essential factors that significantly shape its effectiveness in educational environments.

Research highlights that the success of distributed leadership correlates with elements like organizational culture, the collaborative spirit among teachers, and the strength of interpersonal relations within educational institutions. Studies have demonstrated its profound influence on organizational effectiveness, as the cooperative nature of this leadership style boosts school performance and student achievement (Harris and Chapman, 2002). Additionally, it positively affects the quality of interpersonal relationships, fostering trust and open communication among educators and students (Harris and Muijs, 2005). Furthermore, distributed leadership is known to enrich school culture and climate, fostering an inclusive and participatory atmosphere that appreciates and incorporates diverse viewpoints (Geijsel *et al.,* 2003). Overall, distributed leadership presents itself as a comprehensive and impactful approach within educational frameworks, poised to maintain its efficacy in dynamic organizational changes and managerial contexts.

Is this will remain true in situations of change and from the companies' management perspective.

This study stands out as it tackles a vital research issue regarding the application of distributed leadership in managing organizational transformations within Tunisian service companies, particularly through the lenses of knowledge sharing and organizational trust. The research aims to challenge the traditional leadership paradigm that focuses on a singular charismatic leader, instead highlighting the benefits of a shared leadership model where responsibilities are distributed among team members, thus impacting change management, knowledge sharing, and trust dynamics profoundly. Additionally, this study seeks to introduce innovative strategies to enhance change management practices by leveraging novel leadership perspectives.

This research is significant as it aims to extend the concept of distributed leadership beyond the realm of education, potentially impacting leadership and change management practices in dynamic and competitive business environments, such as those in Tunisia. The study is expected to enhance understanding of how leadership styles affect organizational change, with knowledge sharing and trust serving as key intermediary factors. Anticipated outcomes include practical insights for leaders in similar contexts and a deeper academic understanding of these dynamics.

The findings promise to contribute meaningfully to both academic discussions and practical applications in leadership and change management.

Investigating the influence of distributed leadership on change management, particularly regarding the mediating effects of knowledge sharing and organizational trust, is critically important in the current environment. Distributed leadership, characterized by shared decision-making and accountability among various stakeholders, has emerged as a crucial approach to effectively navigating organizational change processes. By distributing leadership responsibilities across different levels and functions within an organization, diverse perspectives and expertise are leveraged, leading to more innovative and adaptive responses to change initiatives. The success of distributed leadership in achieving positive change outcomes largely depends on how well knowledge-sharing and organizational change processes are managed. Effective knowledge sharing ensures that critical information, best practices, and lessons learned are spread across the organization, promoting a culture of ongoing learning and adaptation. Consequently, this strengthens the organization's ability to implement and maintain change initiatives successfully.

Moreover, organizational change, characterized by shifts in structures, processes, and systems, provides the necessary framework for translating leadership vision into tangible actions and outcomes. Examining the relationship between distributed leadership, knowledge sharing, and organizational change allows researchers and practitioners to gain a crucial understanding of the factors that facilitate successful change management. This understanding can guide the creation of customized strategies and interventions aimed at boosting organizational resilience, agility, and competitiveness in a rapidly changing and unpredictable environment. Therefore, investing in research on the relationship between distributed leadership, knowledge sharing, and organizational change is both academically valuable and highly practical for organizations aiming to succeed in today's fast-paced business environment. Moreover, as organizations function more in a globalized and interconnected world, the critical role of distributed leadership in promoting collaboration and innovation becomes increasingly evident.

In diverse and geographically dispersed teams, distributed leadership catalyzes harnessing the collective intelligence and expertise of individuals across different locations and cultural backgrounds. This inclusive strategy not only fosters a sense of ownership and dedication among team members but also enhances decision-making and problem-solving efficiency.

Likewise, distributed leadership builds resilience amid uncertainty and ambiguity by empowering individuals throughout the organization to take initiative and adapt to evolving situations.

Additionally, the mediating role of knowledge sharing and organizational change in the link between distributed leadership and successful change management highlights the necessity of fostering a supportive organizational environment.

Leaders should actively cultivate a culture of trust, transparency, and collaboration to promote knowledge sharing and encourage experimentation with new ideas and practices. Furthermore, organizational structures and processes should be designed to enable flexibility and agility, allowing for quick responses to emerging challenges and opportunities. By adopting distributed leadership principles and nurturing a culture of continuous learning and improvement, organizations can better position themselves for long-term success in today's volatile and uncertain business environment.

In conclusion, the study of distributed leadership, knowledge sharing, and organizational change is a crucial area of inquiry for both researchers and practitioners. By understanding the intricate interplay among these factors, organizations can develop strategies and interventions to boost their capacity for innovation, adaptability, and resilience. Ultimately, investing in research and practice that explores the connections between distributed leadership, knowledge sharing, organizational trust and organizational change is vital for driving sustainable growth and gaining a competitive edge in the modern business landscape.

This study holds particular significance for Tunisia, where organizations have been grappling with various changes affecting their structure, employees, and success since the revolution of 2011. Therefore, investigating how adopting a distributed leadership style, along with knowledge sharing and organizational trust, can truly and effectively assist service companies in managing change is essential.

To conclude, this study responds to three main problems:

- Explaining how managers can plan, implement, and manage planned and emergent changes remains largely an unexplored area, especially in the context of Tunisian service providers firms.
- Distributed Leadership extensively examined in the realm of education, but a notable theoretical and empirical gap was concluded regarding its application in the business management field.
- Luck in studies considering organizational trust and knowledge sharing variables as mediators in the link between distributed leadership and change management.

Accordingly, our objective is to:

- Challenge the traditional single-leader paradigm by highlighting the advantages of distributed leadership in the management field compared to the educational field.
- Challenge the traditional single-leader paradigm by highlighting the advantages of distributed leadership in the management field compared to the educational field.

This study tends then to respond to three main research questions:

Question 1: To what extent do distributed leadership impacts change management?

Question 2: How can knowledge sharing mediate the relationship between distributed leadership and change management?

Question 3: How can organizational trust mediate the relationship between distributed leadership and change management?

To achieve objectives with positive results, the study employed a quantitative research approach, following a hypothetico-deductive method. Data collection was conducted through a structured survey distributed to 500 managers in Tunisian service firms, resulting in 415 responses, of which 300 were usable, yielding a 72% response rate. The respondents were managers and middle managers across various service sectors, including IT, finance, banking, and business consulting, among others. The survey used closed-ended questions based on a 5-point Likert scale to measure variables like distributed leadership, knowledge sharing, and organizational trust. Data was analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) via SmartPLS 4, enabling robust evaluation of both direct and mediating effects. The analysis confirmed positive and significant relationships among the variables, supporting the study's hypotheses. This quantitative approach, combined with a diverse sample, contributed to achieving reliable results, demonstrating that distributed leadership positive impacts change management, mediated by knowledge sharing and trust.

1.5. Motivation

The motivation for pursuing this research is rooted in both my academic interests and personal experiences in the field of management, especially within the context of the Tunisian business environment. Over the years, I have witnessed firsthand how organizations struggle with constant change, driven by factors like globalization, technological advancements, and socio-political shifts. This rapidly evolving environment often overwhelms managers, leaving them grappling with ways to effectively guide their teams through transformations.

The desire to address these challenges inspired me to delve into the concept of distributed leadership, a relatively underexplored model in the business sector but one that holds immense potential for fostering sustainable change management.

My academic background in management and business administration further fueled my interest, as it exposed me to the theoretical foundations of various leadership models, sparking a passion for exploring practical applications of these models in real-world scenarios.

Another strong driver for this research is my aspiration to contribute positively to the growth of the Tunisian economy. As Tunisia navigates its post-revolution era, with organizations striving to rebuild and adapt, I believe that an innovative leadership approach could be pivotal in promoting organizational resilience. Distributed leadership, which emphasizes collaboration, shared decision-making, and empowerment, seems particularly suitable for the Tunisian context, where collective efforts are often more effective than individualistic approaches. This research, therefore, aims to challenge the traditional notion of a single charismatic leader by highlighting the value of a more inclusive and participatory model of leadership. By doing so, I hope to offer practical strategies that can equip managers with the tools to inspire their teams, foster trust, and encourage open knowledge sharing all of which are crucial for successful management changes.

The inspiration behind this thesis also stems from my personal belief in creating equitable and inclusive workplaces. I have always been intrigued by the potential of leadership to transform not only organizations but also individuals within them. The idea of distributed leadership aligns with my vision of a work environment where every member feels valued, heard, and empowered to contribute meaningfully to organizational goals. By emphasizing the importance of knowledge sharing and trust as mediating factors in the success of distributed leadership, I hope to advocate for a more humane approach to change management—one that not only drives performance but also nurtures employee well-being and satisfaction. This focus on the human element of leadership has been a consistent source of motivation throughout my research journey, as I strongly believe that the true measure of a successful organization lies in its ability to create positive experiences for its members while achieving its strategic objectives.

Moreover, the lack of existing research on distributed leadership in the Tunisian service sector presented a compelling opportunity to make a meaningful academic contribution. While distributed leadership has been extensively studied in educational contexts, its impact on business sectors, especially in emerging markets, remains largely unexplored. This gap inspired me to embark on a journey that would not only extend the academic understanding of distributed leadership but also offer practical insights that managers in Tunisia can implement to drive change more effectively. I am driven by the potential of this research to spark a shift in how leadership is conceptualized and practiced in Tunisian organizations, ultimately contributing to a more adaptive and innovative

business environment. In essence, my motivation for this thesis goes beyond academic curiosity; it is about making a tangible difference in how leadership is understood, implemented, and leveraged to navigate complex changes in a dynamic world.

1.6. Dissertation Structure

The actual research paper is organized into seven distinct chapters.

The first chapter serves as an introduction, providing an overview of the evolving organizational dynamics globally, with a special focus on Tunisia. This chapter sets the context by presenting the study's background, discussing the specific challenges faced by Tunisian managers in adapting to change, and outlining the problem statement, purpose, and significance of the study.

The second chapter is a comprehensive literature review that critically examines various change management models and explores the roles of leadership in facilitating organizational change. This section outlines the theoretical aspects of the study, defines the conceptual foundations of the variables, and reviews previous research linking these variables, leading to the formulation of hypotheses.

The third chapter details the methodological framework of the study, explaining the research design, data collection methods, and analytical techniques used to investigate the hypothesized relationships between distributed leadership, knowledge sharing, organizational trust, and the effectiveness of change management.

The fourth chapter presents the research findings and discussion. This section analyzes the study's outcomes, examining both the direct and mediating effects between the variables. The chapter integrates theoretical and managerial insights with empirical data to draw robust conclusions regarding the study's hypotheses and offers future implications and recommendations.

The fifth chapter explores the study's conclusions, summarizing the results, presenting the theoretical and managerial implications, and providing recommendations based on the study's findings.

The sixth chapter includes a presentation of my new scientific results, shedding light on the originality of the study and its new perspectives.

Finally, the seventh chapter provides a comprehensive summary of the thesis, encapsulating all its parts.

2. LITERATURE REVIEW

2.1. Conceptual Basis of Distributed Leadership

The statement of leadership is widely recognized as a crucial and intricate element contributing to the success of organizations and has been extensively analyzed in both organizational and psychological studies.

Over the years, many leadership theories have been developed, each highlighting different types, styles, and forms of leadership. This study focuses on distributed leadership, a concept that has become increasingly significant in the educational field, garnering substantial attention and empirical validation. This modern approach challenges traditional hierarchical models by acknowledging that leadership responsibilities can be shared across various organizational levels, fostering collaboration and particularly relevant in today's dynamic organizational environment.

Foundational research by Spillane *et al.* (2001) and Gronn (2002) has established a basis for comprehending distributed leadership, while subsequent studies, such as Bolden *et al.* (2009), offer insights into its application within specific contexts like higher education. Distributed leadership posits that responsibility for an organization's performance is shared, rather than resting on a single individual. Those formal leadership roles work together to ensure the organization's cohesion. This approach is significant in organizations, as it boosts self-efficacy, employee morale, innovation, collaboration, and collegiality.

2.1.1. Leadership Approach Origins and Definitions

The notion of leadership dates to the early stages of human society, making it as ancient as history itself, with its conceptualization and practical applications rooted in the dawn of civilization. The dynamics of leadership experienced a transformative shift during the Industrial Revolution when individuals from ordinary backgrounds gained influence based on their competencies (Asrar-ul-Haq and Anwar, 2018). Leadership has been a presence since the 14th century (Stogdill, 1974), and it wasn't until the 20th century that systematic scientific exploration into the subject began (Bass, 1990). The term "leader" traces its roots back to the Old English word "leden" (to guide) and the Latin word "duro" (to lead). While many European languages have derived their terms from these origins, French still does not have a direct equivalent (Rost, 1991).

Recognizing the complexity of the subject, Burns (1978) highlighted that leadership is one of the most extensively observed phenomena.

This has led numerous scholars to pursue a thorough understanding of its nature, various forms, and fundamental components.

Despite extensive discussions and observations surrounding leadership, certain facets, such as adaptable approaches and styles tailored to specific contexts and cultures, remain areas of incomplete comprehension (Vanderheyden *et al.,* 2004).

As mentioned, leadership can be traced back to the dawn of human civilizations when the need for guidance and structure led to the formation of leadership roles. In ancient Mesopotamia, figures like Hammurabi played pivotal roles, their leadership exemplified by the creation of one of the earliest legal codes, reflecting efforts to codify principles of justice within Babylonian society. Simultaneously, literary works such as the Epic of Gilgamesh shed light on the challenges faced by leaders in those ancient societies. Leadership in those times was associated with tribal chieftains, religious leaders, and monarchs, individuals who played important roles in maintaining order and providing direction for their communities.

Classical antiquity saw the rise of influential leaders whose actions left an indelible mark on history. Alexander the Great, through his conquests, demonstrated leadership qualities that united diverse cultures under a single empire. Philosophers like Plato (380 BCE) and Aristotle (350 BCE) contributed to the understanding of leadership virtues, emphasizing qualities like wisdom and justice. These early philosophical reflections laid the groundwork for subsequent discussions on ethical leadership.

The medieval period witnessed leadership often in the form of feudal lords and monarchs, operating within hierarchical structures and guided by the principles of chivalry. The Renaissance brought forth a more nuanced perspective on leadership, as seen in Machiavelli's "The Prince." This work challenged prevailing notions of virtuous rule, introducing pragmatic considerations, and acknowledging the complexities of political leadership. The onset of the Industrial Revolution marked a transformative phase in leadership dynamics. Figures like Henry Ford exemplified a shift toward organizational leadership as industrial enterprises emerged. The need for efficient management skills became paramount as well as setting the stage for a new era in which leadership extended beyond personal authority to strategic vision and organizational management.

During the 20th century, the concept of leadership evolved significantly with the introduction of various theories. Prominent leaders such as Winston Churchill and Franklin D. Roosevelt rose to prominence in the post-World War II era, steering nations through difficult periods. The civil rights movement in the United States highlighted the transformative power of leadership, especially through the peaceful activism of figures like Martin Luther King Jr.

Examining the historical foundations of leadership offers a thorough understanding of its evolution over time. From its roots in ancient civilizations to the intricate nature of contemporary organizational leadership, this journey underscores the adaptive and resilient characteristics of leadership.

Furthermore, the idea of leadership has a deep historical background, influenced by the intellectual contributions of numerous scholars from diverse periods and fields. In his writings, Aristotle (350 BCE) established the basis for comprehending the virtues and qualities necessary for effective leadership. In addition, Machiavelli (1532) offered pragmatic insights into political leadership dynamics. Weber (1922), a German sociologist, introduced the concept of charismatic leadership in his book to explore how personal qualities inspire followers. In the mid-20th century, Kurt's (1944) research on group dynamics and leadership styles contributed significantly to understanding the behavioral aspects of leadership, he was one of the foundational figures in the scientific exploration of leadership because he conducted influential research on group dynamics and leadership styles in the 1930s and 1940s. His work laid the groundwork for understanding how leadership behaviors influence group behavior and performance. His research, including the well-known studies conducted at the Iowa Child Welfare Station, played a significant role in the development of leadership theories and the identification of various leadership styles. Analyzing these historical roots offers valuable insights for contemporary leaders facing diverse challenges in a rapidly changing world. That this why with leadership concept evolution the notion definition was not easy to conceptualize and changed from one time to another.

According to Silva (2016), defining leadership is a complex challenge, a notion supported by Stogdill (1974) over four decades ago when he observed that the concept of leadership has been defined by countless individuals, resulting in nearly as many definitions as people are attempting to describe it. Some authors noted that by the end of the last century, there were at least 650 different definitions of leadership in literature. Kellerman (2012) suggested that this number might have risen to approximately 1,400. Whether these figures are exact or somewhat exaggerated, they highlight the lack of consensus on the precise nature of leadership, which continues to fuel the search for a clearer definition. McCleskey (2014), referencing Bass (2008) and other scholars, argues that finding a single definition may be impractical because the appropriate definition of leadership varies depending on the researcher's focus and the specific problem or context being studied. Despite this complexity, having a clear definition of leadership is essential due to its broad application across various fields such as the military, business, politics, religion, and sports. Numerous books and articles are published annually, and organizations invest significant resources in developing future leaders.

However, without a common understanding of what leadership entails, these efforts may lack effective direction.

The exploration of leadership and its definitions is a multifaceted and evolving endeavor, incorporating a rich tapestry of perspectives from various disciplines. In organizational studies, leadership is frequently understood as a dynamic process where individuals or groups influence and guide each other to achieve common objectives (Yukl, 2010). Bernard Bass, a prominent leadership scholar, defines leadership as a process in which an individual influences a group to reach shared goals (Bass, 1985). Northouse (2009) describes leadership as a power relationship between leaders and their followers. Wren (1995) interprets leadership as an effort to influence and the power of subordinates' submission. Rauch and Behling (1984) explain leadership as the process of directing and influencing the activities of a coordinated group to accomplish goals. According to Davis (2003), leadership involves moving the organization or part of it in a new direction to solve problems, foster creativity, initiate new programs, build organizational structures, and ultimately enhance quality.

Leadership is a necessary element in business because it determines the ability of a company to define and achieve ambitious goals, to take swift and decisive actions when needed, to surpass the competition, and to inspire others to reach the highest possible level. It is undoubtedly challenging to assign quantitative value to leadership, as it appears to be a qualitative aspect, but those who discuss it also refer to a more comprehensive approach. Leadership offers essential guidance for a business and its employees, as it is vital for staff to understand the company's direction and identify the leaders guiding them toward shared objectives. Consequently, leadership entails demonstrating to employees how to effectively carry out their duties, continuously overseeing the execution of their tasks, and serving as a role model for learning new methods, processes, or techniques.

From a different viewpoint, Tannenbaum *et al.* (1961) described leadership as a social influence exerted within a specific context and conveyed through communication, aimed at achieving particular goals. Zaleznik (1981) emphasized the influential aspect of leadership, suggesting that it involves using authority to shape others' thoughts and behaviors. Kotter (1988) offered a new perspective, defining leadership as guiding a group in a specific direction primarily through non-coercive means, highlighting that coercion does not equate to leadership since it requires voluntary followership. However, this distinction is not universally accepted; for instance, Kellerman argued that the use of force can also constitute a form of leadership (Volckmann, 2012).

Leadership arises when a member of a group influences the motivation or abilities of other group members.

Leadership can be demonstrated by any group member to some extent. Handy (1992) highlighted the leader's responsibility in establishing and sharing a vision, suggesting that a leader creates and communicates a vision that gives purpose to the group's efforts. Similarly, Rost (1993) emphasized that leadership is a relational process aimed at achieving shared objectives.

Bennis and Nanus (1985) described leadership as the capacity to create a compelling vision and convert that vision into measurable organizational accomplishments. Essentially, Bennis believed leadership is about transforming vision into reality. Drucker (1996) encapsulated late 20th-century ideas by stating that a leader is simply someone who has followers.

Although many modern scholars avoid defining leadership precisely, Kellerman portrays it as an equilateral triangle consisting of the leader, followers, and context (Volckmann, 2012). She acknowledges the traditional focus on the leader, aligns with Bass's emphasis on followers, and uniquely incorporates the context as an equally essential element of the leadership process. According to Kellerman, leadership is a dynamic entity that evolves over time and varies across different geographical and cultural settings, highlighting its contextual nature in places like China, the United States, Brazil, and England.

As new challenges and contexts arise, the concept of leadership continues to adapt, maintaining its relevance in addressing contemporary issues and fostering effective guidance across diverse environments.

2.1.2. Leadership Theories

A. Classical Leadership Theories

Many experts in psychology and other fields believe that leadership is innate, while others think that leadership is a skill that someone can learn and acquire through experience or practice. The study of the leadership domain has been able to conclude that there are four fundamental classical theories, among which I can mention:

Trait Approach

The trait theory focuses on the characteristics of leaders to predict leadership effectiveness. Researchers employing this approach have attempted to identify physiological, demographic, and intellectual factors that contribute to a leader's effectiveness.

Charisma, confidence, intelligence, and social skills are just simple internal characteristics necessary for every great leader. In this context, the Great Man theory shows that leadership ability is inherent, meaning that we don't become a leader by chance but rather we are born leaders.

This theory insists on describing great leaders as heroic, mythical figures with a dominant position. Indeed, the trait theory has the same aspects as the "Great Man" theory; it assumes that a person must inherit certain traits and qualities to qualify as a leader. The literature review reveals that in the early 20th century, trait theory was one of the first systematic efforts to study leadership (Northouse, 2007). The "Great Man" theory posits that a select few individuals have the capacity to transform history or enact significant societal changes (Asrar-ul-Haq and Anwar, 2018; Berraies and Bchini, 2019).

Allen (1998) explains that character or trait theories suggest leadership qualities are inherited and integral to one's personality. According to Stogdill (1950), traits such as intelligence, vigilance, insight, responsibility, initiative, persistence, self-confidence, and sociability are distinctive markers of effective leadership (Berraies and Bchini, 2019).

Mann (1959) identified over five hundred personality measures, which he consolidated into seven primary characteristics: intelligence, adaptability, extroversion and discovery, dominance, masculinity-femininity, conservatism, and interpersonal sensitivity. He found a strong correlation between leadership and traits such as intelligence, adaptability, extroversion, and a positive relationship with dominance, masculinity, and interpersonal sensitivity.

Fiedler (1967) argued that it is impossible to predict effective leaders solely by focusing on individual characteristics without considering the situation. Lord *et al.* (1986) supported Fiedler's conclusion, suggesting that the findings of Stogdill and Mann were based on flawed studies, leading to incorrect conclusions. Kirkpatrick and Locke (1991) identified six essential characteristics of effective leadership: motivation, honesty, integrity, self-confidence, cognitive abilities, and business knowledge. Kouzes and Posner (2003) categorized these traits into four main attributes: honesty, foresight, inspiration, and competence.

However, the theory faced criticism when studies failed to consistently link specific traits or sets of traits with successful leadership styles (Jenkins, 1947). Furthermore, some results showed limited practical value for leadership practice, as many traits cannot be taught. This recognition of the limitations of trait theories contributed to the development of the behavioral theory of leadership.

Behavioral Approach

A clear distinction exists between trait theory and behavioral theory, as trait theory concentrates on specific personality characteristics, whereas behavioral theory focuses on actions and behaviors. The behavioral theory of leadership emphasizes the importance of understanding the factors that influence a leader's behavior. It suggests that by comprehending and applying these determinants, individuals can learn and modify their leadership style (Asrar-ul-Haq and Anwar, 2018).

Similarly, Allen (1998) demonstrated that behavior and leadership styles can be developed through training.

This era marked a significant shift by focusing on what leaders do rather than their inherent traits. leadership was thereby defined as a segment of human behavior (Hunt and Larson, 1977). Some researchers concentrated on common behaviors exhibited by leaders, while others examined the behavioral differences between effective and mediocre leaders (Yukl, 1989).

Significant contributions to the development of this theory came from various scholars:

Researchers from Ohio and Michigan universities identified two critical leader behavior traits: initiating structure, which emphasizes task accomplishment, and consideration, which emphasizes individual and group cohesion (Griffin *et al.*, 1987).

During this period, various theories were explored, including Theory X and Theory Y, which garnered significant attention. Theory X posits that people are inherently passive and require direction and extrinsic motivation to fulfill organizational goals. Conversely, Theory Y suggests that people are intrinsically motivated and need only suitable working conditions (McGregor, 2008). Additionally, the "managerial grid" (Blake and Mouton, 1964), later renamed the "leadership grid," was developed. This model proposed two main behaviors: task-oriented, focusing on technical task accomplishment, and employee-oriented, valuing followers as individuals and addressing their needs.

Likert (1967) categorized leadership styles into four types: exploitative-authoritative, benevolent-authoritative, consultative, and democratic. Similarly, Tannenbaum and Schmidt (1973) classified leadership styles as autocratic, persuasive, consultative, and democratic.

However, this theory fell short of comprehending leadership fully, as it did not account for situational and contingency factors. This limitation led to the emergence of situational theory.

Situational Approach

This approach highlights the significance of contextual factors such as the type of work, external environment, and follower characteristics. It includes two main parts: examining how contextual elements impact leader behavior and analyzing the relationship between leader behavior and performance with contextual factors acting as moderating variables.

The theory extensively addresses the nature of tasks, the leader's social status, their position relative to subordinates, and the external environment (Bass, 1981; King, 1990). These situational aspects can influence the types of leader traits, skills, influence, and behaviors that promote effective leadership.

During the contingency period, leadership theories evolved to focus heavily on situational moderating variables, which determine the appropriate leadership style, leading to the development of contingency theory. Contingency leadership theories investigate how leaders' behaviors vary across different situations, emphasizing that no single leadership style fits all scenarios.

Bennis and Goldsmith (2003) describe effective leadership as the optimal balance between behavior, context, and needs, indicating that a leader's effectiveness and performance are dependent on the situation. Three notable theories from this period include:

- **Contingency Theory:** Explored by Fiedler (1967), emphasizing the importance of matching leaders to suitable situations.
- **Path-Goal Theory:** Addressed by House (1971), focusing less on situational or leader behavior and more on creating conditions that facilitate subordinate success.
- **Normative Theory:** According to Vroom and Jago (1988), this model stresses the importance of decision quality and selecting the best alternative, particularly when multiple options are available.

According to Berraies and Bchini (2019), early leadership approaches viewed leadership as a unidimensional, internal, and individualistic process, considering only the leader's personality, traits, or behaviors (Van Seters and Field, 1990). This perspective led researchers to incorporate situational elements into leadership theory, emphasizing the need for leaders to adapt their styles to the work environment, particularly to the maturity level of subordinates and the type of tasks (Van Seters and Field, 1990). Contingency theory conceptualizes leadership as a multidimensional interaction between the leader, subordinates, and the situation (Van Seters and Field, 1990). Recent research trends highlight the importance of emotional and social skills in effective leadership (Berraies and Bchini, 2019).

B. Modern Leadership Theories

Despite extensive research efforts during this period, classical theories prove to have limited utility. Initially, there was limited acknowledgment of foundational leadership areas and a poor understanding of interaction dynamics, which paved the way for the development of contemporary theories such as transactional and transformational leadership.

Transactional and Transformational Leadership Approaches

Burns (1978) was the pioneer in differentiating between transformational and transactional leadership styles.

He characterized transformational leadership as a process that motivates followers by focusing on their performance and offering a clear vision for the future. Conversely, he described transactional leadership as a social exchange process that impacts employee performance in relation to predetermined goals.

Building on Burns's work, Bass (1985) expanded the concept, introducing the transformational leadership theory, concentrating on leaders and their behaviors.

He highlighted that transformational and transactional leadership styles are interdependent rather than mutually exclusive. Effective leaders utilize both approaches depending on the task and the needs of their followers. Transactional leaders motivate by addressing personal interests and employing rewards and penalties to influence behavior. They work within established systems, prioritizing risk avoidance and the achievement of predetermined objectives, particularly during periods of organizational change.

Conversely, transformational leadership focuses on long-term strategies. Transformational leaders inspire followers by persuading them that the organization's goals surpass personal objectives and align these goals with their own benefits. This leadership style is effective in motivating followers to put forth greater effort and in driving development and change within the organization (Asrar-ul-Haq and Anwar, 2018).

In the current dynamic technological environment and intense competitive landscape, organizations increasingly prefer transformational leaders. These leaders inspire employees to reach greater heights and realize their potential beyond their perceived limits. The core emphasis of transformational leadership theory is on enhancing follower performance (Asrar-ul-Haq and Anwar, 2018).

In conclusion, transformational leadership encompasses behaviors that align employees' needs with the leader's goals and values, converting individual interests into collective ones. Transformational leaders impact their subordinates by fostering acceptance of the organization's mission, crafting and conveying a unified vision, and motivating them to prioritize the organization's overall benefit over personal interests (Berraies and Bchini, 2019).

However, transactional leadership is founded on an exchange relationship between leaders and followers, wherein leaders use their authority to reward employees for appropriate behaviors and penalize them for non-productive actions. Transactional leaders motivate subordinates by offering rewards directly related to their personal interests in exchange for goal achievement (Berraies and Bchini, 2019). They promote compliance through rewards and punishments, focusing on task completion without seeking innovative approaches.

After understanding the origin and various presentations of leadership concepts, evolving from classical to modern theories, it is essential to differentiate between two key concepts: management and leadership.

Many individuals confuse these concepts, if holding a managerial position implies being a leader, which is not always the case. The two concepts differ in definition and required skills.

Agile Leadership Approach

According to Attar and Abdul-Kareem (2020), the complex and unpredictable nature of the current global business environment exerts substantial pressure on both private sector companies and public organizations. This necessitates the adoption of an agile leadership approach to effectively navigate the ever-changing landscape. Leadership scholars often refer to agile leadership using terms like leadership agility and leadership versatility. De Meuse *et al.* (2010) suggest that the emerging consensus on agile leadership highlights its effectiveness in addressing diverse and dynamic organizational conditions.

Joiner and Josephs (2007) define agile leadership as the capability to make sound decisions in complex, volatile, and rapidly changing environments. This form of leadership involves taking intelligent and prudent actions under conditions marked by high uncertainty and complexity. Agile leadership also includes the ability to learn and adapt to new leadership styles, allowing leaders to respond quickly and effectively to shifting circumstances.

Given that change impacts all levels of organizational hierarchy, leaders across various industries and organizational sizes are actively exploring ways to implement agile thinking. Agile leadership embraces an adaptively flexible strategy, responding to both external and internal changes. It aims to create a value-connected experience for stakeholders by empowering organizational members (Chatwani, 2019). This leadership style employs multiple perspectives to identify and analyze events, avoiding rigid adherence to bureaucratic decision-making structures.

Agile leaders are characterized by their ability to adapt, switch, and lead in ambiguous, challenging, and unpredictable situations. This adaptability and versatility are crucial for businesses in the twenty-first century to thrive in a hyper-competitive and volatile environment. The study by Akkaya and Tabak (2020) found that top managers exhibiting agile leadership can enhance a firm's dynamic capabilities by fostering an organizational climate that motivates employees to be open-minded, exemplify strong values, and innovate.

Additionally, these leaders create conditions that allow followers to effectively showcase their knowledge and skills, encouraging creativity in developing new methods and techniques.

Agile leaders possess the mental acuity to analyze and comprehend the complexity of situations, utilizing a broad perspective to discern differences. In decision-making processes, these leaders consider diverse viewpoints, including those that may contradict their own, and value the advice of experts in areas where they may lack expertise.

Consequently, agile leadership encompasses self-assessment, awareness, and an understanding of one's weaknesses.

Servant Leadership Approach

Because of the adverse effects linked to traditional leadership styles that emphasize the leader's self-interest, a new approach has emerged, focusing on promoting integrity and prioritizing the support of followers (Liden *et al.,* 2015; Canavesi and Minelli, 2022). This approach, known as servant leadership, involves engaging followers on various levels emotional, relational, and ethical aiming to unlock their full potential and empower them to achieve their capabilities (Eva *et al.,* 2019). Key characteristics of servant leaders include humility, a commitment to follower development, active listening, shared decision-making, ethical behavior, and fostering a sense of community (Jit *et al.,* 2016). The core idea is that by prioritizing the needs and well-being of followers, their goals can be met, which in turn advances the leader's and organization's objectives.

Recently, servant leadership has become a focal point for researchers and academics due to its comprehensive approach and wide-ranging perspective compared to other leadership models (Canavesi and Minelli, 2022). This leadership style plays a vital role in affecting outcomes at both the individual and team levels, such as organizational commitment, organizational citizenship behavior, job performance, and job satisfaction. The term "servant leadership" was first introduced by Greenleaf in 1970, who characterized it as a style that emphasizes the personal growth and development of followers through ethical behavior. Later scholars, including Ehrhart (2004), refined Greenleaf's ideas, arguing that servant leadership transcends financial success, acknowledging a moral obligation to subordinates, customers, and the larger organizational community. The philosophy of servant leadership underscores the importance of serving and adding value to various stakeholders, both within and outside the organization, as noted by Liden *et al.* (2008). They highlight essential servant leadership behaviors, such as ethical conduct, fostering follower growth and success, empowerment, emotional healing, conceptual skills, and contributing value to the community.

Distributed Leadership Approach

Zulkifly *et al.* (2020) noted that distributed leadership is predominantly used and extensively studied in higher education institutions, though it is also observed in other sectors (Vuori, 2019). Harris (2013) and Thorpe *et al.* (2011) highlighted the lack of a universally accepted definition of distributed leadership, emphasizing its focus on collective practices. Accordingly, researchers have approached the study of distributed leadership with caution due to its significant overlap with shared governance and collegial leadership principles (Burke, 2010; Kezar and Lester, 2010).

Bennett *et al.* (2003) described distributed leadership as an emergent property of a network or group, characterized by open boundaries and a broad distribution of expertise among many individuals. Subsequently, Robinson (2008) identified two critical components of distributed leadership: the allocation of tasks and the processes of distributed influence.

According to Harris (2004), distributed leadership leverages organizational expertise beyond formal positions or roles, allowing it to occur both formally and informally, unlike traditional collegiality. Spillane *et al.* (2004) argued that, from a distributed leadership perspective, leadership is shaped by interactions between individuals and their contexts, rather than being the sole responsibility of a single leader. Ho *et al.* (2016) additionally, supported this view, stating that distributed leadership involves the interplay of multiple leaders, regardless of whether their roles are formal or informal.

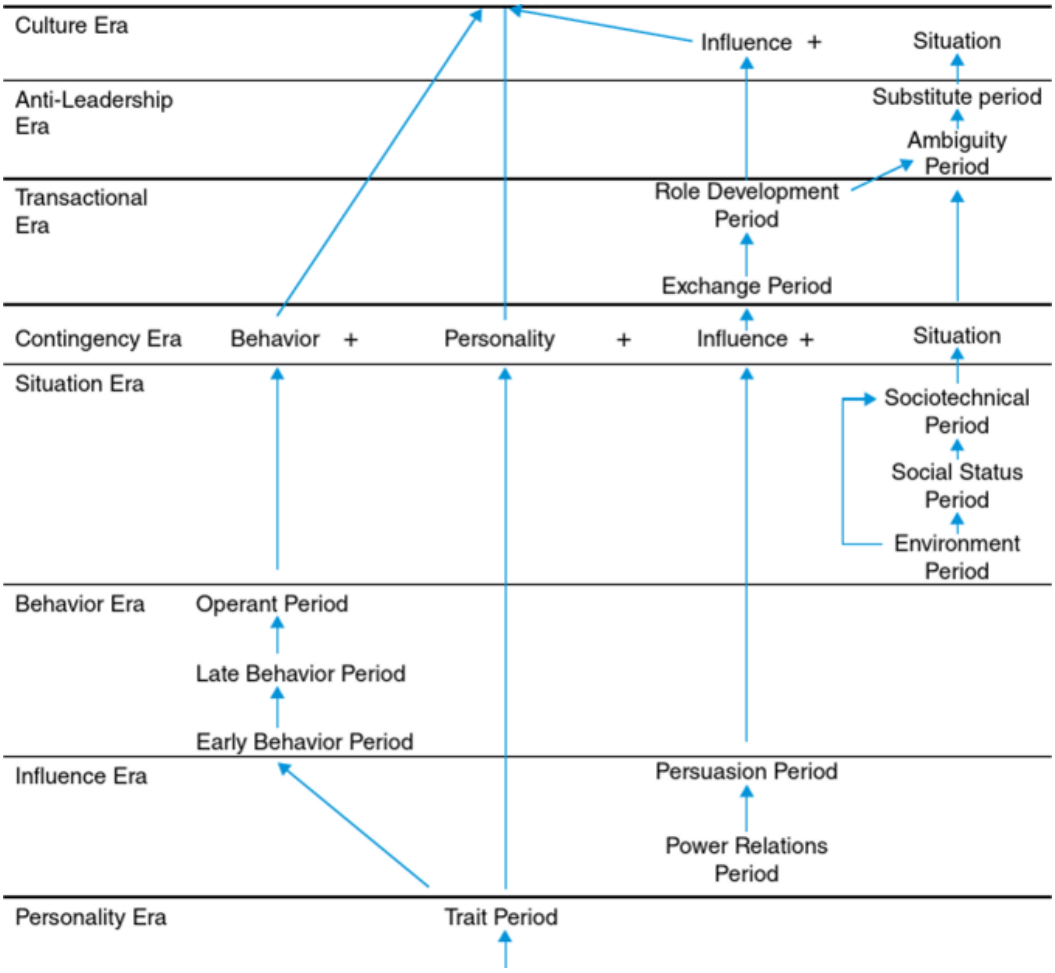

Figure 1: The Evolutionary Tree of Leadership Theory

Source: King, 1990

Figure 1 shows the evolution of leadership theory going from classical theories to modern theories. The evolutionary tree of leadership theory serves then as a useful visual tool to understand the historical progression of leadership ideas.

2.1.3. Distinction Between Leading and Managing

A. Leaders Versus Managers

The first publication in the field of management appeared in 1825, approximately two centuries ago. Initially, management was regarded as a general principle, where the leader of the company (manager) was responsible for specifically handling tasks related to ensuring the success of the business. Indeed, these tasks were classified into five categories: planning, organizing, commanding, coordinating, and controlling (Nienaber, 2010). These tasks were considered the primary responsibilities of business leadership, along with other tools such as communication, motivation, and decision-making, seen as secondary but necessary tasks for the organization.

The terms "leader" and "manager" have often been used interchangeably to describe the individual ultimately accountable for a company's performance. Over time, the roles of command and coordination have evolved into broader leadership responsibilities, which also include many management tasks. Contemporary researchers differentiate between the two by describing managers as administrators who focus on planning, budgeting, and tracking progress. In contrast, leaders are seen as those who inspire and guide organizations and their members towards change. Therefore, management is considered a necessary function in every business, while leadership is viewed as a relationship that motivates and energizes an organization (Maccoby, 2000).

According to Maccoby (2000), the role of management generally involves addressing problems, facilitating meetings, and performing conventional bureaucratic duties. In a management function, several individuals perform different tasks. For example, in a team, one person may handle planning, another budgeting, and a third may monitor quality. Their role is to facilitate meetings, share responsibilities, and achieve performance goals. In other words, their true responsibility is to ensure effective management (Maccoby, 2000).

For leaders they usually inspire individuals to believe in their own potential and capabilities, making them feel capable of achieving any goal they envision. A good leader is one who consistently tries to empower team members, cooperates, rewards, and celebrates success. A good leader strengthens the motivation of team members and develops their skills. Ultimately, a good leader can be said to be someone who builds trust and creates a positive environment for their teammates.

It is necessary to distinguish between a manager and a leader and recognize that each role is essential for the organization's success. However, it is crucial to acknowledge that the roles differ significantly in execution and impact (Fay and Patterson, 2018).

Table 1: Management vs. Leadership

Management (function)	Leadership (Relation)
Planning	Talent Selection
Budgeting	Motivation
Evaluation	Coaching
Facilitation	Building Confidence

Source: Maccoby, 2000

Table 1 shows the distinction between management and leadership. Stating that management is considered as a function where planning, evaluating and facilitating are mandatory and leadership as a relation where coaching, motivation and trust are necessary.

B. Difference Between Management and Leadership Skills

Leadership Skills

According to earlier literature, essential leadership skills include self-awareness, engagement in personal transformation, and curiosity (Jokinen, 2005). Self-awareness involves recognizing one's emotions, strengths, weaknesses, needs, motivations, sources of frustration, and reactions to problems (Goleman, 1998). This ability enables leaders to listen effectively, evaluate their values, and exhibit openness to diversity (Spreitzer *et al.,* 1997). It underscores the importance of confidence in one's abilities and understanding one's role within the organization. Reflecting on personal strengths and weaknesses is crucial for continuous growth and improvement (Jokinen, 2005).

Engagement in personal transformation, linked to "entrepreneurship" by Brake (1997), pertains to the ongoing enhancement of personal knowledge and skills (Jokinen, 2005). This skill indicates a leader's readiness to try new ideas and engage in reflective learning. Spreitzer *et al.* (1997) emphasize the importance of taking responsibility for one's learning, seeking opportunities, being open to criticism, and having a sense of adventure. This engagement acts as a catalyst for change (Jordan and Cartwright, 1998) and drives the willingness to adjust personal attitudes and perceptions (Harris and Moran, 1987).

Curiosity as a leadership skill involves an interest in the broader context (Srinivas, 1995). Global leaders actively seek expertise and capabilities beyond geographical boundaries, gathering insights and information from diverse sources through various methods (Jokinen, 2005). Harris and Moran (1987) note that curiosity is vital for understanding different cultures, which influences organizational behavior, patterns, and themes. It affects motivation and the willingness to enter unfamiliar situations, face new challenges, and enhance learning.

Ultimately, curiosity motivates risk-taking, initiative, and active engagement (Krishnamurthy and Srinivas, 1995).

Management Skills

Meredith (1993) identified six key areas of managerial skills: communication, organization, team building, leadership, adaptation, and technological skills.

Katz (1955) proposed that managerial skills are rooted in three core, developable abilities: human, conceptual, and technical skills. While these skills are interrelated, they can be honed independently. Human skills pertain to a manager's ability to work effectively within a team, fostering cooperation, and understanding the attitudes and behaviors of superiors, peers, and subordinates.

This skill set enables a manager to be attuned to others' needs and motivations and to communicate effectively with subordinates.

Organizational skills reflect a manager's capability to understand organizational tasks, recognize different functions, and comprehend how changes in one area can impact others. This requires good planning, a clear perception of the overall environment, and a clear vision to promote the organization's well-being. Technical skills involve expertise and proficiency in a specific type of activity, requiring relevant experience or knowledge of the necessary technology, specialized analyses, and the ability to use tools essential for building information systems (El-Sabaa, 2001).

The literature on leadership is extensive, encompassing various theories such as trait theory, behavior theory, contingency theory, and transactional and transformational theories. These studies highlight the distinction between management and leadership. Management involves tasks like problem-solving, meeting facilitation, and traditional bureaucratic activities, whereas leadership focuses on guiding organizational members toward change. The next section will explore the concept of distributed leadership.

2.1.4. Theoretical Foundations of Distributed Leadership

Distributed leadership is a theoretical framework that has gained prominence in educational and organizational research, offering a departure from traditional hierarchical models by emphasizing the collective nature of leadership. The foundational principles of distributed leadership draw from various theoretical perspectives, including social constructivism, complexity theory, and socio-technical systems theory. According to Harris (2007), distributed leadership is rooted in social constructivism, highlighting the co-construction of leadership within social contexts (Nadeem, 2024).

This concept supports the notion that leadership extends beyond formal roles and is a collective and fluid process influenced by the interactions and relationships among individuals within an organization (Gronn, 2002).

Uhl-Bien *et al.* (2008) discussed the complexity theory, which underpins the theoretical basis of distributed leadership by highlighting the nonlinear and adaptive characteristics of organizational systems. According to complexity theory, leadership in distributed settings arises naturally through the interactions among individuals, constantly adapting to the evolving dynamics of their environment. This view challenges the conventional idea of leadership as a static set of behaviors displayed by specific individuals (Nadeem, 2024).

It underscores the significance of distributed leadership in dynamic environments and emphasizes the necessity of this leadership approach when organizations change their work settings (Nadeem, 2024).

Socio-technical systems theory adds to the theoretical framework of distributed leadership by acknowledging the interconnectedness of social and technical elements within organizations (Trist and Bamforth, 1951; Nadeem, M. 2024). Distributed leadership acknowledges the importance of both human and technological components, emphasizing collaborative decision-making processes and the utilization of diverse expertise across various organizational levels (Gronn, 2000).

The concept of distributed leadership lacks a definitive, clear-cut definition, a situation rooted in its historical development. Despite this ambiguity, it has gained significant traction among researchers, especially in the domain of educational leadership. Various stakeholders have actively promoted, financially supported, and contributed to the development of this term (Mayrowetz, 2008). It is widely recognized that the concept originates from the fields of leadership and educational management, and it was specifically adopted as a research framework to understand all leadership practices within an organization, including both formal and informal, planned, and emergent activities (Lumby, 2019). Although it has rapidly spread and been enthusiastically embraced by many researchers, the exact nature of distributed leadership remains somewhat unclear.

This notion is highly useful for understanding how various stakeholders within an organization employ leadership. To define distributed leadership, it can be said that it occurs when numerous individuals can engage in leadership tasks collaboratively to attain shared objectives within a common context (Spillane, 2006). Distributed leadership is described as a method where team members jointly assume responsibilities and actively participate in leadership activities, such as goal setting and mutual motivation (Serban and Roberts, 2016; Fu *et al.,* 2018). Moreover, distributed leadership not only recognizes the participation of multiple individuals in leadership roles (Fu *et al.,* 2018) but also focuses on examining the interactions between these individuals (Spillane, 2006).

The definition of distributed leadership remains ambiguous, partly due to its historical evolution. Initially emerging within the realms of leadership and educational management, distributed leadership quickly transformed into a specific practice and has become one of the most promoted leadership styles in the early 21st century (Harris and DeFlamis, 2016). Despite various broad definitions, Jones *et al.* (2014) point out that these theories commonly recognize leadership at multiple levels, both formal and informal, necessitating collaborative networks to manage complex systems.

These authors advocate for a holistic view of organizational work, emphasizing emerging approaches that identify the complexity of interactions influenced by rules, community, and the division of labor, forming what they term an activity system. The unique appeal of distributed leadership lies in its potential for spontaneous emergent leadership alongside formal and informal roles (Hairon and Goh, 2014).

Despite its popularity and widespread adoption, distributed leadership has faced significant criticism, particularly concerning its relationship with power. Critics argue that if leadership theories focus primarily on power dynamics, distributed leadership often falls short. Hatcher (2005) noted that educational leadership theories have detached distributed leadership from its foundational disciplines, resulting in an inadequate theory of power. In the literature, power within distributed leadership is often referenced in terms of democracy or empowerment, which suggests altered power relations (Woods and Gronn, 2009).

Some critical perspectives, like those of Bolden *et al.* (2009), suggested that distributed leadership in higher education might obscure underlying power dynamics. Although integrating distributed leadership into formal processes complicates its theory, the concept itself remains straightforward. Traditional leadership emphasizes an individual's power and influence to guide organization members, but distributed leadership acknowledges that leadership can arise from any individual in any context, especially during organizational change (Morrison, 2002). This model challenges traditional practices by developing a holistic approach where leadership is the combined influence of the group rather than the sole impact of one individual (Burke, 2010).

Distributed leadership extends beyond task division and collaboration, involving spontaneous collaboration, role-sharing, and concerted actions within formal social relations (Zepke and Leach, 2007). It encompasses theoretical activities aimed at democracy and efficiency and enhancing human capacities (Mayrowetz, 2008). These diverse applications broaden the theoretical and practical context of distributed leadership, integrating organizational theory into higher education.

However, discomfort persists about the model's development, given its expanding scope to include new ideas. Despite its broad applications, the cognitive foundations of distributed leadership necessitate establishing and adhering to a standard logic of shared meanings.

To better understand distributed leadership, consider a hypothetical scenario: two individuals notice litter in a park. Whether they spontaneously collaborate, volunteer to clean, or are sanitation workers, their joint effort exemplifies distributed leadership.

This situation contrasts with one individual taking sole credit for the cleanup, which would be less effective than shared leadership. Effective distributed leadership involves task delegation and collaboration, enabling individuals to develop shared skills and work collectively (Spillane *et al.,* 2001).

In summary, distributed leadership involves sharing leadership tasks among organization members to build trust, improve relationships, and achieve goals. It represents spontaneous collaboration and partnership among colleagues to pool resources, regulate behavior, and solve problems effectively.

2.1.5. Dimensions of Distributed Leadership

In his research, Gordon (2005) outlined distributed leadership across four key dimensions: mission, vision, and goals; organizational culture; shared responsibility; and leadership practices. Smith (2007) further identified shared responsibility as a comprehensive element, integrating both decision-making and professional development aspects. Elmore emphasizes that individuals within an organization have a variety of skills and competencies shaped by their predispositions, interests, aptitudes, prior knowledge, and specialized roles (Tashi, 2015). This recognition of diverse expertise supports a more adaptable leadership approach compared to the traditional assignment of formal roles and positions.

Gordon's first Dimension: Mission, Vision, and Goals:

In this dimension, high-level management members play a crucial role in delineating the organization's mission, vision, and goals. Within the framework of distributed leadership, collaborative efforts among leaders are necessary to formulate a unified mission, vision, and set of goals. Numerous scholars, including Gordon (2005) and DuFour and Eaker (1998), have elaborated on these concepts. DuFour and Eaker define mission as the organization's objective, with vision acting as a guiding force. These elements are considered foundational to the professional learning community, emphasizing clear goals for student achievement (DuFour and Eaker, 1998).

Gordon's second dimension: Shared Responsibility:

In the realm of shared responsibility, leadership tasks are allocated among various members of the organization (Storey, 2004). Gordon (2005) suggests that individuals who share leadership roles should engage in professional development to foster personal growth.

According to DuFour and Eaker (1998), such professional development increases individuals' effectiveness in supporting others. The four dimensions of distributed leadership contribute to a collective approach to leadership aimed at overall success.

This concept of shared responsibility, which contrasts with the traditional view of a single heroic leader, is gaining traction and emphasizes enhancing both individual and collective capacities for effective performance (Yukl, 2002).

Gordon's third dimension: Organization's Culture:

This dimension emphasizes creating a positive organizational climate that prioritizes efficiency and continuous improvement (Hallinger, 2011). Practices of distributed leadership should be deeply embedded in the organization's culture, fostering the growth of all members. The culture reflects the institution's beliefs, values, and habits, which evolve through the influence of distributed leadership (Gordon, 2005). An inclusive culture that embraces distributed leadership promotes collaboration, participative decision-making, professional development, and the empowerment of all members (Murphy, 2005). Enhancing organizational culture involves pursuing a shared purpose, recognizing the change process, building relationships, fostering learning, and striving for consistency (Fullan, 2001).

Gordon's fourth dimension: Leadership Practices:

Leadership practices emerge from the interactions between leaders, followers, and their surrounding context (Spillane *et al.,* 2004; Spillane, 2006). These practices encompass how leaders define, communicate, and implement their roles within the leadership process (Gordon, 2005), providing insights into leaders' actions and routines within the organizational framework (Spillane *et al.,* 2004). Spillane highlights leadership practices as functional activities, whereas Elmore (2000) emphasizes the delegation of responsibilities across groups (Smith, 2007).

Additionally, researchers like Hulpia *et al.* (2009) identify other dimensions of distributed leadership, including defining a vision, developing individuals, and monitoring performance.

Defining a vision:

Most theoretical models aim to establish directions and shape the development and articulation of an organization's vision, recognizing this as a vital leadership function. However, the responsibility of defining a vision is no longer confined to the organization's leadership alone. Instead, it is now seen as a collective task where all members are encouraged and empowered to engage in this leadership role (Barnett and McCormick, 2003).

Individual Development:

Leithwood *et al.* (2004) recognized individual development as the second key objective, highlighting its importance as a crucial element of effective leadership.

This function, which involves developing and empowering members, can be efficiently delegated by leaders to lower levels of management (Bandura and Locke, 2003).

Performance Monitoring:

Monitoring is also considered a key leadership function and is more challenging to pinpoint. It involves supervising the performance of members of the organization or team (Goldstein, 2003). Certainly, several concepts may seem synonymous with distributed leadership, but this does not negate the existence of some differences, which we must certainly understand within the scope of this research.

2.1.6. Distributed Leadership and Related Concepts

A. Distributed Leadership and Shared Leadership

Bolden (2011) proposed that creating a comparative table of terms related to distributed leadership could help clarify distinctions. He observed that various concepts associated with the distribution of leadership within organizations are frequently used interchangeably. Leithwood *et al.* (2009) suggested that distributed leadership encompasses shared, democratic, dispersed, and other similar forms of leadership. For some scholars, the critical issue is determining how leadership should be distributed to achieve the most beneficial outcomes, often measured by student learning outcomes in educational research.

Other researchers adopt a descriptive approach, viewing distributed leadership as an analytical framework to evaluate and describe how leadership is distributed within organizations. They argue that while leadership can be shared or democratic, these characteristics are not necessary for it to be considered distributed. Additionally, they contend that distributed leadership is not a replacement for other leadership forms. Woods and Gronn (2009) criticized many current implementations of distributed leadership in schools and organizations for lacking democratic principles, such as autonomous governance and protection against arbitrary power, focusing instead on efficiency and effectiveness.

The dissertation's literature review indicates that while distributed leadership and shared leadership are similar, there are nuanced differences. Gibb (1954) distinguished between two types of leadership: distributed and targeted.

Targeted leadership is centralized in a single individual, whereas distributed leadership involves two or more individuals sharing leadership roles, responsibilities, and functions.

Shared leadership, as derived from definitions of distributed leadership, involves the distribution of tasks and influence among several team members. Consistent with the notion of collective constructions (Morgeson and Hofmann, 1999), shared leadership emerges when team members engage in activities that influence the team and other teams in areas such as leadership, motivation, and support (Yukl, 1989). These interactions involve negotiation and the sharing of responsibilities, making distributed leadership a relational phenomenon characterized by mutual influence among team members in pursuit of their goals. This creates reciprocal influence patterns that develop and strengthen existing relationships within the team.

table 2 that summarizes various definitions of shared leadership to enhance its understanding as a concept:

Table 2: Definitions of Shared Leadership

Author	Definition
Pearce and Sims (2002)	Shared leadership is essentially regarded as a form of transformational leadership manifested at the group level, particularly within highly developed teams.
Sivasubramaniam *et al.,* (2002)	Shared leadership is the collective influence of the members within a team.
Pearce and Conger (2003)	It involves dynamic and interactive influence, a process among individuals within a group, where the aim is to steer towards organizational goals.
Ensley *et al.,* (2006)	A team process where leadership is carried out by the entire team, rather than by a single designated person.

Source: Researcher Own Construction

Table 2 summarizes various definitions of shared leadership to enhance its understanding as a concept:

Recently, the leadership thinking that revolved around individual leaders has shifted completely towards more collective and shared forms of leadership (Drescher and Garbers, 2016). Indeed, collective leadership theories have been developed to support shared leadership and distributed leadership among various agents connected by systems and networks among individuals involved in common work. This evolution is precisely due to the complexity of tasks and teamwork requirements, coupled with high-performance

expectations (Drescher and Garbers, 2016). Certainly, as previously defined, shared leadership is a dynamic and interactive process where individuals within groups influence one another to achieve the goals of the group or organization. This concept emphasizes team autonomy and the fluid distribution of power among team members. Essentially, it allows team members to take part in the leadership process by leading themselves and sharing responsibilities (Yammarino *et al.,* 2012).

Shared leadership stands in contrast to hierarchical leadership, where a single leader holds the highest power and influence.

It is understood as the formation of a team where all members possess the authority to direct and make decisions, effectively leading themselves (Drescher and Garbers, 2016).

The concept of distributed leadership, which is also part of collective leadership, heavily relies on the concepts of cooperation and collaboration (Scott and Marzano, 2015), playing a prominent role in the financial evolution of the company and governance, where strategic leadership is also very useful. Distributed leadership is based on stakeholder collaboration, with interdependence being its essential characteristic and even its condition. According to Fitzsimons *et al.* (2011), distributed leadership encompasses entire organizations as units of analysis, also considering their organizational environments. This means that this concept always emphasizes the study of leadership at the organizational level and across organizations. Its practice is strongly shaped by interactions within the organization and the operational environment (Fitzsimons *et al.,* 2011). In conclusion, we can say that it is defined as leadership that does not focus on a few individuals but is distributed across a network. It goes beyond the interdependence of individual actors to grasp other determining characteristics such as interactions rather than actions, the sharing of development resources, and communication.

Table 3: Distinction Between Distributed leadership and Shared Leadership

Shared Leadership	Distributed Leadership
• Leadership often comes from the designated leader plus other team members who share leadership roles (e.g. strongman, transactor, visionary hero, and super-leader). • Leadership involves several individuals leading others and allowing others to lead them through a mutual influence process. • Cognition is shared by members of the team. • Advantage is offered through the aggregation of attributed influence in a team (collective influence).	• Leadership is not only held by those with designated, formal leadership roles but is enacted by multiple individuals in the organization. • Leadership practice is constituted and shaped by the interactions of leaders, followers, and their situation. • Cognition is "stretched over" both organizational members and the context they are in Advaof "is offered by developing a capacity to act by means of "concertive action," "co-performance," or "conjoint agency".

Source: Fu *et al.*, 2018

Table 3 outlines the differences between Shared Leadership and Distributed Leadership. Shared Leadership involves a designated leader along with other team members who share leadership roles, creating a dynamic where several individuals lead and influence each other.

This approach promotes shared cognition among team members and leverages the collective influence within the team.

In contrast, Distributed Leadership is enacted by multiple individuals throughout the organization, not just those in formal leadership roles.

This style focuses on leadership practices shaped by the interactions between leaders, followers, and their situations. It also emphasizes the concept of "stretched cognition," where the ability to act is developed through collaborative efforts and shared responsibilities among team members.

B. Distributed Leadership and Democratic Leadership

Democratic leadership involves the leader actively participating in the group and encouraging members to take part in decision-making processes. This style of leadership is deeply rooted in respect for human values, a commitment to the common good, and the freedom for individuals to act according to their convictions (McClain *et al.,* 2010). Consequently, Democratic leadership creates an environment that motivates and supports individuals in their quest for truth with an open-minded approach (Woods, 2005). The core of Democratic leadership lies in meaningful participation and collaborative decision-making, aiming to foster respectful relationships, partnerships, cooperation, and the development of organizations that are responsive to social, cultural, and educational needs. This approach involves implementing strategies for success, facilitating specific discussions, and addressing unique situational needs. Additionally, Democratic leadership is characterized by a politically informed commitment to justice for all (Gale and Densmore, 2010).

It is important to note that Democratic leadership upholds the rights of individuals to meaningful participation and respects them as ethical beings (Woods, 2005, p.4). Inspired by Dewey's pragmatism, this leadership style aims to create an environment that encourages participation, idea-sharing, and virtues such as honesty, openness, flexibility, and compassion. Emphasizing social justice, Democratic leadership focuses on the dignity, rights, and welfare of all individuals. Effective implementation of Democratic leadership requires a values-based approach, ensuring that leadership practices promote social justice, empowerment, and a sense of community (Harris *et al.,* 2007).

Concerning distributed leadership, the approach involves the coordination of tasks among multiple leaders, facilitating the execution of various leadership functions. This framework encourages the active participation of team members in decision-making processes, fostering mutual reinforcement (WaiYan Wan *et al.,* 2017).

Notably, distributed leadership is characterized by a multi-dimensional leadership structure that encompasses both formal and informal leadership positions, challenging the conventional notion of an individualistic leader (Torrance, 2013).

The collaborative enactment of distributed leadership is exemplified when two or more leaders engage collectively in specific situations, emphasizing the shared process of enhancing individual and collective capacities for effective work (Spillane, 2006; Yukl, 2002). This collaborative aspect contrasts with traditional hierarchical authority, as distributed leadership is stretched across individuals based on expertise (Bennett *et al.,* 2003).

In essence, distributed leadership offers a perspective on the practice of school leadership, presenting a less formalized model that transcends organizational hierarchies. According to Bolden (2011), as cited in MacBeath *et al.* (2004), it is a model where leadership influence and roles are not restricted by formal structures, allowing individuals at all levels to contribute. Therefore, responsibilities for leadership functions can be distributed among multiple leaders working in a coordinated manner, emphasizing a decentralized and collaborative approach (Spillane, 2005).

Here is a summary in table 4 showing the difference between the two concepts:

Table 4: Distinction Between Distributed Leadership and Democratic Leadership

Democratic Leadership	Distributed Leadership
• Every team member collaborates in decision-making, implementation, and monitoring processes. • A feeling of ownership is instilled. • Democratic approaches are employed in the decision-making process.	• Leadership involves the active participation of at least two individuals. • It showcases exceptional qualities through a singular figure who motivates, inspires, or guides followers toward achieving organizational success. • The allocation of leadership roles and responsibilities is suggested to be linked to the enhancement of outcomes and the development of team members.

Source: Researcher Own Construction

Table 4 contrasts Democratic Leadership with Distributed Leadership. Democratic Leadership emphasizes full team involvement in decision-making, implementation, and monitoring, fostering a sense of ownership among members and utilizing democratic methods for decision-making. Conversely, Distributed Leadership requires active participation from at least two leaders, highlighting the influence of a prominent leader who motivates and guides the team towards achieving goals.

Additionally, Distributed Leadership suggests that leadership roles and responsibilities should be aligned with enhancing outcomes and developing team members.

2.1.7. Distributed Leadership Characteristics and Challenges

A. Distributed Leadership Characteristics

There are two characteristics identifying distributed leadership:

Distributed Leadership as Multiple Action

In targeted leadership, a single individual is designated as the leader, whereas in distributed leadership, the leadership role is spread among several, many, or even all members of the organization. This concept does not privilege a specific group of individuals nor suggest that one person's actions are more significant than those of others. Instead, distributed leadership recognizes that any member of the organization can assume leadership roles at various times (Wenger, 1998). Thus, an individual from any area of the organization can represent it externally and integrate external perspectives into the organizational system (Miller, 1998). This notion of shared leadership responsibilities is a prevalent theme in the expanding literature on distributed leadership.

Distributed Leadership as Concerted Action

Leadership can be attributed to three types of concerted actions. The first type involves spontaneous collaborative engagements that naturally occur in the workplace. The second type is the intuitive understanding that evolves within close working relationships among colleagues. The third type encompasses various structural relationships and institutionalized arrangements designed to formalize and regulate distributed actions (Gronn, 2002):

- **Spontaneous Collaboration:**

Spillane, Halverson, and Diamond (2001) highlight that leadership should be viewed as a distributed practice. This concept suggests that leadership emerges from the interactions among multiple leaders, extending its influence on the social context and specific situations. Leadership is not confined to the role of a school principal or another designated expert leader. Instead, it involves collaboration among groups of two or three individuals with diverse skills and abilities. These individuals, coming from various organizational levels, pool their talents and coordinate their actions to address problems. This approach creates opportunities for synergy, enabling team members to effectively achieve their mission (Gronn, 2002).

- **Intuitive Work Relations:**

In this perspective, leadership manifests in the distribution of roles through partnerships among colleagues. Fondas and Stewart (1994) identify a set of roles that encompass the dynamic interaction of role perceptions and group members' expectations. Distributed roles emerge when members can rely on each other.

Intuitive work relations are akin to close interpersonal relationships. Gabarro (1978) found that the influence of one person on another in such relationships heavily depends on the level of trust that the person places in the other party.

- **Institutionalized Practices:**

The third form of concerted distributed leadership is reflected in the movement toward formalizing organizational structures. Observers note that these structural relationships are established either through deliberate design or by adapting to circumstances. In the case of deliberate design, structures may be imposed to address specific needs. Often, dissatisfaction with current arrangements drives the creation of new design elements (Gronn, 2002). When adapting to circumstances, new components may be integrated into existing frameworks, as leaders strive to formalize previously informal relationships.

B. Distributed Leadership Challenges

Recent literature outlines numerous challenges and obstacles associated with implementing distributed leadership within organizations. Many researchers have expressed skepticism about its effectiveness in addressing leadership challenges, viewing it as a novel but unclear concept (Harris, 2007). This approach is considered risky when leadership responsibilities are given to members who lack competence (Timperley, 2005). Liljenberg (2015) notes that implementing remote tasks can be complex for organizations, making distributed leadership a challenging strategy that requires significant study and the creation of new leadership roles.

Empirical evidence suggests that issues such as organizational learning and knowledge sharing are hampered by hierarchical structures, skill deficits, reluctance to assume leadership roles, a lack of shared power between managers and collaborators, and misunderstandings of distributed leadership practices. In bureaucratic organizations, hierarchical management structures have created rigid role boundaries and responsibilities (William *et al.*, 2010).

These structures, along with an unwritten code that differentiates between peers, superiors, and subordinates (Teh and Sun, 2012), exacerbate the gap between leaders and followers.

Superiors are often the primary decision-makers, and their decisions are generally respected without question. Another major obstacle is the attitudes of employees and managers toward power and knowledge sharing (Carter *et al.,* 2006). When managers are unwilling to share power and knowledge, they are less likely to support distributed leadership and its associated administrative tasks (Rhodes *et al.*, 2008).

Gordon (2005) emphasizes that for distributed leadership to succeed, organizations and leaders must allocate sufficient time and resources for employees to share responsibilities effectively.

Hulpia *et al.* (2009) found that less effective team members often have a vague understanding of distributed leadership, and task distribution remains rigid. Employees lacking support and supervision from their leaders tend to show low organizational commitment.

Smith (2007) identified four main obstacles to implementing distributed leadership: trust, respect for culture, resource availability, and time allocation. Distributed leadership can also lead to significant management challenges and conflicting leadership styles (Storey and Salaman, 2004). Directors who are reluctant to practice shared leadership further hinder its development. Research indicates that in practice, directors often resolve the tension between authority and influence by limiting distributed leadership and subordinating it to managerial control (Hatcher, 2005).

This section has primarily presented everything related to distributed leadership, especially the different definitions, highlighting the novelty of the concept and its frequent changes, making it challenging to define.

It also addressed the two dimensions of the concept and the distinction between distributed leadership and shared leadership, two somewhat different notions despite similarities, explaining the existence of concepts closely related to distributed leadership. Secondly, it also thoroughly discussed the characteristics of distributed leadership, seen as both multiple and concerted action, along with its various and diverse challenges.

2.1.8. Conclusion

Cohen (1990) described leadership as an art where a leader inspires others to maximize their performance to complete tasks, achieve goals, and succeed in projects. Over time, this concept has evolved from trait theories to transformational leadership theory, which views leadership as a social exchange process that significantly influences employee performance.

It is essential to differentiate between a manager and a leader, understanding that management involves functions such as planning, budgeting, evaluation, and facilitation. In contrast, leadership centers on the relationship between the leader and followers, focusing on motivation, coaching, and trust-building.

One of the most prominent types of leadership today is distributed leadership, which is defined as a practice where roles, functions, routines, and structures are shared among members of a collaborative group (Spillane, 2005). The dimensions, challenges, and characteristics of leadership are varied, distinguishing it from shared and democratic leadership.

Distributed leadership is not limited to individuals with formal leadership titles but is supported by multiple people within the organization.

2.2. Dependent Variables and Relationships

In the realm of business management, three key factors stand out as crucial components for organizational effectiveness: change management, knowledge sharing, and organizational trust. Each of these components is crucial in enhancing organizational performance and resilience. Change management entails a systematic approach to steering organizations through transitions to reach their desired future outcomes.

This process involves strategic planning, executing, and monitoring organizational changes to ensure smooth transitions and enhance employee engagement. Knowledge sharing is vital for enabling the exchange of information, expertise, and experiences among staff (Wang and Noe, 2010). It encourages collaboration and continuous learning, which in turn drives innovation, effective problem-solving, and better decision-making. Organizational trust serves as the foundation for successful change management and knowledge-sharing initiatives (Mayer *et al.,* 1995). It fosters open communication, collaboration, and risk-taking, creating an environment where employees feel valued and motivated to contribute.

The interplay between change management, knowledge sharing, and organizational trust is mutually beneficial. Successful distributed leadership fosters trust and promotes the sharing of knowledge (Cummings and Worley, 2014).

Conversely, organizations that prioritize knowledge sharing and organizational trust often experience smoother transitions during periods of change (Alavi and Leidner, 2001). In today's fast-paced business environment, mastering a distributed leadership style to ensure effective change management by fostering knowledge sharing, and organizational trust is essential for organizational success. By recognizing the interconnectedness of these elements and investing in practices that promote them, businesses can enhance their agility, innovation, and resilience.

2.2.1. The Concept of Change Management

A. Conceptual Foundations of Change Management

Nowadays, organizations are highly confronted with an increasingly complex and dynamic business environment, pushing them to continuously face changes and obliging them to adapt their structures and management styles according to the circumstances (Errida and Lotfi, 2021; Phillips and Klein, 2023). While adapting to a complex and dynamic business environment is necessary, this constant pressure to change can also lead to instability within organizations. Frequent shifts in management styles and structures may create confusion among employees, reduce overall efficiency, and compromise organizational culture. Additionally, not all adaptations yield positive outcomes; some changes, driven by trends rather than strategic needs, may misalign with core business goals, leading to wasted resources and diminished morale.

We can consider organizational change then as one of the biggest challenges for business management, where anterior researchers highly invested on understanding the insights of its processes, strategies, and leadership styles that are essential for organizational change implementation such as transformational leadership (Alqatawenh, 2018) and change leadership (Karp and Helg, 2008).

They have suggested several typologies and tried to explain various concepts around change management. Recently, authors have given a huge focus on the change management process while insisting on the factors that enable its success (Stilwell *et al.,* 2016), which is the case of the following study. As a matter of fact, organizational change management has always been considered an action of managing change in the situation of an organization's transformation (Hechanova and Cementina-Olpoc, 2013; Supriharyanti and Sukoco, 2023). It is also an activity that empowers the organization's members to take part in the change process to avoid resistance (Sung and Kim, 2021; Grønvad *et al.,* 2024). In their study, Caldwell *et al.* (2004) reported the importance of fairly handling the change management strategy implementation to increase the favorable employees' reactions.

That is why they suggested the necessity of engaging employees in the change process, demonstrating commitment to it and finally providing the needed resources for change success.

While the emphasis on change management is crucial for organizational transformation, its practical implementation is often more complex than it appears. The idea that engaging employees can reduce resistance is valid, but it tends to underestimate how deeply resistance is embedded in organizational culture, past experiences, and individual attitudes. Additionally, the emphasis on fairness, resource allocation, and leadership commitment is fundamental; however, it overlooks potential barriers like limited budgets or resource mismanagement, which can derail even the most well-intentioned efforts. Thus, while the suggested strategies for managing change are theoretically sound, they require adaptation to fit the specific dynamics, constraints, and workforce characteristics of each organization. A more nuanced, context-driven approach is essential to achieve successful change.

Akingbola *et al.* (2019, p.2) defined organizational change as involving "some form of planned alteration of organizational components to improve the effectiveness of the organization."

This definition underscores that an organization is a system of interconnected and interdependent elements, meaning that changes to any part of the organization can impact other areas, including culture, mission, strategy, processes, and human resources. Realigning these components during change is crucial, which is why implementing change management initiatives is essential to address such challenges (Akingbola *et al.,* 2019; Hall *et al.,* 2024). Zimmerman (1993) described change management as the process of transitioning from situation A to situation B effectively and efficiently. This involves following a systematic process that utilizes skills, resources, and knowledge to shift an organization from one state to another. Akingbola *et al.* (2019, p.4) further defined change management as "an alignment or realignment of the strategy with the environment of the organization through a systematic process that managers implement to improve the effectiveness of the organization in the face of disruption, opportunity, or threat." Similarly, Caldwell *et al.* (2004) emphasized that change management involves fostering a culture of change readiness, creating adaptive systems, and developing behaviors that require competencies from both managers and employees.

Based on these definitions, organizational change can be critically understood as a strategic, systematic process aimed at realigning an organization's components such as strategy, processes, culture, and human resources with its internal and external environment to enhance overall effectiveness. This realignment is not merely about transitioning from one state to another but requires a comprehensive approach that involves readiness, adaptability, and engagement from both management and employees.

Effective change management, therefore, is about navigating disruptions, seizing opportunities, and overcoming threats by integrating skills, resources, and knowledge while fostering a culture that supports change. This definition acknowledges that change is a holistic process impacting various interconnected elements, highlighting the need for context-sensitive strategies that account for the complexities and dependencies within the organization. In conclusion, for this study, I define organizational change management as the development, implementation, and facilitation of how employees and managers use their competencies to effectively manage change.

Our actual frequently changing world, highly affected by globalization and technology development has generated a growing anxiety in the cross-border management practices, which somehow revealed some disagreements about the best change management methods and strategies.

However, the development of the traditional and contemporary theories related to this matter was sufficient to explain what the best methodology for change management is. Earlier, studies related to change management started to get consideration in the field of engineering with the father of scientific management Taylor (1911) followed by many other researchers such as Shewhart (1931) and Lewin (1951) who suggested three step planned change approach called “Top down” in which managers consider that change is an integral part of the organization’s development. Here the change is a part of the firstly planned organization’s objectives as well as the planned activities until reaching the required results. Indeed, planned change management was explained according to three components which are: first an understanding of the organization’s actual situation; second, identifying the future need of the organization and third, designing the transition state (Kempster and Parry, 2014). Despite its great success, Lewin theory has also faced some criticism, where some authors considered it very simple from the process perspective as organizational change should be a continuous open-ended process. Others mentioned that this theory is only applicable for incremental and isolated types of change and only deals with behavioral change. Finally, others agreed that this type of change should be initiated not only from top management positions, but everyone can take part in it and requires the participation of all organization’s members.

Following these limits, the world transformation, and the unexpected environmental and technological changes, companies had to face many unpredictable events and changes, which has confirmed that change management cannot only be planned but also emergent due to some unforeseen events. From this standpoint and following Lewin's theory, Judson (1991) suggested another approach called to step model that deals with the emergent nature of change called “Bottom up”, which was pursued by Hamel (2000) and Luecke and Katz (2003).

The theory of emergent change demonstrates that change is an uninterrupted process that can be opened anytime and has an unpredictable end. In this kind of change, organizations should have a proactive response to environmental stimuli. Therefore, this approach focuses mostly on identifying the external forces that could challenge the organization and help in enhancing them. Despite the importance of the theory, many researchers highlighted that it is one of the most complicated and very hard to implement (Appelbaum *et al.*, 2012). Others also highlighted that emergent change management is long-lasting and takes time for execution and it makes it harder for the managers to measure the success level of the organization. The shift to emergent change management underscores the need for adaptability in unpredictable environments. Unlike planned change, emergent change is ongoing and evolves in response to unforeseen events, aligning with Judson's "Bottom-up" model.

However, this approach is challenging. Its unpredictable nature makes it hard to set clear metrics and timelines, creating uncertainty among employees and complicating management efforts. It also requires significant resources, time, and a cultural shift, which can be slow and met with resistance. Despite its flexibility, measuring outcomes remains difficult, making implementation complex. Following the study of Farrell (2000), this study will consider both dimensions of planned change "Top down" and emergent change "Bottom up" to measure the change management variable.

To complete the two traditional theories of change management (Planned and emergent) new contemporary theories took place giving much importance to the change elements plus putting all together the human, technological, and strategical perspectives. In the same line, Gardner and Ash (2003) stated some elements that go along with the emergent change which are shared stakeholder goals, deep understanding of the business model and its objectives which highlights the strategy, the important role of technology, and finally the great panels of knowledge. In addition to this, Luecke added the significant role of leadership and employees' motivation and insisted on the fact that employees should always understand and take part in the transformation process which is beneficial for the company's success. To conclude, in their study, Kempster and Parry (2014), summarized the change management theories according to three outlooks which are: planned change management (Higgs and Rowland, 2005); governed change management (Buchanan and Badham, 1999), and emergent change management (Higgs and Rowland, 2005).

Distributed leadership emphasizes a collaborative approach where decision-making, responsibility, and authority are shared across various levels of the organization. This approach can be particularly beneficial in managing change, as it allows for a more agile and adaptive response to unforeseen challenges.

It fosters a sense of ownership among members, encouraging engagement and reducing resistance to change. By empowering multiple leaders rather than relying solely on top-down directives, distributed leadership can facilitate the implementation of change in a way that is both efficient and inclusive.

In the following section, I will explore the role of distributed leadership in greater depth. I will critically examine how effective change management is, particularly in complex and rapidly changing environments. While distributed leadership offers many advantages, it also presents challenges, such as the potential for miscommunication or inconsistent decision-making across different teams. Despite these issues, understanding and applying distributed leadership can significantly enhance the effectiveness of change initiatives, as it aligns with the emergent nature of change and the need for collective effort. Ultimately, the study of distributed leadership in change management will provide insights into how to implement change more effectively and sustainably within organizations.

B. Impact of Distributed Leadership on Change Management

In the field of higher education, numerous studies have emphasized the importance of distributed leadership in managing change and enhancing teachers' capacity to adapt (Amels *et al.,* 2020; Kılınç *et al.,* 2024). These studies suggest that to effectively address anticipated challenges and an uncertain future, a collaborative, collective, and distributed leadership approach is essential. This approach is seen as critical for improving students' and teachers' learning abilities, teaching skills, effectiveness, research competencies, and community networks. Traditional leadership methods are deemed inadequate for ensuring a sustainable change process in today's environment (Jones and Harvey, 2017; Hickey *et al.,* 2024).

For instance, Amels *et al.* (2020) conducted a path analysis using survey data from 787 teachers across 65 primary schools. They found that distributed leadership positively influences teachers' collaboration and collegiality, as well as their motivation to engage in educational change. Similarly, from a managerial perspective, Canterino *et al.* (2020) conducted a survey of 459 middle managers from various firms across different countries and industries, all of whom were implementing planned organizational change projects. They concluded that distributed leadership significantly impacts the process of mobilizing change within companies (Higgs and Rowland, 2011).

In higher education, distributed leadership is considered vital for managing change and improving adaptability among educators.

Unlike traditional top-down models, it promotes collaboration, shared decision-making, and collective problem-solving, which are essential for addressing complex challenges and enhancing teaching and research outcomes.

However, implementing distributed leadership comes with challenges. It requires a supportive culture, clear communication, and trust among team members. While it fosters motivation and collaboration, it can be difficult to execute consistently, particularly in organizations accustomed to hierarchical management. Leaders who practice distributed leadership are more capable of developing, implementing, and monitoring transformation and change strategies (Canterino *et al.,* 2020). These leaders effectively influence organizational members through their behavior, fostering an environment that enables and supports change. They promote cooperation, collaboration, and commitment to change within their tasks and roles, thereby facilitating effective change management (Battilana *et al.,* 2010).

Previous findings related to leadership have indeed confirmed that the plural approach is important for managing change and that distributed leadership is one of the preferred styles to manage organizations, nevertheless, this evidence is still limited (Fitzgerald *et al.,* 2013; Canterino *et al.,* 2020). Nowadays, most companies have started to be project and knowledge-oriented seeking innovation to be more competitive in the market. That is why leaders should opt for collective efforts to make everyone participate in establishing and developing the organization's common goals and visions (Bolden, 2011).

Similarly, distributed leadership has been noted to aid in executing effective change management strategies capable of addressing complex organizational changes, even in the absence of formal management plans and structures (Canterino *et al.*, 2020; Kim *et al.,* 2024). Literature regarding distributed leadership and change management confirmed that distributed leadership boosts change management by creating commitment and great coordination among the organization's members considered as leaders with different levels and roles and who are involved in reshaping and re-designing the change processes and its systems.

In contemporary organizations, shared leadership models, such as distributed leadership, are gaining increased attention and consideration. That is why it has been confirmed that modern organizations are always asked to reshape their vision, mission and objectives following sustainable structures, to be more competitive and successful (Cullen *et al.,* 2014). Sharing and distributing leadership functions is considered very important in improving the organization's practices. In his study, Kotter (2009) confirmed that successful organizations are those who adopt the strategy of "leadership coalition" in changing situations, which is a powerful strategy, that need different position and titles, different expertise, reputations, and diverse information to achieve the organization's common goals (Kotter, 2009).

That is why decision-making processes are needed for change management demand collectivity, all members' interactions, and the expertise of multiple individuals. This Emphasis then the great importance of the distributed forms of leadership in organizational change management.

As we stated previously and according to the literature related to organizational change, the most used theories in change management were planned and emergent changes.

In fact, in the planned approach, usually, the change process is usually managed through planned steps.

However, an emergent change, scholars mentioned that this is a rapid and unforeseen change (Cummings and Worley, 2014). When scientists studied the role of leadership in change management, they placed significant emphasis on these two approaches. Research in this area has shown that, during times of change, distributed leadership is an effective method for "collectively shaping the vision of the new organization, dedicating time and energy to redesigning organizational processes and systems, building trust, and identifying and mitigating resistance and inertia" (Canterino *et al.*, 2020, p.43).

Distributed leadership is then able to increase every organization's member's cooperation and commitment in case of a planned change (Stilwell *et al.,* 2016).

These facts were also confirmed in much other research, stating that leaders who adopt a distributed leadership style are first, able to introduce change by collectively planning a future vision for the organization, which is considered as a first step to introduce and implement a planned change (Kotter, 1995), second, they are also able to prepare for challenging objectives to stimulate up to date ways of thinking to face the organization's change situation. Regarding the emergent change management process, Van der Voet (2014), reported in his study that in that approach, delegating tasks, roles, responsibilities, and even leadership functions is vital (Higgs and Rowland, 2005), that is why the distributed leadership option is considered as necessary for the emergent change, because it helps in collaboration and delegation.

Although distributed leadership can enhance collaboration and commitment, it may also introduce challenges in accountability and decision-making speed. Not all organizations are prepared to handle the complexities of shared roles effectively, which can sometimes result in unclear responsibilities or conflicting goals, particularly in larger teams with varied viewpoints. Additionally, assuming that all members are prepared to take on leadership roles might ignore differences in readiness or capability, potentially slowing progress and even increasing resistance to change.

From this perspective I can suggest the first hypothesis:

H1. *Distributed leadership has a significant positive effect on change management***.**

My study will examine the importance of this relation from a business perspective, especially in the fields that mostly favor innovation, that is why I will also investigate some variables considered as necessary in that activity as well as change which are knowledge sharing and organizational trust. This study will consider these two variables as mediators in the relationship between distributed leadership and change management.

2.2.2. The Concept of Knowledge Sharing

A. Conceptual Foundations of Knowledge Sharing

Different interpretations of organizational knowledge have been presented in scholarly literature (Al-Husseini *et al.,* 2021). Hislop (2013) explores two main perspectives within knowledge theory: possession and practice. Possessive epistemology considers knowledge as something individuals possess, viewing it as a concrete asset that can improve workplace effectiveness. This perspective includes knowledge stored in databases, routines, or books (Biggiero, 2012).
Conversely, the practice epistemology defines knowledge as an activity, emphasizing its subjective nature, negotiation, and enactment through social interactions.

Here, knowledge is seen in the actions and outcomes produced by individuals, shifting the focus from knowledge itself to the act of knowing.

Tacit and explicit knowledge are commonly distinguished, with tacit knowledge being subjective, complex, and embedded in individuals' minds, developed through experiences and social interactions (Chuang *et al.,* 2015; Von Krogh *et al.,* 2012). Explicit knowledge, on the other hand, is codified, tangible, and easily shared. These two types of knowledge are complementary, with personal knowledge potentially transforming into organizational knowledge through interactions between tacit and explicit knowledge (Von Krogh *et al.,* 2012).

Zheng *et al.,* (2010) described knowledge management as encompassing acquisition, sharing, and application, asserting that innovation and effectiveness are facilitated by knowledge sharing. Hislop (2013) discusses two main perspectives within knowledge theory: possession and practice. The possession perspective views knowledge as something owned by individuals, treating it as a tangible asset used to enhance workplace effectiveness, such as knowledge stored in databases, routines, or books (Biggiero, 2012). Conversely, the practice perspective defines knowledge as an activity, emphasizing its subjective nature, negotiation, and enactment through social interactions. In this view, knowledge is manifested through actions and outcomes, focusing on the act of knowing rather than the knowledge itself. Tacit knowledge, which is subjective, complex, and embedded in individuals' minds, develops through experiences and social interactions (Chuang *et al.,* 2015; Von Krogh *et al.,* 2012). Explicit knowledge, on the other hand, is codified, tangible, and easily shared.

These two types of knowledge complement each other, with personal knowledge potentially transforming into organizational knowledge through the interaction between tacit and explicit knowledge (Von Krogh *et al.,* 2012).

Zheng *et al.* (2009) described knowledge management as encompassing the acquisition, sharing, and application of knowledge, asserting that innovation and effectiveness are facilitated by knowledge sharing. Hislop (2013) highlights knowledge sharing as a crucial aspect of knowledge management, indicative of organizational effectiveness. Mathew (2010) found that in universities, fostering a knowledge-centric culture among faculty promotes innovation and improves academic performance. Recent research by Tan (2011) identifies organizational culture, trust, and knowledge management systems as key factors influencing knowledge sharing within Malaysian research contexts.

Further insights into knowledge sharing come from Lin (2007), who describes it as involving both the transfer and request of knowledge, while Ardichvili *et al.* (2003) suggest it entails both the supply and demand for new knowledge. Knowledge sharing is recognized as foundational for fostering radical innovation within organizations (Zhou and Li, 2012). Despite knowledge being a critical factor in organizations, it has become the primary source of competitive advantage essential for long-term success and sustainability in recent decades (Nonaka and Takeuchi, 1995). Consequently, many researchers have highlighted the increasing importance of knowledge sharing in management research (Castaneda and Cuellar, 2020; Berraies *et al.,* 2021), with various definitions underscoring its crucial role and practices in today's evolving environment.

Knowledge sharing is crucial for driving innovation and maintaining competitive advantage within organizations, as it involves both the transfer of existing knowledge and the exchange of new insights. While it is essential for fostering adaptability and long-term success, practical implementation can be challenging due to barriers like organizational silos, lack of trust, and poor communication.

Despite its recognized importance, effective knowledge sharing requires a supportive culture and consistent integration into daily practices, rather than being treated as an isolated initiative. To fully leverage its potential, organizations must address cultural, structural, and motivational factors.

Helmstadter (2003) described knowledge sharing as the interactive exchange of knowledge between individuals, involving the transfer of experiences, skills, know-how, and both tacit and explicit knowledge. Castaneda and Cuellar (2020, p.1) defined knowledge sharing as "the ability to transfer framed experiences, information, and expert insights into practices" (Wiewiora *et al.,* 2013). This

process allows organizations to access both their internal knowledge and external knowledge from other organizations. Gibbert and Krause (2002) emphasized that knowledge sharing involves making created and acquired knowledge available to everyone within the organization. Oyemomi *et al*. (2016) added that knowledge sharing facilitates the transfer of knowledge through communication channels, accelerating business processes.

The concept of knowledge sharing is explained by three theories: the theory of planned behavior, the theory of reasoned action, and the social exchange theory. This study adopts the social exchange theory (Homans, 1958), which focuses on employees' behaviors and their engagement in knowledge-sharing practices within the organization. Social exchange theory emphasizes relationships and interpersonal interactions as processes where individuals participate in shared activities and exchange valuable resources.

Nonaka and Takeuchi (1995), with their knowledge creation theory, explained how companies can create and share knowledge. They suggested that knowledge comprises tacit and explicit components. Tacit knowledge is shared through modeling, conversations, work culture, and shared experiences, while explicit knowledge is generated by individuals and internalized through metaphors, analogies, concepts, or models. Combining these two types of knowledge creates new forms of knowledge, essential for organizational learning, creativity, innovation, and change. Despite its complexity, knowledge sharing is a key success factor that involves organizational culture, identity, policies, routines, and systems (Cabrera and Cabrera, 2005).

Knowledge sharing can be facilitated by interactions with customers, suppliers, partners, and even competitors (Zack, 2003, p. 69).

Integrating both external and internal sources of knowledge is crucial for meeting customers' new needs and desires and for remaining competitive in today's market.

Knowledge sharing boosts collaboration, coordination, and integration, enabling organizations to expand resources, seize opportunities, and avoid threats in a competitive environment (Chen *et al.*, 2014). It enhances organizational performance, success, productivity, and the development of learning and innovation capacities.

Hooff and Ridder (2004) described knowledge sharing as involving knowledge donation and knowledge collection. Knowledge donation is the transfer of knowledge, while knowledge collection involves receiving knowledge shared by others. These processes facilitate interactive communication and ease access to information (Hooff and Ridder, 2004).

This study will measure the knowledge-sharing variable based on these two dimensions.
Since both distributed leadership and knowledge sharing promote collaboration and cooperation among organizational members, this study will examine the role of distributed leadership in enhancing knowledge sharing to positively impact change management.

B. Impact of Distributed Leadership on Knowledge Sharing

Recently, the field of knowledge management began to recognize the crucial role of leadership in promoting knowledge-sharing activities (Nonaka *et al.,* 2000). Hence, by favoring knowledge sharing in organizations, leaders can directly influence their companies' success by setting up coherent organizational structures and various consistent processes (Islam and Asad, 2024). Indeed, leaders by communicating their vision and values encourage knowledge sharing that helps in shaping the outside world's perceptions through the strong use of technology (Purvis *et al.,* 2001). Leaders' influence on followers may differ from one leader to another, and this depends on their positions, fields, perceptions, and leadership styles. However, each of these influences is necessary for sharing knowledge to facilitate the organization's change management (Sharif *et al.,* 2024).
Moreover, the importance and insights of each participant will vary throughout different stages of their involvement. Regarding distributed leadership, various authors have highlighted its crucial practices for enhancing knowledge sharing among organizational members. These practices include offering a clear vision, restructuring organizational frameworks and processes, and facilitating the coordination of knowledge sharing.
When leaders take the initiative to share knowledge within an organization, they must cultivate a shared vision and exchange experiences, practices, and expertise. Developing such a vision can be challenging in environments filled with uncertainties, cognitive limitations, and potential conflicts of interest. Therefore, implementing a knowledge creation process requires a distributed leadership style, where every member's role is acknowledged and emphasized (Nonaka and Takeuchi, 1995).

Berraies *et al.* (2021) conducted an empirical study on Tunisian information and communication technology firms and found that distributed leadership significantly drives tacit and explicit knowledge sharing. They highlighted how a collective leadership approach can foster an atmosphere of trust, facilitating knowledge sharing and enhancing innovation. Similarly, Erdoğan (2016) analyzed data from 556 teachers in public schools and confirmed that knowledge sharing mediates the relationship between distributed leadership and readiness for change. This indicates that distributed leadership enhances knowledge sharing practices by promoting interaction and collaboration, essential for effective change management.

To evaluate an organization's learning strategy during change, scholars suggest assessing its members' ability to recognize change and analyze problems arising from uncertain situations. Research on distributed leadership underscores the importance of leaders' cognitive and behavioral aspects in promoting knowledge-sharing practices. Denison *et al.* (1995) found that the most effective leaders adopt styles that consider complexity and embrace flexible and adaptive behaviors. Pitcher and Smith (2001) concluded that teams that share leadership tasks develop diverse ideas from multiple perspectives, leading to more successful long-term results.

Once a shared vision is established, a systematic approach must be implemented to set the structure and processes. Leaders who adopt a distributed leadership style can organize the company's structure and processes collectively.

First, they must create a plan by identifying problems that highlight discrepancies between vision and reality and develop strategies to address these issues (Brown and Duguid, 2001). Second, leaders should empower all members to strategically execute the plan. Third, they must adopt specific tools for knowledge sharing necessary for communication and decision-making.

In addition to vision development and restructuring organizational processes, leaders must also focus on knowledge coordination. This involves distributing, segmenting, and embedding knowledge within the organization (Nonaka and Takeuchi, 1995). The goal of a knowledge sharing system is to equip the organization with the ability to collect, share, evaluate, and apply knowledge. Learning is integrated into leaders' actions and becomes a participative process within the community (Wenger, 1998). Effective knowledge coordination requires leaders to determine what knowledge is needed, and how it can be acquired, stored, applied, and evaluated. Leaders must rely on knowledge champions with authority derived from their expertise.

They must also promote the use of knowledge sharing systems and create a positive dynamic for knowledge exchange.

Previous literature extensively addresses the significance of distributed leadership in knowledge sharing, emphasizing the need to develop and share the organization's vision, restructure its processes, and coordinate knowledge sharing.

Recent studies continue to highlight the impact of distributed leadership on knowledge sharing (Berraies *et al.,* 2021), demonstrating its ability to drive organizational change and enhance the dynamics of sharing explicit and tacit knowledge (Nonaka *et al.,* 2016).

Distributed leadership improves knowledge-sharing practices through social interactions, where sharing experiences and skills help create new knowledge essential for competitiveness, change, and innovation (Liao et al., 2018). This approach fosters support behaviors and a willingness to share knowledge (Millar *et al.,* 2017).

Türkmendağ and Tuna (2022), using a serial multiple mediation model based on a survey of 401 hotel employees in Turkey, found that empowering leadership significantly affects knowledge creation, sharing, and application. Cannatelli *et al*. (2017), in a longitudinal case study, also confirmed that distributed leadership boosts knowledge creation and sharing. They emphasized that distributed leadership enables everyone in the organization to participate in leadership functions, promoting knowledge sharing and enhancing business performance and success (Berraies *et al.,* 2021).

Distributed leadership empowers individuals within organizations, enhancing their learning capacity, creativity, and innovation by facilitating knowledge exchange. Pitcher and Smith (2001) found that distributed leadership fosters different perspectives and new knowledge, leading to effective strategic decision-making (Berraies *et al.,* 2021). Von Krogh *et al.* (2012) proposed that distributed leadership helps build shared contexts and provides leaders with diverse resources to engage employees and foster knowledge creation and sharing. Overall, distributed leadership generates common interests, improves communication, spreads diverse skills, and supports knowledge sharing.

While distributed leadership empowers individuals, fosters learning, and supports creativity, it can also introduce complexities in decision-making and coordination. Although it promotes diverse perspectives and knowledge exchange, it may sometimes lead to fragmented strategies or inconsistencies if not carefully aligned. Additionally, the collaborative nature of distributed leadership relies heavily on effective communication and mutual understanding, which, if lacking, could hinder knowledge sharing and create silos rather than unity. In practice, the challenge lies in balancing empowerment with cohesive strategic direction to prevent potential inefficiencies.

From this perspective, I propose the second hypothesis:

H2. *Distributed leadership has a significant positive effect on knowledge sharing.*

2.2.3. The Concept of Organizational Trust

A. Conceptual Foundations of Organizational Trust

The concept of trust has gained increased attention in organizational studies, yet a universally accepted definition remains elusive. According to Kramer (1999, p.571), most definitions agree that trust is "a psychological state of perceived vulnerability or risk arising from an individual's uncertainty." Tschannen and Hoy (2000) noted that trust often involves a willingness to rely on others, hoping that they will not act opportunistically and will be honest in their commitments. Research on trust in business contexts has typically focused on either interpersonal trust or organizational trust (Berraies *et al.,* 2021; Ekhsan and Badrianto, 2023).

This study primarily focuses on organizational trust, viewed as a dynamic phenomenon that operates spontaneously among organizational members (Tschannen and Hoy, 2000) and serves as a tool for addressing personal and professional challenges in the workplace.

Mayer *et al.* (1995, p.712) defined organizational trust as "the willingness of one party to be vulnerable to the actions of another party based on the expectation that the other party will perform a particular action important to the trust, irrespective of the ability to monitor or control the other party." This definition suggests that employees' trust in an organization hinge on their expectations of others' behavior. Organizational trust refers to a general assessment of an organization's trustworthiness (Berraies *et al.*, 2021), encompassing the belief that the organization will treat employees fairly, consider their interests, and act beneficially on their behalf.

To elucidate the importance of organizational trust in the business environment, various theories have demonstrated their role in enhancing employee interactions, engagement, satisfaction, and performance (Alshaabani *et al.,* 2022). One of the main theories underpinning this study is the social exchange theory (Blau, 1964). This theory posits that when employees trust their leaders or coworkers and receive benefits such as support, experience, skills, and facilities, they reciprocate with appreciation and positive actions, fostering a sense of reciprocity. This dynamic encourages employees to accept vulnerability, share resources, and deliver excellent job performance.

Organizational trust is closely related to human behavior and group effectiveness (Argyris, 1970). Luhmann (1979) explained that organizational trust helps reduce the complexity of organizational life by promoting rational behavior. Trust is often associated with managing conflicts, uncertainty, and problem-solving. Bass and Matthai (1989) suggested that organizational trust is characterized by employee confidence in uncertain or risky situations, where words and behaviors must be consistent and purposeful.

Culbert and McDonough (1986) added that trust involves valuing and respecting others. Griffin (1967, p.104) described organizational trust as "relying on the characteristics of an object, the occurrence of an event, or the behavior of a person to achieve a desired but uncertain goal."

Organizational trust is deeply linked to employee behaviors, positions, and organizational characteristics. Argyris (1970) asserted that organizational trust is positively associated with openness and feedback, influencing problem-solving and decision-making capabilities. Gibb (1965) confirmed that trust is essential for individuals to express their opinions without fear of negative consequences. High levels of trust correlate with commitment, job satisfaction, effectiveness, and successful implementation of management improvement programs.

Trust is a critical component of quality management, promoting employee empowerment and innovation (Nyhan and Marlowe, 1997; Ekhsan and Badrianto, 2023).

In summary, organizational trust is a significant source of competitive advantage that can lead to organizational effectiveness and success.

Trust is crucial for structuring companies, facilitating process management and control, enhancing workforce effectiveness, and fostering team building (Sumlin *et al.,* 2024). The literature identifies three dimensions of organizational trust: integrity, which involves the belief that the organization will treat everyone justly and consider their expectations; dependability, which emphasizes that the organization must keep its promises to build trust among employees; and competence, which indicates the organization's ability to fulfill its promises (Daniel *et al.,* 2010).

Having examined the importance of knowledge sharing as a mediator between distributed leadership and change management, this study also explores the role of organizational trust in change situations. Specifically, it investigates organizational trust as a mediator in the relationship between distributed leadership and change management.

B. Impact of Distributed Leadership on Organizational Trust

Trust in the organization is the trust that occurs between the worker and his employer, when they receive support from them and when they believe that the employer is honest and treats them fairly (Gilbert and Tang, 1998). Trust in the organization means trusting its beliefs, policies, and strategies. In a trustworthy organization, commitment is considered as a condition and support is vital. As we have mentioned previously, organizational trust is one of the important factors that determines and shapes the organization's members' behaviors and that can be boosted by many components like for example employees' empowerment, culture, organizational structure, and leadership.

Studies related to this matter confirmed that one of the leaders' tasks is to collectively work with people and find solutions to solve problems and this highly depends on how much these people trust them (Lines *et al.,* 2005).

This means that trust and a trustworthy environment adjust a leader's exposure to knowledge and cooperation. Nowadays, an effective leader is the one who can gain his followers' trust (Mitson *et al.,* 2024). Contrary, if leaders do instore trust in building the organization's structures and climate, their employees may respond with distrust (Lines *et al.,* 2005).

It has been noted that trust plays a crucial role in leadership and has become a key feature in many leadership theories (Mitson *et al.,* 2024).

Dirks and Ferrin (2002) demonstrated that transformational and charismatic leadership styles are particularly effective in building trust within an organization and among employees.

They proposed two perspectives to distinguish trust in leadership: the first emphasizes relational issues between leaders and followers, and the second focuses on behaviors and how a leader's characteristics can influence followers' behaviors and attitudes. These perspectives highlight the importance of trust in understanding the relationship between attitudes and behaviors from a leadership standpoint (Madden *et al.*, 1992).

If employees do not trust their leaders, they are more likely to quit and avoid risks associated with their supervisors' decisions. Conversely, when employees trust their leaders, they are more likely to engage with them and their decisions, and to share information and knowledge, positively impacting work performance (Oh *et al.,* 2023). Numerous studies have explored this issue. For example, Kerse (2019) conducted a multi-level study based on a survey of 205 workers from two hospitals (one public and one private) in Turkey, finding that certain leadership styles can directly enhance organizational trust and increase extra-role service behavior through organizational trust. Similarly, Cao and Le (2024) conducted an empirical study with data from 376 participants in 115 small and medium-sized firms in China, concluding that transformational leadership positively impacts organizational trust, which helps avoid resilience in times of organizational change.

Many other studies have examined the effects of various leadership styles on organizational trust, including ethical leadership (Kerse, 2019), transformational leadership (Kazmi *et al.,* 2021), and servant leadership (Qiu *et al.,* 2020). This study will primarily investigate the impact of distributed leadership on organizational trust, a topic that has not been extensively covered in previous literature.

Anterior studies in the educational field highlighted that leadership could create a culture that boosts organizational trust, whereas Beycioglu *et al.* (2012) affirmed that when following a distributed leadership style teachers are more likely to trust their coworkers and superiors.

In the same line, Algan and Ummanel (2020) confirmed that the adoption of distributed leadership by school administrators positively increases organizational trust among teachers. In addition, Kilicoglu (2018) added that distributed leadership helps in initiating positive changes within schools which facilitates organizational trust thereafter.

This means that if the school effectively practices a distributed leadership style this may create a good trustworthy atmosphere. By applying these facts within companies, Berraies *et al.* (2021) confirmed that distributed leadership upgrades the employees' communication that facilitates their interactions and social networks, which makes mutual understanding easy. They highlighted that leadership style helps in developing a sense of support by leaders and implants trust among them and their teams, which increases collaboration and collectivity.

Despite, the absence of empirical studies investigating the effect of distributed leadership on organizational trust, few theoretical researchers highlighted that distributed leadership by involving several leaders and initiating interactions and empowerment can build trust among organizational members (Drescher *et al.,* 2014). This explains that whenever there is reciprocal influence between leaders and members, they are more likely to trust each other. While adopting a distributed leadership style, managers may perceive that they work within a supportive and empowering organizational climate, which is why they develop a sort of satisfaction while doing their tasks, which improves the organization's trust thereafter.

Leaders should have confidence in their organization and its members and collaborators, as mutual trust is the glue that binds everyone together. Organizational trust is positively correlated with outcomes such as performance, satisfaction, and innovation. It is defined as the willingness to depend on another party (Mayer *et al.,* 1995) and the expectation that cooperation will be reciprocated.

Distributed leadership is also fundamental to fostering organizational trust. Although empirical support for this has been somewhat limited, some studies have shown that distributed leadership positively impacts employees in various ways, such as enhancing perceptions of fairness, value congruence, satisfaction, efficiency, extra-role behaviors, and organizational learning.

Distributed leadership has generally been associated with the development of organizational trust, as it promotes self-determination and collective commitment to a vision, demonstrated through self-sacrificing behaviors, which increases organizational trust. It leads to the perception of improved decision-making skills and the ability to achieve the organization's vision, thereby boosting employees' confidence.

Embracing and embodying common values helps employees identify with and admire their roles, increasing their trust in the organization (Jung and Avolio, 2000).

The positive emotions employees experience from increased personal effectiveness and the belief in pursuing meaningful common goals can significantly enhance organizational trust. Individualized consideration—showing concern for everyone's well-being and individual needs—makes coworkers feel cared for, further increasing trust among them and within the organization.

In conclusion, distributed leadership fosters the development of organizational trust by addressing everyone's concerns and needs and promoting collaborative work.

While distributed leadership can enhance trust by promoting fairness, shared values, and personal connection, it may also place excessive demands on leaders to cater to each individual's needs, which can be challenging in larger or more diverse teams. The assumption that distributed leadership will universally lead to trust overlooks variations in individual expectations and perceptions of fairness. Additionally, without clear guidance, distributed leadership might create inconsistencies in decision-making, which could erode trust if employees perceive a lack of coherence or direction within the organization. Balancing personalized support with consistent organizational practices is essential to truly build and sustain trust.

From this perspective, I propose the fifth hypothesis:

H3. *Distributed leadership has a significant positive effect on organizational trust.*

2.2.4. Indirect and Mediation Effects

A. Impact of Knowledge Sharing on Change Management

In this actual complex and ambiguous environment, many organizations were facing several changes, impacting their structures, processes, and their businesses (Boyne and Meier, 2009). As a response to these changes, organizations cannot rely on traditional strategies, which is why other initiatives to increase employees' commitment to change and facilitate change management should take place. Consequently, change achievement highly depends on many factors that organizations should take into consideration to drive the change implementation and management and stimulate their employees' capability to support it and commit to it (Armenakis and Harris, 2002). These factors could be leadership, trust in management, and knowledge sharing (Michaelis *et al.,* 2009). Indeed, it has been mentioned, that the presence of knowledge factor highly affects the change, and that it is a crucial way to develop strategies that can increase employees' participation in change implementation programs (Malik and Garg, 2017).

We know that to be more competitive in the market, companies should always rely on sharing knowledge between employees, groups, and organizations, because knowledge sharing facilitates mutual learning between the employees at the workplace, which could be convenient for managing change thereafter.

In addition, knowledge sharing can boost social interactions and connections among employees which increases the coordination and collectivity needed for managing changing situations (Cabrera and Cabrera, 2005).

Knowledge sharing helps in enlarging the existing knowledge and the acquisition of new information, skills, experiences, and proficiencies able to build trust among employees, reduce uncertainties, and increase employees' positive insights toward change (Bordia *et al.,* 2004). Previous research related to knowledge management confirmed that effectively sharing knowledge can have a positive impact on change acceptance and support and decrease levels of complexity and environmental uncertainties. In his study, Purushothaman (2015) proposed that knowledge sharing is the best way to motivate the organizations' members to facilitate change management.

Based on a study of 510 employees in Indian information companies, Malik and Garg, (2017) found that knowledge sharing positively influences employees' commitment to change.

Similarly, Ameen *et al.* (2018) examined the impact of knowledge sharing on managing organizational change through a survey of 214 employees at Abu Dhabi Marine Operating Co (ADMA-OPCO).

Their study confirmed that knowledge sharing is crucial for organizational change, particularly during mergers, as employees not only adapt to change but also consider the factors driving its success (Aldholay *et al.*, 2018).

This research highlights knowledge sharing as a key element for successful organizational change. Snunith and Milly (2009) outlined three theories emphasizing the importance of knowledge creation, management, and sharing in organizational change. The first theory involves implementing technological and organizational changes through eight stages: dissatisfaction with the status quo, sufficient time for learning, resources, knowledge, and ability, rewards and incentives, and commitment and leadership. The other two theories propose models based on cooperation, teamwork, and a community of knowledge, which are recommended for organizational change management programs.

The process of knowledge management is essential for defining organizational purpose, needs, and survival strategies. Snunith and Milly (2009) confirmed that cooperation and the transmission of knowledge in the form of experience among members create new knowledge, which is crucial for decision-making and activating change. An organization's future relies on its ability to generate profit and maintain competitive advantages, which necessitates the creation and sharing of high-quality knowledge to learn, identify, map, nurture, and preserve these advantages during times of change.

Park and Lee (2014) noted an increasing number of studies highlighting the importance of knowledge in organizational creativity (Ullah *et al.,* 2021; Mehmood *et al.,* 2021) and the role of new knowledge creation in organizational learning, which positively impacts change management. To achieve organizational goals, companies must prioritize knowledge sharing as a critical activity within the work process. Effective knowledge sharing practices contribute to organizational well-being, create competitive values, encourage product innovation, and enhance creativity.

From this perspective, I propose the third hypothesis:

H4. *Knowledge sharing has a significant positive effect on change management.*

B. Mediation Role of Knowledge Sharing

Various studies have examined knowledge sharing as a mediating factor between multiple variables. For instance, Al-Husseini *et al.* (2019) explored the relationships between transformational leadership and innovation, with knowledge sharing acting as the mediator, within the context of higher education. This study involved 250 academic staff members from Iraqi public universities and emphasized the critical role of knowledge in fostering innovation.

The authors suggested that innovation requires identifying challenges and effectively utilizing new knowledge (Von Krogh *et al.,* 2012). They highlighted the importance of converting personal knowledge into shared knowledge for effective problem-solving.

Transformational leadership was found to be crucial in this process, as it promotes knowledge sharing among team members (Bass and Riggio, 2005), thereby fostering the generation of new ideas and enhancing both product and process innovation. The study concluded that knowledge sharing successfully mediates the relationship between transformational leadership and innovation.

In addition, Alkheyi *et al.* (2020), investigated with a survey dedicated to 405 employees, the link between strategic leadership practices and team effectiveness with the mediating role of knowledge sharing. In this study, they have confirmed that effective strategic leaders must cultivate absorptive and adaptive capabilities to achieve managerial success through proactive engagement. This leadership approach fosters trust, collaboration, and shared responsibility for success by aligning expectations with actions. This strategic orientation, as highlighted, emphasizes organizational learning and visionary planning. The authors asserted that such a vision enables leaders to make decisions with foresight and purpose (Koul, 2009). Consequently, organizational culture and evaluation play pivotal roles in strategic leadership, signaling the importance of structured planning and assessment (Schein, 2010). Historically, effective leadership has centered on rallying followers toward common organizational objectives (Alkathiri*,* 2019; Alsaadi *et al.,* 2019).

However, in the contemporary global economic environment, organizations must evolve into strategic thinkers, necessitating robust training systems to navigate forthcoming challenges (Aldholay *et al.,* 2018; Morsy *et al.,* 2016). Strategic leadership practices are characterized by their ability to enhance team effectiveness, particularly during uncertain times (Iszatt-White, 2010). This improvement is facilitated through a mediating role of knowledge sharing. Hence, organizations deploy strategic leadership to foster knowledge sharing and enhance team performance in alignment with organizational strategies.

In a study conducted within the Tunisian context, Berraies and Zine El Abidine (2019) investigated 209 middle managers working in ICT firms and discovered that tacit knowledge sharing mediates the relationship between distributed leadership and both exploitative and explorative innovation.

This is because distributed leadership fosters social interactions and intrinsic motivation among organizational members, which in turn enhances the sharing of both tacit and explicit knowledge (Cannatelli *et al.,* 2017).

Furthermore, distributed leadership facilitates the establishment of shared goals, reciprocal support, effective communication, and the exchange of diverse perspectives among leaders at different levels, thus encouraging them to share their knowledge (Cannatelli *et al.,* 2017; Zhang and Faerman, 2007).

Therefore, tacit and explicit knowledge sharing are key predictors of exploitative and exploratory innovations (Nonaka *et al.,* 2000).

Explicit knowledge helps employees improve existing products and processes, driving exploitative innovation, while tacit knowledge sharing promotes the generation of novel ideas based on employees' unique insights, leading to exploratory innovation.

In conclusion, the reviewed literature highlights that innovation is a crucial aspect of change management, requiring specific leadership styles and effective knowledge-sharing processes. Based on this, my thesis proposes the following mediation hypothesis, integrating insights from hypotheses H2 and H4:

H5. *Knowledge sharing mediates the relationship between Distributed Leadership and Change Management.*

C. Impact of Organizational Trust on Change Management

In a very competitive word, it has been shown that organizational change is a huge scientific area that should be highly considered due to its importance in the modern organizations' strategic development. For this reason, researchers considered the factors that could interfere in effectively managing the change, imperative for the success of the organization. These factors could be culture, leadership, organizational trust etc.

Earlier many psychologists have shown that in situations of organizational change, trust is considered an essential factor (Hovland *et al.,* 1953), that arises when a decision or an action needs to be taken in an uncertain and risky environment.

It has also been shown that in changing situations, trust is crucial for heartening relationships between members and for implementing self-managed work teams (Lawler, 1992). It also increases organizations' members engagement in learning and other positive behaviors and attitudes such as motivation and satisfaction etc. In his study, Handy (1995) confirmed that if members trust the organization and their superiors the control task is more likely to be positively incorporated and the ability to carry on critical organizational tasks increases.

In their research, based on a qualitative study consisting of 24 interviewed employees from different organizations and hierarchical backgrounds, going through a variety of organization change experiences, Zhou and Shalley (2011) reported that when change occurs, usually employees look for their needs to be seen and fulfilled, which means that they hope that the outcomes will be in their favor. Correspondingly, they confirmed that the level of trust within an organization is a critical factor influencing employees' thoughts, feelings, and collective actions during changing situations. Additionally, numerous previous studies have emphasized that trust in leaders is essential for organizational change, as it shapes workplace relationships (Neves and Caetano, 2009).

Some of these studies focused on trust in individual supervisors, while others examined trust in management more broadly. Neves and Caetano (2009) explored how trust in supervisors' abilities can affect employees' affective commitment, reduce turnover intentions, and enhance organizational citizenship behaviors and performance. Similarly, Atkinson and Butcher (2003, p. 285) noted, "While trust appears to build incrementally, mistrust has a more 'catastrophic quality.'"

Scholars agreed that organizational trust is an important component of change management that could be reached through empowerment, participation, and consultation (Holoviak, 1999). Trust is highly recommended to master change and manage people.

It has been mentioned that trust is able to carry on members relationships, develop positive interactions, boost knowledge exchange between members and rise the organizational effectiveness, which are necessary elements to manage the change, it is also a critical component for business transactions. Organizational trust also helps in ensuring the effectiveness of planned change (Lippert and Davis, 2006). In his study, Reinke (2003) highlighted that trust between employees and supervisors is crucial for employees to accept new systems within the organization. Similarly, Condrey (1995) confirmed that managers and employees who trust their organization are more engaged in the change process and highly motivated to participate in various projects.

It is important to mention that the relationship between trust and change is vital and considered as reciprocal because if trust leads to successful change, success raises trust between collaborators and towards top management.

In this line, Mayer and Davis (1999) reported that changing organizational systems can be easily accepted if employees trust in the change agent, as trust is also a social construct that could be at the center of members' relationships, influencing their behaviors and attitudes. Trust significantly influences members' organizational commitment. Meyer *et al.* (2002), through a meta-analysis grounded in social exchange theory, found that employees with high levels of affective commitment exhibit lower turnover intentions and absenteeism.

These employees generally perform well, remain motivated about their job tasks, experience less stress, avoid conflicts, and positively impact organizational functioning. Based on this perspective, I propose the sixth hypothesis:

H6. *Organizational trust has a significant positive effect on change management.*

D. Mediation Role of Organizational Trust

Different research has considered knowledge sharing as a mediating element between several variables. For instance, Cao and Le (2022) studied the influences of transformational leadership on organizational change capability through the mediating roles of disclosure-based trust and reliance-based trust, using a questionnaire distributed to 376 participants in 115 small and medium firms in China.

Their research confirmed that transformational leadership significantly fosters trust among employees, positively affecting the organization's ability to manage change. Transformational leaders build respect, pride, and confidence among team members, creating a foundation of trust that motivates employees to support and engage in change initiatives (Yasir *et al.,* 2016).

This trust forms the basis for employees' commitment to organizational goals, demonstrating the importance of transformational leadership in fostering a collaborative work environment that builds employee trust and facilitates effective change implementation.

According to Cao and Le (2022), recent studies by Islam *et al.* (2021) on transformational leadership during organizational change suggest that transformational leadership influences employee engagement both directly and indirectly through perceived value and trust in leadership. This demonstrates that transformational leadership enhances employee trust, which is crucial for navigating change effectively. The level of employee trust can vary during organizational change, and transformational leadership plays a key role in enhancing this trust to boost the organization's capacity for change.

Additionally, Saher and Ayub (2020) investigated the influence of visionary leadership on organizational change with the mediating role of trust in leaders, using a survey of 230 managerial-level employees in Pakistani banks. They found that leaders collaborate with employees to foster acceptance of change and mitigate resistance, which is essential for co-creating change (Griffith-Cooper an King, 2007). Trust mediates the relationship between transformational leadership and various outcomes, such as job satisfaction, employee attitudes, and team performance (Braun *et al.,* 2013). Effective internal communication builds trust, which influences employee behavior and organizational outcomes.

When employees trust leaders to implement change, they perceive the change as beneficial, leading to greater acceptance.

Trusting employees aligns their interests with organizational goals, which is crucial during change (Yue *et al.*, 2019). Saher and Ayub (2020) confirmed that trust in leaders is foundational for successful change initiatives, fostering positive employee attitudes toward change (Ertürk, 2008) while reducing resistance (Oreg, 2006).

Visionary leaders rely on employee trust to facilitate change acceptance and retention. Employees trust leaders who promote their growth and guide them through change, making trust pivotal in organizational change efforts (Cullen *et al.,* 2014; Birasnav and Bienstock, 2019). The authors proposed that trust in leaders mediates the relationship between visionary leadership and organizational change.

Dakhan *et al.* (2020) examined the impact of change leadership on employees' affective commitment to change with the mediating role of organizational trust through a quantitative survey of 300 employees in academic institutions.

They affirmed that trust is the inclination to rely on others based on past experiences of trustworthiness (Mishra, 1996; Mayer *et al.,* 1995). Trust, described as employees' confidence in their organization and its leadership (Korsgaard *et al.,* 2002), is crucial for successfully implementing change initiatives (Armenakis *et al.,* 1993). When employees trust their leaders' capabilities, their performance and commitment improve (Lee, 2010). Employees are more likely to follow trusted leaders who guide them effectively rather than those who merely talk without action (Stacey *et al.,* 2011).

According to the investigators, trust fosters employee commitment and reduces resistance to change by reshaping existing beliefs and values (Huy, 2002).

Employees need to trust their leaders to embrace organizational change (Bass, 1985). Leaders who manage uncertainties effectively are perceived as competent, enhancing trust (Mishra, 1996). Trust in leaders mediates various leadership-related outcomes, such as organizational citizenship,

satisfaction, and motivation (Podsakoff *et al.,* 1990). Dakhan *et al.* (2020) argued that trust mediates the relationship between leadership and internal psychological behaviors, like organizational citizenship and motivation (Pillai *et al.,* 1999). Their study indicated that higher trust in leaders corresponds to greater employee readiness to accept change (Reinke, 2003). Organizational trust correlates directly with the evaluation of new human resource management systems and supervisors' roles in the change process. Dakhan *et al*. (2020) confirmed the mediating role of organizational trust between change leadership and employees' affective commitment.

Based on the literature suggesting the mediating role of organizational trust with different leadership styles and organizational change, this study will investigate the mediation role of organizational trust between the emergent leadership style of distributed leadership and change management, as inferred from Hypotheses H3 and H6.

Thus, I propose the following hypothesis:

H7. *Organizational Trust mediates the relationship between Distributed Leadership and Change Management.*

Table 5: Hypotheses Summary

Hypothesis Summary
H1. *Distributed leadership has a significant positive effect on change management.*
H2. *Distributed leadership has a significant positive effect on knowledge sharing*
H3. *Distributed leadership has a significant positive effect on organizational trust.*
H4. *Knowledge sharing has a significant positive effect on change management.*
H5. *Knowledge sharing mediates the relationship between Distributed Leadership and Change Management.*
H6. *Organizational trust has a significant positive effect on change management.*
H7. *Organizational Trust mediates the relationship between Distributed Leadership and Change Management.*

Source: Researcher Own Construction

Table 5 shows the summary of the hypothesis suggested from the literature review.

2.2.5. Conclusion

Leaders embracing a distributed approach cultivate a climate of readiness for change, adaptable systems, and behaviors, resulting in smoother transitions and heightened staff engagement during periods of change. Moreover, distributed leadership fosters collaboration, communication, and a unified vision among organizational members, stimulating knowledge exchange and organizational trust.

Moreover, the chapter highlights the intermediary roles of knowledge exchange and organizational confidence in the connection between distributed leadership and change management. Knowledge exchange serves as a conduit between distributed leadership and change management, facilitating knowledge transfer and the successful execution of change initiatives. Conversely, organizational confidence nurtures an atmosphere where employees feel valued and incentivized to contribute, fostering transparent communication, collaboration, and risk-taking.

By acknowledging the interconnectedness of distributed leadership, change management, knowledge exchange, and organizational trust, organizations can bolster their adaptability and flexibility. Overall, this chapter offers valuable insights for businesses aiming to refine their change management strategies and cultivate cultures of knowledge exchange and confidence within their ranks.

3. MATERIALS AND METHODS

3.1. Methodology and Analysis

In any research, adhering to a specific methodology is essential. This process involves establishing an epistemological framework, which can be based on a positivist, constructivist, or interpretivism paradigm, and determining the reasoning mode whether inductive, abductive, or deductive. The methodology also includes the procedures and tools for data collection, which can vary, along with the sampling techniques employed.

Once the methodology is established, data analysis is performed to validate the hypotheses, examine the relationships between variables, and ensure the accuracy and reliability of the measurement scales. This chapter is divided into two parts: the first part discusses the epistemological foundations and empirical context of the research, while the second part focuses on data analysis, including principal component analysis (PCA) and the tests used to assess the dimensionality, reliability, and validity of the measurement tools.

3.1.1. Epistemological foundations and empirical framework of research

The term epistemology is derived from the Greek word "episteme," which means knowledge. Essentially, "epistemology is the philosophy of knowledge or how we come to know something" (Trochim, 2000). It is intricately connected to ontology and methodology. While ontology pertains to the philosophy of reality, epistemology addresses how we come to comprehend that reality. In the realm of research, epistemology, as a branch of philosophy, deals with the origins, nature, and limits of knowledge. It examines the possibilities, sources, and boundaries of knowledge within a particular field of study. Additionally, epistemology involves the criteria researchers use to determine what constitutes valid knowledge.

Piaget (1967) defines epistemology as "the study of the constitution of valid knowledge," while Léna (2009) states that "epistemology characterizes existing sciences, to judge their value and their claim to coincide with the ideal of certain knowledge." Methodology, in this context, is seen as a component of epistemology and is defined by Gravard-Perret *et al.* (2012) as "the study of methods for the elaboration of knowledge."

To analyze the nature and value of knowledge, researchers must employ a well-defined method and interpret results through their unique perspectives on the external world.

This process involves following a rigorous approach and precisely presenting the techniques and theories used (Triki, 2010). Despite differing presentations of phenomena, researchers' findings can be accepted based on the chosen epistemological paradigm (Girin, 1981). The epistemological paradigm guides research practices and modes of knowledge justification, indicating that researchers should clearly define their research objectives, develop a strategy for their study, and justify the validity of their knowledge using appropriate techniques. Understanding one's epistemological stance and providing suitable justifications are crucial for ensuring the legitimacy of research (Wacheux, 1996). The literature identifies three main epistemological paradigms: positivism, constructivism, and interpretivism.

The positivist paradigm is predominantly used in organizational science research due to its ability to objectively illustrate observable phenomena (Gravard-Perret *et al.,* 2012). Constructivist observations, on the other hand, are subjectively presented by the researcher, who tends to explain his interpretations using dominant conceptual generalizations (Gravard-Perret *et al.,* 2012). The interpretive paradigm offers descriptive knowledge (Gravard-Perret *et al.,* 2012).
The review of these research paradigms helped me establish our epistemological position.
In my study, I aim to elucidate the relationship between distributed leadership and change management, with the mediating effects of knowledge sharing and organizational trust. I have proposed and tested hypotheses to empirically determine their validity. The research aligns then with the ***positivist paradigm***, aiming to address existing gaps in literature (Thiérat *et al.,* 2014).

3.1.2. The Chosen Approach

Undoubtedly, the elucidation of knowledge is achieved by selecting a reasoning mode, which provides more detailed insights by emphasizing theory and empirical evidence (Coutelle, 2005). Two mechanisms, exploration, and testing, exist in management research for knowledge construction. Exploration involves presenting innovative findings, while testing is a process that attempts to validate the research model, theory, or hypothesis.

Three reasoning modes have been identified in the literature: inductive and abductive approaches for knowledge exploration, and a deductive approach for testing. In research employing the hypothetico-deductive method, theory always precedes empirical experience, and the researcher formulates a research question based on a general theory (Triki, 2010).

In my research, I used theories derived from the literature review to formulate the problem and hypotheses describing the relationship between each variable in the Tunisian Context.

This positions my research within the hypothetico-deductive approach, where theoretical hypotheses were developed from forecasts and compared with the research's empirical data (Avenier and Thomas, 2012; Gavard -perret *et al.,* 2012). Accordingly, quantitative study allows us to formulate hypotheses, justify them empirically, and obtain desired numerical results. In this type of research, the researcher must maintain an objective stance and have precise and substantial knowledge of the subject (Triki, 2010). In a quantitative study analysis and interpretations are performed using an instrument or software (Paveau, 2014). The hypothetico-deductive approach can be applied to quantitative research (Hammersley, 1999; Thiétrat *et al.,* 2014), which often uses questionnaires, which are associated with the positivist epistemological paradigm (Silverman, 1998). To conclude, my research employs a quantitative approach based on a questionnaire dedicated to different service organizations located in Tunisia.

3.1.3. Method and Instruments Used

A. Data Gathering Instrument

Data collection is a crucial phase in any empirical research, as the data gathered and its quality form the foundation of the study (Thiétart *et al.,* 2014). "Questionnaires are often used in studies where the researcher and the subject of study are independent, with the questionnaire serving as a tool to measure reality. In fact, this tool is believed to objectively measure real-world objects or phenomena." (Mbengue, and Vandangeob-Derumez, 1999, p.11). Interviews, on the other hand, are seen as the perfect tool for research due to the interdependence between the researcher and the subject of study.

Given that the questionnaire is the most common and widely used tool, and the aim is to maintain the objectivity of the study (Huberman and Miles, 1991), I have adopted a quantitative approach based on a questionnaire. I have taken several precautions in data collection and in the creation of instruments to achieve maximum neutrality (Gravard - Perret *et al.,* 2012).

B. Questionnaire Presentation

As I initially outlined in my research, I opted for a questionnaire as a data collection tool, which includes the following types of questions: Closed-ended questions: These questions were designed as multiple-choice items, following the Likert scale method. This allows us to measure and evaluate an individual's attitude by gauging the intensity of their judgment. The respondent has the option to choose from 5 responses, ranging from 'strongly disagree' to 'strongly agree', to prevent any ambiguity. These questions are dichotomous and do not offer a list of responses.

The questionnaire was divided into five sections.

The first four sections were dedicated to analyzing the variables of the research, which include: 1- Change Management, 2- Distributed Leadership, 3- Knowledge sharing, 4- Organizational trust. The fifth section was dedicated to gathering general information about the company and the respondents' profiles such as:

The company's size, type and field, as well as the respondent's age, gender, current position, number of experiences, location and education. This implies that the questionnaire was designed from a broad perspective, narrowing down to specific details. In the questionnaire, I utilized multi-item scales, conceptualized by researchers, to measure the research variables. The Likert scale was used for questions where 5 points were established for the researcher to express their level of agreement or disagreement: going from totally disagree to totally agree.

- **Change Management:** I opted for the scale developed by Farrell (2000). It has 11 items in total: six items were for planned change and the other five were for emergent change.

Farrell's (2000) framework for measuring change management encompasses two primary dimensions: planned change and emergent change. Planned change involves organized, top-down strategies that methodically align organizational goals with a structured transformation approach. This includes three main phases: assessing the current state, determining future requirements, and planning the transition process. In contrast, emergent change acknowledges the dynamic and ongoing nature of organizational transformation, driven by external environmental factors. It supports a more flexible, bottom-up approach where any member of the organization can initiate change, emphasizing the importance of responsive action to unexpected challenges. Both strategies highlight the need for aligning organizational strengths with external demands, fostering a culture of continuous learning and adaptability. Despite some limitations, Farrell's measurement scales offer a useful framework for evaluating the effectiveness and reliability of these change management approaches.

- **Distributed Leadership:** We measured it through the scale of Fu *et al.* (2018). It consists of 10 items where 5 were dedicated to leadership cooperation and 5 dedicated to leadership support.

The measurement of distributed leadership, as conceptualized by Fu et al. (2018), focuses on evaluating how leadership roles and responsibilities are dispersed across various members of an organization. This method goes beyond traditional views of leadership by examining the collective influence and interactions among individuals rather than attributing leadership to a single person.

To measure distributed leadership, Fu et al. utilized a multi-item scale that considers factors such as the degree of collaboration, the level of shared decision-making, and the mutual influence between team members. This approach highlights the significance of involving multiple participants in leadership activities, thereby enhancing the organization's ability to innovate through effective knowledge sharing and cooperative actions. By adopting this measurement, organizations can better understand and promote a culture of continuous learning and adaptability, which is vital for achieving a balance between exploring new opportunities and exploiting existing capabilities, known as innovation ambidexterity.

- **Knowledge Sharing:** I measured it using the scale developed by Van Den Hooff and De Ridder (2004). It consists of 10 items where 5 were dedicated to knowledge donating and the other 5 to knowledge collecting.

Van Den Hooff and De Ridder (2004) define knowledge sharing through two key dimensions: knowledge donation and knowledge collection. Knowledge donation involves individuals proactively sharing their information, insights, and expertise with others, contributing to the organization's overall knowledge pool. In contrast, knowledge collection refers to the process of individuals actively seeking out and using the knowledge shared by others to enhance their understanding and improve their work. These dimensions underscore the reciprocal nature of knowledge sharing, where the act of giving and receiving knowledge is essential for fostering a culture of continuous learning and improvement within organizations. This approach highlights the significance of both the willingness to disseminate one's own knowledge and the capacity to effectively acquire and utilize the knowledge provided by others.

- **Organizational Trust:** This was based on a four-item scale adopted from Nyhan and Marlowe's (1997) study.

Nyhan and Marlowe (1997) developed the Organizational Trust Inventory (OTI), a 12-item scale aimed at measuring trust within an organization and divided into two parts, one part with 8 items and second part with 4 items. The OTI distinguishes between trust in an immediate supervisor and trust in the organization, based on Luhmann's concept of personal and systems trust. The scale includes eight items assessing trust in one's supervisor and four items evaluating trust in the organization, all using a 7-point Likert format. The OTI underwent extensive psychometric testing to ensure its reliability and validity, including factor analysis to confirm its consistency. This scale serves as a valuable tool for both research and practical applications in assessing and enhancing organizational trust. In this study we only opted for the second part that contains the 4 items.

C. Method of Conducting the Survey

The survey was conducted using two formats: a hard copy and a digital version. The digital version was effectively disseminated via email and social media channels. This format is characterized by its simplicity and cost-effectiveness, as it enables reaching out to individuals spread across different locations. However, this method has drawbacks such as a lack of responses and interactivity from the participants. On the other hand, the hard copy was handed out in person, which facilitated direct interaction with the participants and the opportunity to explain certain aspects. But this method was very time-consuming.

3.1.4. Sampling Methods

A. Employed Sampling Technique

Pires (1997) defines sampling as a process that selects a subset of the overall population for statistical analysis to gain accurate insights. There are two sampling methods in quantitative research: probabilistic and non-probabilistic. The probabilistic method involves selecting a sample from a population based on randomization or chance. This method is more complex, time-consuming, and costly than non-probabilistic sampling. However, it ensures that each population element has an equal opportunity to be part of the sample (Fortin *et al.,* 2006). The non-probabilistic method is used when the list of survey base elements is not controlled, and individuals are chosen not randomly but logically based on the researcher's study characteristics (Fortin *et al.,* 2006). In this case, the quota technique is used to define the sample characteristics relative to the base population, or the route technique, also known as the Politz method, where the investigator has a starting point and a route to follow to conduct his survey. Given these considerations, I chose the non-probabilistic method for the study due to cost and time constraints.

B. The Sample's Characteristics

Distributed leadership and change management are selected as study variables in Tunisian service organizations due to their considerable impact on organizational performance. Distributed leadership, which entails delegating leadership roles and responsibilities among various members of an organization, proves especially effective in in-service organizations where teamwork and collaboration are crucial. Given Tunisia's strong culture of collaboration and shared responsibility, this leadership style can have a profound effect.

Change management is another vital factor, particularly for service organizations operating in constantly evolving environments.

Effective management changes ensure that these organizations can adapt to changes in the market, technology, or customer preferences, thereby maintaining high-quality service delivery. Studying change management in this context provides valuable insights into how Tunisian service organizations navigate these shifts.

In this framework, knowledge sharing, and organizational trust play mediating roles. Knowledge sharing is essential in in-service organizations as it facilitates the exchange of ideas, experiences, and expertise, leading to innovation and enhanced service delivery. It supports communication and collaboration, which are fundamental to both distributed leadership and change management.

Organizational trust is equally crucial, as it fosters open communication, cooperation, and acceptance of change, all of which are vital for effective distributed leadership and change management.

Investigating these variables offers a deeper understanding of the practices and processes that drive the success of service organizations in Tunisia. The unique cultural, economic, and regulatory context of Tunisia can significantly influence these dynamics, making this an important and valuable area of study.

I targeted then managers and middle managers working for service organizations as respondents, that are going through different change situations. Moreover, these respondents were warned that the objective and the main purpose of this questionnaire is purely academic research, which could reassure them to provide us with reliable information.

Accordingly, I administered 500 questionnaires dedicated to managers and middle managers working in Tunisian service organizations specialized in different fields such as IT, Finance and Banking, Marketing, Business consulting, transport, agriculture, and education and going through different types of changes, but a total of 415 responses were received, integrating 300 usable responses, were a recovery rate of 72% were registered.

Respondents' Profile

Table 6: Distribution of respondents according to Gender

Gender	Number	Percentage
Female	130	43%
Male	170	56%
Total	300	100%

Source: Researcher Own Construction

Table 5 show that the rate of women which is about 43% is a bit less than men who showing a rate of 57% for those who work in higher positions such as manager, senior executive, etc. This could be explained by the field of the company that they are working for and the role that they are occupying. Women are most likely to work in higher positions in the educational, marketing, HR, and consulting fields, however, men are mostly in agriculture, transport Finance, and banking, and most exactly in IT.

Table 7: Distribution of respondents according to Age

Age	Number	Percentage
Less than 25 years old	33	11%
Between 25 and 40 years old	189	63%
Between 40 and 55 years old	75	25%
Over 55 years old	3	1%
Total	300	100%

Source: Researcher Own Construction

Table 7 indicates that individuals aged between 25 and 40 years old predominantly hold the highest managerial roles in the specified types of companies. due to a combination of factors. This age group typically has the necessary education and has gained substantial professional experience yet is still in the prime of their working life, bringing energy and up-to-date knowledge to their roles. They are often at a stage in their career where they are ready to take on more responsibilities and have developed the necessary skills to manage teams and make strategic decisions. Furthermore, they are likely to be digitally literate and adaptable to the fast-paced changes in today's business environment. However, it's important to note that this is a general trend, and individual circumstances can vary widely.

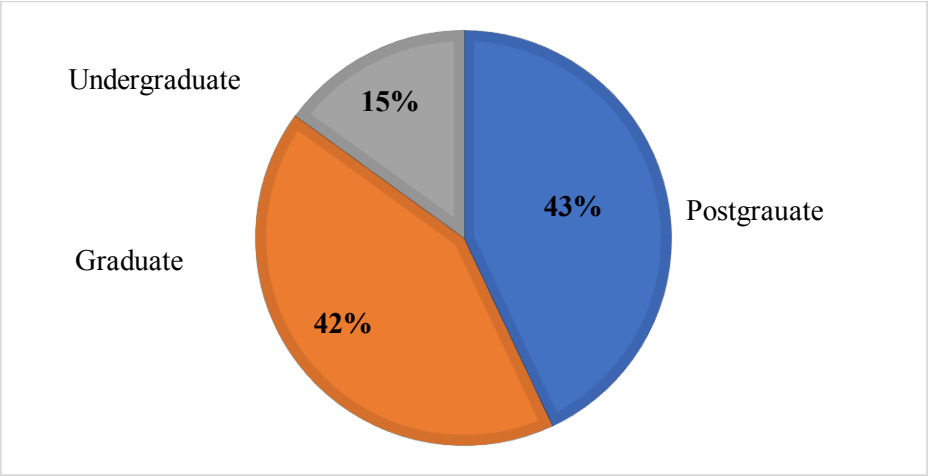

Figure 2: Distribution of respondents according to their education

Source: Researcher Own Construction

Figure 2 shows that the postgraduate 43% and the graduate 42% are the ones who mostly occupy the higher positions. This can be explained by their advanced level of education and specialized knowledge.

These degrees often involve rigorous study and research in a specific field, equipping individuals with a deep understanding and expertise that can be valuable in a professional setting. Furthermore, the process of obtaining a graduate or postgraduate degree often develops critical thinking, problem-solving, and leadership skills, which are highly sought after in higher-level positions. Lastly, having a graduate or postgraduate degree can signal to employers a certain level of commitment and dedication to a field, making these individuals attractive candidates for higher positions.

Companies' profiles

Table 8: Distribution of respondents according to the company's field

Field	Number	Percentage
IT	54	18%
Finance & Banking	51	17%
Business Consulting	78	26%
Education	33	11%
Health	9	3%
Marketing	42	14%
Agriculture	24	8%
Transport	9	3%
Total	300	100%

Source: Researcher Own Construction

According to Table 8, I can conclude that the respondents mostly work for business consulting service companies 26%, IT 18%, and Finance and banking 17%. This could be explained by the fact that those fields often experience more change than other fields due to the dynamic nature of their industries. These sectors are heavily influenced by technological advancements, regulatory shifts, and market trends. In business consulting, changes in business models, strategies, and management practices necessitate continuous adaptation. In IT, rapid technological innovation and digital transformation drive constant change. Finance companies, on the other hand, must adapt to evolving financial regulations, economic conditions, and investment trends. Therefore, these industries are characterized by a high degree of change to stay competitive and relevant.

Table 9: Distribution of respondents according to company's size

Company Size	Number	Percentage
Over 500 employees	102	34%
Between 50 and 500 employees	93	31%
Less than 50 employees	105	35%
Total	300	100%

Source: Researcher Own Construction

According to table 9, it's evident that most survey participants are from small organizations with less than 50 employees, which is considered a rate of 35 % of the total sample and the second ones are from large companies with over 500 employees representing 34% of the total sample.

I can say that the rates are approximately the same and the sample was from all types of companies, which was good for the results.

Table 10: Distribution of respondents according to company's size

Research Questions	Objectives	Topics	Hypotheses	Methods
1. To what extent does distributed leadership impact change management?	Examine the direct impact of distributed leadership on change management.	Distributed Leadership & Change Management	H1: Distributed leadership positively influences change management.	Quantitative analysis using PLS-SEM; structured surveys targeting managers in Tunisian service firms.
2. How can knowledge sharing mediate the relationship between distributed leadership and change management?	Investigate the mediating role of knowledge sharing in the relationship between distributed leadership and change management.	Distributed Leadership and Knowledge Sharing. Knowledge Sharing & Change Management	**H2:** Distributed leadership has a significant positive effect on knowledge sharing. **H4:** Knowledge sharing has a significant positive effect on change management. Conclusion: **H5:** Knowledge sharing mediates the relationship between Distributed Leadership and Change Management.	Three steps method recommended by Hair *et al.* (2014).
3. How can organizational trust mediate the relationship between distributed leadership and change management?	Analyze the mediating effect of organizational trust on the distributed leadership-change management relationship.	Organizational Trust & Change Management	**H3:** Distributed leadership has a significant positive effect on knowledge sharing. **H6:** Organizational trust has a significant positive effect on change management. **H7:** Organizational trust mediates the relationship between distributed leadership and change management.	Three steps method recommended by Hair *et al.* (2014).

Source: Researcher Own Construction

Table 10 shows the interrelatedness of the research questions, objectives, hypotheses and methods.

3.1.5. Conclusion

In this chapter, I have illuminated the epistemological framework, and the methodology employed in the research. I highlighted that the research aligns with the positive perspective and employs a hypothetico-deductive approach. Through a comprehensive literature review, I constructed a research model and formulated hypotheses that I aim to empirically assess. Additionally, I underscored the chosen strategy for data collection, specifically the implementation of a 'quantitative approach' using a questionnaire with measurement scales for the research variables.

I provided details about the questionnaire's content, data collection methods, sampling techniques, respondent profiles, and the characteristics of the companies included in the sample. The second part of this fourth chapter focused on Principal Component Analysis (PCA) and the examination of the reliability and validity of the measurement instruments. Based on the selected measurement scales for the various research variables, the subsequent chapter will present the outcomes and discussions of the hypotheses.

4. RESULTS AND DISCUSSION

4.1. Data Analysis

This section will elucidate the Principal Component Analysis (PCA) method and detail the procedure, including the Bartlett test and the Kaiser test. Additionally, it will define reliability and validity concerning measurement scales. Subsequently, I will perform the PCA test for all variables in the study, followed by tests to assess validity and reliability.

4.1.1. Presentation of the ACP method and its steps

The application of exploratory techniques facilitates the processing of data to understand the reasons and ways in which variables interrelate. The advantage of this approach lies in its ability to investigate the characteristics of multi-item scales and recognize the emergence of segments or clusters (Gavard-Perret *et al.*, 2012).

There are two primary exploratory techniques: Principal Component Analysis (PCA) and Correspondence Factor Analysis (CFA). In quantitative studies, PCA is employed to provide geometric depictions that reveal linear connection structures across all variables, which are measured on interval or ratio scales to determine the presence or absence of correlations among them (Duby and Robin, 2006). This analysis replaces highly correlated variables with factors composed of linear combinations, with the primary goal of simplifying and condensing the data set (Garvard-Perret *et al.,* 2012).

Before extracting factors, a series of tests must be conducted to determine if the data is suitable for factor analysis (Williams *et al.,* 2010).

These tests ensure that the variables correlate sufficiently to allow for their factorization (Garvard-Perret *et al.,* 2012).

SPSS 21, a data processing software, is used for this purpose (Stafford and Bodson, 2006).

- ***Barlett Test***

The Bartlett test, conceived by Maurice Stevenson Bartlett, stands as a cornerstone in scientific research, particularly within disciplines where statistical accuracy and robustness are of paramount importance. This statistical method is crucial for evaluating the equality of variances across multiple groups, significantly impacting various statistical analyses, including the commonly used analysis of variance (ANOVA). One of its central functions lies in evaluating the assumption of homogeneity of variances across groups—a critical prerequisite for ensuring the accuracy and reliability of statistical inferences.

Violations of this assumption can introduce biases and compromise the validity of results. The Bartlett test evaluates variance equality by calculating test statistics. This statistic is derived from the ratio of the squared deviations of individual observations from their respective group means to the total squared deviations from the overall mean. The resulting test statistics are then compared to a chi-square distribution to determine the statistical significance of the variance differences among the groups (Bartlett, 1937).

Widely applied in diverse fields, including experimental psychology, biology, and the social sciences, the Bartlett test becomes a linchpin for researchers aiming to enhance the reliability and robustness of statistical analyses reliant on the assumption of equal variances. This statistical tool has proven instrumental in illuminating the nuances of variance distribution, thereby contributing to more accurate and defensible research outcomes. Researchers recognize the Bartlett test as a critical component in their analytical toolkit, leveraging its capabilities to validate the homogeneity of variances. In doing so, they ensure the precision and trustworthiness of subsequent statistical procedures.

As such, the Bartlett test emerges not only as a technical requirement but as an indispensable safeguard for the integrity of scientific research, aligning with the broader commitment to advancing knowledge with precision and validity.

The null hypothesis of the Bartlett test asserts that the observed correlation matrix is equivalent to the identity matrix, meaning the variables are independent and the matrix cannot be factorized (Pett *et al.,* 2003). Conversely, a significant result ($p<0.05$) indicates that the correlation matrix differs from the identity matrix, making factor analysis suitable and leading to the rejection of the null hypothesis (Gravard-Perret *et al.,* 2012).

- ***Kaiser-Meyer-Olkin Test for Sampling Suitability (KMO)***

This test quantifies the shared variance among items (Beavers *et al.,* 2013), and it emphasizes the unique relationships between each variable pair, comparing them to the established correlations (Gavard-Perret *et al.,* 2012). The KMO index varies from 0 to 1, and its interpretation is as follows: 0.90 or higher = outstanding validity; 0.89 to 0.80 = strong validity; 0.79 to 0.70 = moderate validity; 0.69 to 0.60 = marginal validity; 0.49 or lower = unacceptable (Souissi and Boudhiaf, 2014).

4.1.2. Reliability and Validity of Instrument's Measurement

The reliability and validity of measurement tools are crucial for unbiased results in scientific research. As per Mbengue and Vandangeob-Derumez (1999), the objective and unique nature of reality necessitates the use of reliable and valid measures.

A. Reliability Measurement

This measurement involves the use of dependable instruments like measurement scales and questionnaires. A reliable instrument consistently produces the same results, irrespective of when it's used or who uses it (Gravard-Perret *et al.,* 2012). This ensures that the research method can be replicated with the same outcomes (Yin, 2017).

B. Validity Measurement

A valid measurement tool should be suitable to yield accurate responses (Kirk and Miller, 1986). This implies that the research method should be capable of providing definitive answers to research queries (Mbengue and Vandangeob-Derumez, 1999).

- **Internal validity of research:** It is determined by internal consistency, research process rigor, and construct validity. The internal consistency of research, which is independent of the research's epistemological framework, relies on the coherence of the research design (Gavard-Perret *et al.,* 201, p.41).
- **External validity:** It pertains to the applicability of knowledge beyond the empirical foundation from which it was derived. The rationale for the external validity of knowledge, regardless of the research's epistemological framework, is grounded in the testing of this knowledge (Gravard-Perret *et al.,* 2012).

4.1.3. Dimensionality of Measuring Instruments

In this section, I will be discussing the main component analysis, along with the analysis of the reliability and validity of the tools used for measurement.

A. Principal component analysis of the study's variables

Change Management

***Table 11*: ACP result of the items of Change Management**

Retained Items	Factor loadings	Communalities
In your organization change emanates from senior management.	0.858	0.699
Change occurs through your organization's wide change programs.	0.838	0.569
In your organization change occurs through changing individual knowledge and attitudes.	0.817	0.602
In your organization change occurs in an unplanned manner.	0.794	0.785
In you organization change occurs through a systematic process of well-managed events.	0.677	0.777
In your organization change occurs through continually learning about the environment.	0.570	0.716
In your organization change occurs by encouraging employees to understand and adapt to changing circumstances in the environment.	0.832	0.809
In your organization change is a part of an ongoing process of adapting to the environment.	0.769	0.689
In your organization change is about matching the organization's capabilities to the business environment.	0.866	0.666
Number of items eliminated	1	
KMO	0.778	
Barlett	0.000	
Eigenvalue	4.139	
Percentage of Explained Variance	67.41%	

Source: Researcher Own Construction

The PCA results for change management shown in table 11 revealed a single-dimensional scale that includes 9 items. I initially checked the factorization of these items.

The correlation matrix's determinant is not zero, and the KMO index shows a value of 0.778, indicating moderate validity. Bartlett's sphericity test displays a risk level approaching zero. Consequently, I removed this item due to its inadequate representational quality, adhering to a step-by-step process: "In your organization change is a slow process, which emerges over time."
The selected scale's eigenvalue is around 4.139, and the total variance explained is 67.41%, which exceeds 60%.

Distributed Leadership

***Table 12*: ACP result of the items of Distributed Leadership**

Retained Items	Factor loadings	Communalities
In your organization leaders collectively determine the planning of major operations.	0.848	0.734
In your organization leaders support the goals you like to attain within your company.	0.823	0.670
In your organization leaders and employees have clear goals.	0.773	0.491
In your organization leaders and employees know which tasks they must perform.	0.800	0.677
In your organization leaders encourage each other to cooperate.	0.791	0.809
In your organization leaders explain their reasons for criticism to employees.	0.788	0.899
In your organization leaders provide organizational support for employees' interactions.	0.776	0.674
In your organization leaders encourage you to pursue your own goals for professional learning.	0.707	0.670
Number of items eliminated	2	
KMO	0.855	
Barlett	0.000	
Eigenvalue	5.306	
Percentage of Explained Variance	64.36%	

Source: Researcher Own Construction

The PCA results for distributed leadership shown in table 12 revealed a single-dimensional scale that includes 8 items. I initially checked the factorization of these items. The correlation matrix's determinant is not zero, and the KMO index shows a value of 0.855, indicating strong validity. Bartlett's sphericity test displays a risk level approaching zero. Consequently, I removed these two items due to its inadequate representational quality, adhering to a step-by-step process: "In your organization leaders and employees work in the same strain on the organizational core objectives - In your organization leaders call each other to make critical decisions with employees."

The selected scale's eigenvalue is around 5.306, and the total variance explained is 64.36%, which exceeds 60%.

Knowledge Sharing

***Table 13*: ACP result of the items of Knowledge Sharing**

Retained Items	Factor loadings	Communalities
When I have learned something new, I see that colleagues in my department can learn it as well.	0.741	0.778
I share the information I have with colleagues within my department.	0.727	0.757
I share my skills with colleagues within my department.	0.813	0.793
When I've learned something new, I see those colleagues outside of my department can learn it as well.	0.823	0.823
I share the information I have with colleagues outside of my department.	0.781	0.792
I share my skills with colleagues outside of my department	0.745	0.618
Colleagues within my department tell me what they know when I ask them about it.	0.777	0.707
Colleagues within my department tell me what their skills are when I ask them about it.	0.809	0.842
Number of items eliminated	2	
KMO	0.835	
Barlett	0.000	
Eigenvalue	6.01	
Percentage of Explained Variance	72.77%	

Source: Researcher Own Construction

The PCA results for knowledge sharing shown in table 13, revealed a single-dimensional scale that includes 8 items. I initially checked the factorization of these items. The correlation matrix's determinant is not zero, and the KMO index shows a value of 0.835, indicating strong validity.

Bartlett's sphericity test displays a risk level approaching zero.

Consequently, I removed these two items due to its inadequate representational quality, adhering to a step-by-step process: "Colleagues outside of my department tell me what they know when I ask them about it.", "Colleagues outside of my department tell me what their skills are when I ask them about it." The selected scale's eigenvalue is around 6.01, and the total variance explained is 72.77%, which exceeds 60%.

Organizational Trust

***Table 14*: ACP Result of The Items of Organizational Trust**

Retained Items	Factor loadings	Communalities
I have great confidence that the organization will treat me and the other employees fairly.	0.828	0.686
The level of trust between workers and supervisors is very high in our organization.	0.872	0.760
The level of trust between the people I work with regularly is very high.	0.906	0.822
The degree to which we can depend on each other in the organization is very high.	0.857	0.735
Number of items eliminated	0	
KMO	0.826	
Barlett	0.000	
Eigenvalue	3.01	
Percentage of Explained Variance	75.05 %	

Source: Researcher Own Construction

The PCA results for Organizational Trust shown in table 14, revealed a single-dimensional scale that included 4 items. I initially checked the factorization of these items. The correlation matrix's determinant is not zero, and the KMO index shows a value of 0.826, indicating strong validity. Bartlett's sphericity test displays a risk level approaching zero. The selected scale's eigenvalue is around 3.01, and the total variance explained is 75.05 %, which exceeds 60%.

B. Reliability of Scales Measurement

To assess the dependability of both dependent and independent variables, I employed Smart PLS 4 software. This enabled us to calculate Cronbach's alpha for each variable under investigation.

It's worth noting that, for the measurement scale to be considered reliable, the Cronbach's alpha should be equal to or exceed 0.07.

Concerning the independent variable: The Cronbach's alpha value for distributed leadership is 0.892, respectively, signifying a good internal consistency within the scale.

Regarding the dependent variable: Cronbach's alpha is 0.785 for change management indicating acceptable consistency, 0.919 for knowledge sharing indicating excellent consistency and 0.878 for organizational trust, indicating a good level of coherence.

Below in Table 13 are the mentioned reliability tests for the different explanatory and explained variables:

***Table 15*: Reliability of Constructs**

	CM	DL	KS	OT
Cronbach's Alpha	0.785	0.892	0.919	0.878
Number of Items	10	10	10	4

Note: DL: Distributed Leadership, CM: Change Management, KS: Knowledge Sharing

Source: Researcher Own Construction

Table 15 shows the mentioned reliability tests for the different explanatory and explained variables.

C. Validity of scales' measurement

To assess the validity of the measurement scales, I utilized data collected through the Smart PLS 4 software. This allowed us to establish both convergent and discriminant validity for the measurement instruments.

Convergent Validity of Measurement Scales:

According to Fornell and Larcker's (1981) criteria, convergent validity, as measured by Average Variance Extracted (AVE), is considered acceptable when the AVE for each variable exceeds 0.5.

Table 16: **Convergent Validity of Constructs**

Construct	AVE
CM	0.529
DL	0.539
KS	0.579
OT	0.732

Note: DL: Distributed Leadership, CM: Change Management, KS: Knowledge Sharing

Source: Researcher Own Construction

Table 16 indicates that the convergent validity for the various constructs ranges from 0.529 to 0.732, confirming the strong convergent validity of the measurement scales used for the independent variable (distributed leadership) and the dependent variables (change management, knowledge sharing, and organizational trust).

Discriminate Validity:

Discriminant validity evaluates the distinctiveness of a construct from other constructs. In essence, the measurement scale for a construct should not show a strong correlation with the measurement scales of other constructs. The indicators related to a specific construct should better explain its variance than that of any other construct (Pupion, 2012).

Table 17: **Discriminant Validity of Constructs**

	CM	DL	KS	OT
CM				
DL	0.774			
KS	0.633	0.786		
OT	0.554	0.738	0.667	

Note: DL: Distributed Leadership, CM: Change Management, KS: Knowledge Sharing

Source: Researcher Own Construction

The diagonal values in table 17 represent the square root of the average variance extracted (AVE). These values exceed the correlations between each pair of variables, indicating that the measurement instruments have satisfactory discriminant validity.

4.2. Research Findings

This chapter will initially focus on presenting the process of hypothesis testing, elaborating on why the PLS method was selected, assessing the quality of the model, and finally, delineating the findings from the direct effects test.

4.2.1. Model Fit

Before testing the formulated hypotheses, it is crucial to assess the model's quality using two indices: the Goodness of Fit (GOF) index and the coefficient of determination (R2). The Goodness of Fit is a statistical measure that evaluates how well a model's predictions align with the actual data. It measures the discrepancy between observed values and those expected under the model, helping researchers determine the model's accuracy in representing the data it aims to predict or explain. By assessing the goodness of fit, researchers can determine whether a model is appropriate for the data or if an alternative model might better represent it. Common statistical tests and metrics used to quantify goodness of fit include the chi-square test, R-squared, and root mean square error (RMSE), each providing insights into different aspects of the model's performance. This concept is essential in fields like finance, engineering, and social sciences, where accurate predictions and understanding of relationships between variables are critical.

According to Fernandes (2012), if R2 exceeds 0.1, the model is considered significant. In this study, the coefficient of determination for the three dependent variables – change management, knowledge sharing, and organizational trust – are 0.764, 0.649, and 0.647, respectively. This indicates that 76.4% of the variance in change management, 64.9% of the variance in knowledge sharing, and 64.7% of the variance in organizational trust are explained by the model. Thus, I can conclude that the correlation is moderate.

Generally, the term "Goodness of Fit" (GOF) is associated with statistical tests of hypothetical models, often discussed in the context of least squares theory and multivariate analysis (Tallis, 1983).

The calculation of GOF is as follows:

$$\textbf{GOF} = \sqrt{\ [\textbf{average of AVE} * (\textbf{average } R^2)]}.$$

According to Tenenhaus *et al.* (2005), GOF should be greater than 0.3, which is the case in this study: **GOF= 0.645>0.3.**

Table 18: GOF Index Calculation

Construct	AVE	R2
Distributed Leadership	0.529	0.704
Change Management	0.539	0.764
Knowledge Sharing	0.597	0.649
Organizational Trust	0.750	0.647
GOF= 0.645		

Source: Researcher Own Construction

Table 18 highlights the AVE and R2 of all variables and shows the calculation of the goodness of fit.

4.2.2. Choice of the PLS Method

The structural equation model (Ullman and Bentler, 2003) is a statistical approach designed to report causal relationships based on a theoretical framework that links multiple concepts measured through observable indicators (Vinzi *et al.,* 2009). Structural equation modeling (SEM) techniques are classified into two types (Davari and Rezazadeh, 2013).

First, techniques based on covariance (Joreskog, 1978) incorporate a confirmatory approach to data analysis using software such as LISREL, AMOS, EQS, and MPLUS. These methods have several limitations, including the need for a large sample size, data normality, and at least four indicators for each construct to execute the model properly (Davari and Rezazadeh, 2013).

The second type involves techniques based on components or partial least squares (PLS), which utilize a different procedure to analyze data. This includes examining measurement models, structural models, and ultimately a global model. PLS is particularly useful when covariance-based methods are not feasible due to non-conforming data or a lack of normal distribution (Fernandes, 2012). Additionally, it is effective with small sample sizes and allows for single-item constructs in the studied model (Davari and Rezazadeh, 2013).

Several software programs have been developed to handle this technique, including PLS Graph, Warp PLS, and Smart PLS 4 (Ringle *et al.,* 2015), with Smart PLS 4 being noted for its user-friendly interface and advanced analytical and graphical capabilities. Consequently, I have chosen to use Smart PLS 4 for the data analysis in my study.

4.2.3. Test of direct effects

Table 19: Test of Direct effect

Hypothesis	Effect	β	T	P-Value
H1	Distributed Leadership – Change Management	0.915	30.797	0,001
H2	Distributed Leadership – Knowledge Sharing	0.873	23.737	0.000
H3	Distributed Leadership – Organizational Trust	0.859	18.668	0.000
H4	Knowledge Sharing – Change Management	0.534	3.914	0.000
H5	Organizational Trust – Change Management	0.518	3.688	0.000

Note: β: Contribution Factor, T: Student's T, P-Value: Fisher's F

Source: Researcher Own Construction

Table 19 shows the extracted results of the directed effects.

For Hypothesis H1, the data analysis conducted using Smart PLS 4 software indicates that distributed leadership has a positive and significant effect on change management (β=0.915; T=30.797>1.96; P-Value=0.001<0.05). Thus, Hypothesis H1 is confirmed.

For Hypothesis H2, the analysis reveals that distributed leadership significantly and positively impacts knowledge sharing (β=0.873; T=23.737>1.96; P-Value=0.000<0.05), confirming Hypothesis H2.

For Hypothesis H3, the results show that distributed leadership has a significant positive effect on organizational trust (β=0.859; T=18.668>1.96; P-Value=0.000<0.05). Therefore, Hypothesis H3 is confirmed.

For Hypothesis H4, the analysis indicates that knowledge sharing has a significant positive impact on change management (β=0.534; T=3.914>1.96; P-Value=0.000<0.05), thus confirming Hypothesis H4.

For Hypothesis H5, the data analysis demonstrates that organizational trust significantly and positively affects change management (β=0.518; T=3.688>1.96; P-Value=0.000<0.05), confirming Hypothesis H5.

4.2.4. Test of Mediation effects

To examine the mediating role of knowledge sharing and organizational trust, the study followed a structured approach. Initially, the first step involved assessing the significance of the direct relationship between the independent and dependent constructs without considering any mediators. Data were extracted from PLS-SEM using a bootstrapping procedure, ensuring no sign changes as recommended by Hair *et al.* (2014). The path coefficient and t-value were obtained from the PLS-SEM bootstrapping process. If the direct effect between the constructs, without a mediator, was found to be insignificant, it suggested the absence of a mediating effect. Conversely, if the direct effect was significant, further analysis was conducted by proceeding to the next step.

Table 20: Steps for testing the mediation effect

Steps	Results	Interpretation
Step one: Test significance of the direct effect without the inclusion of the mediator.	Not significant	No mediating effect
	Significant	Proceed to step 2
Step two: Test significance of the indirect effect due to the inclusion of the mediator.	Not Significant	No mediating effect
	Significant	Proceed to step 3
Step three: Test the strength of the mediation by calculating the variance account. for VAF.	VAF> 80%	Full Mediation
	20% ≤ VAF ≤ 80%	Partial Mediation
	VAF < 20	No Mediation

Source: Raji and Gomez, 2017, p. 24

Table 20 shows the three steps method adopted by Hair et al. (2014) to test the mediation effect.

After confirming the significance of the direct relationship between the constructs, the evaluation moved to the second step, which involved assessing the indirect effect mediated by the mediator. Like the first step, data were extracted from PLS-SEM using a bootstrapping procedure, ensuring no sign changes as recommended by Hair *et al.* (2014). Path coefficients for two paths were analyzed: path 'a' (the relationship from the independent construct to the mediator) and path 'b' (the relationship from the mediator to the dependent construct), as shown in Figure 5.

These path coefficients were obtained through the PLS-SEM bootstrapping procedure. Additionally, the significance of the indirect effect was manually calculated using Sobel's Formula (Sobel, 1982):

$$Z = \frac{axb}{\sqrt{a^2Sb^2 + b^2Sa^2}}$$

In this context, 'a' represents the path coefficient connecting the independent construct to the mediator, while 'b' denotes the path coefficient linking the mediator to the dependent construct. 'Sa' refers to the standard error of path 'a', and 'Sb' indicates the standard error of path 'b' (see Figure 3).

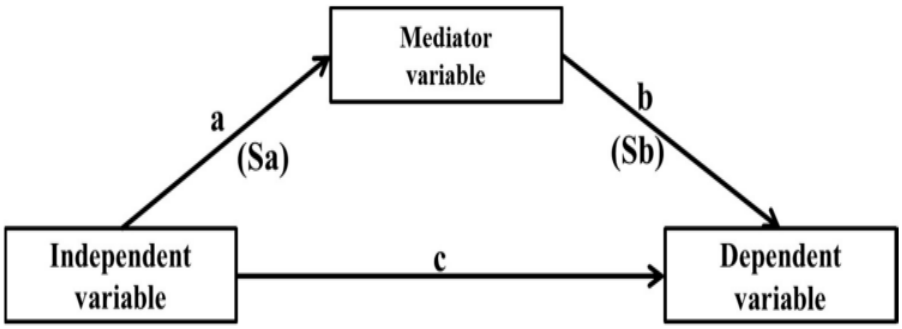

Figure 3: Mediation path

Source: Raji and Gomez, 2017, p. 24

In the final stage of the bootstrapping procedure, if the indirect effects are found to be not significant, it suggests the absence of a mediating effect. However, if they are significant, additional evaluation is warranted through Step three.

After confirming the significance of both the direct effect (Step one) and the indirect effect (Step two), the final step involves assessing the strength of the mediating construct. This can be achieved by calculating the variance accounted for (VAF), as suggested by Hair *et al.* (2014). VAF is determined by dividing the indirect effect by the total effect:

$$VAF = \frac{Indirect\ Effect}{Total\ Effect} = \frac{a \times b}{a \times b + c}$$

In this analysis, 'a' represents the path coefficient between the independent construct and the mediator, 'b' signifies the path coefficient between the mediator and the dependent construct, and 'c' denotes the path between the independent construct and the dependent construct, as shown in Figure 3.

According to Hair *et al.* (2014), VAF values are interpreted as follows: VAF > 80% indicates full mediation, 20% ≤ VAF ≤ 80% suggests partial mediation, and VAF < 20% implies no mediation.

To test hypotheses H6 and H7, a PLS-SEM bootstrapping procedure was conducted using PLS-SEM.

A. Mediation Role of Knowledge Sharing

To test the knowledge-sharing mediating effect, three steps were followed. In the first step, I confirmed the direct significant effect between distributed leadership, the independent variable, and change management the dependent variable.

Table 21: Knowledge Sharing Mediation Analysis

Type of effect	Effect	Path coefficient	T statistic	*P value*
Direct effect	DL → CM	0,448	3,343	0,000
Total Indirect effect	DL→ KS → CM	0,466	3,825	0.000
Total effect	DL → CM	0,914	30.865	0.000
VAF	Indirect effect /Total effect	50,98%		
Conclusion	Moderately partial mediation exists			

Note: DL: Distributed Leadership, CM: Change Management, KS: Knowledge Sharing

Source: Researcher Own Construction

Table 21 confirms this matter accordingly, (β=0,346, T=3,312>1.96, P Value=0,001<0.05).

In the second step, I confirmed the indirect effect, which is the result of the direct effect between distributed leadership and knowledge sharing, as well as between knowledge sharing and change management. The findings revealed that the indirect effect of distributed leadership, through the mediator construct of knowledge sharing, on change management is significant (β= 0.466, T=3.825>1.96, P-Value=0.000).

For the third step, I tested the strength of the mediating effect by calculating the variance accounted for (VAF) value, which was 50.98%, falling between 20% and 80%. This indicates that knowledge sharing partially mediates the relationship between distributed leadership and change management (see Figure 7 below). Consequently, the mediation hypothesis of knowledge sharing (H6) was confirmed.

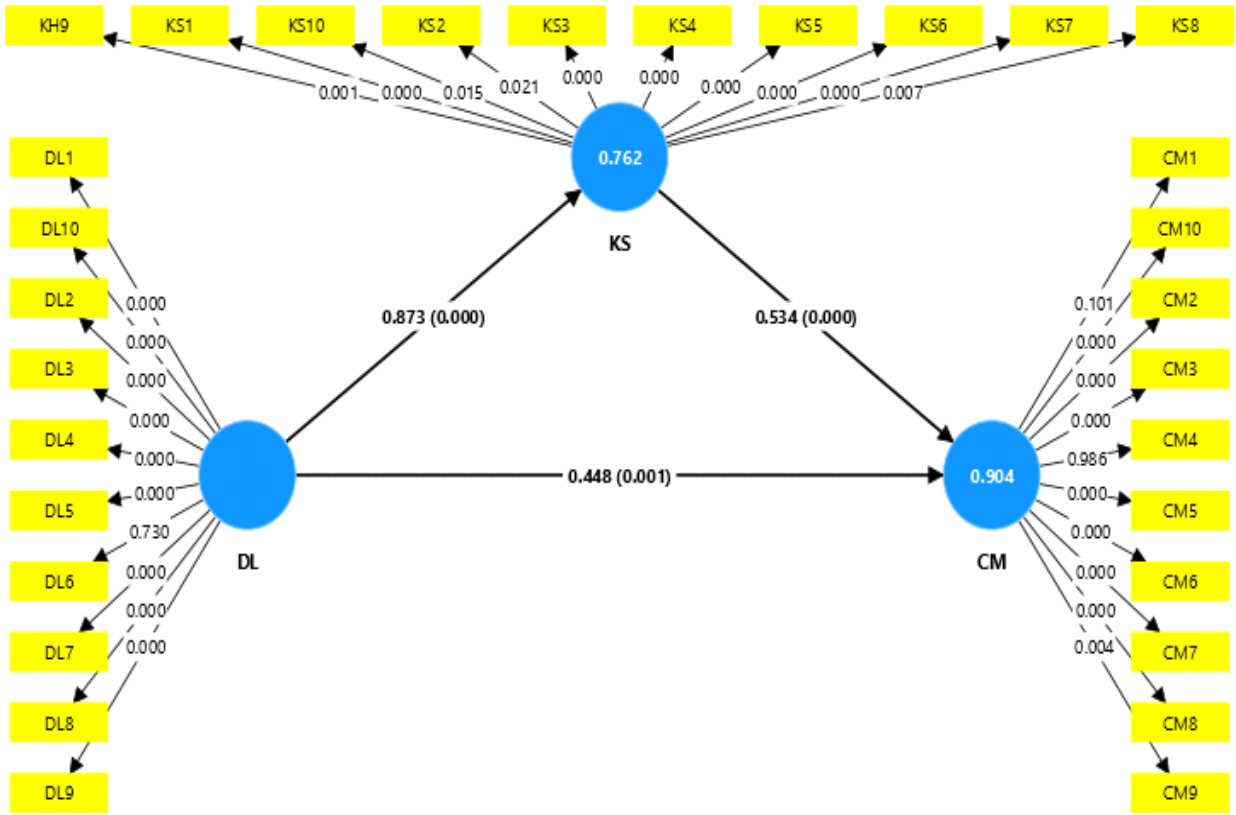

Figure 4: Knowledge Sharing Mediation Model

Source: Researcher Own Construction

Figure 4 illustrates a structural equation model (SEM) that highlights the relationships between Distributed Leadership (DL), Knowledge Sharing (KS), and Change Management (CM). Distributed Leadership, measured by indicators DL1 through DL10, shows a strong positive impact on Knowledge Sharing, indicated by a path coefficient of 0.873 and a p-value of 0.000. This suggests that effective distributed leadership significantly enhances the sharing of knowledge within the organization. Knowledge Sharing, measured by indicators KS1 through KS10, in turn, positively influences Change Management, with a path coefficient of 0.534 and a p-value of 0.000. This relationship underscores the importance of knowledge sharing in facilitating successful change management processes. Additionally, Distributed Leadership has a direct positive effect on Change Management, evidenced by a path coefficient of 0.448 and a p-value of 0.001. This indicates that leadership practices directly contribute to effective change management, although their impact is further enhanced when mediated by knowledge sharing.

Overall, the model demonstrates that fostering distributed leadership not only directly improves change management but also does so indirectly by promoting a culture of knowledge sharing.

B. Mediation Role of Organizational Trust

To test the mediation effect of organizational trust, I applied the same three-step method. In the first step, I confirmed the direct significant effect between distributed leadership (the independent variable) and change management (the dependent variable).

Table 22: Organizational Trust Mediation Analysis

Type of effect	Effect	Path coefficient	T statistic	P value
Direct effect	DL → CM	0,470	3,476	0,001
Total Indirect effect	DL→ OT → CM	0.445	3.571	0.000
Total effect	DL→ CM	0.915	30.797	0.000
VAF	Indirect effect /Total effect	48.63%		
Conclusion	Moderately partial mediation exists			

Note: DL: Distributed Leadership, CM: Change Management, KS: Knowledge Sharing

Source: Researcher Own Construction

As shown in Table 22, the results support this finding (β=0.332, T=3.140>1.96, P-Value=0.002<0.05).

In the second step, I confirmed the indirect effect, which is the product of the direct effect between distributed leadership and organizational trust, as well as between organizational trust and change management. The results revealed that the indirect effect of distributed leadership, through the mediator construct of organizational trust, on change management is significant (β= 0.445, T=3.571>1.96, P-Value=0.000).

For the third step, I tested the strength of the mediating effect by calculating the variance accounted for (VAF) value, which showed a result of 48.63%, falling between 20% and 80%. This indicates that organizational trust partially mediates the relationship between distributed leadership and change management (see Figure 5 below). Consequently, the mediation hypothesis of organizational trust (H7) was confirmed.

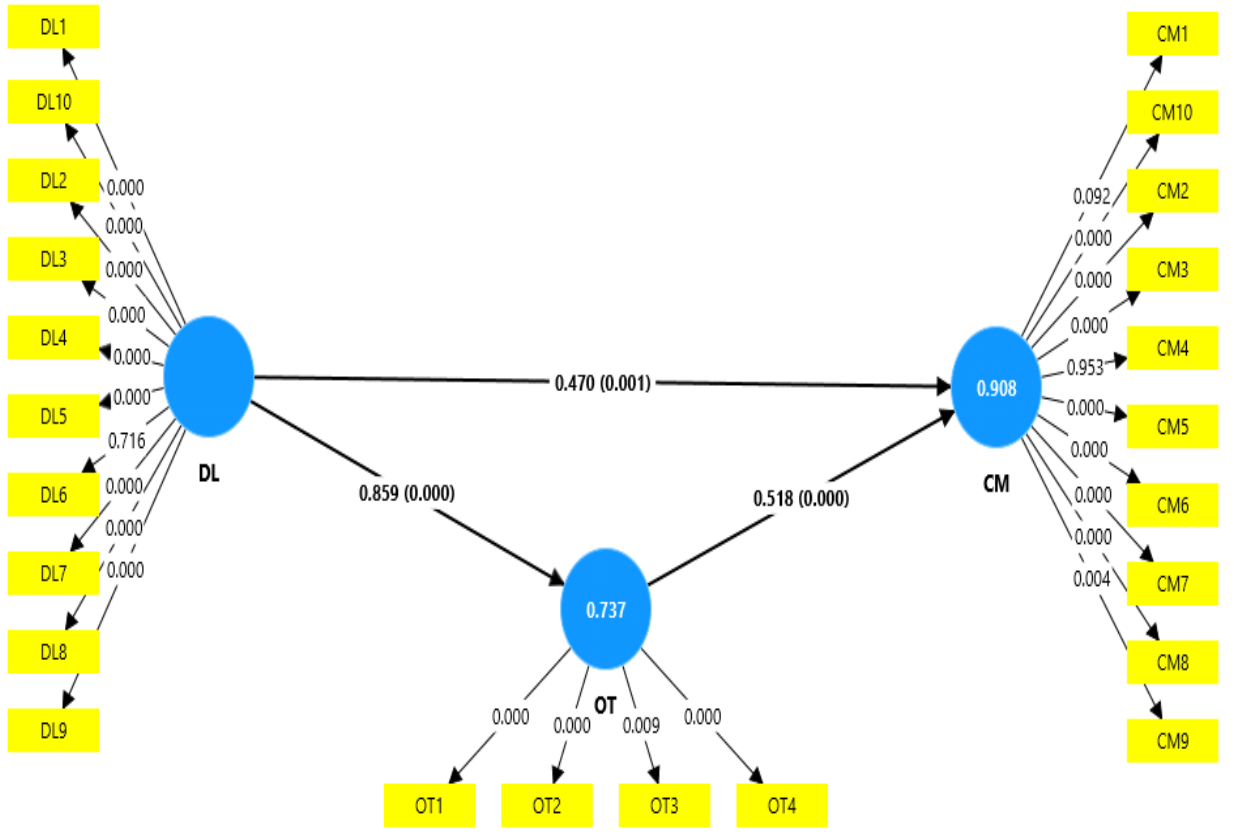

Figure 5: Organizational Trust Mediation Model

Source: Researcher Own Construction

Figure 5 presents a structural equation model (SEM) demonstrating the relationships between Distributed Leadership (DL), Organizational Trust (OT), and Change Management (CM). Distributed Leadership, measured by indicators DL1 through DL10, shows a strong positive impact on Organizational Trust, with a path coefficient of 0.859 and a p-value of 0.000. This indicates that effective distributed leadership significantly enhances trust within the organization. Organizational Trust, measured by indicators OT1 through OT4, in turn, positively influences Change Management, with a path coefficient of 0.518 and a p-value of 0.000. This relationship highlights the crucial role of trust in facilitating successful change management processes. Additionally, Distributed Leadership has a direct positive effect on Change Management, evidenced by a path coefficient of 0.470 and a p-value of 0.001, indicating that leadership practices directly contribute to effective change management. The model shows that fostering distributed leadership not only directly improves change management but also does so indirectly by enhancing organizational trust. This integrated approach underscores the importance of leadership and trust in achieving successful organizational change.

Table 23: Summary Table of The Hypothesis Results

Hypothesis	Result
H1: Distributed leadership has a significant positive effect on change management.	**Confirmed**
H2: Distributed leadership has a significant positive effect on knowledge sharing.	**Confirmed**
H3: Distributed leadership has a significant positive effect on organizational trust.	**Confirmed**
H4: Knowledge sharing has a significant positive effect on change management.	**Confirmed**
H5: Knowledge sharing mediates the relationship between Distributed Leadership and Change Management.	**Confirmed**
H6: Organizational trust has a significant positive effect on change management.	**Confirmed**
H7: Organizational trust mediates the relationship between distributed leadership and change management**.**	**Confirmed**

Source: Researcher Own Construction

Table 23 presents a synthesis of the results of the hypotheses studied, whether they are confirmed or refuted.

Table 24: Results summarize

No.	Hypotheses	Objective	Status	Results
H1	Distributed leadership has a significant positive effect on change management.	Challenge the traditional single-leader paradigm by highlighting the advantages of distributed leadership. It compares its application in the educational field versus the business field to elucidate the differences and benefits across these domains.	**Accepted**	Hypothesis H1 was confirmed, pointing the important role of distributed leadership that has been identified as a catalyst for positive change management across diverse organizational settings, as it empowers a broader array of individuals within an organization to contribute to change efforts.
H2	Distributed leadership has a significant positive effect on knowledge sharing.	Examine how distributed leadership enhances knowledge sharing within organizations.	**Accepted**	Distributed leadership is a key driver for building shared contexts, delivering diverse resources to leaders, engaging employees, and creating a conducive environment for knowledge sharing. It is a foundational element for organizational success, highlighting its capacity to empower people, enhance learning and innovation, and facilitate a culture of knowledge sharing and collaboration.
H3	Distributed leadership has a significant positive effect on organizational trust.	Examine how distributed leadership enhances organizational trust within organizations.	**Accepted**	Distributed leadership enhances trust among team members by decentralizing decision-making and empowering employees, which encourages collaboration and teamwork, fosters mutual respect and understanding, and demonstrates integrity and authenticity to build credibility and trust.
H4	Knowledge sharing has a significant positive effect on change management.	Introduce innovative strategies to enhance change management practices by leveraging the role of knowledge sharing.	**Accepted**	Nurturing knowledge-sharing in service companies can significantly impact change management by fostering a culture of openness, collaboration, and continuous improvement.

H5	Knowledge sharing mediates the relationship between Distributed Leadership and Change Management.	Investigate how knowledge sharing mediates the impact of distributed leadership on effective change management within organizations.	**Accepted**	The conclusion from H2 and H4 confirmed hypothesis H6, stating that knowledge sharing significantly mediates the relationship between distributed leadership and change management.
H6	Organizational trust has a significant positive effect on change management. management.	Introduce innovative strategies to enhance change management practices by leveraging the role of organizational trust. Investigate how knowledge sharing mediates the impact of distributed leadership on effective change management within organizations.	**Accepted**	Trust fosters positive relationships, enhances interactions, promotes knowledge exchange, and ultimately increases organizational effectiveness, all of which are essential for managing change successfully. .
H7	Organizational trust mediates the relationship between distributed leadership and change management**.**	Investigate how organizational trust mediates the impact of distributed leadership on effective change management within organizations.	**Accepted**	The conclusion from H3 and H6 we confirmed hypothesis H7, stating that organizational trust significantly mediates the relationship between distributed leadership and change management.

Source: Researcher Own Construction

4.3. Discussion

Upon thorough analysis, the results of this study highlight the substantial and clear connection between distributed leadership and change management.

This claim aligns with the findings of Canterino *et al.* (2020) and Battilana *et al.* (2010), whose research corroborates those leaders who adhere to distributed leadership principles are better equipped to spearhead, execute, and oversee transformative initiatives within organizations. Such leaders possess the capacity to sway the behaviors of organizational members, fostering a culture of cooperation, collaboration, and commitment essential for facilitating successful change management. Their adeptness lies in promoting teamwork, encouraging collective effort, and nurturing a collective commitment to the envisioned changes across various tasks and roles within the organization. Similarly, this finding supports other classic studies that have also concluded the positive association between the two variables. These studies provided empirical evidence for the crucial role of distributed leadership in organizational adaptation and transformation. For instance, Spillane *et al.* (2001) observed that when leadership responsibilities were shared among various stakeholders within the educational setting, there was increased buy-in, collaboration, and collective effort toward implementing change initiatives. This leadership approach cultivates a sense of shared ownership and accountability, which ultimately enhances the effectiveness of change management efforts in improving educational outcomes.

Along the same line, Gronn (2002) demonstrated that distributed leadership practices significantly influence the successful implementation of changes aimed at enhancing educational quality and student achievement. By empowering multiple individuals within schools to exercise leadership in different capacities, organizations were better able to leverage diverse perspectives, expertise, and resources toward achieving common goals. This decentralized approach to leadership was found to promote innovation, responsiveness, and adaptability, thereby facilitating the effective management of change processes within educational institutions. Moreover, the acceptance of the first hypothesis aligns with Harris's (2008) research, who indicated that distributed leadership plays a crucial role in addressing the challenges linked to organizational change in healthcare settings. By involving a broad spectrum of stakeholders, such as frontline staff, managers, and external partners, distributed leadership facilitates effective coordination, mitigates resistance, and promotes a culture of continuous improvement within healthcare organizations. This leadership style was then instrumental in promoting organizational learning, innovation, and resilience in the face of evolving healthcare needs and demands.

To conclude, with a comparison with previous studies hypothesis H1 was confirmed, pointing the important role of distributed leadership that has been identified as a catalyst for positive change management across diverse organizational settings, as it empowers a broader array of individuals within an organization to contribute to change efforts.

The confirmation of the hypothesis underscores that when leadership responsibilities are distributed among multiple stakeholders, there is increased collective acceptance, dedication, and cooperation in achieving organizational goals. This inclusive leadership approach nurtures a culture of teamwork, innovation, and flexibility, all crucial elements for effectively navigating complex changes. By harnessing the expertise and viewpoints of diverse organizational members, distributed leadership enables comprehensive problem-solving and implementation of solutions, ultimately boosting the chances of successful change outcomes. Additionally, distributed leadership instills a sense of ownership and responsibility among organizational members, fostering higher engagement and alignment with change efforts. Overall, this finding suggests that distributed leadership is central to driving success in change management by harnessing the collective capabilities and resources of the entire organization towards common objectives. Furthermore, the statistical results allowed a distinction to be made between the impact of distributed leadership on change management in the educational field and the business service field. The analysis confirmed that distributed leadership, which involves delegating decision-making authority and responsibility across various organizational levels, manifests differently in the educational and business sectors, each exhibiting unique impacts on change management.

In the educational field, distributed leadership promotes a collaborative approach to change management, wherein teachers, administrators, parents, and students actively participate in decision-making processes. For instance, in a school undergoing curriculum reform, distributed leadership might involve the formation of curriculum committees comprising teachers from different departments, administrators, and education specialists. This collaborative effort ensures that diverse perspectives are considered, leading to more inclusive and effective change outcomes. Additionally, distributed leadership in education promotes a culture of shared ownership and accountability, encouraging everyone to be invested in the success of change initiatives. Teachers, when empowered to assume leadership roles within their classrooms and subject areas, become advocates for change, implementing new strategies and practices with enthusiasm and dedication.

Conversely, distributed leadership in the business sector typically focuses on empowering employees at every level to participate in decision-making and problem-solving processes. For instance, a company undergoing digital transformation might form cross-functional teams with members from various departments such as marketing, IT, and operations.

These teams work together to identify opportunities and challenges related to new technology adoption and to develop innovative solutions. By decentralizing decision-making authority, businesses can tap into the collective expertise and creativity of their workforce, facilitating organizational change from the grassroots level.

Moreover, distributed leadership fosters a culture of continuous learning and adaptability, where employees are encouraged to experiment, take risks, and learn from failures.

While both educational and business contexts benefit from distributed leadership in change management, there are distinct challenges and considerations associated with each. In the education sector, elements such as academic standards, student diversity, and regulatory requirements can impact the execution of distributed leadership. Educational leaders need to manage these complexities while promoting a culture of collaboration and innovation. In the business sector, competitive pressures, market dynamics, and organizational hierarchies may pose challenges to distributed leadership. Business leaders must balance autonomy and accountability, ensuring that decision-making processes remain aligned with strategic objectives. While the manifestations and challenges may differ between the two contexts, the overarching principles of inclusivity, shared responsibility, and continuous improvement remain central to its effectiveness in driving meaningful and sustainable change.

Additionally, the findings validated the substantial positive effect of distributed leadership on knowledge sharing.

This aligns with the studies of Berraies *et al.* (2021) and Nonaka *et al.* (2016), who asserted that distributed leadership enhances knowledge-sharing dynamics through social interactions among leaders. Furthermore, it promotes the creation of new knowledge essential for improving competitiveness, fostering innovation, and enhancing overall performance and success. Similarly, these authors suggested that a distributed leadership approach fosters supportive behaviors among leaders, encourages employee collaboration, and facilitates participation in decision-making, thereby stimulating the motivation to share valuable knowledge. In line with this, Cannatelli *et al.* (2017) also confirmed that distributed leadership significantly impacts knowledge creation, sharing, and application, asserting that it empowers individuals within the organization, increasing their capacity for learning, creativity, and innovation. This approach enables broad participation in leadership activities, promoting an environment where diverse perspectives and skills contribute to effective strategic decision-making. The authors described distributed leadership as a key driver for building shared contexts, delivering diverse resources to leaders, engaging employees, and creating a conducive environment for knowledge sharing.

They emphasized its ability to generate common interests, improve communication, and support the diffusion of various skills. These facts underscore distributed leadership as a foundational element for organizational success, highlighting its capacity to empower people, enhance learning and innovation, and facilitate a culture of knowledge sharing and collaboration. This aligns with my study, confirming hypothesis H2. Specifically, in the Tunisian context, the implementation of distributed leadership within service companies during periods of change can significantly impact knowledge sharing and organizational adaptability. Empowering employees at various levels to take ownership of their roles and participate in decision-making processes aligns with Tunisian cultural values, which emphasize collaboration and collective responsibility. The study confirmed that this approach fosters a sense of engagement and commitment among team members and facilitates the exchange of diverse perspectives, crucial for navigating Tunisia's dynamic business environment. Moreover, by dismantling traditional hierarchies and promoting cross-functional collaboration, distributed leadership facilitates the free flow of knowledge throughout the organization, enabling innovative responses to emerging challenges. Embracing this approach resonates with the culture of service companies, emphasizing teamwork and inclusivity to boost organizational learning and improvement.

Furthermore, the study's results confirmed the third hypothesis, indicating the significant positive effect of distributed leadership on organizational trust. This outcome supports the findings of Lines *et al.* (2005) and Dirks and Ferrin (2002), who highlighted the crucial role of leaders in fostering trust and cooperation to find solutions to problems.

They confirmed that effective leaders earn the trust of their followers. Conversely, if leaders fail to instill trust in organizational structures and climate, employees may respond with distrust, leading to potential disengagement and adverse effects on organizational outcomes. This result also supports the investigations of Beycioglu *et al.* (2012), Algan and Ummanel (2020), and Kilicoglu (2018), who demonstrated that in educational organizations, adopting distributed leadership positively influences trust among teachers and school administrators. From a business perspective, Berraies *et al.* (2021) agreed that distributed leadership enhances trust among team members by decentralizing decision-making and empowering employees, which encourages collaboration and teamwork, fosters mutual respect and understanding, and demonstrates integrity and authenticity to build credibility and trust. They added that the flexibility and adaptability enabled by distributed leadership enhances confidence in leadership's ability to navigate challenges. Overall, distributed leadership cultivates a culture of trust and transparency, fostering commitment and loyalty among employees.

My analysis confirmed Hypothesis H3, demonstrating that in Tunisian service companies, distributed leadership facilitates inclusive decision-making processes involving employees at various levels, fostering a sense of ownership and empowerment. This inclusivity assures employees that their perspectives are valued, strengthening their trust in the organization's leadership during times of uncertainty. The collaborative nature of distributed leadership encourages cross-functional teamwork and knowledge-sharing, which are deeply ingrained in Tunisian culture. This collaborative environment fosters mutual support among employees, enhancing trust in their colleagues and leadership alike. Furthermore, distributed leadership promotes transparency and integrity in decision-making. When leaders actively involve employees in the change process, communicate openly about the reasons behind decisions, and demonstrate accountability, it builds credibility and trust within the organization. Accordingly, distributed leadership cultivates a culture of trust, ensuring that employees feel valued, engaged, and confident in the organization's ability to navigate challenges effectively.

The study's results also confirmed Hypothesis H4, demonstrating the significant positive impact of knowledge sharing on change management. These outcomes validate the studies of Malik and Garg, (2017) and Purushothaman (2015), who emphasized the importance of knowledge sharing in facilitating organizational change and developing strategies to enhance employee participation in such initiatives. They agreed with the findings of Cabrera and Cabrera (2005) and Bordia *et al.* (2004), asserting that companies need to foster knowledge sharing among employees to bolster market competitiveness. Knowledge sharing not only aids mutual learning at the workplace but also enhances social interactions and connections among employees, thereby improving coordination and collective efforts in managing change.

It expands the pool of knowledge, skills, experiences, and proficiencies, fostering trust, reducing uncertainties, and positively influencing employees' perceptions of change. Similarly, the findings support the studies of Davenport and Prusak (1998), Nonaka and Takeuchi (1995), and Szulanski (1996), who highlighted that sharing information, experiences, and insights helps individuals across different organizational levels better understand the reasons behind change initiatives, fostering a sense of ownership and commitment. This dissemination of knowledge promotes collaboration and innovation, as employees feel empowered to contribute their ideas and expertise toward achieving common goals. The researchers emphasized the importance of knowledge sharing in organizational learning and adaptation, highlighting its positive impact on change management processes. In the current study, I affirmed that nurturing knowledge-sharing in service companies can significantly impact change management by fostering a culture of openness, collaboration, and continuous improvement.

Service industries often rely heavily on the expertise and experience of their employees to deliver high-quality services to customers. When knowledge is shared effectively across different departments and levels of the organization, employees are better equipped to adapt to changes in processes, technologies, or customer expectations. This exchange of knowledge enables service companies to identify potential areas for improvement, develop innovative solutions, and implement changes more smoothly. Encouraging communication and collaboration helps build trust and engagement among employees, which are essential for successful change initiatives. Ultimately, in service companies, knowledge sharing enhances the organization's ability to manage change effectively and contributes to its overall competitiveness and sustainability in a dynamic business environment.

Regarding Hypothesis H6, the research findings indicated that organizational trust has a significant and positive impact on change management. This assertion is supported by Hovland *et al.* (1953) and Lawler (1992), who demonstrated that trust plays a crucial role in fostering relationships among members and facilitating the implementation of self-managed work teams during times of change. They affirmed that trust enhances organizational members' engagement in learning and fosters positive behaviors and attitudes such as motivation and satisfaction. Handy (1995) further validated this by illustrating that when members trust both the organization and their superiors, they are more likely to embrace control tasks positively and effectively carry out critical organizational responsibilities amidst change. These studies suggest that employees seek acknowledgment and fulfillment of their needs during times of change, underscoring the critical role of organizational trust in shaping their perceptions and actions. Previous research by Holoviak (1999) and Lippert and Davis (2006) also supports my research result, confirming that organizational trust is vital for change management, and is achievable through empowerment, participation, and consultation.

Trust fosters positive relationships, enhances interactions, promotes knowledge exchange, and ultimately increases organizational effectiveness, all of which are essential for managing change successfully. This reciprocal relationship between trust and change highlights its significance in fostering collaboration and bolstering confidence among stakeholders, including top management. From my study's perspective, in service companies, organizational trust plays a pivotal role in positively impacting change management processes. When employees trust their organization and its leadership, they are more likely to embrace and support change initiatives. This trust fosters a sense of confidence and security among employees, reducing resistance to change and facilitating smoother transitions. In service-oriented industries where teamwork and collaboration are crucial, organizational trust enhances communication and cooperation among team members during periods of change.

Employees feel empowered to contribute their ideas and expertise, knowing their voices are valued and respected. Trust cultivates a culture of openness and transparency, where employees are more willing to share information, adapt to new processes, and work together toward common goals. Ultimately, in service companies, organizational trust strengthens employee engagement and morale and enhances the organization's ability to innovate, adapt, and thrive in dynamic business environments.

For the mediation hypothesis, the conclusion from H2 and H4, we confirmed hypothesis H5, stating that knowledge sharing significantly mediates the relationship between distributed leadership and change management. This output corroborates the study of Hargadon and Sutton (1997), who confirmed that distributed leadership, characterized by the decentralized distribution of decision-making authority, promotes collaboration and empowers employees at various organizational levels. This decentralized approach is essential for facilitating change, as it allows for diverse perspectives and expertise to be leveraged in decision-making processes. However, the effectiveness of distributed leadership in driving change largely depends on the extent of knowledge sharing within the organization. Knowledge sharing serves as a mediator by facilitating the dissemination of information, best practices, and lessons learned across different teams and departments. This exchange of knowledge enables employees to better understand the rationale behind change initiatives, leading to increased buy-in and commitment. By sharing insights and experiences, teams can collectively identify opportunities and challenges associated with change, leading to more informed decision-making and innovative solutions. The authors emphasized the importance of knowledge sharing in organizational learning and innovation. Therefore, by fostering a culture of knowledge sharing, organizations can enhance their ability to navigate change successfully and achieve sustainable growth.

Similarly, the conclusion from H3 and H6, we confirmed hypothesis H7, stating that organizational trust significantly mediates the relationship between distributed leadership and change management. This aligns with the findings of Dirks and Ferrin (2002) and Mayer *et al.* (1995), who explored the relationship between distributed leadership, organizational trust, and change management, emphasizing its importance for fostering adaptability and facilitating successful transitions. According to these studies, distributed leadership, defined by the delegation of decision-making authority across various organizational levels, encourages collaboration, autonomy, and employee empowerment. This decentralized approach is crucial for effectively managing change as it leverages diverse perspectives and expertise in decision-making processes.

However, the success of distributed leadership in driving changes largely depends on the level of organizational trust within the workplace.

Organizational trust mediates this relationship by promoting open communication, transparency, and mutual respect among leaders and employees. When trust is established, employees are more likely to view distributed leadership as fair and dependable, resulting in greater acceptance of change initiatives and a willingness to engage in collaborative problem-solving. Thus, by nurturing a culture of trust, organizations can strengthen the relationship between distributed leadership and change management, ultimately enhancing resilience and promoting sustainable growth.

5. CONCLUSION AND RECOMMENDATIONS

This dissertation has explored the intricate dynamics of change management through the lens of distributed leadership, mediated by knowledge sharing and organizational trust, within the vibrant context of service companies located in Tunisia. This research journey unveils that distributed leadership is not just a theoretical construct but a vital catalyst for organizational transformation, especially in environments characterized by volatility and ambiguity.

By empirically demonstrating how distributed leadership interplays with knowledge sharing and organizational trust to streamline change management processes, this study sheds light on the multi-dimensional nature of leading organizational change in emerging economies. Accordingly, the research approved the direct positive relationship between distributed leadership and change management confirming its vital role in facilitating organizational change and its success. It also confirmed the mediating effect of knowledge sharing and organizational trust in the relationship between distributed leadership and change management as both were confirmed to be the key factors in ensuring clear communication, continuous sharing, and a respectful and trustworthy environment that, facilitates change implementation and administration.

These findings have generated several theoretical and empirical implications that can add great value to scientific research related to leadership and change management.

5.1. Theoretical and Empirical Implications

This study enriches the theoretical part of change management and leadership in several key areas. It introduces a nuanced perspective to the distributed leadership. This addition to the literature provides a robust framework for understanding how leadership is dispersed and its consequent effects on organizational agility and resilience. Moreover, the research findings challenge traditional leadership paradigms by presenting a new model as a more egalitarian and dynamic approach to navigating organizational change. This research thus invites scholars to reconsider the hierarchical and centralized leadership models predominant in existing literature, advocating for a more fluid and distributed leadership structure that mirrors the complexities of modern organizational environments. In addition, the investigation was able to suggest a new model linking four different variables that were not studied together previously, which are distributed leadership, knowledge sharing, organizational trust, and change management.

This model is a response to the theoretical gap existing in previous studies confirming the important role of the new concept of leadership that enabled us to differently understand new theories of effective change management.

For leaders and managers, the implications of this study are profound and manifold. It suggests that adopting a distributed leadership approach can significantly enhance the organization's capacity to manage change by fostering an environment where knowledge is freely shared, and trust is deeply ingrained. This finding encourages leaders to democratize leadership and decision-making processes, ensuring that employees at all levels are empowered to contribute to change initiatives. The study also underscores the importance of cultivating an organizational culture that values and promotes knowledge sharing and trust. Leaders should implement policies and practices that encourage open communication, mutual support, and collaboration, as these are the bedrock of a successful change management strategy. By doing so, organizations can not only navigate change more effectively but also improve overall performance and employee satisfaction.

5.2. Recommendations

The study provides comprehensive recommendations for managers, employees, and companies to enhance organizational performance and adaptability through the adoption of distributed leadership when the organization is going through different transformations and changes.

For managers, the key recommendation is to embrace distributed leadership by delegating decision-making authority across various levels, fostering a culture of collaboration and innovation. This leadership style not only leverages the collective expertise within the organization but also empowers employees, encouraging them to contribute actively to decision-making processes. Managers are also urged to promote a culture of continuous knowledge sharing. By facilitating the exchange of best practices, lessons learned, and expertise across teams, managers can ensure that the organization remains agile and responsive to change. Building and maintaining trust within the organization is another critical recommendation for managers. Trust is essential for successful change management and employee engagement, and it can be fostered through transparency, open communication, and mutual respect.

For employees, the recommendations emphasize proactive engagement in their learning and development. Staying updated with the latest trends and best practices relevant to their roles not only enhances their performance but also their contribution to the organization. Employees are encouraged to take an active role in decision-making processes, feeling empowered to share their ideas and perspectives to drive organizational change. Collaboration across teams is also vital, as it enhances innovation and problem-solving capabilities. By working collectively and sharing knowledge, employees can achieve more effective outcomes.

For companies, the study highlights the importance of cultivating a supportive culture that values knowledge sharing and trust. Implementing policies and practices that encourage open communication and collaboration is essential.

Leveraging technology to facilitate distributed leadership and knowledge sharing is another critical recommendation. Tools that enable remote collaboration and information dissemination are vital in today's digital landscape. Lastly, companies should invest in leadership development programs to help leaders at all levels adopt distributed leadership practices. These programs should focus on building skills that promote inclusivity, trust, and collaborative problem-solving, ensuring that the organization can navigate change effectively and maintain a competitive edge. By adopting these recommendations, organizations can enhance their overall performance, create a more engaged and innovative workforce, and better navigate the complexities of the modern business environment.

Additionally, the study suggests several theoretical recommendations for future research to advance the understanding of distributed leadership and its impact on organizational change.

Firstly, future studies are advised to focus on exploring the nuances of distributed leadership across various cultural and organizational contexts. This involves examining how cultural values and organizational norms influence the implementation and effectiveness of distributed leadership, providing a more global perspective on the concept.

Secondly, researchers are encouraged to investigate the long-term impacts of distributed leadership on organizational performance and employee well-being. Longitudinal studies can offer insights into how distributed leadership practices evolve over time and their sustained effects on both organizational outcomes and individual job satisfaction and engagement.

Another recommendation is to delve into the interplay between distributed leadership and other leadership styles. Understanding how distributed leadership interacts with transformational, transactional, and servant leadership can help in identifying the most effective leadership combinations for different organizational scenarios and challenges.

Finally, it is recommended that future studies develop, and test specific interventions aimed at enhancing distributed leadership practices. This could involve creating training programs for leaders and employees, designing organizational structures that support distributed leadership, and identifying best practices for fostering a collaborative and inclusive leadership culture.

By addressing these theoretical recommendations, future research can significantly contribute to the refinement and practical application of distributed leadership, ultimately aiding organizations in navigating complex and dynamic business environments more effectively.

5.3. Limitations and Suggestions for Future Research

While the study has made significant contributions, it acknowledges its inherent limitations and challenges. Utilizing a statistical method to explore causal relationships between variables introduced a potential for bias, particularly in estimating collinearity and validating relationships identified in the literature review. To mitigate this, longitudinal research is suggested to confirm these relationships and validate the findings over time. Additionally, the study's focus solely on service-providing companies in Tunisia limits its generalizability. Future research could adopt a probabilistic approach and examine variables across diverse contexts, sectors, and countries to enhance generalizability. Moreover, incorporating additional mediating and moderating variables could bolster the understanding of the relationship between distributed leadership and change management. For instance, effective communication, inherent in distributed leadership, can mitigate uncertainty and resistance by ensuring clear understanding among employees. Emotional support is another promising variable worth exploring, as it can assist employees in navigating challenges and fostering commitment to change. The context-specific nature of the findings underscores the importance of replication studies in varied geographic and sectoral settings to assess the model's universality. Mixed methods design integrating qualitative richness with quantitative rigor offers a more comprehensive understanding of how distributed leadership influences change management. Longitudinal studies are particularly warranted to delve into the evolving dynamics of leadership throughout organizational change processes.

Furthermore, exploring the role of technology in facilitating distributed leadership and knowledge sharing during change processes is imperative in today's digitalized landscape. Understanding how technology influences trust and knowledge sharing within distributed leadership frameworks is vital for effective change management. Lastly, investigating the psychological and emotional dimensions of distributed leadership and their impact on employee well-being and resistance to change can provide holistic insights, aiding organizations in implementing sustainable and well-received changes.

6. NEW SCIENTIFIC RESULTS

This research introduced innovative progress within the discipline through its exploration and analysis. Utilizing unique statistical techniques and model elements, these outcomes could lay the groundwork for forthcoming inquiries and studies.

1. I have investigated "Distributed Leadership," as a recent concept that has not received significant scholarly attention, particularly in the business management field. This pioneering study extends the understanding of distributed leadership beyond its traditional focus in education. **My research is the first to study distributed leadership in companies and the first that was able to compare the similarities and differences between the implementation of distributed leadership in educational settings, based on previous studies, and its application in the business management field, according to my study's findings**.

In the early 2000s, the concept of distributed leadership was initially used to analyze school leadership. Despite significant theoretical development, there is still a need for more research on its practical implementation and effectiveness in various settings, including its impact on organizational outcomes, team dynamics, and individual performance.

This pioneering study expanded this concept to the business management field, addressing the gap to find that distributed leadership significantly contributes to business success. Accordingly, in previous studies it has been confirmed that distributed leadership in education promotes collaborative decision-making and shared accountability, empowering teachers to lead change. In this research and from a business management perspective, it has been approved that distributed leadership fosters employee empowerment and continuous learning, leveraging collective expertise to drive change.

Both fields benefit from distributed leadership, but each faces unique challenges. Education must navigate academic standards and student diversity, while businesses must balance competitive pressures and market dynamics. Despite these differences, the principles of inclusivity, shared responsibility, and continuous improvement remain central to its effectiveness in driving sustainable change.

2. **I have introduced a completely new model to determine the extent of distributed leadership impact on change management,** linking this association with two important mediating constructs that are knowledge sharing and organizational trust which are essential for successful change management. This model was confirmed to be the best to use by service companies, to ensure a manageable and effective change implementation.

This new model studied the impact of distributed leadership on change management, focusing on emergent and planned change, with knowledge sharing and organizational trust as mediators.

It revealed that distributed leadership is characterized by decentralized leadership responsibilities, promoting collaboration, and encouraging contributions from all levels which enhances the members 'ownership and empowerment. The model confirmed that the mediation of knowledge sharing is essential as it contributes to increasing the organization's members' insights, expertise, and experiences. Similarly, it approved that organizational trust is crucial in this dynamic, facilitating effective collaboration, communication, and cooperation, as it ensures transparency, respect, and accountability, leading to active engagement, constructive feedback, and acceptance of change. It also reduces uncertainties and anxieties, creating a supportive environment for risk-taking and adaptation.

3. As most of the previous studies in the change management field focus on studying the impact of change on executive employees and trying to understand their behaviors accordingly, **my study, mostly focuses on high managerial levels (Managers and middle managers) as they are the only ones who are concerned about implementing changes.** They are the ones who plan, make strategies, and apply their leadership style (Distributed Leadership) to facilitate the effectiveness of change management.

Typically, change management studies focus on executive employees, but this study examined the impact of distributed leadership by surveying managers and middle managers. The survey provided insights into how these leaders apply distributed leadership and its effects on emergent and planned changes. Key advantages of this approach include:

- **In-depth Understanding:** Managers and middle managers offer comprehensive insights into organizational processes and leadership dynamics, helping to understand distributed leadership's role in change implementation.
- **Decision-making Authority:** These leaders hold decision-making power, crucial for exploring how distributed leadership affects change-related decisions.
- **Information Flow:** Managers and middle managers facilitate information flow and trust-building, highlighting the impact of distributed leadership on knowledge sharing and organizational trust.

- **Practical Insights:** Their role in translating leadership strategies into actionable plans provided practical insights into the challenges and opportunities of distributed leadership during change.
- **Representative Sample:** Including these key stakeholders ensures diverse perspectives, enhancing the generalizability and applicability of the findings to real-world settings.

4. As a general conclusion, I confirm that the previously mentioned three new scientific results were studied in a completely new context which is the Tunisian Context. **My research is the first investigation that took the opportunity of the actual complex and challenging political, economic, and social changes happening in Tunisia, to study their impact on service companies**. Accordingly, no previously or recently existing studies suggested this model in Tunisia.

In my study, I surveyed 300 managers and middle managers from Tunisian service companies across various fields. This industry selection highlights distributed leadership, where team members collaborate and share decision-making responsibilities due to their significant expertise. Projects in this sector often require a collective management approach, suited to distributed leadership within a collaborative work style.

The findings, set in Tunisia's unique cultural blend of Western and Arab influences, revealed that distributed leadership significantly aids change management in service companies. By decentralizing decision-making and empowering individuals at all levels, this leadership style fosters ownership, accountability, proactive participation, and collaboration. It also promotes transparency, mutual respect, and effective knowledge sharing, creating an agile and responsive organizational culture. This approach enhances the ability to mobilize resources, align efforts, and drive change initiatives effectively. Furthermore, the synergy of knowledge sharing and organizational trust, facilitated by distributed leadership, significantly eases managing change, empowering employees, and leading to successful change management.

7. THESIS SUMMARY

My doctoral dissertation, titled " Unlocking Organizational Transformation: Examining Change Management Dynamics Via Distributed Leadership, Mediated by Knowledge Sharing and Organizational Trust: Evidence from The Tunisian Context" delves into the pivotal role that distributed leadership, knowledge sharing, and organizational trust play in steering organizational transformation within the diverse landscape of Tunisian service industries. This study is anchored in an extensive examination of theories related to distributed leadership, change management processes, knowledge dissemination, and the cultivation of trust within organizations, from which it posits a series of hypotheses.

Adopting a comprehensive approach, my research scrutinizes these dynamics within Tunisian firms, especially against the backdrop of business challenges. The investigation commences with a detailed analysis of distributed leadership, setting it apart from akin concepts such as shared and democratic leadership, and outlines its dimensions, attributes, and the obstacles it encounters. It further probes into the essential factors of change management, knowledge sharing, and organizational trust, elaborating on their definitions, interconnections, and significance in the realm of organizational change.

My methodological framework includes a robust empirical analysis to validate hypotheses derived from the literature review. To this end, I disseminated 300 questionnaires among managers and mid-level managers in Tunisian service organizations across various sectors, including IT, finance, marketing, business consulting, transport, and agriculture, all undergoing various transformations.

I received 415 responses, out of which 300 were deemed usable, marking a response rate of 72%. The data collected were then scrutinized using principal component analysis (PCA), which unveiled linear relationships among all studied variables. Subsequently, the structural equation model, facilitated by the Smart PLS tool, was employed to ascertain causal linkages between variables.

The study's findings unveil the profound influence of distributed leadership on change management, knowledge sharing, and organizational trust, corroborating the positive effects of knowledge exchange and trust on change management. Additionally, the research validates the significant, albeit partial, moderating roles of knowledge sharing and organizational trust in the interplay between distributed leadership and change management. These insights are particularly germane for Tunisian enterprises navigating the intricacies of the contemporary business milieu, characterized by swift technological evolution, global interconnectedness, and the aftermath of the COVID-19 pandemic crisis.

The thesis emphasizes the criticality of distributed leadership in cultivating a collaborative organizational ethos conducive to change. It demonstrates how knowledge sharing serves as an essential conduit for the dissemination of information and best practices across organizational strata, thus facilitating adaptation and innovation. Moreover, the study underscores the paramount importance of organizational trust in galvanizing employee engagement and commitment through change initiatives, thereby reducing resistance and enhancing effectiveness.

In summation, my research significantly enriches the understanding of organizational change management within the Tunisian context, providing actionable insights for leaders aiming to shepherd their organizations through change more adeptly. By harnessing distributed leadership, bolstering knowledge sharing, and nurturing organizational trust, firms can amplify their change management effectiveness, thereby achieving heightened resilience, adaptability, and competitive edge in an ever-evolving business environment.

8. APPENDICES

A1: Bibliography

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A2: Further Appendices

Questionnaire

Circle your answer following this scale:

1=Totally disagree; 2 = Disagree; 3 = Neutral; 4 = Agree 5 = Totally agree

Questions	Response				
Change emanates from senior management (Farrell, 2000)	1	2	3	4	5
Change occurs through company-wide change programs (Farrell, 2000)	1	2	3	4	5
Change occurs through changing individual knowledge and attitudes (Farrell, 2000)	1	2	3	4	5
Change occurs in an unplanned fashion (Farrell, 2000)	1	2	3	4	5
Change occurs through a systematic process of well-managed events (Farrell, 2000)	1	2	3	4	5
Change occurs through continually learning about our environment (Farrell, 2000)	1	2	3	4	5
Change occurs by encouraging employees to understand and adapt to changing circumstances in our environment (Farrell, 2000)	1	2	3	4	5
Change is a part of an ongoing process of adapting to our environment (Farrell, 2000)	1	2	3	4	5
Change is a slow process, which emerges over time.	1	2	3	4	5
Change is about matching the organization's capabilities to the business environment (Farrell, 2000)	1	2	3	4	5

Part 2: Distributed Leadership

Circle your answer following this scale:

1=Totally disagree; 2 = Disagree; 3 = Neutral; 4 = Agree 5 = Totally agree

Questions	**Response**				
The leaders collectively determine the planning of major operations (Fu *et al.,* 2018)	1	2	3	4	5
The leaders support the goals we like to attain with our enterprise (Fu *et al.,* 2018)	1	2	3	4	5
The leaders and employees work in the same strain on the organizational core objectives (Fu *et al.,* 2018)	1	2	3	4	5
The leaders and employees in our organization have clear goals (Fu *et al.,* 2018)	1	2	3	4	5
The leaders and employees in our organizations know which tasks they have to perform (Fu *et al.,* 2018)	1	2	3	4	5
The leaders call each other to make critical decisions with employee (Fu *et al.,* 2018)	1	2	3	4	5

The leaders encourage each other to cooperate (Fu *et al.,* 2018).	1	2	3	4	5
The leaders explain their reasons for criticism to employee (Fu *et al.,* 2018).	1	2	3	4	5
The leaders provide organizational support for employee interaction (Fu *et al.,* 2018).	1	2	3	4	5
The leaders encourage us to pursue our own goals for professional learning (Fu *et al.,* 2018).	1	2	3	4	5

Part 3: Knowledge Sharing

Questions	**Response**				
When I've learned something new, I see that colleagues in my department can learn it as well (Van Den Hooff and De Ridder, 2004)	1	2	3	4	5
I share the information I have with colleagues within my department (Van Den Hooff and De Ridder, 2004)	1	2	3	4	5
I share my skills with colleagues within my department (Van Den Hooff and De Ridder, 2004)	1	2	3	4	5
When I've learned something new, I see that colleagues outside of my department can learn it as well (Van Den Hooff and De Ridder, 2004)	1	2	3	4	5
I share the information I have with colleagues outside of my department (Van Den Hooff and De Ridder, 2004)	1	2	3	4	5
I share my skills with colleagues outside of my department (Van Den Hooff and De Ridder, 2004)	1	2	3	4	5
Colleagues within my department tell me what they know when I ask them about it (Van Den Hooff and De Ridder, 2004)	1	2	3	4	5
Colleagues within my department tell me what their skills are when I ask them about it (Van Den Hooff and De Ridder, 2004)	1	2	3	4	5
Colleagues outside of my department tell me what they know when I ask them about it (Van Den Hooff and De Ridder, 2004)	1	2	3	4	5
Colleagues outside of my department tell me what their skills are, when I ask them about it (Van Den Hooff and De Ridder, 2004).	1	2	3	4	5

Part 4: Organizational Trust

Circle your answer following this scale:

1=Totally disagree; 2 = Disagree; 3 = Neutral; 4 = Agree 5 = Totally agree

Questions	***Reponses***				
I have great confidence that the organization will treat me and my staff fairly (Nyhan and Marlowe, 1997)	1	2	3	4	5
The level of trust between workers and super-revisers is very high in our organization (Nyhan and Marlowe, 1997)	1	2	3	4	5
The level of trust between the people I work with regularly is very high (Nyhan and Marlowe, 1997)	1	2	3	4	5
The degree to which we can depend on each other in this organization is very high (Nyhan and Marlowe, 1997)	1	2	3	4	5

Part 5: General Information

- **Company's Information**

Company's sector	……
Company's creation date	……

Company's number of employees (X)	
Less than 50 employees	
Between 50 and 500 employees	
Over 500 employees	

- **Manager's Information**

Gender (X)	
Male	
Female	

Age (X)	
Less than 25 years old	
Between 25 and 40 years old	
Between 40 and 55 years old	
Over 55 years old	

Occupied position	……
Number of years of experience in that position	……

Reliability test

	CM	DL	KS	OT
Cronbach's Alpha	0.798	0897	0.924	0.901
Number of Items	10	10	10	4

Validity test

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
CM	0.789	0.861	0.885	0.544
DL	0.897	0.909	0.923	0.574
KS	0.924	0.928	0.937	0.597
OT	0.901	0.889	0.923	0.750

Knowledge Sharing Mediation Analysis

Total effects - Mean, STDEV, T values, p values

Copy to Excel

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
DL -> CM	0.914	0.914	0.030	30.865	0.000
DL -> KS	0.873	0.876	0.037	23.737	0.000
KS -> CM	0.534	0.507	0.137	3.914	0.000

Total indirect effects - Mean, STDEV, T values, p values

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	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
DL -> CM	0.466	0.444	0.122	3.825	0.000

Specific indirect effects - Mean, STDEV, T values, p values

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	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
DL -> KS -> CM	0.466	0.444	0.122	3.825	0.000

Path coefficients - Mean, STDEV, T values, p values

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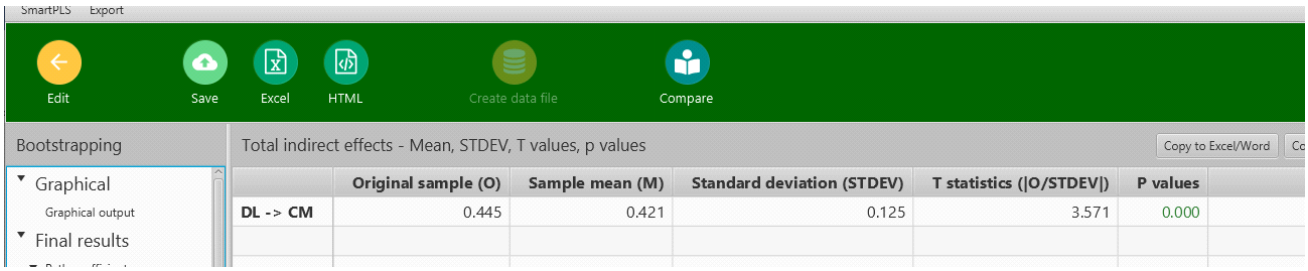
	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
DL -> CM	0.448	0.471	0.134	3.343	0.001
DL -> KS	0.873	0.876	0.037	23.737	0.000
KS -> CM	0.534	0.507	0.137	3.914	0.000

Organizational Trust Mediation Analysis

Path coefficients - Mean, STDEV, T values, p values

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
DL -> CM	0.470	0.494	0.135	3.476	0.001
DL -> OT	0.859	0.862	0.046	18.668	0.000
OT -> CM	0.518	0.488	0.140	3.688	0.000



Specific indirect effects - Mean, STDEV, T values, p values

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
DL -> OT -> CM	0.445	0.421	0.125	3.571	0.000

Total effects - Mean, STDEV, T values, p values

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
DL -> CM	0.915	0.915	0.030	30.797	0.000
DL -> OT	0.859	0.862	0.046	18.668	0.000
OT -> CM	0.518	0.488	0.140	3.688	0.000

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