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

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1. Background of the work and its aims

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 & 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, help people to adapt, and avoid resilience, turnovers, and bad behaviors and attitudes (Phillips & Klein, 2023). The current study will go behind the general conceptualization of organizational change management, to understand its impact in 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 the 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 & 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 change 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 inspiring 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 & 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 & Alexander, 2001; Aarons et al., 2015).

Recently, studies increasingly focused on the impact of various leadership styles on change management, such as transformational leadership (Muhammad et al., 2022, Hamza et al., 2022; Hamza et al, 2024). Authors have noted that transformational leaders can provide psychological support to boost employees' motivation and dedication (Nadler & Tushman, 1990). They are particularly effective in managing crises and adapting structures and procedures (Boal & Bryson, 1988). 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 & Syed, 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 et al., 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 & 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 & 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 & 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.

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; Ricaurte et al., 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.

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, 2002). Additionally, it positively affects the quality of interpersonal relationships, fostering trust and open communication among educators and students (Harris & 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.

2. Materials and methods

Data Collection Tool

In this research, we 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. Our questionnaire was divided into five sections. The first four sections were dedicated to analyzing the variables of our research, which include: 1- Change Management, 2- Distributed Leadership, 3- Knowledge sharing, and 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 our questionnaire, we utilized multi-item scales, conceptualized by researchers, to measure our 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.
- **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.
- **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.
- **Organizational Trust:** This was based on a four-item scale adapted from Nyhan & Marlowe's (1997) study.

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. However, this method was very time-consuming.

Sampling Methods

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, we chose the non-probabilistic method for our study due to cost and time constraints.

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 change management 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.

We 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, we administered 500 questionnaires dedicated to managers and middle managers working in Tunisian service organizations specializing 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.

Data Analysis

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 & 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, data processing software, is used for this purpose (Stafford & Bodson, 2006).

Change Management

Table 1: 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 in table 1 revealed a single-dimensional scale that included 9 items. We 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, we 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 2: 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 in table 2 revealed a single-dimensional scale that includes 8 items. We 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, we removed these two items due to their 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 3: 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 in table 3 revealed a single-dimensional scale that included 8 items. We 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, we removed these two items due to their 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 4: ACP result of the items of Organizational trust

Retained Items	**Factor loadings**	**Communalitie s**
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 in table 4 revealed a single-dimensional scale that includes 4 items. We 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%.

To assess the dependability of both dependent and independent variables, we 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, 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.

Table 5: 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 5 shows the mentioned reliability tests for the different explanatory and explained variables.

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

According to Fornell & 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. The table 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).

Table 6: 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 6 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).

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 7: 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 Shari

Source: Researcher Own Construction

The diagonal values in table 7 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.

3. Results and discussion

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).

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:

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

According to Tenehaus *et al.* (2005), GOF should be greater than 0.3, which is the case in our study: **GOF= 0.645>0.3.** All these indices will be detailed in the following.

Table 8: 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 8 highlights the AVE and R2 of all variables and shows the calculation of the goodness of fit.

Structural equation modeling (Ullman & Bentler, 2003) is a statistical approach that was used in this study, which is designed to report causal relationships based on a theoretical framework that links multiple concepts measured through observable indicators (Vinzi *et al.,* 2010). Structural equation modeling (SEM) techniques are classified into two types (Davari & 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. 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). Several software programs have been developed to handle this technique, including PLS Graph, Warp PLS, and Smart PLS 4 (Ringle et al., 2015) that we will use for our data analysis in this study.

Table 9: 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 9 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.

Mediation Role of Knowledge Sharing

To test the knowledge-sharing mediating effect, three steps were followed according to the study of Hair et al. (2014) and Raji & Gomez, (2017). In the first step, we confirmed the direct significant effect between distributed leadership, the independent variable, and change management the dependent variable.
Table 10 confirms this matter accordingly, (β=0,346, T=3,312>1.96, P Value=0,001<0.05).

Table 10: 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

In the second step, we 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, we 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 1 below). Consequently, the mediation hypothesis of knowledge sharing (H6) was confirmed.

Mediation Role of Organizational Trust

To test the mediation effect of organizational trust, we applied the same three-step method. In the first step, we confirmed the direct significant effect between distributed leadership (the independent variable) and change management (the dependent variable). As shown in Table 11, the results support this finding (β=0.332, T=3.140>1.96, P-Value=0.002<0.05).

Table 11: 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

In the second step, we 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, we 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 2 below). Consequently, the mediation hypothesis of organizational trust (H7) was confirmed.

The following Table 12 will represent a synthesis of the results of the hypotheses studied, whether they are confirmed or refuted.

Table 12: 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: Organizational trust has a significant positive effect on change management.	**Confirmed**
H6: Knowledge sharing mediates the relationship between distributed leadership and change management.	**Confirmed**
H7: Organizational trust mediates the relationship between distributed leadership and change management.	**Confirmed**

Source: Researcher Own Construction

Table 12 will represent a synthesis of the results of the hypotheses studied, whether they are confirmed or refuted.

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 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 schools 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 & 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 & 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 et al. (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 & 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 & Prusak (1998), Nonaka & 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 & 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 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 changes 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 confirmed hypothesis H7, stating that organizational trust significantly mediates the relationship between distributed leadership and change management. This aligns with the findings of Dirks & 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 authorities 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.

4. Conclusion and recommendations

Conclusion

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 reveals 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 leadership interplays distributed 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.

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.

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 up-to-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.

Limitations and Future Perspectives

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 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

5. 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 behavior accordingly, **my study, is one of the first studies that 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, not 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.

6. Publications of the author

Ildikó Rudnák, Khadija Aya Hamza, Ayman Alshaabani , Judit Garamvölgyi

Impact of students' feedback on their engagement towards online classes during COVID-19 pandemic

International Journal of Evaluation and Research in Education (IJERE), Vol. 13, No. 6, pp. 3775~3786

ISSN: 2252-8822

DOI: 10.11591/ijere.v13i6.28375

WoS Scopus / Q3

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Distributed leadership and exploratory and exploitative innovations: mediating roles of tacit and explicit knowledge sharing and organizational trust

JOURNAL OF KNOWLEDGE MANAGEMENT 25: 5 pp. 1287-1318., 32 p. (2021)

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SUSTAINABILITY 13: 18 Paper: 10375, 20 p. (2021)

DOI: 10.3390/su131810375 WoS Scopus / Q1

Khadija, Aya Hamza

The Influence of Distributed Leadership on Ambidextrous Innovation: Mediating Role of Organizational Trust

In: Dimitar, Kirilov DIMITROV; Dimitar, NIKOLOSKI; Rasim, YILMAZ (szerk.) Proceedings of XIV.

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Management-Plovdiv / Bulgaria, September 26-27, 2020

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