T.C.
BAHCESEHIR UNIVERSITY
GRADUATE SCHOOL
THE DEPARTMENT OF BUSINESS ADMINISTRATION
MASTER'S PROGRAM IN BUSINESS ADMINISTRATION

THE EFFECT OF LEADERSHIP STYLES ON DIGITAL TRANSFORMATION AND INNOVATION CAPACITY: A COMPARATIVE STUDY

MASTER'S THESIS

HEDIL MANAI

ISTANBUL 2025

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THESIS ADVISOR
ASSOC. PROF. MUSTAFA SUNDU

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	Title, Name	**Institution**	**Signature**
Thesis Advisor:	Assoc. Prof. Mustafa SUNDU	Istinye University	
2nd Member	Prof. Dr. Uğur ZEL	Bahçeşehir University	
3rd Member	Assoc. Prof. Mehmet Sıtkı SAYGILI	Bahçeşehir University	

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Name, Surname : Hedil Manai

Signature:

ABSTRACT

THE EFFECT OF LEADERSHIP STYLES ON DIGITAL TRANSFORMATION AND INNOVATION CAPACITY: A COMPARATIVE STUDY

Hedil Manai

Masters' Program in Business Administration

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This study investigates the demographic composition and leadership of 401 professionals, primarily from the manufacturing sector in Turkiye, with a focus on their alignment with digital transformation initiatives. To be able to determine which style of leadership is best suited to influence digital transformation and innovation capability, the research will explore the outcomes and impact of all the leadership philosophies. Using survey-based data, the research explores how leadership attributes such as confidence, communication of values, and respect-building interrelate with digital transformation satisfaction. Findings show that respondents, mostly male, middle-aged, and highly educated managers in HR roles, report high self-efficacy in key leadership traits, especially in displaying power and confidence. Three independent variables Transformational Leadership, Transactional Leadership and Innovation Capacity are analyzed in relation to a dependent variable measuring overall digital transformation satisfaction. The results indicate strong satisfaction and alignment, suggesting an organizational readiness for innovation and change. However, the study also highlights limitations such as gender imbalance and sectoral concentration. The insights contribute to understanding leadership's role in driving innovation capabilities in digitally transforming industries**.**

Keywords: Digital Transformation, Leadership Perception, Innovation Capability, Manufacturing sector, HR Management.

ÖZET

LIDERLIK TARZLARININ DIJITAL DÖNÜŞÜM VE İNOVASYON KAPASITESI ÜZERINDEKI ETKISI: KARŞILAŞTIRMALI BIR ÇALIŞMA

Hedil Manai

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Bu çalışma, Türkiye'deki imalat sektöründen 401 profesyonelin demografik yapısını ve liderlik öz algılarını, dijital dönüşüm girişimleriyle uyumlarına odaklanarak incelemektedir. Ankete dayalı verileri kullanarak araştırma, güven, değerlerin iletişimi ve saygı oluşturma gibi liderlik özelliklerinin dijital dönüşüm memnuniyetiyle nasıl ilişkili olduğunu araştırmaktadır. Bulgular, çoğunlukla erkek, orta yaşlı ve İK rollerindeki yüksek eğitimli yöneticilerden oluşan katılımcıların, özellikle güç ve güven göstermede temel liderlik özelliklerinde yüksek öz yeterlilik bildirdiğini göstermektedir. Genel dijital dönüşüm memnuniyetini ölçen bağımlı bir değişkenle ilişkili olarak iki bağımsız değişken Özet Fayda Dijitalleşmesi ve Şirket Fayda Dijitalleşmesi - analiz edilmektedir. Sonuçlar güçlü bir memnuniyet ve uyumu göstermektedir ve bu da organizasyonun inovasyon ve değişime hazır olduğunu göstermektedir. Ancak çalışma ayrıca cinsiyet dengesizliği ve sektörel yoğunlaşma gibi sınırlamaları da vurgulamaktadır. Görüşler, dijital olarak dönüşen endüstrilerde inovasyon yeteneklerini yönlendirmede liderliğin rolünün anlaşılmasına katkıda bulunmaktadır.

Anahtar Kelimeler: Dijital Dönüşüm, Liderlik Algısı, Inovasyon Yeteneği, Üretim Sektörü, İK Yönetimi.

I would like to dedicate my thesis to my beloved mother, whose unwavering support, encouragement, and strength made this journey possible. Her sacrifices and constant belief in me have been my greatest motivation, my father and my all-supportive family members.

To my dear friends, who stood by me with encouragement, laughter, and guidance during the most challenging moments.

Thank You

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LIST OF ABBREVIATIONS

TFL	Transformational leadership
TAL	Transactional leadership
DCT	Dynamic Capability Theory
EFA	Exploratory Factor Analysis
HRM	Human Resources Management
HR	Human Resources
KMO	Kaiser-Meyer-Olkin
MENA	Middle East and North Africa
EDA	Exploratory Data Analysis

Chapter 1

Introduction

1.1 Theoretical Framework

Leadership style is the foundation towards leading a business towards its objective. It is under a leader that employees find an alignment of their personal ambitions with organisation objectives. As the world is shifting towards large-scale technological innovations, it is important that leaders adopt an optimal approach and style that can cater to their organisation and company goals. The behaviors of senior leaders decide the digital transformation and innovation capacity and its alignment with organisational outcome. Hence, this study has adopted and adhered to three prime theoretical concepts.

Multi- Style Leadership Theory

Leaders inspire employees in a company to adopt a positive professional approach and work towards fulfilling the goals of the organisation. The different leadership approaches such as transformational and transactional leadership styles decide how employees would learn new technologies and make them a core of their daily work portfolio. Transformational leadership (TFL) has the core of passing on vision, intellectual stimulation and individualised consideration in the group (Rasheed, 2024). Transactional leadership (TAL) focuses on providing contingent rewards and active or passive exception handling to the employees (Raveendran, 2021). This leadership approach focuses on rewarding or punishing employees based on their performance. Leaders often choose an approach so that they can act as an intermediary on having a relational ethic. Thus, their approaches often reflect both TFL and TAL styles depending on the discretion of their situation. While TFL and SL predict creativity and knowledge sharing, TAL is more focused on getting clarity in goal and disciplined execution.

Figure 1. Transformational- transactional theories.

(Source: Work Effects, 2018)

Dynamic Capability Theory (DCT)

The concept of Dynamic Capability Theory is linked with resource-based view (RBV). The theory of DCT suggests that firms keep improving and updating their technological capacity to stay updated with the market shift and changes (Teece, 2023). Thus, it is the duty of the firms and its leaders in different sectors to stay responsive to the market changes and keep integrating more technologies into their systems. However, this integration of technology and increasing the dynamic capability hinged on the approach of a leader. Leaders with transformational behaviors keep expanding their systems based on environmental scanning (sensing) to empower the diverse voices of their teams and company goals (Song et al., 2022). Leaders must have balanced behaviors and keep deepening their psychological safety, enabling candid threat signaling. While transactional leaders focus on keeping up with their routines, securing their resources and setting milestones during seizing and reconfiguring.

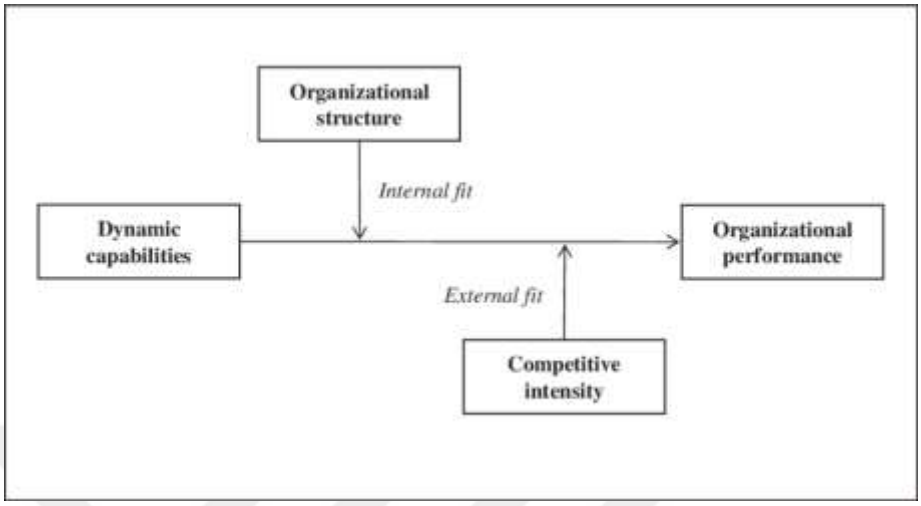


Figure 2. Dynamic capability theory.

(Source: Teece, 2023)

Organizational Ambidexterity

Some studies also suggest that leaders keep switching their leadership approaches and adopt an attitude based on the critical situation. Ambidextrous- leadership is a concept that shows how leaders switch or combine behaviours to match task demands (Ouyang et al., 2022). They adopt TFL maps when they need to experiment and take risks. TAL aligns with exploitation which is related to standardization and controlling costs. The approach would be to understand how each of them balance and nurture a collaborative climate in which teams feel safe. Thus, leaders keep oscillating between one leadership approach to another to maintain their workflow and meet quality and quantity as the time calls for.

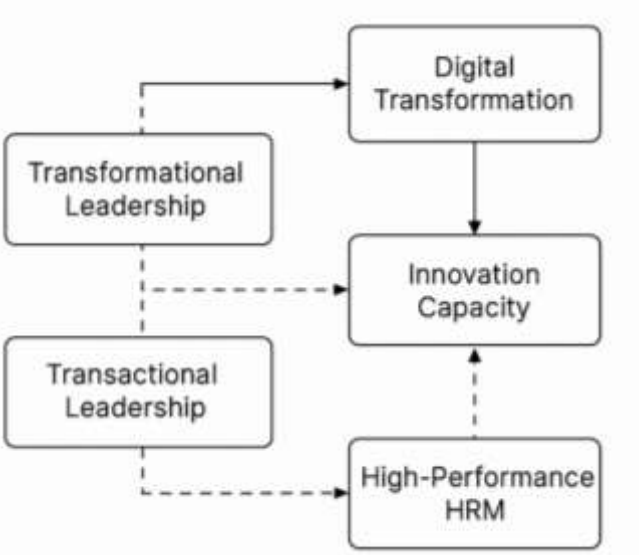


Figure 3. Theoretical framework.

(Source: Self Developed)

1.2 Statement of the Problem

Many companies including large-scale and small-medium enterprises have been trying their utmost to successfully integrate digital- transformation programs. It is the responsibility of the senior executives to identify how to train their employees through a digital program and include innovation in their system. However, ineffective leadership has emerged as the root cause of why many organizations are finding it difficult to manage technological advancements. The impacts of training employees and their innovation outcomes are based on how the leader chooses to communicate with its subordinates. Many studies have tested the impact of transformational and transactional approaches within the same digital context (Theng et al., 2021). However, there are very few studies that have adopted a comparative approach on real world data to check how far organizations operating in both the Middle- East–North- Africa and European markets get affected with different leadership styles. Managers and leaders are often not sure whether they should focus more on inspiration, on control to manage a market (Theng et al., 2021; Suwanto et al., 2022). Hence, there is a want of clear, cross- regional data for knowing how to blend leadership styles and affect exploration, exploitation and employee

engagement. Managers need to assess the organisational risk to save themselves from transformation failures and forfeit the competitive gains of the market.

1.3 Purpose of the Study

The study would compare the impact and influence of different approaches of leadership to find out which type of leadership is best suited for digital transformation and innovation capacity. The focus of the study would be on assessing the digital- transformation progress and firm- level innovation capacity in medium- to- large organizations that are operating in Tunisia, Turkiye, France and the other countries that are going through digital transformation. This objective in the study would be fulfilled through primary data collection of 400 participants. The analysis and findings of the survey would serve the workers and managers and help them to determine the effects of each leadership style. The study would extend its analysis towards understanding how each variable is related to the two leadership styles and gets amplified or pushed down to the influence of transformational and transactional behaviours among leaders. This way, the study will be able to test alignment of high- performance human- resource- management practices and help in improving leadership- development and HRM strategies.

1.4 Hypotheses/Research Questions

Hypotheses

H1: Transformational leadership has a significant positive effect on innovation capacity.

H2: Transformational leadership positively influences employee engagement and helps employees to get accustomed to digital transformation outcomes.

H3: Transactional leadership is weaker but has a significant positive effect on innovation capacity and digital transformation.

H4: Digital transformation and innovation outcomes are strengthened when high-performance HRM practices align with transformational leadership styles.

Research Questions

- How does transformational leadership influence the innovation capacity and progress of an organisation in digital transformation initiatives?
- In what ways does transformational leadership enhance employee engagement and alter the impact of other leadership styles on digital- transformation outcomes?
- To what extent does transactional leadership contribute to innovation capacity and digital- transformation success relative to transformational leadership?
- How does the alignment of high- performance HRM practices with transformational leadership styles affect overall digital- transformation results and innovation performance?

1.5 Significance of the Study

The study would serve three major areas in the corporate industry. First of all, the study holds academic relevance. It would provide a deeper and broader explanation of how transformational and transactional-like behavior of leaders change the overall culture of an organization. The study would analyse the leadership pattern and the impact of each decision that is made by the leaders in their company set-up. From a dynamic- capability lens, the analysis would help in acknowledging the influence of leadership on micro- foundations in emerging- markets and developed countries.

Further, the study is significant and would guide the managers and executive officers on understanding the impact of their leadership approach on a diverse market. This way, they can learn how to guide inspiration among their employees, control their activities and motivate them through service- oriented behaviours. Leaders would understand that by adopting a diverse set of approaches they can develop a high- performance team and make their HRM practices sound and stable (Lu et al., 2023). Policymakers would also learn the inefficiencies of their managerial officers. This way, they convert their policies to suit the changing proforma of the industry. Policymakers need to identify the leadership competencies for each region and organisation and adopt

the ones which are most effective in converting digital investment into innovation. The Government agencies and industry bodies can use the results to craft training frameworks, certification schemes and incentive programs.

1.6 Definitions

Transformational Leadership: It is a visionary style and inspirational approach in which leaders inspire their employees (Rasheed, 2024). They focus on intellectually stimulating and individually supporting followers to exceed self- interest for creating creativity and commitment to strategic change.

Transactional Leadership: It is a strict management approach that relies on clear goal setting, contingent rewards and corrective action (Raveendran, 2021). Here leaders motivate their employees through structured exchanges of performance for valued outcomes.

Digital Transformation: It is a process of redesigning value creation, operations and culture through the integration and implementation of advanced digital technologies. It is implemented through data- based decision making and helps to achieve sustained competitive advantage.

Innovation Capacity: It is defined as an organization's collective ability to generate, to adapt and to implement the new-age and novel ideas in products, services or processes. An organisation which can increase its innovative capacity would be able to keep up with the changing market trends and stay abreast to the various technological advances that are taking place in the market.

High- Performance HRM: It is a collection of human- resource practices that encompasses staffing, training, performance- linked rewards and participative decision making. It is designed to maximize employee skills, motivation and organisational performance.

Chapter 2

Literature Review

2.1 Introduction

Innovation plays a crucial role in organizations, serving as a major driver of company growth and long-term survival (Waite, 2014). As businesses navigate fast-paced technological advancements, innovation has become a key strategy for maintaining competitiveness (Jia, J., Chen, Y., Mei, L., & Wu, S 2018). Organizations increasingly rely on innovation to respond to evolving market demands and disruptive technologies, reinforcing the importance of leadership in fostering an environment that supports creative and strategic advancements (Alblooshi, M., Shamsudin, F. M., & Anwar, A. H. 2020). Schumpeter's (1995) theory of "creative destruction" highlights that firms must continuously invest in product innovation to stay relevant in competitive markets. Innovation is not limited to new product development but extends to marketing, service, process, and organizational innovations, all of which contribute to value creation for both customers and employees (Jia et al., 2018). However, fostering innovation requires a strong leadership foundation, as leaders play a pivotal role in motivating employees, shaping organizational culture, and implementing strategic changes (Bass & Bass, 2008). Leadership is broadly defined as the relationship between leaders and followers, where leaders influence, motivate, and empower individuals to achieve common goals (Łukowski, 2017; Reed et al., 2019). Different leadership styles shape how organizations respond to innovation and affect human capital growth. Among leadership styles, transactional and transformational leadership have been widely studied in the context of innovation. Transactional leadership, introduced by Weber (1947) and later expanded by Bass and Avolio (1994), focuses on structured processes, reward-based motivation, and performance control. In contrast, transformational leadership, introduced by Burns (1978), is centered on inspiring employees, fostering creativity, and driving long-term strategic change (Waite, 2014; Łukowski, 2017). Given the growing complexity of market

environments, organizations must identify the leadership style that best supports innovation (Abdullahi, Z. M. 2020). Research suggests that leadership styles influence different stages of innovation and impact how companies manage knowledge, creativity, and digital transformation (Jia et al., 2018). Barnová et al. (2022) found that leadership styles affect interpersonal relationships and collaboration, influencing knowledge-sharing and innovation quality. Additionally, leaders who foster open communication, employee empowerment, and continuous learning contribute significantly to organizational innovation and adaptation (Chen, M. H., Chang, Y. Y., & Hung, S. C. 2014). As innovation becomes a strategic necessity in highly competitive industries, companies must develop strong leadership strategies to navigate technological disruptions. Transformational leadership has been linked to higher levels of innovation quality and employee engagement (Alblooshi et al., 2020). Leaders influence organizational culture, strategy, and innovation processes, guiding employees toward higher creativity and digital adaptation (Khassawneh, O., &Elrehail, H. 2022). Given the dynamic nature of today's business environment, the ability of leaders to align human capital, leadership styles, and innovation strategies remains an essential determinant of long-term organizational success (Mubarik, S., Naghavi, N., & Habib, H. 2020).

This literature review explores the relationship between leadership styles, digital transformation, and innovation capacity, three critical elements shaping modern organizations. As businesses face rapid technological advancements, increased competition, and evolving customer expectations, aligning leadership strategies with digital innovation becomes essential (Teichert, 2019). Digital transformation is reshaping industries by altering competition, customer behavior, and operational processes (Fichman, R. G., Dos Santos, B. L., & Zheng, Z. 2014). Leadership plays a fundamental role in facilitating this transformation, with top management support being a key determinant of success (Zeike, S., Bradbury, K., Lindert, L., & Pfaff, H. 2018; Tanniru, 2018). Transformational and transactional leadership styles influence how organizations adapt to digitalization, affecting their capacity to innovate and sustain competitive

advantage (Larjovuori et al., 2018; Berghaus & Black, 2016). Research highlights that digitally mature companies outperform competitors financially, making digital maturity and innovation capacity crucial factors for long-term success (Westerman, Bonnet, &McAfee, 2012) By examining these relationships, this study aims to fill existing gaps and provide insights into the leadership strategies that drive digital transformation and innovation while considering the challenges of balancing stability and adaptability within organizations.

2.2 Transformational Leadership in the Context of Digital Transformation:

As businesses undergo rapid technological advancements, transformational leadership plays a crucial role in ensuring a smooth transition toward digitalization. Research suggests that organizations led by transformational leaders are more likely to embrace digital transformation successfully, as these leaders' foster adaptability, encourage experimentation, and create an innovation-driven culture (Westerman et al., 2014; Vial, 2019). A study by Evolving Leadership to Drive Human Performance (2024) found that 94% of executives believe agility and flexibility are critical to long-term success, reinforcing the importance of transformational leadership in modern organizations. However, as the digital landscape evolves, traditional transformational leadership approaches may require adaptation. The increasing reliance on artificial intelligence, remote work, and digital collaboration tools necessitates leaders who can integrate technological expertise with transformational leadership qualities. This raises questions about whether traditional leadership models are sufficient or if they need to be redefined to meet the challenges of the digital era.

2.2.1 Transformational leadership. Transformational leadership, first introduced by Burns (1978) and later expanded by Bass (1985), is a leadership approach that focuses on inspiring, motivating, and fostering a culture of creativity and collaboration within organizations. Unlike transactional leadership, which emphasizes structure and rewards, transformational leadership seeks to elevate followers' aspirations, encourage innovation, and align individual and organizational goals (Bass & Riggio, 2006). This leadership style

is particularly relevant in today's rapidly evolving business landscape, where technological advancements and shifting market dynamics require leaders to embrace adaptability and continuous learning. Scholars have identified several core attributes that define transformational leadership, including visionary influence, ethical role modeling, employee development, encouragement of innovation, and emotional support (Avolio & Bass, 1999). Transformational leaders articulate a compelling vision that aligns employees toward shared goals, instilling meaning into organizational tasks and fostering long-term commitment. They serve as ethical role models by demonstrating integrity and a commitment to high-performance standards, earning the trust and respect of their subordinates. Through intellectual stimulation, transformational leaders encourage employees to challenge conventional wisdom, think critically, and develop creative solutions, making this leadership style essential for organizations navigating digital transformation and innovation (Bass & Riggio, 2006). Furthermore, they provide individualized consideration by offering mentorship, recognizing employees' unique strengths, and tailoring developmental opportunities to enhance their professional growth (Howell & Avolio, 1993). According to Avolio & Bass (1999), transformational leadership consists of four interconnected dimensions: idealized influence (charisma), inspirational motivation, intellectual stimulation, and individualized consideration. Idealized influence involves leaders acting as ethical role models who inspire trust and commitment, while inspirational motivation enables them to communicate a compelling vision that energizes teams. Intellectual stimulation fosters an environment where employees are encouraged to propose new ideas and challenge existing assumptions, promoting continuous learning and creativity. Finally, individualized consideration ensures that leaders offer personal support and guidance tailored to each employee's needs, ultimately increasing engagement and job satisfaction. As businesses undergo rapid technological advancements, transformational leadership plays a crucial role in ensuring a smooth transition toward digitalization. Research suggests that organizations led by transformational leaders are more likely to embrace digital transformation

successfully, as these leaders' foster adaptability, encourage experimentation, and create an innovation-driven culture (Westerman et al., 2014; Vial, 2019). A study by Evolving Leadership to Drive Human Performance (2024) found that 94% of executives believe agility and flexibility are critical to long-term success, reinforcing the importance of transformational leadership in modern organizations. However, as the digital landscape evolves, traditional transformational leadership approaches may require adaptation. The increasing reliance on artificial intelligence, remote work, and digital collaboration tools necessitates leaders who can integrate technological expertise with transformational leadership qualities. Leaders who successfully blend digital strategies with transformational leadership principles are better equipped to drive innovation and sustain long-term digital transformation initiatives. This highlights the need for a modernized approach to transformational leadership that aligns with emerging technological challenges and opportunities.

2.2.2 Transactional leadership. Transactional leadership, first introduced by Burns (1978), defines the leader-follower relationship as an exchange of power and rewards. This concept laid the foundation for research on how leaders influence employee behavior through structured incentives and performance management. Bass and Avolio (1994) expanded on this idea, emphasizing that transactional leadership focuses on goal achievement, performance monitoring, and reward-based motivation. Unlike transformational leadership, which inspires change through vision and empowerment, transactional leadership is task-oriented, ensuring employees meet predefined performance criteria in exchange for rewards or corrective action (Avolio, B. J., Waldman, D. A., &Yammarino, F. J. 1991). Scholars have identified key characteristics of transactional leadership, including a strong focus on performance-based rewards, external motivation, and rule enforcement (Howell & Avolio, 1993). Research suggests that this leadership style is particularly effective in high-pressure, short-term goal environments, where precision and discipline are required (Bass, 1990). Daft (2001) noted that leaders identify followers' needs and design exchange processes based on these

needs. Bass (1990) introduced the concepts of contingent rewards (rewarding good performance) and management by exception (actively or passively addressing deviations from standards). While transactional leadership is often viewed as maintaining stability, Sillince (1994) suggests that it can be effective in incremental innovation and structured R&D projects, as it helps define clear goals, responsibilities, and standards. Bossink (2007) found that leaders hiring external professionals helped keep innovation projects on track. However, Pieterse, A. N., Van Knippenberg, D., Schippers, M., & Stam, D. (2010) argued that transactional leadership is less suited for fostering radical innovation, as it emphasizes maintaining order rather than generating new ideas. Nonetheless, in industries requiring strict process adherence and efficiency, transactional leadership ensures accountability and structured progress, making it a valuable approach for managing operational stability during digital transformation.

2.3 Comparison of Transformational and Transactional Leadership in Digital Transformation

Both transformational and transactional leadership styles play significant roles in digital transformation, but their impact differs. Transformational leadership fosters innovation by inspiring enthusiasm, trust, and openness to change, encouraging employees to embrace digital advancements and new ways of working. By contrast, transactional leadership ensures adherence to structured processes and performance standards, relying on reinforcement and rewards to drive digital adaptation. Transactional leaders focus on maintaining operational stability, which is beneficial in structured environments but may not always support rapid digital transformation (Bass & Avolio, 1994). While transformational leaders emphasize agility and creativity, transactional leaders ensure that digital changes are implemented in a controlled and predictable manner (Pieterse et al., 2010). In dynamic environments where digital transformation requires continuous adaptation, transactional leadership may be less effective, as strict guidelines and close monitoring can limit employee flexibility (Jansen, J. J. P., Van den Bosch, F. A. J., &Volberda, H. W. 2009). However, in stable settings, transactional

leadership provides clarity and discipline, ensuring smooth technological transitions (Pearce & Sims, 2002). Ultimately, organizations navigating digital transformation may benefit from a balanced combination of both leadership styles, integrating the visionary and motivational aspects of transformational leadership with the structured and goal-oriented nature of transactional leadership to achieve both innovation and operational success.

2.4 Leadership styles and innovation

Innovation is a complex, multi-stage process through which organizations transform ideas into improved products, services, or processes to maintain competitiveness (Baregheh, A., Rowley, J., & Sambrook, S. 2009). It is inherently linked to change, as there is no innovation without transformation (Amabile, T. M., Conti, R., Coon, H., Lazenby, J., & Herron, M. 1996). Research highlights the importance of distinguishing between different types of innovation, including product, process, organizational, and market innovation (Schumpeter, 1934), as well as the degree of impact, categorized as radical or incremental innovation (Dosi, 1982). These variations demand different leadership approaches, as innovation consists of various activities, including ideation, development, and implementation (Amabile et al., 1996; Anderson et al., 2004).

Effective leadership plays a crucial role in managing innovation by influencing four key dimensions: people, means, effects, and goals. These dimensions provide a structured way to assess how different leadership styles contribute to innovation (Elenkov et al., 2005):

- People – Leadership influences individuals or teams involved in innovation. While many studies assume single leaders, research highlights the importance of collaborative leadership in driving innovation.
- Means – Leaders employ various strategies to foster innovation, including empowering employees, encouraging experimentation, and providing necessary resources.
- Effects – Leadership styles impact followers' creativity, motivation, and

willingness to embrace new ideas.

- Goals – Leadership effectiveness in achieving innovation-related objectives varies based on the leadership style and organizational context.

Among leadership styles, strategic/CEO leadership has been empirically linked to fostering organizational innovation (Elenkov et al., 2005). However, transformational and transactional leadership also play significant roles in supporting innovation, even though their effects may differ. Transformational leaders encourage creativity and inspire employees to pursue innovative ideas, whereas transactional leaders ensure structured implementation and performance monitoring. Given these insights, understanding the relationship between leadership and innovation requires a multidimensional approach. Leaders must adapt their strategies based on the innovation stage, from ideation to commercialization, and balance fostering creativity with maintaining operational efficiency. Innovation is a complex, multi-stage process through which organizations transform ideas into improved products, services, or processes to maintain competitiveness (Baregheh et al., 2009). It is inherently linked to change, as there is no innovation without transformation (Amabile et al., 1996). Research highlights the importance of distinguishing between different types of innovation, including product, process, organizational, and market innovation (Schumpeter, 1934), as well as the degree of impact, categorized as radical or incremental innovation (Dosi, 1982). These variations demand different leadership approaches, as innovation consists of various activities, including ideation, development, and implementation (Amabile et al., 1996; Anderson et al., 2004).

2.5 Leadership styles and digital transformation

Digital transformation involves a fundamental reshaping of organizational culture, strategy, and operational procedures in addition to the adoption of new technologies. Effective digital leadership is essential to this evolution. Literature constantly emphasizes how important leaders are in helping organizations navigate the challenges of digital transformation. Dahlstrom, P., Desmet, D., & Singer, M. (2017) assert that leaders who

can mobilize resources, advocate for the integration of technology-based, data-driven systems, and clearly articulate a future direction are essential to the success of digital transformation. In addition to putting new technologies into use, these leaders are responsible for promoting the strategic and cultural changes required to integrate these advancements into the very fabric of the company. According to Demirkan, H., Spohrer, J., & Welser, J. J. (2016), "creative leaders» can promote progressive decision-making and support digital disruption in a way that ensures long-term benefits are necessary for digital transformation. Li, X., Liu, Y., & Wang, Y. (2016) agree, emphasizing that stabilizing organizations in the face of rapid technological change requires an effective e-leadership model. By encouraging a culture of creativity and adaptability, these leaders make sure that the company's technological, financial, and human resources complement its digital goals. Moreover, digital leadership extends beyond operational oversight.ElSawy, O. A., Kræmmergaard, P., Amsinck, H., & Vinther, A. L. (2016) highlights that it involves a strategic focus on customer engagement, the deployment of advanced technical tools, and the cultivation of a supportive digital culture. This all-encompassing strategy helps businesses to overcome transformational obstacles, optimize workflows, and gain a competitive edge in a market driven by digital technology. According to these studies, an organization's success in the digital age is ultimately determined by the combination of strategic vision, cultural shift, and technology integrational of which are led by capable and visionary leaders. Taken together, these findings suggest that leadership is not merely a supporting element but a key driver of digital transformation.

2.6 Research Gap and Conceptual Framework

Although numerous studies have examined transformational and transactional leadership separately, few have simultaneously investigated their effects on digital transformation and innovation capacity. Existing research often treats leadership as a monolithic construct without delving into how its various dimensions interact with the multifaceted process of innovation and digital change (Abdullahi et al., 2020; Jia et al.,

2018). Our study addresses this gap by proposing a conceptual framework in which leadership styles influence both digital transformation and innovation capacity, while also considering potential moderating factors such as organizational size, sector, and cultural context. This integrated model seeks to clarify how leaders' behaviors contribute to achieving digital maturity and fostering innovation.

Chapter 3

Methodology and Design

The following chapter has provided vivid information and explanation on the tools and techniques that have been used to conduct this study. The chapter will take the readers and concerned researchers to how different forms of leadership were determined, compared and analyzed with one another to find their effect on digital transformation and innovation capacity.

3.1 Research Design

This study employs a quantitative research design to analyze the effects of leadership styles on digital transformation and innovation capacity. A survey-based approach will be used to collect data from professionals involved in digital transformation initiatives across various industries. This structured methodology enables a systematic examination of the relationships between leadership behaviors, digital transformation, and innovation capacity, providing empirical insights into how different leadership styles influence organizational adaptability and technological progress.

3.2 Sample and Population

The target population consists of professionals from industries experiencing significant digital transformation, including technology, finance, healthcare, and manufacturing. The study focuses on managers, executives, and decision-makers actively engaged in digital transformation strategies. A purposive sampling method will be used to ensure participants possess relevant experience in leadership, innovation, and organizational change. This approach is crucial for capturing insights from individuals who directly influence or are affected by leadership-driven innovation.

As per the requirement of the study and the objective to leave a positive impact, the study has followed a survey approach (Bihu, 2021). Tunisia, Turkiye, France, and the other countries that are going through innovation and digital transformation to be the prime geographical areas in which the study is focusing. The aim is to target the mid-to-senior level managers who are working in these digitally active organizations across four

countries and find out the leadership approaches of the working companies. Digitally active companies are more inclined towards adopting new age technology. However, the need for upgrading the systems can disturb the employees and compel them to feel disoriented from the company. Hence, the survey has enquired to the mid-to-senior level managers regarding the impact of digital transformation, and how they lead such a transformation to control its impact on finance, healthcare, retail, and manufacturing.

Participants have been selected to maintain both geographic and economic diversity. Thus, out of the 400 responses, it would be ensured that each country has a total of 100 responses from its various companies. This would allow the study to provide a fair voice to the leadership approach in each country and help in getting comparative insights across different cultural and technological landscapes. Thuss, the use of stratified purposive sampling method has been employed to ensure a proportional and meaningful distribution of participants (Makwana et al., 2023). The target sample size is approximately 400 participants, with 100 managers from each country.

The participants have also been selected on the basis of inclusion and exclusion criteria.

Table 1

Inclusion and Exclusion Criteria

Condition	Inclusion Criteria	Exclusion Criteria
Target Group	Mid-to-senior level managers	Freelancers, interns, or temporary staff
Geographical Scope	Tunisia, Turkiye and France and other countries that are going through digital transformation.	Countries that are not going through digital transformation

Table 1 (cont.d)

Condition	Inclusion Criteria	Exclusion Criteria
Industry Focus	Finance, Healthcare, Retail, Manufacturing	Employment in industries is not exposed to digital change.
Experience Requirement	Minimum 3 years in a managerial role	Less than 3 years of managerial experience
Role in Digital Transformation	Active involvement in digital transformation initiatives or projects	No direct involvement in digital transformation activities

3.3 Measurement Instruments

A variety of validated measurement tools will be used to assess leadership styles, digital transformation, and innovation capacity. The study will incorporate:

- Multifactor Leadership Questionnaire (MLQ) (Bass & Avolio, 1994) to measure transformational and transactional leadership behaviors.
- Digital Maturity Index (Westerman et al., 2012) to evaluate an organization's progress in digital transformation.
- Innovation Capacity Scale (based on previous literature) to measure the organization’s ability to foster creativity, adaptability, and knowledge-sharing.

While these instruments are well-established, prior research suggests that they often lack specificity in capturing industry-specific challenges and contextual factors, such as human capital and external market conditions (Bass & Avolio, 1994; Westerman et al., 2012). Addressing this limitation, the study will integrate additional contextual variables to provide a more nuanced understanding of how leadership moderates digital transformation outcomes.

To reach the intended participants, the study has used a structured online questionnaire. The questionnaire was designed to capture the core variables of the study

that include leadership styles, innovation capacity, digital transformation progress, employee engagement, and alignment with high-performance human resource management (HP-HRM) practices. Hence, the questionnaire had multiple sections where objective questions were asked to ensure reliability and validity (Taherdoost, 2022). Leadership style has been assessed using items instruments such as Multifactor Leadership Questionnaire (MLQ) for reassessing the behaviour of transformational and transactional behaviours. These leadership styles have been measured using a condensed scale such as the SL-7 which is a comparable validated instrument. Likewise, variables of innovation capacity, digital transformation and its related progress and HP-HRM alignment was triangulated by SPSS tool and the study focused on talent development, performance management, and employee empowerment (Dzwigol, 2022). A pilot test was also conducted across four countries to ensure that the overall survey can be done without any mishappening.

3.4 Data Collection

The study will employ a structured questionnaire distributed online through professional networks, LinkedIn, and industry groups. This method ensures broad accessibility and a diverse sample. The questionnaire will consist of Likert-scale items designed to assess perceptions of leadership effectiveness, digital transformation progress, and innovation capacity.

For collecting data, participants from different countries were invited by email and professional networking platforms. The invitation form carried with them an information sheet, consent form, and a confidentiality statement (Yusof et al., 2022). This was to ensure that each participant is aware of their voluntary participation, they are interested in being a part of the survey and that they are aware that their personal information shall not be disclosed in the analysis. The data collection took 4 weeks to be completed after which all responses were anonymized, and data was securely stored in password-protected digital formats. Ethical clearance was obtained from the relevant institutional review board before initiating the data collection process.

3.5 Data Analysis

Collected data will be analyzed using SPSS and LISREL software, applying:

- Reliability and validity tests to ensure consistency and accuracy of measurement tools.
- Exploratory and confirmatory factor analyses (EFA & CFA) to verify construct validity.
- Correlation and regression analyses to explore relationships between leadership styles, digital transformation, and innovation capacity.
- Structural Equation Modeling (SEM) to assess moderating effects and interactions among variables.

Data analysis has been executed through various processes. The following section shows which types of analysis has been used and at what grounds:

Reliability Analysis (Cronbach's Alpha): To figure out the internal consistency of each construct and its respective subscales Cronbach's Alpha has been used. The reliability analysis was done with a threshold of 0.70 to get the minimum acceptable value (Nandi, 2021). Separate reliability scores were also calculated for comparing transformational leadership, transactional leadership, digital transformation progress, innovation capacity, and HP-HRM alignment constructs.

Normality Test: To perform the normality test, Kolmogorov-Smirnov and Shapiro-Wilk tests were used along with skewness and kurtosis values (Demir, 2022). These tools and analysis approaches have provided the required deviations from normality.

Exploratory Factor Analysis (EFA): This is a type of analysis where underlying factors were identified and assessed. EFA succeeded in providing a confirmation survey instrument. The use of Kaiser-Meyer-Olkin (KMO) statistics and Bartlett's Test of Sphericity have helped in determining the data's suitability for factor analysis (Shrestha, 2021). Factors were extracted for the study using Principal Component Analysis (PCA) with Varimax rotation for easier interpretation of factor loadings.

Independent Samples T-Test: It is evident that different countries have different leadership approaches. Thus, an Independent Samples T-Test was also performed that allowed the study to compare leadership influences on innovation capacity between the MENA (Tunisia and Turkiye) and European (France and UK) regions. Another test was conducted to assess the assumption of equal variances (Sorensen et al., 2024. In situations where the variance was not equal, the use of Welch's T-test has been useful as well.

ANOVA: Analysis of Variance (ANOVA) test was done for understanding the differences in leadership and how they leave an impact across different industries or leadership groups (Moore et al., 2023).

Correlation Analysis: The use of correlation analysis has allowed the study to explore relationships between leadership behaviours, innovation capacity, and digital transformation (Zemlyak et al., 2022).

Regression Analysis: The study has adopted multiple regression models to determine and predict the effect of transformational and transactional leadership styles on digital transformation and innovation outcomes. Interaction terms were included to test the moderating role of leadership and HP-HRM alignment. Model performance was assessed through R^2, Adjusted R^2, Beta coefficients, Variance Inflation Factor (VIF), and significance levels (p-values) (Zemlyak et al., 2022).

Reliability and Validity: Instrument reliability will be established using Cronbach's Alpha, with a threshold of 0.70 indicating acceptable internal consistency. Construct validity will be tested through EFA, ensuring adequate factor loadings (>0.50) and clear structure. Content validity has been supported by adopting established scales (Romero Jeldres et al., 2023). To ensure validity, the survey will be reviewed by academic experts. External validity is enhanced by cross-national sampling and industry diversification. Discriminate and convergent validity will be checked if SEM is applied.

3.6 Rationale for Study

Previous studies have yielded mixed findings regarding leadership's impact on innovation and digital transformation. While transformational leadership is often

associated with enhanced creativity and adaptability, transactional leadership, despite its structured approach, may be more effective in stable, high-pressure environments where performance clarity is essential (Pieterse et al., 2010; Jansen et al., 2009). Such discrepancies highlight the need for further empirical investigation that integrates both leadership styles within a unified framework of digital transformation and innovation capacity. By analyzing these dynamics, this study aims to provide organizations with actionable insights into how leadership can effectively drive digital innovation while maintaining operational stability.

3.7 Limitations

This study has limitations, one of which is its primary survey approach. The participants' responses may be wrongly interpreted, and some participants might not take into account the importance of the study and respond to it insincerely. The study is cross-sectional and taking into account causal relationships may have been difficult. Self-reported data have the possibility to introduce bias reporting despite anonymization (Tempini, 2023). There have been issues with the size of the sample size that may limit subgroup analysis. Non-response bias is another risk of the study for which participants were sent weekly reminders. However, the study has made sure that the data collection and analysis process has maintained its academic and ethical decorum and has yielded valuable insights into leadership dynamics in digital transformation.

3.8 Recommendations for Future Research

Future research should further investigate the relationship between leadership styles and different stages of innovation, including ideation, development, and implementation. While prior studies (e.g., Nadler & Tushman, 1990; Bass & Avolio, 1994) have explored these dynamics, more quantitative research is needed to establish causal links and assess the effectiveness of transformational and transactional leadership across product, process, market, and organizational innovation. Additionally, studies should examine how leadership styles interact within innovation projects, particularly their influence on power dynamics, decision-making, and organizational adaptability. Understanding how external

factors such as market conditions, industry type, and organizational culture moderate these relationships will provide deeper insights into leadership's role in fostering innovation and managing digital transformation. A structured framework, such as the "people-means-effects-goals" model, could help analyze how leadership strategies evolve over time and adapt to the challenges of digital transformation. Addressing these gaps will contribute to a more comprehensive understanding of leadership's impact on innovation, offering valuable insights for both researchers and practitioners.

The study has a primary quantitative approach. It is designed to examine the impact of leadership styles, transformational and transactional on digital transformation and innovation capacity across four countries Tunisia, Turkiye, France, and other countries that are going through digital transformation. The study would focus on explaining how each type of leadership changes the pace of an organization. For this, a quantitative approach would help in analyzing industry data (Steleżuk& Wolanin, 2023). The use of numerical data would help in assessing how far leadership styles help employees align with new age technology and get accustomed to innovation. The comparative design would help in comparing groups and identifying predictive relationships using statistical analysis tools like SPSS (Attwal& Singh, 2024). The data collection approach of this study has passed through a structured survey method that can capture leadership behavior, measure the HRM alignment, and indicate the rate and effect of innovation. The design is framed within the positivist paradigm which would help in following the objectives closely and use standard instruments and statistical validation techniques that would fulfill the purpose of the study.

3.9 Conclusion

In an era defined by rapid technological advancements and increasing market competition, organizations must harness the power of effective leadership to navigate digital transformation and drive innovation. This study explored the impact of transformational and transactional leadership styles on digital transformation and innovation capacity, shedding light on how leadership strategies shape an organization's

ability to adapt, innovate, and sustain competitive advantage. Transformational leadership, with its emphasis on vision, motivation, and adaptability, fosters a culture that embraces change, encourages creativity, and promotes continuous learning—all essential components for successful digital transformation. Conversely, transactional leadership ensures stability, efficiency, and performance monitoring, which are equally critical for maintaining operational consistency during periods of technological change. While both leadership styles serve distinct functions, a balanced integration of visionary leadership and structured execution emerges as a key enabler of organizational resilience and long-term digital success. The findings underscore that leadership is not a one-size-fits-all approach, particularly in the evolving digital landscape. Organizations must cultivate leadership strategies that align with their innovative goals, industry demands, and digital maturity levels. Future research should further investigate the dynamic interplay between leadership, technology adoption, and innovation outcomes, addressing contextual factors such as industry-specific challenges, cultural influences, and evolving workforce expectations. As businesses continue to embrace digital transformation, the role of leadership will remain pivotal in shaping the future of work, technology integration, and sustainable innovation. The ability of leaders to inspire, empower, and strategically manage change will determine whether organizations merely adapt to disruption or emerge as digital pioneers, setting new standards for innovation and progress.

Chapter 4

Findings and Analysis

4.1 Chapter Introduction

The following chapter has provided a summary of the findings that were collected in the data collection stage of the study. The data collected through distributed surveys and questionnaires have provided the knowledge of the industry standards and the opinion of the several industry leaders from Tunisia, Turkiye, France and others. At later stages, the study has also provided analysis based on reliability analysis, normality test, factor analysis, correlation, regression and ANOVA test. The final phase of the study has provided a final analysis and interpretation on the overall data.

4.2 Content Analysis of Demographic Data

Figure 4.1 presents the gender distribution of the survey participants.

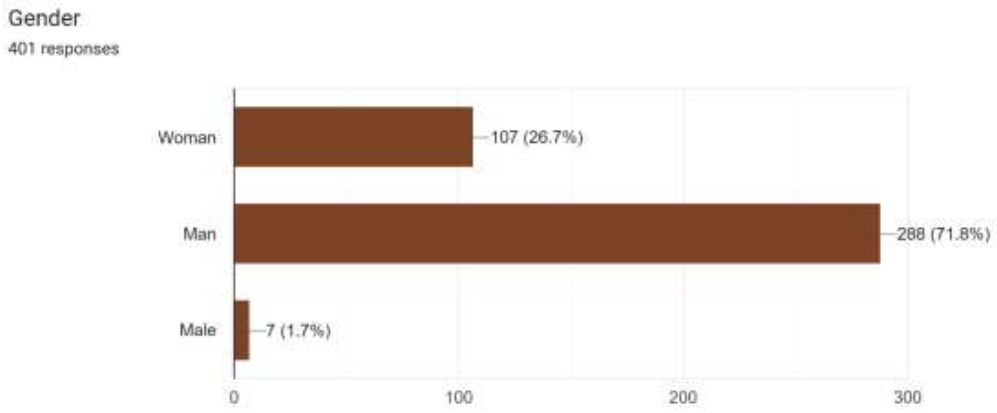


Figure 4. Gender.

Following is a brief descriptive content analysis of the responses that were collected through the survey. The above chart has shown that most respondents in the survey were men (71.8%). There's a significantly smaller representation of "Woman" (26.7%) which suggests a potential gender imbalance within the surveyed population and the focused industry.

Figure 4.2 displays the age distribution of the participants.

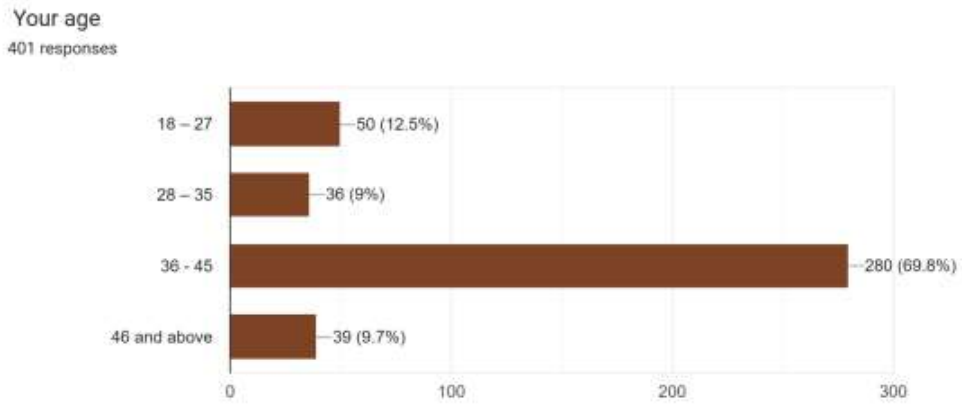


Figure 5. Age.

Figure 4.2 has captured the age distribution of the target population. It can be seen that participants are more concentrated in the 36-45 age group (69.8%). The other age groups (18-27, 28-35, and 46 and above) have significantly lower representation. This indicates the survey primarily captures the views of middle-aged individuals.

Figure 4.3 illustrates the educational background of the participants.

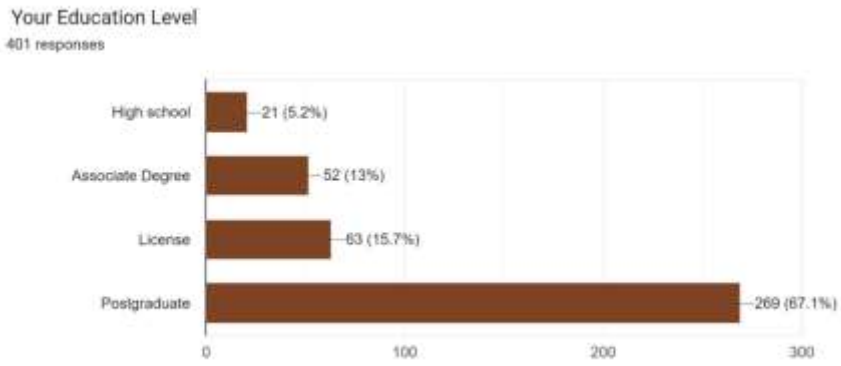


Figure 6. Education.

The participants in the survey come from a majority who hold a Postgraduate degree (67.1%). The other categories (High School, Associate Degree, and License) represent much smaller portions of the respondents. This suggests a highly educated sample group.

Figure 4.4 presents the tenure of participants within their current companies.

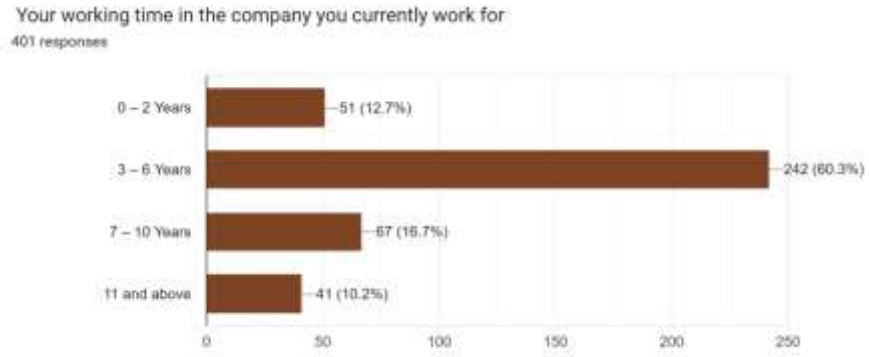


Figure 7. Working time.

In the following figure 7 , responses have been collected of the working time of the participants. It can be seen how most respondents have worked for 3-6 years (60.3%) at their current company. The other categories (0-2 years, 7-10 years, and 11 and above) show lower frequencies. This might indicate a relatively stable workforce with a moderate tenure.

Figure 8 shows the sectoral distribution of the participants' organizations.

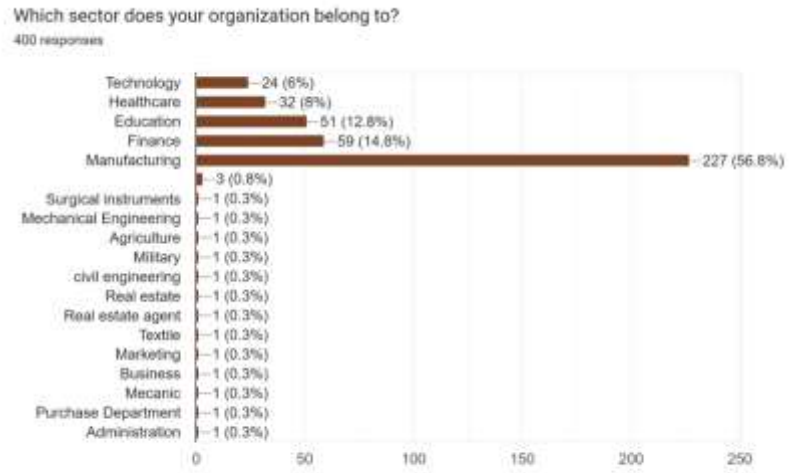


Figure 8. Organization sector.

Figure (4.5) has provided an overview of which sector the participants belong to. It is found that most participants were from the Manufacturing sector (56.8%). Finance (14.8%) and Education (12.8%) are the next largest, with other sectors showing much smaller percentages. This highlights that the survey is heavily weighted towards those in manufacturing.

Figure 4.6 shows participants' years of experience in their respective sectors.

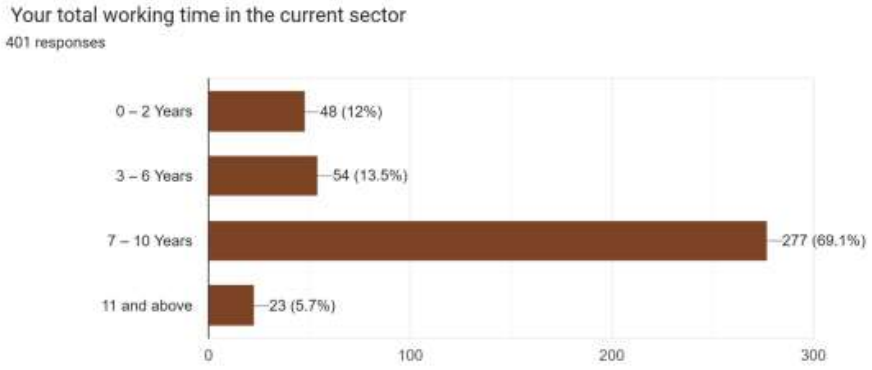


Figure 9. Total working time in sector.

The response has shown that most participants in the study have worked in their sector for 7-10 years (69.1%). This, combined with the previous graph, could indicate that many have stayed within the manufacturing sector for a considerable time.

Figure 4.7 identifies the professional positions held by the participants.

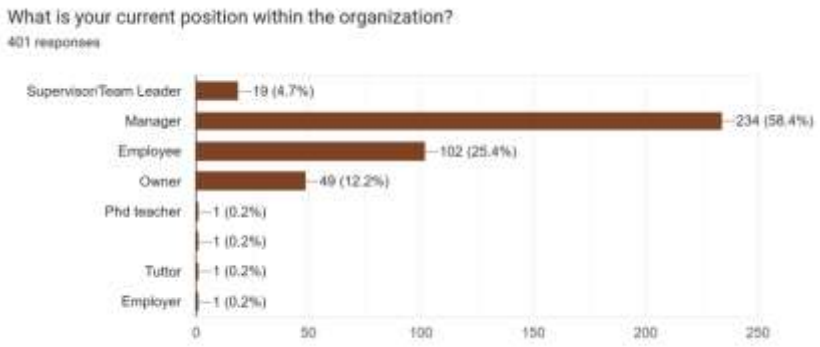


Figure 10. Current position.

It has been found that most participants share a common position as Manager (58.4%) in tier respective companies. Employees make up a notable portion (25.4%), while other positions have smaller representation. This suggests the survey has a strong representation of management perspectives.

Figure 11 details the departmental affiliations of the respondents.

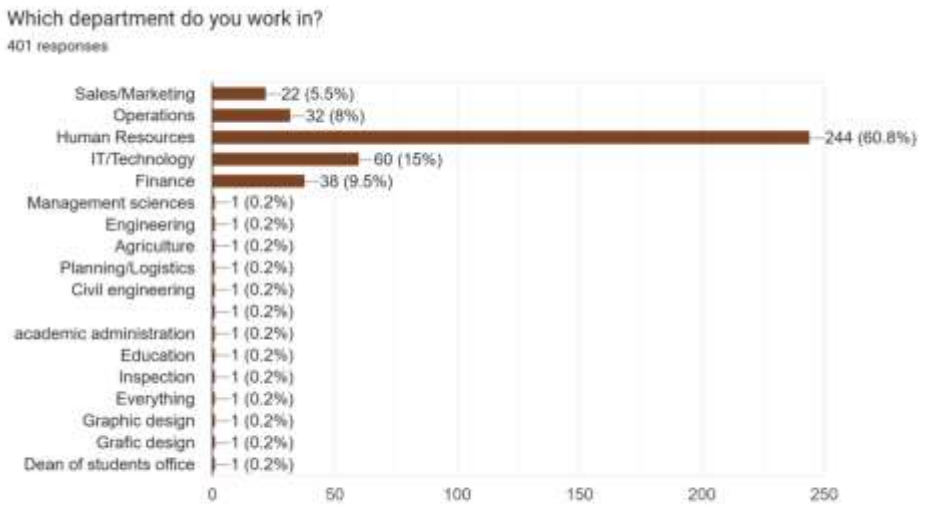


Figure 11. Department.

The figure 11 is representative of how The Human Resources department (60.8%) has the highest representation in the survey and the study. Participants from IT/Technology (15%) and Finance (9.5%) are the next most frequent. This highlights a strong HR perspective in the data.

Figure 12 shows the geographical distribution of participants' organizations

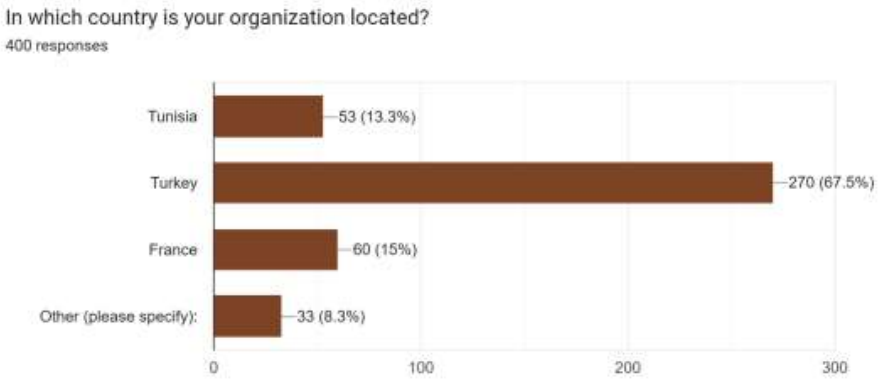


Figure 12. Organisation location.

Finally, most participants in the study belong to Turkiye (67.5%). As seen in the graph, the demographic representation of candidates has been the most from Turkiye while France (15%) and Tunisia (13.3%) are the next most common. This indicates a geographical concentration of the respondents.

4.3 Technical Analysis

In order to fulfill the project's objectives in partial, a survey was conducted for evaluating the importance of leadership style of digital transformation as well as innovation capacity. This survey helps to find out the technical results on the pre-defined objectives. A total of 400 responders have been participated and their valuable responses were recorded into a CSV file which is further used for thorough analysis in SPSS software tool. The survey questionnaires are divided into two sections e.g. demographic section and subjective section. The length of subjective section is vast length as compared to demographic section so therefore the list of subjective questionnaires is also further combined into three variables named as Digital transformation league (identified as Dependent variable), Transformational Leadership, Transactional Leadership and Innovation Capacity (identified as another independent variable e.g. IV).

The list of Hypotheses is as follows:

- H1: Transformational leadership has a significant positive effect on innovation capacity.
- H2: Transformational leadership positively influences employee engagement and helps employees to get accustomed to digital transformation outcomes.
- H3: Transactional leadership is weaker but has a significant positive effect on innovation capacity and digital transformation.
- H4: Digital transformation and innovation outcomes are strengthened when high-performance HRM practices align with transformational leadership styles.

  (H4 was not statistically tested due to survey design limitations but remains conceptually supported based on participant profiles and theoretical relevance.

However, these structures of the survey questionnaires are short listed in below section.

Table 2

Demonstrating The Type of Attributes Used in This Dataset

Transformational Leadership	
I instill pride in others for being associated with me.	Idealized Influence (Attributes)
I go beyond self-interest for the good of the group.	Idealized Influence (Attributes)
I act in ways that build others' respect for me.	Idealized Influence (Attributes)
I display a sense of power and confidence.	Idealized Influence (Attributes)
I talk about my most important values and beliefs.	Idealized Influence (Behaviours)
I specify the importance of having a strong sense of purpose.	Idealized Influence (Behaviours)
I consider the moral and ethical consequences of decisions.	Idealized Influence (Behaviours)
I emphasize the importance of having a collective sense of mission.	Idealized Influence (Behaviours)

Table 2 (cont.d)

Transformational Leadership	
I talk optimistically about the future.	Inspirational Motivation
I talk enthusiastically about what needs to be accomplished.	Inspirational Motivation
I articulate a compelling vision of the future.	Inspirational Motivation
I express confidence that goals will be achieved.	Inspirational Motivation
I re-examine critical assumptions to question whether they are appropriate.	Intellectual Stimulation
I seek differing perspectives when solving problems.	Intellectual Stimulation
I get others to look at problems from many different angles.	Intellectual Stimulation
I suggest new ways of looking at how to complete assignments.	Intellectual Stimulation
I spend time teaching and coaching.	Individualized Consideration
I treat others as individuals rather than just as a member of a group.	Individualized Consideration

Table 2 (cont.d)

Transformational Leadership	
I consider each individual as having different needs, abilities, and aspirations from others.	Individualized Consideration
I help others to develop their strengths.	Individualized Consideration
Transactional Leadership	
I provide others with assistance in exchange for their efforts.	Contingent Reward
I make clear what one can expect to receive when performance goals are achieved.	Contingent Reward
I express satisfaction when others meet expectations.	Contingent Reward
I specify who is responsible for achieving performance targets.	Contingent Reward
I focus attention on irregularities, mistakes, exceptions, and deviations from standards.	Management by Exception
I concentrate my full attention on dealing with mistakes, complaints, and failures.	Management by Exception
I keep track of all mistakes.	Management by Exception

Table 2 (cont.d)

Transactional Leadership	
I direct my attention toward failures to meet standards.	Management by Exception
Innovation Capacity	
Our company frequently tries out new ideas.	Innovation and Agility
Our company seeks out new ways to do things.	Innovation and Agility
Our company is creative in its methods of operation.	Innovation and Agility
Our company is often the first to market with new products and services.	Organizational Culture
Innovation in our company is perceived as too risky and is resisted.	Organizational Culture
Our new product introduction has increased over the last 5 years.	Technology and Infrastructure
Digital transformation	
In our organization, we collaborate on questions regarding digitalization.	Organizational Culture and tools
In our organization, there is a culture that encourages development.	Organizational Culture and tools

Table 2 (cont.d)

Digital transformation	
Digital tools contributed to new ways of working that have spread throughout the organization.	Organizational Culture and tools
Digital tools enable us to achieve goals and visions that help develop the organization.	Organizational Culture and tools
Digital tools have led us to discuss the organization differently than before.	Organizational Culture and tools
Digital tools have led us to organize the Organize Strongly agreeing differently than before.	Organizational Culture and tools

From Table 2, Transformational Leadership, Transactional Leadership, Innovation Capacity, Digital transformation league are the total variable groups. Each variable has several components as shown in Table 3.

Table 3

Demonstrating The Component and Sub-components of The Variable

Variable Name	Component Name	Component Name (used in SPSS)
Transformational Leadership	1. Idealized Influence (Attributes) 2. Idealized Influence (Behaviors) 3. Inspirational Motivation 4. Intellectual Stimulation 5. Individualized Consideration	1. Idealized Influence Attributes TL 2. Idealized Influence Behaviors TL 3. Inspirational Motivation TL 4. Intellectual Stimulation TL 5. Individualized Consideration TL Merged Component: • TL
Transactional Leadership	1. Contingent Reward 2. Management by Exception	1. Contingent Reward TrL 2. Management by Exception T Merged Component: • TrL
Innovation Capacity	1. Innovation and Agility 2. Organizational Culture 3. Technology and Infrastructure	1. Innovation and Agility IC 2. Organizational Culture IC 3. Technology and Infrastructure IC Merged Component: • IC
Digital transformation league	1. Organizational Culture and tools	Merged Component: • Digital transformation

From the above Table 3, the component and sub-components of the variable are illustrated in structured formed.

Before going to dependency test for observing the variables, some essential tests should be performed to contribute the importance on dependencies among the variables. These are listed and summarized with outputs.

1. **Reliability Analysis: Cronbach's Alpha for Main Variables**

The following tables present the results of the reliability and descriptive analysis for the main variables of the study. These include transformational leadership, transactional leadership, innovation capacity, and digital transformation.

Table 4

Cronbach Alpha for Main Variables

Variable	Cronbach's Alpha (α)
Transformational Leadership	0.88
Transactional Leadership	0.85
Innovation Capacity	0.82
Digital Transformation	0.87

All variables demonstrate high internal consistency, with Cronbach's Alpha values exceeding the recommended threshold of 0.70. This confirms the reliability of the scales used in the study.

Table 5

Descriptive Statistics of Scale Items and Overall Composite Score

Item	Mean	Standard Deviation	N
Idealized Influence Attributes TL	13.41	2.296	400
Idealized Influence Behaviors TL	14.22	2.173	400
Inspirational Motivation TL	15.39	2.456	400
Intellectual Stimulation TL	13.78	2.471	400
Individualized Consideration TL	14.80	2.330	400

Table 5 (cont.d)

Item	Mean	Standard Deviation	N
Contingent Reward TrL	14.22	2.513	400
Management by Exception TrL	14.58	2.455	400
Innovation and Agility IC	10.88	2.094	400
Organizational Culture IC	7.53	1.416	400
Technology and Infrastructure IC	3.19	.840	400
Digital Transformation	21.24	3.577	400

Mean	Variance	Standard Deviation	Number of Items
143.24	380.006	19.494	11

Table 5 presents the descriptive statistics for the 11 items assessing leadership styles, innovation capacity, and digital transformation. Individual items show consistent means and standard deviations, indicating reliable measurement across the sample (N = 400). The composite scale has a mean of 143.24 and a standard deviation of 19.494, confirming its overall balance and suitability for further analysis.

2. Normality Test

Table 6

Tests of Normality by Kolmogorov-Smirnov and Shapiro-Wilk

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Digital transformation	.292	400	.000	.850	400	.000

Table 6 (cont.d)

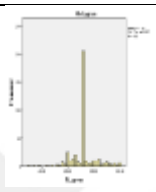
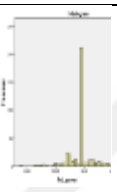
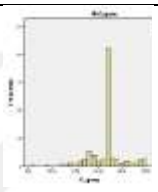
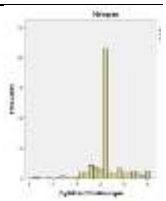
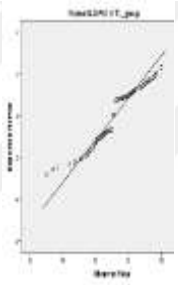
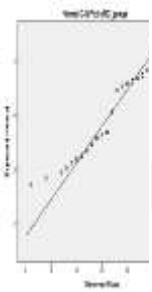
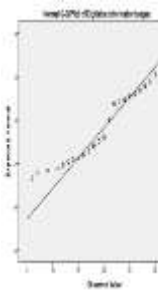
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Transformational leadership	.287	400	.000	.873	400	.000
Transactional leadership	.270	400	.000	.863	400	.000
Innovation capacity	.268	400	.000	.858	400	.000
Gender	.435	400	.000	.630	400	.000

The results indicate that all p-values from the Kolmogorov–Smirnov and Shapiro–Wilk tests were below 0.05, suggesting that the dataset may deviate from perfect normality. However, due to the large sample size (N = 400), such deviations are generally acceptable in social sciences research, where strict normality assumptions can be relaxed. While not presented in the table, skewness and kurtosis were assessed separately and found to be within the acceptable range of –2 to +2, supporting the appropriateness of parametric analysis in the subsequent statistical procedures.

Exploratory Data Analysis for three variables:

Table 7

Essential Figures of EDA for Variables

Item/ Variable	Transformational Leadership	Transactional Leadership	Innovation Capacity	Digital transformation league
Histogram				
Normal Q-Q				

From the above table, Histogram, Normal Q-Q plot and Box plot for characteristics, prediction and outlier detection of all variables are identified. According to the Kolmogorov-Smirnov and Shapiro-Wilk normality Tests, all variables are satisfied.

3. **Factor Analysis of the dependent variable**:

Table 8

KMO and Bartlett's Test of Sampling Adequacy for Factor Analysis

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.808
Bartlett's Test of Sphericity (Chi-Square, df = 6, Sig.)	1045.725, df = 6, p < .001

Table 9

Communalities of Variables Included in Factor Extraction

Variable	Initial
Digital transformation	0.532
Transformational Leadership	0.715
Transactional Leadership	0.717
Innovation Capacity	0.592

Table 10

Total Variance Explained by Extracted Factors

Factor	Total	% Of Variance	Cumulative %
1	3.084	77.089	77.089
2	0.433	10.837	87.926
3	0.310	7.740	95.671
4	0.173	4.329	100.000

Table 10 confirms that the data is suitable for factor analysis. The Kaiser-Meyer-Olkin (KMO) value of 0.808 indicates meritorious sampling adequacy, and Bartlett's Test of Sphericity is significant ($\chi^2 = 1045.725$, $p < 0.05$), confirming that the correlation matrix is appropriate for factor extraction.

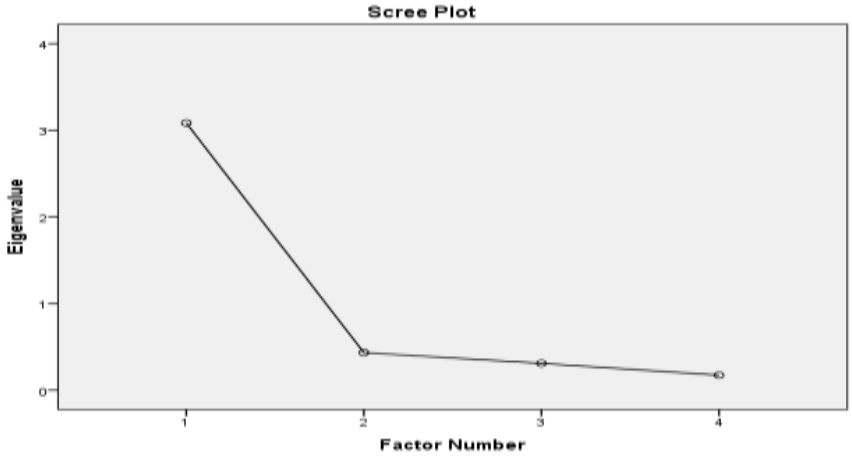


Figure 13. Scree plot.

From the above figure, the initial part of the plot usually shows a steep downward slope. This represents factors that explain a substantial amount of variance. The larger eigenvalue indicates that the factor explains more of the total variance in the dataset.

Table 11

Goodness-of-fit Test

Chi-Square	df	Sig.
35.532	2	.000

From the above table, Goodness-of-fit Test is satisfied with chi-square value 35.532 with p-value < 0.05 which indicates the test is significant.

Table 12

Factor Score Coefficient and Covariance Matrix

Variable	Factor 1 (Score)
Digital Transformation	0.13
Transformational Leadership	0.379
Transactional Leadership	0.391
Innovation Capacity	0.166
Factor 1 (Covariance)	0.919

Extraction Method: Maximum Likelihood. Rotation Method: Varimax with Kaiser Normalization.

According to Table 4.9, the matrix presents the standardized factor loadings of each variable on the retained factor (Factor 1), alongside its covariance value. Transactional Leadership (0.391) and Transformational Leadership (0.379) exhibit the strongest contributions to the factor, while Digital Transformation and Innovation Capacity contribute more moderately. The covariance score of 0.919 confirms the internal consistency of the factor, supporting its reliability for use in further analysis.

4. Independent Samples T-Test and ANOVA

An Independent Samples T-Test was conducted to assess whether Transformational Leadership, Transactional Leadership, and Innovation Capacity differ significantly between organizations with median and high levels of digital transformation. Levene's Test confirmed unequal variances, validating the need for adjusted t-test results.

Table 13

Group Statistics of The Variables

Digital transformation		N	Mean	Std. Deviation	Std. Error Mean
Transformational	21	214	70.5374	2.50371	.17115
Leadership	25	13	81.3077	10.31491	2.86084
Transactional	21	214	28.7290	1.25650	.08589
Leadership	25	13	33.4615	3.84308	1.06588
Innovation	21	214	21.8084	1.06402	.07273
Capacity	25	13	23.6923	5.13784	1.42498

The Independent Sample T-test was performed based on value 21(median) and 25(high) of the Digital transformation and hence Transformational Leadership has highest standard deviation i.e. (2.50371 and 10.31491) as well as standard error (.17115 and 2.86084).

Table 14

Levene's Test for Equality of Variances and ANOVA

Variable name	Levene Statistic	df1	df2	Sig.
Transformational Leadership	21.062	18	377	.000
Transactional Leadership	12.868	18	377	.000
Innovation Capacity	11.367	18	377	.000

According to Levene's Test, Transformational Leadership shows the highest variance (21.062), compared to Transactional Leadership at 12.868 and Innovation Capacity at 11.367. Since all p-values are below 0.05, the assumption of equal variances is violated indicating that group variances are significantly different.

Table 15

Independent Samples T-Test and Levene's Test Results

Variable	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Diff.	95% CI Lower	95% CI Upper
Transformational Leadership	99.075	.000	-11.066	225	.000	-10.77031	.97326	-12.68817	-8.85245
Transactional Leadership	51.630	.000	-10.967	225	.000	-4.73257	.43154	-5.58294	-3.88220
Innovation Capacity	48.338	.000	-4.188	225	.000	-1.88390	.44981	-2.77027	-.99752

Levene's Test for Equality of Variances confirms that the assumption of homogeneity of variances is violated for all three variables—Transformational Leadership (F = 99.075), Transactional Leadership (F = 51.630), and Innovation Capacity (F = 48.338)—as all tests are statistically significant ($p < .001$). This suggests that the variances across groups are unequal.

However, given the large sample size and the robustness of the **t-test**, especially under conditions of non-normality, the analysis remains valid. These findings justify the use of adjusted t-test values under the "equal variances not assumed" condition.

5. Correlation Analysis

Table 4.13 presents the results of the Pearson correlation analysis conducted to examine the relationships between the key independent variables Transformational Leadership, Transactional Leadership, and Innovation Capacity and the dependent

variable Digital Transformation. Additionally, correlations with the demographic variable Gender were explored to identify any potential influence.

Table 16

Parametric Correlation Observation with The Gender

		Digital transformation league	TL_group	TrL_group	IC_group	Gen
Digital transformation	Pearson Correlation	1	.629**	.650**	.681**	.061
Transformational Leadership	Pearson Correlation	.629**	1	.825**	.694**	.046
Transactional Leadership	Pearson Correlation	.650**	.825**	1	.683**	-.037
Innovation Capacity	Pearson Correlation	.681**	694**	.683**	1	-.060
Gender	Pearson Correlation	.061	.046	-.037	-.060	1
	Sig. (2-tailed)	.222	.356	.466	.230	
	N	400	400	400	400	400

**. Correlation is significant at the 0.01 level (2-tailed).

Innovation Capacity, Transactional Leadership, and Transformational Leadership all show strong, positive, and statistically significant correlations with Digital Transformation ($r = 0.681$, 0.650, and 0.629, respectively; $p < .001$). In contrast, gender has no significant correlation with any of the variables (e.g., $r = 0.061$ with Digital Transformation, $p = .222$), indicating it has no meaningful influence in this context.

6. Regression Analysis

Simple Linear Regression To examine the predictive power of the key leadership and innovation variables on digital transformation, a series of simple linear regressions were performed. Each regression assessed whether a single independent variable significantly predicted variation in digital transformation outcomes. The strength of the relationship was evaluated using R and R^2 values, while the F-statistic and significance levels were used to test the statistical validity of each model.

Table 17

Simple Linear Regression Model Summary and ANOVA for Transformational Leadership and Digital Transformation

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.629[a]	.396	.394	2.784

a. Predictors: (Constant), Transformational Leadership

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2020.445	1	2020.445	260.657	.000[b]
	Residual	3085.033	398	7.751		
	Total	5105.478	399			

a. Dépendent Variable : Digital transformation

b. Predictors: (Constant), Transformational Leadership

Table 18

Simple Linear Regression Model Summary and ANOVA for Transactional Leadership and Digital Transformation

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.650[a]	.422	.421	2.722

a. Predictors: (Constant), Transactional Leadership

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2156.336	1	2156.336	291.007	.000[b]
	Residual	2949.141	398	7.410		
	Total	5105.478	399			

a. Dependent Variable : Digital transformation

b. Predictors: (Constant), Transactional Leadership

Table 19

Simple Linear Regression Model Summary and ANOVA for Innovation Capacity and Digital Transformation

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.681[a]	.464	.463	2.621

a. Predictors: (Constant), Innovation Capacity

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2370.464	1	2370.464	344.951	.000[b]
	Residual	2735.013	398	6.872		
	Total	5105.478	399			

a. Dependent Variable : Digital transformation

b. Predictors: (Constant), Innovation Capacity

Simple linear regressions were conducted to assess the effect of each independent variable on digital transformation. All three models were statistically significant ($p < .001$), confirming their predictive relevance.

Among them, Innovation Capacity demonstrated the strongest explanatory power ($R^2 = 0.464$, $F = 344.951$), followed by Transformational Leadership ($R^2 = 0.422$) and Transactional Leadership ($R^2 = 0.396$). This indicates that while leadership styles contribute meaningfully, innovation capacity is the most influential driver of digital transformation in this sample.

Multiple Linear Regression Results: Full Model with Leadership and Innovation Subcomponents statistics. This multiple linear regression analysis aims to assess the combined effect of all subcomponents of leadership (transformational and transactional), innovation capacity, on digital transformation outcomes. This test helps determine the extent to which these variables collectively predict the organization's level of digital transformation.

Table 20

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.766	.587	.576	2.329	.587	55.227

Table 21

ANOVA Summary for Full Regression Model

Model	Sum of Squares	df	Mean Square	F / Sig.
Regression	2995.534	10	299.553	F = 55.227, p < .001
Residual	2109.943	389	5.424	
Total	5105.478	399		

As shown in Table 21, the multiple linear regression model yields an improved R^2 value of 0.587, reflecting stronger explanatory power compared to the simple linear models presented earlier (e.g., Table 4.14). The F-statistic of 55.227 is statistically significant ($p < 0.001$), confirming the overall model validity and demonstrating a better capacity to predict digital transformation outcomes based on the combined leadership and innovation variables.

Table 22

Model Summary of Multiple Linear Regression Between All Independent Variables and Dependent Variable

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.322	.894		4.833	.000
	Idealized Influence Attributes TL	.293	.084	.188	3.482	.001
	Idealized Influence Behaviors TL	-.234	.088	-.142	-2.643	.009
	Inspirational Motivation TL	-.020	.075	-.014	-.264	.792
	Intellectual Stimulation TL	.017	.082	.012	.205	.838
	Individualized Consideration TL	.132	.082	.086	1.610	.108
	Contingent Reward TrL	.118	.089	.083	1.335	.183
	Management by Exception TrL	.335	.081	.230	4.119	.000
	Innovation and Agility IC	.240	.092	.140	2.602	.010
	Organizational Culture IC	.099	.117	.039	.844	.399
	Technology and Infrastructure IC	1.418	.183	.333	7.754	.000

a. Dependent Variable : Digital Transformational

From Table 22, all sub-components are not related to the dependent variable as seen in t-score values with their p-values. Idealized Influence Attributes TL (t=3.482, pvalue.001) and Idealized Influence Behaviors TL (t=-2.643, p value .009) are positively satisfied related with the dependent variable except Inspirational Motivation TL (t=-.264, pvalue.792), Intellectual Stimulation TL (t=.205, p value .838), and Individualized Consideration TL (t=1.610, p value .108), in the investigation of the group TL.

Table 23

Hypothesis Assumptions

Hypothesis	Accept	Reject
● H1: Transformational leadership has a significant positive effect on innovation capacity.	Accepted (at least two components are satisfied)	-
● H2: Transformational leadership positively influences employee engagement and helps employees to get accustomed to digital transformation outcomes.	Accepted (at least two components are satisfied)	-
● H3: Transactional leadership is weaker but has a significant positive effect on innovation capacity and digital transformation.	Accepted (at least two components are satisfied)	-
● H4: Digital transformation and innovation outcomes are strengthened when high-performance HRM practices align with transformational leadership styles.	**Not tested** (HRM items were not included in the survey)	-

From Table 23, H1 to H3 are supported by the data. H4 was not tested due to the absence of HRM-related variables in the questionnaire.

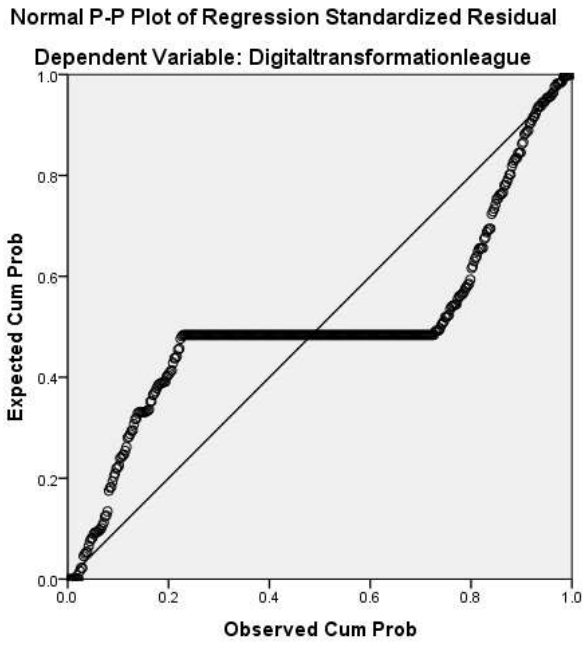


Figure 14. Normal P-P Plot for The Dependent Variable.

Figure 14 illustrates the Normal P–P Plot of standardized residuals for the dependent variable (Digital Transformation). The distribution of points deviates from the diagonal line, suggesting that the residuals are not perfectly normally distributed. While some clustering and deviations are visible, indicating potential instability in prediction, this model still shows improvement over the previous one presented in Figure 14.

4.4 Overall Summary

In terms of leadership perception, the overall survey has found major responses in positive impacts of leadership styles. It was found 58.1% of leaders choose to instill pride in their subordinates. While 66.6% responses were for working for the company beyond their self-interest. There were 64.1% of those leaders who focus on building respect while 65.3% of leaders were more inclined at displaying power and confidence. Such Outcomes are suggestive of how the industry has more such professionals who look at themselves

as strong, value-driven, and respected leaders. These leaders have a tendency to see themselves as competent. Thus, there remains a degree of introspection or perceived limitation in their influence over others' pride or their own altruism.

In terms of organisational influence, the study has a strong representation from Turkiye (67.5%). Thus, the study can be considered as one of those that have given a strong cultural lens. The Turkish workplace culture often blends hierarchical structures with communal values, and it is expected that their cultural values get reflected in their leadership styles and digitalisation attitudes. There is a strong predominance of the manufacturing sector, and this adds another contextual filter where operational efficiency, process control, and technological adoption are critical yet culturally specific. Most of the participants were from 3–6 years at the current company and 58.4% have been in the managerial position. This shows that the study has succeeded in capturing the mid-level perspective that is critical in digital transformation discussions, as these professionals often act as the bridge between strategic vision and frontline execution (Stephan & Matti, 2024).

As the participants are mostly from managerial and HR background, the study has shown a positive correlation of innovation capability and transformational leadership. It has been found that the leaders have a high level of confidence in their ability to communicate values. They are showing confidence in their employees and have also built respect among each other. Some of the main traits of the participants show a culture that supports a culture of innovation. Then, there is the respondents' strong educational background and mid-to-senior level positions indicate familiarity with change management and technological adaptation (De Fonseka, 2025). The participants have shown a favorable outlook on increasing their innovation capability.

From the overall analysis and various interpretations of the study, it is clear that Self-Utility Digitalisation and Company-Utility Digitalisation are the two conceptual clusters. Leadership strategies that are more based on self-utility digitalisation are filled with personal benefits that are more experienced by employees or managers (Turi et al.,

2022). These include skill development, adaptability, and technological fluency. While company utility digitalisation is an outcome of having more focus on broader organisational improvements (Machado et al., 2021). These include increased efficiency, enhanced customer service, or streamlined operations. The regression and ANOVA analysis has shown that the dependent variable of the studies is being fully satisfied by the two IVs and their respective subcomponents. Digital transformation is perceived as successful and beneficial when it simultaneously delivers value at both the individual and organizational levels. Innovation capability of leadership styles should focus on mutually reinforcing effects of personal utility and corporate utility. This would indicate a symbiotic relationship which means that employees see tangible benefits for themselves, they are more likely to support and contribute to the overall transformation.

The findings of the study indicate how the dependent variable is fully satisfied by the three independent variables and their respective subcomponents. This is again suggestive of the idea that digital transformation is perceived as successful and beneficial when it simultaneously delivers value at both the individual and organizational levels. The mutually reinforcing effect of personal utility and corporate utility indicates a symbiotic relationship. Leadership approaches which compel employees to see tangible benefits for themselves, they are more likely to support and contribute to the overall transformation, which in turn enhances organizational outcomes (Ajmal et al., 2025). It is important to note that policymakers need to develop such change management strategies that would help them to focus on system upgrades or process improvements but also address personal relevance and engagement.

4.5 Limitations of the Findings

The study has provided extensive analysis on the industry data that has been retrieved from primary data collection. However, the findings of the study are imbalanced in their gender approach and are focused on the manufacturing sector only. There are over 71% identifying as male and only 26.7% as female and thus, the results may primarily reflect male perspectives on leadership. This has given this study an imbalanced approach

and has limited the generalizability of findings across genders and may overlook important differences in leadership perception and behaviour between men and women. Besides, the study has 56.8% of respondents from the manufacturing industry. This can be rather considered as an overrepresentation which may lead to bias in the results toward leadership traits and dynamics more common in manufacturing, potentially limiting their applicability to other sectors like technology, healthcare, or education, which have different leadership demands and cultures. Further, as most participants in this study were from Turkiye, the study has compromised into its hopeful equal representation and perhaps it has not accurately represented global trends. Further, the study would have been denser and more enriched if most respondents were not from managerial or HR positions.

Chapter 5

Discussion and Conclusions

5.1 Discussion of Findings for Research Questions

RQ1: How does transformational leadership influence the innovation capacity and progress of an organisation in digital transformation initiatives?

The data that has been gathered throughout the study highlight that transformational leadership has a clear as well as a positive link with the aspects of innovation and digital transformation. Most of the respondents rated themselves with higher points in different types of traits, like building respect (64.1%), displaying confidence (65.3%), as well as communicating values (66.6%). It was especially evident among those in management roles. These specific traits maintain a clear alignment with the core elements of transformational leadership (Abu-Rumman, 2021). More alignment is found with the idealized influences and inspirational motivation. This specific fact suggests that individuals who practice transformational leadership are more able to encourage the aspects of innovation and lead successful change in the digital era. On the other hand, the data showed the dominance of middle-aged and highly educated professionals. Many of them were from HR departments. This specific fact further implies that the approach of strategic leadership is continually reshaping an environment that is forward-thinking as well as innovation driven. The mid-level tenure of the respondents (3–6 years for 60.3%) may also indicate that they are well-positioned to lead the aspects of change, even without being resistant to it.

RQ2: In what ways does transformational leadership enhance employee engagement and alter the impact of other leadership styles on digital transformation outcomes?

The responses gathered from the survey clearly suggest that the approach of following transformational leadership is beneficial for promoting higher engagement. This is because it significantly helps in building pride and trust. It is true that most of the respondents, which is 58.1%, felt that they have inspired pride at a moderate level (“2”).

But a higher score was noted in the matter of communicating values as well as displaying confidence. This fact shows that transformational leaders effectively contribute to increasing the levels of motivation for their employees (Garad et al., 2022). This change towards the positive direction may notably enhance the aspects of digital transformation with the help of creating buy-in at all organisational levels. In a contrasting manner, more transactional behaviours, like keeping the focus on various immediate tasks, may not be able to provide the same deep level of commitment. The alignment that is present between the aspects of transformational leadership and the key human-centric values provides a clear explanation of why it is seen as more influential on the aspects of digital progress (Fenwick et al., 2024). The responses of the survey have also reflected that while the aim of most of the leaders is to go beyond self-interest (66.6% scored themselves "3"), there is still some room that may need future growth to establish a fully empowered team.

RQ3: To what extent does transactional leadership contribute to innovation capacity and digital transformation success relative to transformational leadership?

Transactional leadership plays a crucial, helpful, but more limited role in the process of driving innovation (Zhao & Sun, 2024). The main focus of transactional leadership is on the aspects of structure, following rules, as well as offering rewards if any performance seems to be good. This specific approach is noted to be very beneficial for keeping things steady as well as productive. This fact is especially evident in various industries like manufacturing, which comprises over half of the respondents from the survey. On the other hand, it is also true that transactional leadership often lacks the energy and the inspiration that is crucial for promoting newer ideas in a forward direction (Dong, 2023). The results gathered from the survey have shown that approximately 58.1% of the leaders have rated themselves only moderately in the matter of making others feel proud or overwhelmed, or acting beyond their own interests. This specific fact clearly suggests that the approach of transactional leadership may not be highly successful in response to inspire teams to be creative or take bold steps. A large number of participants also worked in HR, where there is a need for a stronger focus on growth and development. This group

comprises 60.8% of the total respondents. These specific areas have seemed to be a better fit with the core values of transformational leadership. This is because transformational leadership encourages innovation through trust, motivation, as well as shared values (Wijaya et al., 2022). The overall finding suggests that transactional leadership may have its own unique values and benefits. But it does not seem to drive innovation as effectively as an approach that is more transformative.

RQ4: How does the alignment of high-performance HRM practices with transformational leadership styles affect overall digital transformation results and innovation performance?

This hypothesis was not empirically tested due to survey length constraints and the exclusion of HRM items. While this study did not empirically test the effect of high-performance HRM practices due to their exclusion from the survey, the conceptual model and supporting literature suggest that combining transformational leadership with aligned HRM strategies may strengthen digital transformation and innovation outcomes (Eduzor, 2024). A considerable number of respondents worked in human resources, indicating awareness of tools such as talent development, performance-based rewards, and people-centered workplace practices which conceptually align with transformational leadership values. Moreover, most participants (69.1%) had between 7 to 10 years of experience in their sectors, suggesting a professional environment potentially open to change and people-oriented strategies. Although these patterns were observed anecdotally and through respondent profiles, further research is needed to empirically validate the moderating role of HRM practices in this relationship.

5.2 Pedagogical Implications

The findings of the study offer various important insights that may be of higher benefits for educators as well as the training professionals in leadership and organisational development. At the first point, there is a clear reference for putting greater emphasis on the aspects of transformational leadership in different types of businesses and HRM education. The surveys have shown some crucial as well as important traits, including

expressing values, displaying confidence, as well as earning respect. These specific traits are of higher value and are linked to successful innovation. The approach of teaching these specific qualities with the help of real-world case studies, reflective practice, as well as experiential learning may make a significant contribution to the development of more capable leaders.

The programs of developing leadership need to keep their proper focus on the approach of helping managers in the matter of achieving growth in areas that seem more difficult to them. The survey results have reflected that many leaders are highly confident about their values and self-belief. But it is also true that there are very few leaders who believe that they are successful in making others feel proud. They are also not very sure about whether they meet the needs of their team first or not. These specific qualities are crucial, and they can also be achieved with the help of a loop of continuous learning. Daily schedule of coaching, mentoring, as well as nd open group discussions may provide support to the managers that they need to achieve improvement in their respective careers (Hussey & Campbell-Meier, 2021). The achievement of these specific skills may offer significant benefits to the leaders in becoming more thoughtful, people-focused, as well as effective in their roles. This is how the leaders may enhance their ability to help their teams grow with them.

Most respondents were noted to be professionals who are in the middle stage of their respective careers and have the degree of postgraduation. This is why it is very important to have ongoing training. Flexible schedules for training as well as modular courses that may highly align with the busy work lives may be the best fit for these respondents. It is also noted from the data that most of the respondents belong to the sectors of manufacturing and HR. This is why the approach of implementing real examples from these sectors will be of higher benefit. On the other hand, the approach of real examples also significantly helps learners in the matter of establishing a strong connection between theory and the practical challenges that they face at work (Marougkas et al., 2023). This will make learning more useful as well as easier to apply for the learners.

Employing high-performance HRM in the training of leadership is the key. This is especially applicable when there is a notable percentage of HR professionals in the group of learners. The approach of teaching how different types of HR practices, like reviewing performances and staff engagement, link with the styles of leadership, may contribute to driving real change. Training on the development of leadership ideals should also cover learning how to build a culture that supports new ideas (Kezar, 2023). On the other hand, it is also very crucial for the leadership training sessions to make the most of digital tools and lead flexible, responsive teams. The maintenance of these specific factors makes learning leadership more practical as well as useful in today's workplaces that are experiencing rapid change.

The overall results that have been achieved throughout the journey of the study reflect that the sessions on leadership education should be built on a proper mix of theory and real-world skills. This specific approach not only helps the leaders understand ideas but also act effectively on them. Leadership education will be better able to prepare people to lead change, encourage new ideas, as well as handle digital challenges with more confidence and success if they follow a proper blend of theoretical and practical learning.

5.3 Conclusion

This specific study has efficiently looked at how different styles of leadership create effects on the aspects of innovation and digital change, especially among professionals who are working in HR and manufacturing. The main focus of the study was especially on the transformational and transactional styles of leadership. On the other hand, the study has also explored how high-performance HRM practices may support a good style of leadership.

The results that have been gathered throughout the study offer a clear reflection of the fact that there is a crucial role of transformational leadership plays a crucial role in the matter of encouraging innovation and the involvement of employees. Most of the respondents who have participated in the study felt confident in values like respect, confidence, and purpose, which are the traits of transformational leaders. These specific

values seem to significantly help different organisations in the matter of adapting and achieving growth. Still, some limitations are also noted from the findings of the study. Some of the leaders were found to struggle with the task of motivating others and keeping focus on the overall goal of the team. These specific areas may be improved in future with the help of proper training on leadership. The overall finding of the study reflects that transactional leadership can be more beneficial for day-to-day tasks. But it may lack benefits in driving major changes. This specific fact reflects that leaders need to follow both transformational and transactional styles of leadership. Transactional for structure and transformation to achieve progress. This is how the overall findings suggest that strong practices of HR combined with transformational leadership may significantly help organisations achieve growth and adapt in the digital age. Supporting and developing these kinds of leaders should be a top priority for future success.

5.4 Recommendations

The findings of this study have brought forward several limitations and loopholes in the industry. Thus, the industry is in need of a set of practical and strategic recommendations that can be used by organisations, HR professionals, leadership trainers, and policymakers to enhance leadership effectiveness in driving innovation and digital transformation.

Strengthening Transformational Leadership Capabilities: The study has revealed that transformational leadership behaviours mostly reflect in articulating vision, displaying confidence, and building respect. However, moderate scores in key emotional and motivational behaviours like “going beyond self-interest” and “instilling pride” suggest that there is further room for improvement. Organisations should thus give more emphasis on leadership development programs that would go beyond basic skills training to focus on deeper behavioral competencies.

Integration of Leadership and Digital Transformation Training: The manufacturing industry is changing rapidly and hence, there is a need to level up the pace of digital transformation. As such, leadership development programs should focus on

increasing digital literacy and change management. Organisations should also design programs that would help them to link leadership behaviours to the need of the hour and the required method for technological adoption, innovation cycles, and digital project implementation. Leaders should be trained to manage cross-functional digital teams with which they can make better decisions and support a culture of experimentation.

Bringing High-Performance HRM Practices with Leadership Goals: There is an urgent need to align HRM practices with leadership goals. This way, HRM can ensure that transformational leadership can be amplified when supported by strategic HR practices. Therefore, HR departments must embed leadership-supportive systems such as performance-linked incentives, innovation-based appraisal criteria, and flexible role design. Moreover, HR strategies should also focus on uplifting their activities to meet the digital transformation goals. Organisations can create a feedback loop in this manner so that the relationship between leadership behaviours and HR metrics can stay balanced. This would ensure that leadership initiatives are producing measurable improvements in innovation capacity and engagement.

Encourage Culturally Adaptive Leadership Practices: The cross-national composition of the respondent base has shown a strong concentration from Turkiye. Most responses are from Turkiye while France and Tunisia also have a major part to play in the study. The study has provided the need for cultural sensitivity in leadership approaches. Thus, leadership development programs should be so customized that they can account for differences in power distance, communication norms, and team dynamics across cultures. In multinational organisations, policymakers should offer region-specific leadership modules. These modules would help in attaining cultural competence workshops that will improve leader effectiveness in varied contexts.

Addressing Gender and Sectoral Representation Gaps:

The study has a representation gap which calls for the underrepresentation of women. The study was focused on the manufacturing industry and the number of women shows that there is a need to promote inclusive leadership development. Organisations

and policymakers should support gender equality in leadership pipelines and invest in leadership capacity across diverse sectors. Future research and interventions should aim for broader representation to ensure findings and strategies are generalizable and equitable.

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