



The Role of Leadership Styles in Enhancing Supply Chain Resilience: The Mediating Effect of Innovation Capabilities

Najwa Mohammad Ashal*

(Type: Full Article). Received: 09 March 2025, Accepted: 05 February 2026

Accepted Manuscript, First Online

Abstract:

Objective: This study examines the impact of transformational, transactional, and authentic leadership styles on Supply Chain Resilience (SCR) and investigates the mediating role of Innovation Capabilities (IC).

Methodology: Guided by the Resource-Based View (RBV) and Dynamic Capabilities Theory, data were collected from 350 executive managers in Jordanian technology and telecommunications companies and analyzed using Structural Equation Modeling (SEM).

Key Findings: The results show that leadership styles significantly influence SCR. Authentic and transactional leadership positively affect innovation capabilities, while transformational leadership has no significant direct effect. Innovation capabilities mediate the relationship between leadership styles and SCR.

Conclusions: Leadership plays a critical role in enhancing supply chain resilience, with innovation capabilities serving as an important mechanism linking leadership to resilience outcomes.

Recommendations: Organizations should strengthen authentic and transactional leadership practices and invest in innovation capabilities to improve supply chain resilience and adaptability.

Keywords: Supply Chain Resilience, Transformational Leadership, Transactional Leadership, Authentic Leadership, Innovation Capabilities

دور أنماط القيادة في تعزيز مرونة سلسلة التوريد: الدور الوسيط لقدرات الابتكار

نجوى محمد أشعل*

تاريخ التسليم: 9/3/2025 ، تاريخ القبول: 5/2/2026

الملخص:

الهدف: تبحث هذه الدراسة في أثر أنماط القيادة التحويلية والتبادلية والأصيلة على مرونة سلسلة التوريد (SCR)، وتستقصي الدور الوسيط لقدرات الابتكار (IC).

المنهج: استناداً إلى منظور الموارد (RBV) ونظرية القدرات الديناميكية، جُمعت البيانات من 350 مديرًا تنفيذيًا في شركات التكنولوجيا والاتصالات الأردنية، وتم تحليلها باستخدام نمذجة المعادلات الهيكلية (SEM).

أهم النتائج: أظهرت النتائج أن أنماط القيادة تؤثر بصورة معنوية في مرونة سلسلة التوريد. كما تبين أن القيادة الأصيلة والقيادة التبادلية تؤثران إيجابيًا في قدرات الابتكار، في حين لا تمتلك القيادة التحويلية تأثيرًا مباشرًا معنويًا. كذلك، تتوسط قدرات الابتكار العلاقة بين أنماط القيادة ومرونة سلسلة التوريد.

الاستنتاجات: تؤدي القيادة دورًا محوريًا في تعزيز مرونة سلسلة التوريد، حيث تمثل قدرات الابتكار آلية مهمة تربط بين القيادة ونتائج المرونة.

التوصيات: ينبغي على المؤسسات تعزيز ممارسات القيادة الأصيلة والتبادلية والاستثمار في قدرات الابتكار لتحسين مرونة سلسلة التوريد وقدرتها على التكيف.

الكلمات المفتاحية: مرونة سلسلة التوريد، القيادة التحويلية، القيادة التبادلية، القيادة الأصيلة، قدرات الابتكار

1 Department of Digital Supply Chain, Faculty of Business, Middle East University, Amman, Jordan.

* Corresponding author: Dr. Najwa Mohammad Ashal, nashal@meu.edu.jo
orcid: 0000-0003-0124-8887

1 قسم سلاسل التوريد الرقمية، كلية الأعمال، جامعة الشرق الأوسط، عمان، الأردن.
* الباحث المراسل: د. نجوى محمد أشعل
nashal@meu.edu.jo
orcid: 0000-0003-0124-8887

1. Introduction

In an era characterized by cross-border integration and global economic interdependence, supply chain resilience has become a key managerial priority for organizations seeking to mitigate the effect of disruptions. Supply Chain Resilience (SCR) is defined as the capacity to anticipate, absorb, adapt to, and recover from unexpected events, and continue to perform its basic operation (Christopher & Peck, 2004; Ponomarov & Holcomb, 2009). There is an increasing urgency to strengthen the supply chain to foreseeable and unpredictable shocks, such as a natural disaster, pandemic, intra or international geopolitical instabilities (Wieland & Wallenburg, 2013). Leadership styles play a critical role and be key drivers of organizational adaptability and innovation. Previous studies identified several styles of leadership as particularly relevant in dynamic business contexts (Walumbwa et al., 2008; Nasereddin & Sharabati, 2016). Transformational leaders could inspire and intellectually stimulate their followers (Bakker et al., 2023). Transactional leaders preserve follower performance through structured systems of corrective actions and rewards that boost goal attainment and compliance. However, authentic leadership is characterized by openness, moral integrity, and value-driven interpersonal relationships (Walumbwa et al., 2008).

In addition, there are various recommendations to examine how the various leadership styles affect supply chain resilience in multiple contexts (Coşkun & Erturgut, 2025). Examining innovation capabilities is critical because it could affect an organization's ability to continuously create value, adapt, and sustain competitive advantage in dynamic changing business environments (Damanpour, 2018).

Although various leadership styles, such as empowering, ethical, paternalistic, charismatic, and passive leadership, have been recognized in the literature, this research has primarily focused on three styles: transformational, transactional, and authentic leadership. These styles are particularly relevant in dynamic business environments, where leadership plays a critical role in shaping organizational innovation and flexibility (Grantham-Caston and DiCarlo, 2023). Transformational leaders

are more interested in influencing and thought-provoking subordinates (Lei et al., 2022), whereas transactional leaders use organized incentives and punishments to ensure performance (Casida and Parker, 2011; Rasheed et al., 2024). Authentic leaders, on the other hand, focus on value-based relationships, transparency and ethical behavior (Ramírez-Herrero et al., 2024). Despite extensive research on leadership and innovation within organizations, limited empirical comparison of these three leadership styles in relation to supply chain resilience and innovation capabilities has been given (Sharief, 2024). Specifically, this gap is becoming more important as supply chain networks become more complex, and resilience depends on continuous improvement and coordinated strategies (Ali et al., 2024).

In changeable global markets, strategic organizational direction driven by various leadership styles plays a crucial role in fostering a strong environment for risk management (Liu et al., 2024). This leadership commitment could stimulate internal innovation capabilities (Perdana, 2025).

This study aims to present theoretical and practical contributions by examining the effect of leadership styles in terms of (transformational, transactional, and authentic leadership) on supply chain resilience with innovation capabilities as a mediating variable.

2. Literature Review

2.1. Supply Chain Resilience

Supply Chain Resilience (SCR) has attracted lots of literature and research interest in view of its importance in maintaining business operations in the face of risks (Cooper, 2025). The literature has defined it as a supply chain's capacity to forecast, absorb, adapt to, and bounce back from disruptive events (Wieland & Wallenburg, 2013). Some of the fundamental approaches to the enhancement of SCR are by increasing flexibility within the sourcing process, by ensuring strategic inventory management, fostering collaborative partnerships, and by ensuring that sound information exchange systems are in place (Tukamuhabwa et al., 2015).

2.2. Leadership Styles

Leadership is one of the most critical determinants of organizational performance and culture of a company (Northouse, 2025). Leadership theory has developed over time, moved from early trait, behavioral, and contingency perspectives to contemporary approaches that emphasize the dynamic interaction between leaders, followers, and organizational contexts. Transformational, transactional, and authentic are considered from the contemporary leadership theories as each offering distinct mechanisms through which leaders influence employee attitudes, behaviors, and organizational outcomes (Dinh et al., 2014).

2.2.1. Transformational Leadership

Transformational leadership is defined by the leader's ability to articulate and coax followership through an inspiring vision, stimulating their intellects, and attending to their individual concerns (Arnold et al., 2009). As a result of creating an environment of trust and self-confidence, transformational leaders provoke employees to think and find solutions to problems, work in teams, and learn (Adeoye et al., 2025). According to the research, this type of leadership has been associated with the following positive organizational results: employee involvement, job satisfaction, and creativity (Gumusluoglu & Ilsev, 2009). Within the supply chain literature, transformational leaders can facilitate effective communication and mutually supportive objectives that may lead to an improvement in collaboration among supply chain partners, which may help create a more robust supply chain (Da et al., 2025).

2.2.2. Transactional Leadership

In contrast to transformational leadership, which is based on the ideas of vision and inspiration, transactional leadership is based on structure of rewards and punishment (Mabasa & Eresia-eke, 2025). Transactional leaders clarify performance expectations and employees' roles, continuously monitor performance, and take corrective action when deviations occur (Catherin et al., 2025). Within supply chain contexts, the consistency related

with transactional leadership contribute to prove operational processes, reducing process variability, and enhancing the implementation of standardized quality procedures, thus improving overall supply chain quality (Jacobs and Mafini, 2019).

2.2.3. Authentic Leadership

Authentic leadership is characterized by more self-awareness, more authentic or act genuine in their dealings, and more often than not, there is congruence between the leader's values and the actions he or she takes (Walumbwa et al., 2008). Ethical leadership is another way through which leaders can create trust since they articulate ethical standards, promote dialogue and include followers in the decision-making process (Gardner et al., 2011).

2.3. Innovation Capabilities

Innovation capabilities are defined as the factors that can help an organization to create and apply new inventions, goods or services (Iddris, 2016). These capabilities may be technological (such as R&D spending), structural (for example, multifunctional groups), or behavioral (for example, an organization culture that supports innovation). Innovation capabilities have been found to be positively related to competitiveness (Abou-Moghli 2025; Taqa, 2025; Freije et al., 2022). Within supply chain context, innovation can be seen in better logistics, enhanced technological applications or new partnership models that can enhance flexibility.

2.4. Integrating Leadership Styles, Innovation Capabilities, and Supply Chain Resilience

In a growing body of literature, leadership is posited to indirectly influence organizational resilience by pushing innovation thinking and practices in organizations (Casida & Parker, 2011; Lei et al., 2022). Different leadership styles transformational, transactional, authentic promote unique behaviors and attitudes that in turn incubate how the organization responds to volatility (Masood & Afsar, 2017; Rasheed et al., 2024). For instance, transformational leadership may increase the creative capacity necessary to create cutting edge contingency plans, while transactional leadership may ensure

operational discipline in the implementation of those plans. In fact, authentic leadership enhances the firm's environment and exchanges with the society by developing a culture of trust that allows for open communication and uniform ethical standards in the environment (Rasheed et al., 2024). In parallel, innovation capabilities have been identified as a key mediator between leadership practices and performance (Bahrami et al., 2022; Uhl-Bien & Arena, 2018).

3. Conceptual Model Based on Hypotheses

3.1 Theoretical Framework

This study examining transformational, transactional, and authentic leadership styles; innovation capabilities as a mediator; and supply chain resilience a dependent variable. The study outlines theoretical pillars of Resource Based View (RBV) and dynamic capability's insights as a lens to build the hypotheses and to illustrate possible interrelationships through which the leadership, innovation, and supply chain resiliency are connected. Resource-Based View and dynamic capabilities-based perspectives in order to offer a holistic, and yet parsimonious, explanation of how and why firms can develop and sustain supply chain resilience (Sharabati et al., 2024). The literature review, however, indicates that there are several gaps that are interconnected and require a more comprehensive investigation. First, there is a theoretical gap where various studies focus on one leadership style (often transformational) without paying attention to the other styles such as, (Feng et al., 2024; Afsar and Umrani, 2020; Mittal and Dhar, 2015). Moreover, other articles such as Wang and Feng, (2023) explore how Supply Chain Ethical Leadership (SCEL) affects green supply chain integration. Second, there is a gap in empirical research of how innovation capabilities mediate the relationship between these leadership styles and supply chain resilience (Ali et al., 2025; Taseer and Ahmed, 2022). These integrations could enhance the causal mechanisms through which leadership impacts organizational innovation and resilience in complex supply chain environments (Morshed et al., 2024; Reitsma et al., 2023). Third, there is a call for the future research from various articles to examine supply chain resilience in developing countries context such as (Tukamuhabwa et al., 2017).

The value of this research is to bridge these gaps and present a comprehensive framework which compare various leadership styles with the mediation of Innovation Capabilities, on Supply Chain Resilience in a developing economy the context of Jordan.

To address these gaps, this study examines the effect of each leadership styles (Transformational, Transactional, and Authentic) on the supply chain resilience, then the effect of the innovation capabilities as mediation in the relationship between the leadership styles and supply chain resilience, finally it examines the effect of innovation capabilities on supply chain resilience.

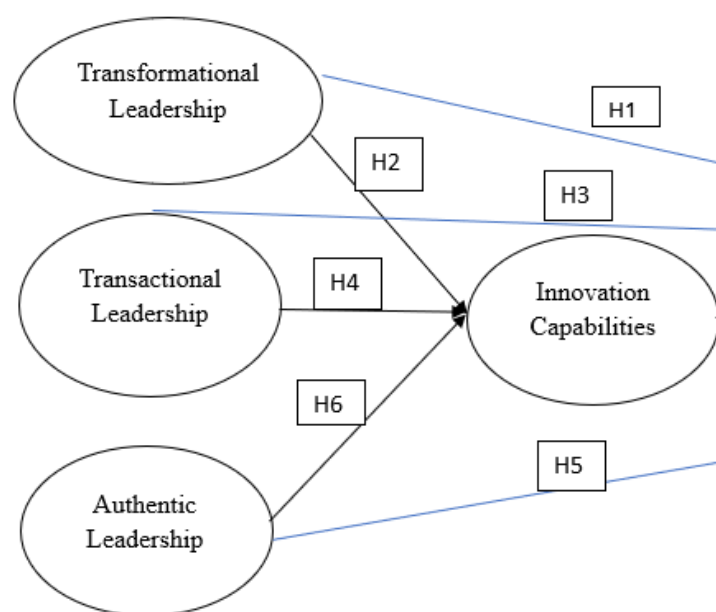


Figure1: Model of the Study

3.2 Hypothesis development

Transformational Leadership

Transformational Leadership involves the communication of a powerful vision, the inspiring of creative thinking and the fostering of followers' individual needs (Maani & Sluti, 1990). These leaders are inspirational motivation, idealized influence, individualized consideration and intellectual stimulation according to (Eisenbeiss et al., 2008; Vardarlier, 2020).

Transformational leaders enact a trustworthy setting, breeding creativity and pursuing common agendas (Gumusluoglu & Ilsev, 2009), which allows the organization to stay adaptive and resilient to disruption. However, in complex, interdependent systems like supply chains these behaviors can lead to more collaboration between partners, quicker decisions and preemptive solving of problems (Botma et al., 2012; Gottman et al., 1998).

H1: Transformational leadership has a positive effect on supply chain resilience.

In addition, capability to innovate, create and implement new ideas, processes or products (innovation capabilities) is important in rapidly changing environments (Grantham-Caston & DiCarlo, 2023; Weng et al., 2015). While transformational leaders often play an important role in developing these capabilities by encouraging open communication and creative experimentation (Liu et al., 2024). Therefore, innovation capabilities could be a pathway from transformative leadership to tangible enhancements in resilience in the event of unexpected supply chain disruptions (Yang et al., 2025). This leads to the second hypothesis regarding mediation:

H2: Innovation capabilities mediate the relationship between transformational leadership and supply chain resilience.

Transactional Leadership

Transactional Leadership employs contingent reward schemes and management by exception to ensure that it coaxes and leads people with an idealized body of structures in terms of rewards and punishments (Catherin et al., 2025; Mabasa and Eresia-eke, 2025). Such a type of leader will offer clear role descriptions and performance goals, enhance efficiency in procedures which is a significant factor in having credible operations. Therefore, organizations using well managed transaction

leadership practices can accomplish meeting demand schedules, implementing product quality, and cost control to contribute overall supply chain resilience (Langton and Mafini, 2022).

H3: Transactional leadership has a positive effect on supply chain resilience.

Clear performance metrics and stable operating procedures may encourage employees to experiment with incremental improvements, if rewards are designed to deliver innovative, not just incremental outcomes (Hautala, 2006). This structured environment can support innovation capabilities by specifying resources, time lines and expectations (Momani and Nour, 2019). Given that transactional leadership also improves supply chain resilience, both indirectly by encouraging incremental innovation and continuous improvement, it appears that this type of leadership plays a crucial role in supply chain management.

H4: Innovation capabilities mediate the relationship between transactional leadership and supply chain resilience.

Authentic Leadership

Authentic Leadership is about leader's self-awareness, relational transparency, balanced processing of information, and internalized moral perspective (Chaudhary & Panda, 2018; Kleynhans, 2022). Authentic leaders demonstrate how to align their values to organizational objectives so that the culture of organization is one of trust and open dialogue (Walumbwa et al., 2008). An atmosphere that facilitates supply chain resilience exists because partners tend to be ready to share critical information, coordinate response activities, and aid each other in the event of disruptions (Gardner et al., 2011). Because of this, authentic leaders may lead organizations with greater relational capabilities and greater capabilities to act quickly and cohesively in periods of ambiguity (Walumbwa et al., 2008).

H5: Authentic leadership has a positive effect on supply chain resilience.

Moreover, besides promoting direct impact, innovation capabilities, or the firm's ability to

come up with new ideas and implementing them to enable positive organizational change, can amplify the effect of authentic leadership on resiliency (Al Sarayreh et al., 2025). By focusing on open communication and ethical decision making, authentic leaders lower employees' fear of being judged or retaliated against (Yogananthan et al., 2025). With increased maturation of these capabilities, the organization becomes more responsive and flexible and is increasingly able to sense signals of potential disruption, develop plans for contingencies, and retool (Teece et al., 1997).

H6: Innovation capabilities mediate the relationship between authentic leadership and supply chain resilience.

Innovation Capabilities

Innovation Capabilities indicate an organization's capability to produce, convert, and introduce new ideas, products, or processes (Uhl-Bien & Arena, 2018). Organizational culture, resource allocation strategy and leadership practice that nurture experimentation and continuous improvement (García-Morales et al., 2012) tend to shape these capabilities. In the Resource Based View (RBV), innovation capabilities can be viewed as the intangible, crucial resource that can be inimitable, exhibit isolation and display ability to make a difference in business as identified by (Bahrami et al., 2022). The dynamic capabilities framework (Aral & Weill, 2007) suggests that firms that are repeatedly able to reconfigure or upgrade their innovation processes are more likely to adapt to rapidly changing environments.

Supply chain organizations show strong innovation capabilities when they optimize their logistical processes while developing new distribution models to implement digital solutions across supply chain operations (Al Jabri et al., 2024; Uhl-Bien & Arena, 2018). The novel supply chain innovations enable organizations to predict operational disruptions and ready themselves to adapt operational protocols when needed (González-Varona et al., 2021). Therefore, the supply chain resilience could be directly impacted by the

innovation capabilities. When it comes to companies that are systematic in refining processes and adopting new solutions, they develop the agility and responsiveness that is required to remain resilient to disruption (Kareem et al., 2025). In addition, innovation capabilities often act as a mediator in carrying out other leadership initiatives to more tangible outcomes of resilience (Azher et al., 2025; Khan et al., 2025)

H7: Innovation capabilities have a positive effect on supply chain resilience.

4. Research Methodology

4.1. Research Design and Context

This study employed a cross-sectional survey in the technology and telecommunications sectors in Jordan. The selection of these industries is due to their work in highly dynamic and extremely competitive environments and where the rapidity of innovation cycles and complex supply chains are essential for being competitive.

4.2. Population and Sampling

This research has been employed in a developing economy, the context of Jordan. The executive level managers in technology and telecommunications companies like CEOs, vice presidents and senior directors has been used as the study target population. Purposive sampling method was used to identify potential participants under the stakeholder organizational structure, who have direct influence over organizational strategy and operations. The respondents of 350 had been collected. For survey-based studies and structural equation modeling (SEM).

4.3. Measurement Instruments

The survey instrument comprised **four main sections**:

1. **Demographic and Firmographic Data:** Questions included respondent age, gender, years of manager experience and basic company information (size, market scope and

work segment within the tech/telecom sector).

2. **Leadership Styles:** Transformational, transactional and authentic leadership were measured using adapted, validated scales from literature (Walumbwa et al., 2008) for authentic leadership). Each item was rated on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree).

3. **Innovation Capabilities:** Items were generated by adapting existing scales related to a firm's capacity for product, process, and strategic innovation (Damanpour, 2018; Le & Lei, 2019; Li et al., 2025) R&D investment levels, openness to new ideas, cross functional collaboration and a culture supportive for experimentation questions.

4. **Supply Chain Resilience:** Items in this section were adapted from (Christopher & Peck, 2004; Herburger et al., 2024) and tested the firms' ability to anticipate, absorb, adapt to, and recover from disruptions. Their firms' flexibility, contingency planning, relationship quality with suppliers, and capability of reorganizing logistics under pressures were evaluated by respondents.

Descriptive statistics and reliability checks were run using Statistical Package for the Social Science (SPSS), whereas structural equation modeling (SEM) was performed using AMOS and SmartPLS.

Table 1: Demographic and Firmographic Profile of Respondents (N = 350)

Variable	Category	Frequency
Age	30 years or below	30
	31–40 years	150
	41–50 years	120
	Above 50 years	50
Gender	Male	210
	Female	140
Years of Managerial Experience	Less than 5 years	40
	5–10 years	100
	11–15 years	140
	Above 15 years	70
Segment (Tech/Telecom)	Telecommunications	110
	Software/IT Services	70
	Hardware/Equipment Manufacturers	80
	Cloud & Specialized Services	90

Table 1 summarizes the demographic and firmographic profile of the 350 respondents. Most participants were aged 31 - 40 years, were male, had 11- 15 years of managerial experience, and represented diverse technology and telecommunications industry segments.

4.4. Reliability and Validity

The survey was reviewed for clarity and face validity by a panel of academic experts who had work experience in organizational behavior or supply chain management. To assess construct validity, exploratory factor analysis (EFA) then confirmatory factor analysis (CFA) was performed. Cronbach's alpha was computed to verify internal consistencies (≥ 0.70 for each construct). The convergent and discriminant validity using average variance extracted (AVE) and Fornell-Larcker criterion (Fornell & Larcker, 1981) has been checked.

5. Data Analysis

Table 2: Factor loadings.

Constructs	Items	Factor Loadings	Cronbach's Alpha	C.R.	(AVE)
Transformational Leadership	TL -1	0.776	0.871	0.907	0.66
	TL -2	0.802			
	TL -3	0.878			

Transactional Leadership	TL-4	0.766	0.779	0.848
	TL-5	0.831		
	TRL-1	0.653		
	TRL -2	0.832		
	TRL -3	0.743		
Authentic Leadership	TRL -4	0.613	0.781	0.851
	TRL-5	0.777		
	AL-1	0.656		
	AL-2	0.647		
	AL-3	0.680		
Innovation Capabilities	AL -4	0.639	0.729	0.807
	AL -5	0.790		
	AL -6	0.630		
	IC-1	0.634		
	IC -2	0.616		
Supply Chain Resilience	IC -3	0.611	0.806	0.859
	IC -4	0.733		
	IC-5	0.775		
	SCR- 1	0.803		
	SCR- 2	0.788		
	SCR- 3	0.686	0.806	0.859
	SCR- 4	0.698		
	SCR-5	0.600		
	SCR-6	0.674		

Table 2 presents the measurement model results. All constructs demonstrated acceptable factor loadings, internal consistency (Cronbach's Alpha and Composite Reliability), and convergent validity (AVE), indicating that the measurement scales are reliable and valid for the study.

Table 3: HTMT

	Authentic Leadership	Innovation Capabilities	Supply Chain Resilience	Transactional Leadership	Transformational Leadership
Authentic Leadership					
Innovation Capabilities	0.842				
Supply Chain Resilience	0.874	0.509			
Transactional Leadership	0.898	0.781	0.502		
Transformational Leadership	0.846	0.713	0.639	0.893	

Table 3 reports the HTMT results for discriminant validity. All HTMT values were within the acceptable threshold, confirming adequate discriminant validity among the study constructs.

Table 4: Fornell–Larcker

	Authentic Leadership	Innovation Capabilities	Supply Chain Resilience	Transactional Leadership	Transformational Leadership
Authentic Leadership	0.798				
Innovation Capabilities	0.684	0.777			
Supply Chain Resilience	0.644	0.428	0.711		
Transactional Leadership	0.571	0.552	0.424	0.628	
Transformational Leadership	0.581	0.528	0.530	0.481	0.613

Table 4 presents the Fornell–Larcker criterion results. The findings confirm satisfactory discriminant validity, as each construct showed greater shared variance with its own indicators than with other constructs.

Table 5: R-Squared

	R-square	R-square adjusted
Innovation Capabilities	0.645	0.642
Supply Chain Resilience	0.633	0.628

Table 5 presents R-Squared Analysis, it shows that both Innovation Capabilities ($R^2 = 0.645$) and Supply Chain Resilience ($R^2 = 0.633$) achieve strong explanatory power from the predictor variables. This performance demonstrates the fact that the model is highly consistent and also reflects the core association between relations.

6. Hypotheses Testing

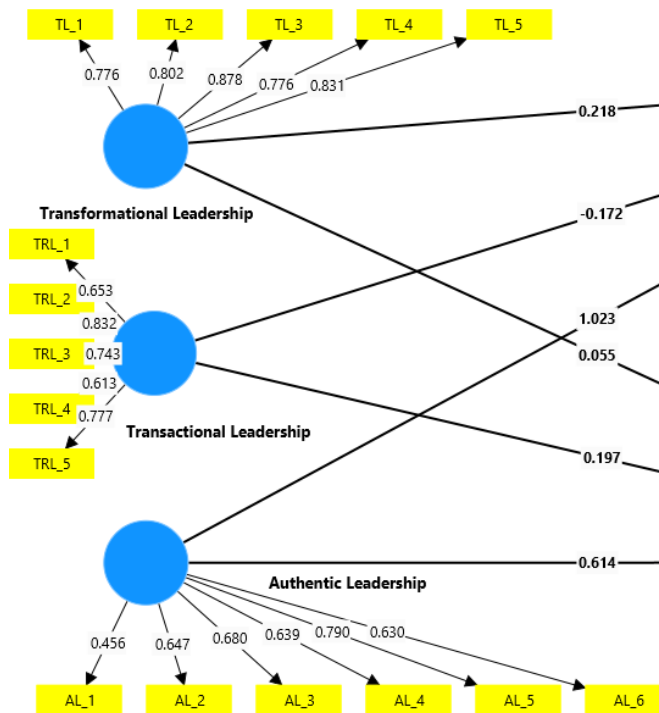


Figure 2. Structural Model

Table 6: Hypotheses testing estimates

Hypothesis	St. Beta	St. Error	T-Statistics	P-values	Decision
Authentic Leadership -> Innovation Capabilities	0.614	0.063	9.786	0.000	Supported
Authentic Leadership -> Supply Chain Resilience	0.778	0.052	15.015	0.000	Supported
Innovation Capabilities -> Supply Chain Resilience	0.399	0.062	6.458	0.000	Supported
Transactional Leadership -> Innovation Capabilities	0.055	0.065	3.022	0.003	Supported

Innovation Capabilities					
Transactional Leadership -> Supply Chain Resilience	0.251	0.061	4.082	0.000	Supported
Transformational Leadership -> Innovation Capabilities	0.055	0.074	0.753	0.451	Unsupported
Transformational Leadership -> Supply Chain Resilience	0.196	0.064	3.070	0.002	Supported

Table 6 illustrates that Authentic Leadership has significant positive effects on both Innovation Capabilities ($\beta = 0.614$, $p < 0.001$) and Supply Chain Resilience ($\beta = 0.778$, $p < 0.001$). Transactional Leadership also has significant positive effects on Innovation Capabilities ($\beta = 0.197$, $p = 0.003$) and Supply Chain Resilience ($\beta = 0.251$, $p < 0.001$). Furthermore, Innovation Capabilities have a significant positive effect on Supply Chain Resilience ($\beta = 0.399$, $p < 0.001$). Transformational Leadership has a significant positive effect on Supply Chain Resilience ($\beta = 0.196$, $p = 0.002$) but does not have a statistically significant effect on Innovation Capabilities ($\beta = 0.055$, $p = 0.451$). Overall, the findings support six of the seven proposed hypotheses, demonstrating that leadership behaviors and innovation capabilities play important roles in enhancing supply chain resilience, however the hypothesized effect of transformational leadership on innovation capabilities was not supported.

7. Discussion

This section evaluates the study's key findings, with particular emphasis on the hypothesis that was not supported. The analysis confirmed most of the proposed relationships in the conceptual framework as the findings support six of the seven proposed hypotheses; however, additional research is needed to explain why Transformational Leadership did not have a statistically significant effect on Innovation Capabilities ($\beta = 0.055$, $t = 0.753$, $p = 0.451$).

The lack of a significant relationship between transformational leadership and innovation capabilities contradicts much of the existing literature. According to research by (Perdana, 2025; Sitorus & Hendratmoko, 2024; Sosik et al., 1998) transformational leaders generate innovative outcomes because they inspire their teams while promoting creative thinking and proactive problem-solving approaches. Transformational leadership commonly includes actions that contest existing norms while creating new progression plans according to (Grantham-Caston & DiCarlo, 2023; Walumbwa et al., 2008). The relationship in this study indicates that transformational leadership effects may not exhibit a consistent direct linkage. Organizational culture together with resource availability and the specific industry context have the potential to moderate or mediate the transformational leadership and innovation relationship. Organizational support, as well as resource availability, is determined that bridges transformational leadership and good innovative outputs. Due to the restriction of its power by strict hierarchical structures in these organizations dominated by resource scarcity, transformational leadership approaches produce weaker innovative outcomes within them.

According to the context of Jordan's technology and telecom industry, transformational leadership may have little direct effect on innovative skills for the following reasons: The Telecommunications Regulatory Commission (TRC) oversees the industry, businesses contend with both limited R&D funding and outside geopolitical pressures. In these situations, organizational structures and compliance requirements may restrict flexibility, making it difficult for visionary appeals to produce creative results. Innovation and resilience appear to be more dependent on transactional leadership, which ensures that rules are followed and operations run smoothly, and authentic leadership, which fosters openness and trust.

Conclusions presented herein are further supported by data from this investigation, as well as data from previous research. A study conducted by (Jankelová, 2021) articulated

that operationalizing innovation requires the clear objectives and accountability measures which define transactional leadership along with reward systems. Different articles by (Eisenbeiss et al., 2008) (Jansen et al., 2006) obtained a strong correlation between transformational leadership and innovation performance within organizations having flat structures enabling team work. The studies indicate that the transformational leadership creates innovation that is supported and dynamic.

The rejection of this hypothesis may be caused by contextual variables and industry specific attributes. The participants in this research would mainly be individuals in the telecommunications and IT industries whose innovativeness is driven by technical prowess and the processes involved and not the leadership. The role of transactional leadership in the context of coordinating the character of tasks and efficiency becomes crucial in these particular situations since the data of the study displays a high positive correlation with the possibilities of innovation ($B = 0.197$, $p = 0.003$). The role of transformational leadership in innovation is indirect by mediating issues such as employee engagement programs and knowledge sharing and budget management systems.

The Study is consistent with the existing literature that casts doubts on the scope of transformational leadership functioning as a source of innovation. The research confirms that leadership effectiveness measures must comprise of an assessment of the environmental context and organizational structure. Companies should realize that transactional leadership approaches must be further endorsed with the transformational leadership in order to deliver definite innovation outcomes when operating in the structured and constraining technical surroundings.

It is yet to be conducted that there is a research gap that would require the test of potential moderating and mediating variables that influence the relationship between transformational leadership and the innovation potential of an organization. The organization culture along with motivation and availability of resources among employees offer constructive

research opportunities in this subject. Longitudinal studies can provide an in-depth insight into the dynamics of relationships during a period of time in different industrial settings.

The study shows that there is some understanding regarding the influence of leadership types on innovative practices on the basis of the rejected hypothesis. The article mentions the drawbacks to transformational leadership as a driver of innovation that illustrates the fact that its efficacy cannot be reduced to a unified and easy-solved issue. By using industry specific and context knowledge. This paper provides a superior balanced evaluation of leadership roles in developing innovation potential and supply chain strength.

8. Conclusion and Recommendation

The Study determines leadership approaches as the most important in the development of an innovation potential and more efficient supply chain survival capacity. It was established in the study that Authentic Leadership and Transactional Leadership exhibited a significant role in the performance of an organization in both a stable and a dynamic environment due to their skill in innovating and strengthening resilience. Transformational Leadership shows no evident correlation with Innovation Capabilities that indicate that more variables linked to organizational context may be mediators between the two to become effective.

A balanced leadership style should be used in businesses in the telecom and technology sector in Jordan. With the digital platforms and the introduction of 5G services and heightened cybersecurity demands making the market more competitive, the transparency, trust, and employee commitment can be provided through the means of the authentic leadership. Transactional leadership is also essential to the operations of the company to ensure stability in such a highly regulated environment, and this to enable the regulations of the Telecommunications Regulatory Commission to be adhered to. Lastly, the transformational leadership plays a significant part in inspiring long-term digital

transformation, development of vision, and encouragement of employees to adopt up-and-coming technologies.

Research revealed the relationship between the innovation capabilities in intricate systems to develop efficient supply chains resilience. Innovation organizations can be seen to have competitive advantage, but the same processes present resiliency issues especially where disruptions are not managed effectively. The results contribute to the scientific learning and practice because they explore the refined two-way interactions of leadership innovation activities and resilience within telecommunications and IT industry.

To ensure that any organization excels, it must attain a certain leadership strategy that is the blend of transactional strategies among the best business schools, coupled with the transformational processes as part of a strategic process of management, which will provide an environment where innovation and resilience may co-evolve. Transformational leadership helps telecommunication businesses to evolve due to the 5G revolution, whereas the operational guidelines present in the regulatory environment can be adhered to with the help of transactional leadership.

Organizations have to replicate the same leadership strategies to match that performance depending on the demand under particular industries. Transactional leadership efficiency and the innovation and strategic flexibility that transformational leadership provide benefit the quick deployment and the customer focused project nature of IT services.

As it makes operations move towards the critical successes, a positive organizational culture becomes critical for functionality. Team connection and inspiration, and employee trust in being able to innovate are enabled by successful work environments. Flexible scheduling coupled with routine team activities make possible the creative group work ideal in the software development organizations.

For policymakers seeking dual outcomes for innovation with sustainability, attempts should be focused on developing leadership cultivation programs to combine transformational leadership principles with

traditional transactional methods. IT managers will train under government training courses to become leaders who catalyze measurable results within a dynamic environment.

Most effective public policies build organizational motivators that will force organizations to generate new ideas coupled with designing effective defense systems. Government sponsored grants complemented by tax incentives are mechanisms to entice company focused funds into efficiency optimization tools and supply chain technology tools. In a situation whereby the logistics companies incorporate with artificial intelligence systems for the predictability of supply chain, the companies should be able to benefit financially by controlling the operations against the disruptions.

8.1 Limitations of the Study

8.1.1 Theoretical Limitations and future research

The Study investigates telecom and IT sectors, future research could test the framework with other sectors. Moreover, the study sample focused on the executive level managers in technology and telecommunications companies like CEOs, vice presidents and senior directors as the study target population, future research could test the framework with other levels and compare the results.

This research compares three leadership styles by examining the effect of each style, future research could examine the synergistic or conflicting effects of conducting multiple leadership styles and its effect on the Supply Chain Resilience with the Innovation Capabilities as a mediator.

This research used the innovation capabilities as a mediator although it did not examine the other possible sources of influence via organizational culture, employee engagement, and technological infrastructure that could provide insight on leadership-resilience relationships.

This research does not use control variables. Future research could incorporate control variables, such as firm size, industry subsector, and environmental volatility.

8.1.2 Practical Implications

Organizations could utilize the research tool as a diagnostic instrument to assess the impact of various leadership styles on innovation capabilities and supply chain resilience. Future research may concentrate on enhancing the framework and tool by adding control variables and other leadership styles.

9. Disclosure Statement

Ethical approval and consent to participate:

This study was conducted in accordance with applicable ethical standards. Participation was voluntary and informed consent was obtained from all respondents.

Availability of data and materials: The data supporting the findings of this study are available from the corresponding author upon reasonable request.

Author Contributions: The author solely contributed to the conception, design, data collection, analysis, interpretation, and writing of this manuscript.

Conflict of Interest: The author declares no conflict of interest.

Funding: This research received no external funding.

Acknowledgments: The author gratefully acknowledges Middle East University, Jordan, for its academic support and for providing a conducive research environment that facilitated the completion of this study.

Statement on Thesis: This manuscript is not extracted from Master's thesis or a Doctoral dissertation.

9. بيان الإفصاح

الموافقة الأخلاقية والموافقة على المشاركة: أجريت هذه الدراسة وفقا للمعايير الأخلاقية المعمول بها. وكانت المشاركة طوعية، وتم الحصول على الموافقة المستنيرة من جميع المشاركين.

توافر البيانات والمواد: البيانات الداعمة لنتائج هذه الدراسة متاحة لدى المؤلف المسؤول عند الطلب.

مساهمات المؤلف: ساهم المؤلف وحده في وضع فكرة الدراسة، وتصميمها، وجمع البيانات، وتحليلها، وتفسيرها، وكتابة هذه المخطوطة.

تضارب المصالح: يقر المؤلف بعدم وجود أي تضارب في المصالح.

التمويل: لم تتلق هذه الدراسة أي تمويل خارجي.

الشكر والتقدير: يتقدم المؤلف بخالص الشكر والتقدير إلى جامعة الشرق الأوسط، الأردن، على دعمها الأكاديمي، ولتوفيرها بيئة بحثية مناسبة أسهمت في إنجاز هذه الدراسة.

بيان الاستئلال من رسالة علمية: هذه المخطوطة ليست مستقلة من رسالة ماجستير أو أطروحة دكتوراه.

References:

- Abou-Moghli, A. (2025). The interplay between knowledge management and organizational performance measurement through the mediating effect of innovation capability. *Knowledge and Performance Management*, 9(1), 45. [https://doi.org/10.21511/kpm.09\(1\).2025.04](https://doi.org/10.21511/kpm.09(1).2025.04)
- Adeoye, M. A., Baharun, H., & Munawwaroh, I. (2025). Transformational leadership in education: harmonising accountability, innovation and global citizenship. *Kharisma: Jurnal Administrasi Dan Manajemen Pendidikan*, 4(1), 14-30. <https://doi.org/10.59373/kharisma.v4i1.68>
- Afsar, B., & Umrani, W. A. (2020). Transformational leadership and innovative work behavior: The role of motivation to learn, task complexity and innovation climate. *European journal of innovation management*, 23(3), 402-428. <https://doi.org/10.1108/ejim-12-2018-0257>
- Al Jabri, M. A., Shaloh, S., Shakhoor, N., Haddoud, M. Y., & Obeidat, B. Y. (2024). The impact of dynamic capabilities on enterprise agility: The intervening roles of digital transformation and IT alignment. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(2), 100266. <https://doi.org/10.1016/j.joitmc.2024.100266>
- Al Sarayreh, A., Alqahtani, M. M., Hunitie, M. F. A., Al-E'wesat, M. S., Al-Tit, A. A., Mohammad, A. A. S., ... & Aissa al-fugaha, Z. N. (2025). The Impact of Authentic Leadership on Creativity in the Commercial Banks. In *Intelligence-Driven Circular Economy: Regeneration Towards Sustainability and Social Responsibility—Volume 2* (pp. 481-495). Cham: Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-74220-0_37
- Ali, I., Gligor, D., Balta, M., Bozkurt, S., & Papadopoulos, T. (2024). From disruption to innovation: The importance of the supply chain leadership style for driving logistics innovation in the face of geopolitical disruptions. *Transportation research part E: logistics and transportation review*, 187, 103583. <https://doi.org/10.1016/j.tre.2024.103583>
- Ali, I., Gligor, D., Balta, M., & Papadopoulos, T. (2025). Leadership style's role in fostering supply chain agility amid geopolitical shocks. *Industrial marketing management*, 124, 212-223. <https://doi.org/10.1016/j.indmarman.2024.11.015>
- Aral, S., & Weill, P. (2007). IT assets, organizational capabilities, and firm performance: How resource allocations and organizational differences explain performance variation. *Organization science*, 18(5), 763-780. <https://doi.org/10.1287/orsc.1070.0306>
- Arnold, D. M., Burns, K. E., Adhikari, N. K., Kho, M. E., Meade, M. O., & Cook, D. J. (2009). The design and interpretation of pilot trials in clinical research in critical care. *Critical care medicine*, 37(1), S69-S74. <https://doi.org/10.1097/ccm.0b013e3181920e33>
- Azher, E., Javed, S., Siddiqui, H. M. A., Zafar, F., & Ahmed, O. (2025). Exploring the impact of digital supply chain integration on the firm's performance with mediation and moderation role of knowledge sharing and environmental turbulence. *Social Science Review Archives*, 3(1), 567-581. <https://doi.org/10.70670/sra.v3i1.341>
- Bahrami, M., Shokouhyar, S., & Seifian, A. (2022). Big data analytics capability and supply chain performance: the mediating roles of supply chain resilience and innovation. *Modern Supply Chain Research and Applications*, 4(1), 62-84. <https://doi.org/10.1108/mscra-11-2021->

- Bakker, A. B., Hetland, J., Olsen, O. K., & Espevik, R. (2023). Daily transformational leadership: a source of inspiration for follower performance?. *European management journal*, 41(5), 700-708. <https://doi.org/10.1016/j.emj.2022.04.004>
- Botma, Y., Botha, H., & Nel, M. (2012). Transformation: are nurse leaders in critical care ready?. *Journal of nursing management*, 20(7), 921-927. <https://doi.org/10.1111/j.1365-2834.2011.01339.x>
- Casida, J., & Parker, J. (2011). Staff nurse perceptions of nurse manager leadership styles and outcomes. *Journal of Nursing Management*, 19(4), 478-486. <https://doi.org/10.1111/j.1365-2834.2011.01252.x>
- Catherin, F. C., Ardi, A., & Sunarjo, R. A. (2025). The Effect of Transactional Leadership, Compensation, and Organization Culture on Employee Performance with Work Motivation as a Mediating Variable. *Transekonomika: Akuntansi, Bisnis Dan Keuangan*, 5(1), 195-214. <https://doi.org/10.55047/transekonomika.v5i1.847>
- Chaudhary, R., & Panda, C. (2018). Chaudhary, R., & Panda, C. (2018). Authentic leadership and creativity: the intervening role of psychological meaningfulness, safety and work engagement. *International Journal of Productivity and Performance Management*, 67(9), 2071-2088. <https://doi.org/10.1108/IJPPM-02-2018-0082>
- Christopher, M., & Peck, H. (2004). Building the Resilient Supply Chain. *The International Journal of Logistics Management*, 15(2), 1-14. <https://doi.org/10.1108/09574090410700275>
- Cooper, M. (2025). A qualitative analysis on negotiation tactics and supplier relationship management in multinational supply chains. <https://doi.org/10.20944/preprints202501.0615.v1>
- Coşkun, A. E., & Erturgut, R. (2025). Does institutionalization enhance logistics performance in international businesses? A moderated and mediated model. *Operations Management Research*, 18(3), 1045-1066. <https://doi.org/10.1007/s12063-025-00542-3>
- Da, B. O. U., & Rany, S. A. M. (2025). Transformational leadership style in higher education: Scoping literature review. *Journal of General Education and Humanities*, 4(1), 13-34. <https://doi.org/10.58421/gehu.v4i1.313>
- Damanpour, F. (1991). Organizational innovation: A meta-analysis of effects of determinants and moderators. *Academy of management journal*, 34(3), 555-590. <https://doi.org/10.4324/9780429449482-8>
- Dinh, J. E., Lord, R. G., Gardner, W. L., Meuser, J. D., Liden, R. C., & Hu, J. (2014). Leadership theory and research in the new millennium: Current theoretical trends and changing perspectives. *The leadership quarterly*, 25(1), 36-62. <https://doi.org/10.1016/j.leaqua.2013.11.005>
- Eisenbeiss, S. A., Van Knippenberg, D., & Boerner, S. (2008). Transformational leadership and team innovation: integrating team climate principles. *Journal of applied psychology*, 93(6), 1438. <https://doi.org/10.1037/a0012716>
- Feng, T., Si, Z., Jiang, W., & Tan, J. (2024). Supply chain transformational leadership and resilience: the mediating role of ambidextrous business model. *Humanities and Social Sciences Communications*, 11(1), 1-12. <https://doi.org/10.1057/s41599-024-03099-x>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 18(1), 39-50. <https://doi.org/10.2307/3151312>
- Freije, I., de la Calle, A., & Ugarte, J. V. (2022). Role of supply chain integration in the product innovation capability of servitized manufacturing companies. *Technovation*, 118, 102216.

<https://doi.org/10.1016/j.technovation.2020.102216>

- García-Morales, V. J., Jiménez-Barrionuevo, M. M., & Gutiérrez-Gutiérrez, L. (2012). Transformational leadership influence on organizational performance through organizational learning and innovation. *Journal of business research*, 65(7), 1040-1050. <https://doi.org/10.1016/j.jbusres.2011.03.005>
- Gardner, W. L., Coglisier, C. C., Davis, K. M., & Dickens, M. P. (2011). Authentic leadership: A review of the literature and research agenda. *The leadership quarterly*, 22(6), 1120-1145. <https://doi.org/10.1016/j.leaqua.2011.09.007>
- González-Varona, J. M., López-Paredes, A., Poza, D., & Acebes, F. (2021). Building and development of an organizational competence for digital transformation in SMEs. *Journal of Industrial Engineering and Management*, 14(1), 15–24. <https://doi.org/10.3926/jiem.3279>
- Gottman, J. M., Coan, J., Carrere, S., & Swanson, C. (1998). Predicting marital happiness and stability from newlywed interactions. *Journal of Marriage and the Family*, 5-22. <https://doi.org/10.1002/job>
- Grantham-Caston, M., & DiCarlo, C. F. (2023). Leadership styles in childcare directors. *Early Childhood Education Journal*, 51(1), 105-114. <https://doi.org/10.1007/s10643-021-01282-2>
- Gumusluoglu, L., & Ilsev, A. (2009). Transformational leadership, creativity, and organizational innovation. *Journal of business research*, 62(4), 461-473. <https://doi.org/10.1016/j.jbusres.2007.07.032>
- Hautala, T. M. (2006). The relationship between personality and transformational leadership. *Journal of Management Development*, 25(8), 777-794. <https://doi.org/10.1108/02621710610684259>
- Herburger, M., Wieland, A., & Hochstrasser, C. (2024). Building supply chain resilience to cyber risks: a dynamic capabilities perspective. *Supply Chain Management: An International Journal*, 29(7), 28-50. <https://doi.org/10.1108/SCM-01-2023-0016>
- Iddris, F. (2016). Measurement of innovation capability in supply chain: an exploratory study. *International Journal of Innovation Science*, 8(4), 331-349. <https://doi.org/10.1108/ijis-07-2016-0015>
- Jacobs, E., & Mafini, C. (2019). Transactional leadership, supply chain quality and business performance in the fast-moving consumer goods industry. *Journal of Transport and Supply Chain Management*, 13(1), 1-13. <https://doi.org/10.4102/jtscm.v13i0.442>
- Jankelová, N. (2021, March). The key role of strategically and people-oriented hrm in hospitals in slovakia in the context of their organizational performance. In *Healthcare* (Vol. 9, No. 3, p. 255). MDPI. <https://doi.org/10.3390/healthcare9030255>
- Jansen, J. J., Van Den Bosch, F. A., & Volberda, H. W. (2006). Exploratory innovation, exploitative innovation, and performance: Effects of organizational antecedents and environmental moderators. *Management science*, 52(11), 1661-1674. <https://doi.org/10.1287/mnsc.1060.0576>
- Kareem, S., Fehrer, J. A., Shalpegin, T., & Stringer, C. (2025). Navigating tensions of sustainable supply chains in times of multiple crises: A systematic literature review. *Business Strategy and the Environment*, 34(1), 316-337. <https://doi.org/10.1002/bse.3990>
- Khan, S. A. R., Sheikh, A. A., Shamsi, I. R. A., & Yu, Z. (2025). The implications of artificial intelligence for small and medium-sized enterprises' sustainable development in the areas of blockchain technology, supply chain resilience, and closed-loop supply chains. *Sustainability*, 17(1), 334. <https://doi.org/10.3390/su17010334>
- Kleynhans, D. J. (2022). *Dynamic organisational capabilities and employee flourishing in a precarious work context: the role of authentic leadership and trust* (Doctoral dissertation, North-West University (South Africa)).

<https://doi.org/10.4102/sajip.v47i0.1877>

- Langton, I., & Mafini, C. (2022). Transactional leadership and its effect on supply chain management in manufacturing SMEs. *EUREKA: Social and Humanities*, (5), 10-30. <https://doi.org/10.21303/2504-5571.2022.002479>
- Le, P. B., & Lei, H. (2019). Determinants of innovation capability: the roles of transformational leadership, knowledge sharing and perceived organizational support. *Journal of knowledge management*, 23(3), 527-547. <https://doi.org/10.1108/JKM-09-2018-0568>
- Lei, L. P., Lin, K. P., Huang, S. S., Tung, H. H., Tsai, J. M., & Tsay, S. L. (2022). The impact of organisational commitment and leadership style on job satisfaction of nurse practitioners in acute care practices. *Journal of nursing management*, 30(3), 651-659. <https://doi.org/10.1111/jonm.13562>
- Li, N., Yao, Q., Tang, H., & Lu, Y. (2025) Li, N., Yao, Q., Tang, H., & Lu, Y. (2025). Is digitalization necessary? Configuration of supply chain capabilities for improving enterprise competitive performance. *Journal of Business Research*, 186, 114972. <https://doi.org/10.1016/j.jbusres.2024.114972>
- Liu, Y., Fang, W., Feng, T., & Xi, M. (2024). Blockchain technology adoption and supply chain resilience: exploring the role of transformational supply chain leadership. *Supply Chain Management: An International Journal*, 29(2), 371-387. <https://doi.org/10.1108/scm-08-2023-0390>
- Maani, K. E., & Sluti, D. G. (1990, January). A Conformance—Performance Model: Linking Quality Strategies to Business Unit's Performance. In *Manufacturing Strategy: The Research Agenda for the Next Decade Proceedings of the Joint industry University Conference on Manufacturing Strategy Held in Ann Arbor, Michigan on January 8–9, 1990* (pp. 85-96). Dordrecht: Springer Netherlands. https://doi.org/10.1007/978-94-009-2189-4_10
- Mabasa, T. R., & Eresia-Eke, C. E. (2025). Span-of-control's role at the intersection of transactional leadership and employee commitment. *Acta Commercii-Independent Research Journal in the Management Sciences*, 25(1), 1325. <https://doi.org/10.4102/ac.v25i1.1325>
- Masood, M., & Afsar, B. (2017). Transformational leadership and innovative work behavior among nursing staff. *Nursing inquiry*, 24(4), e12188. <https://doi.org/10.1111/nin.12188>
- Mittal, S., & Dhar, R. L. (2015). Transformational leadership and employee creativity: mediating role of creative self-efficacy and moderating role of knowledge sharing. *Management decision*, 53(5), 894-910. <https://doi.org/10.1108/md-07-2014-0464>
- Morshed, A., Maali, B., Ramadan, A., Ashal, N., Zoubi, M., & Allahham, M. (2024). *The impact of supply chain finance on financial sustainability in Jordanian SMEs. Uncertain Supply Chain Management*, 12(4), 2767–2776. <https://doi.org/10.5267/j.uscm.2023.12.013>
- Nasereddin, Y. A., & Sharabati, A. A. A. (2016). Universities' leadership style in the light of governance principles. *International Review of Management and Business Research*, 5(3), 1092-1114. https://www.yacoubnasereddin.com/site_media/media_downloads/43.pdf?utm_source=chatgpt.com
- Northouse, P. G. (2025). *Leadership: Theory and practice*. Sage publications. https://amberton.edu/wp-content/uploads/2023/10/HRT6570_E1_Winter2024.pdf
- Momani, K. M. D. K. A., & Nour, A. N. I. (2019). The influence of intellectual capital on the return of equity among banks listed in Amman Stock Exchange. *International Journal of Electronic Banking*, 1(3), 220-232. <https://doi.org/10.1504/ijebank.2019.099613>
- Perdana, M. S. (2025). The effect of transformational leadership values on worker performance. *Research Horizon*, 5(1), 125-132. <https://doi.org/10.54518/rh.5.1.2025.471>

- Ponomarov, S. Y., & Holcomb, M. C. (2009). Understanding the concept of supply chain resilience. *The international journal of logistics management*, 20(1), 124-143. <https://doi.org/10.1108/09574090910954873>
- Ramírez-Herrero, V., Ortiz-de-Urbina-Criado, M., & Medina-Merodio, J. A. (2024). Intergenerational leadership: a leadership style proposal for managing diversity and new technologies. *Systems*, 12(2), 50. <https://doi.org/10.3390/systems12020050>
- Rasheed, R., Rashid, A., & Ngah, A. H. (2025). Role of leadership styles to foster innovative capabilities and green purchasing. *Journal of Global Operations and Strategic Sourcing*, 18(2), 328-348. <https://doi.org/10.1108/jgoss-05-2023-0047>
- Reitsma, E., Hilletoft, P., & Johansson, E. (2023). Supply chain design during product development: a systematic literature review. *Production Planning & Control*, 34(1), 1-18. <https://doi.org/10.1080/09537287.2021.1884763>
- Sharabati, A. A. A., Awawdeh, H. Z., Sabra, S., Shehadeh, H. K., Allahham, M., & Ali, A. (2024). The role of artificial intelligence on digital supply chain in industrial companies mediating effect of operational efficiency. *Uncertain Supply Chain Management*, 12(3), 1867-1878. <https://doi.org/10.5267/j.uscm.2023.12.009>
- Sharief, E. (2024). Leadership styles and organizational resilience in times of crisis in Sudan. *American Journal of Leadership and Governance*, 9(2), 26-37. <https://doi.org/10.47672/ajlg.1859>
- Sitorus, M. U., & Hendratmoko, H. (2024). The impact of transformational leadership, transactional leadership, and knowledge management on innovation mediated by human capital in the pharmaceutical industry in Indonesia. *Jurnal Komunikasi Dan Bisnis*, 12(1), 65-85. <https://doi.org/10.46806/jkb.v12i1.1103>
- Sosik, J. J., Kahai, S. S., & Avolio, B. J. (1998). Transformational leadership and dimensions of creativity: Motivating idea generation in computer-mediated groups. *Creativity research journal*, 11(2), 111-121. https://doi.org/10.1207/s15326934crj1102_3
- Taqi, S. B. A. (2025). The mediating role of remote communication on the relationship between electronic human resource management practices and organizational performance in Iraqi commercial banks. *Middle East Journal of Communication Studies*, 5(1), 2. <http://doi.org/10.71220/2585-005-001-001>
- Taseer, M. I., & Ahmed, A. (2022). The most effective leadership style in pursuit of resilient supply chain: Sequential mediation of flexibility and agile supply chain. *Pakistan Journal of Commerce and Social Sciences (PJCSS)*, 16(3), 387-423. <https://doi.org/10.64534/commer.2022.1055>
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic management journal*, 18(7), 509-533. [https://doi.org/10.1002/\(sici\)1097-0266\(199708\)18:7%3C509::aid-smj882%3E3.0.co;2-z](https://doi.org/10.1002/(sici)1097-0266(199708)18:7%3C509::aid-smj882%3E3.0.co;2-z)
- Tukamuhabwa, B., Stevenson, M., & Busby, J. (2017). Supply chain resilience in a developing country context: a case study on the interconnectedness of threats, strategies and outcomes. *Supply Chain Management: An International Journal*, 22(6), 486-505. <https://doi.org/10.1108/scm-02-2017-0059>
- Tukamuhabwa, B. R., Stevenson, M., Busby, J., & Zorzini, M. (2015). Supply chain resilience: definition, review and theoretical foundations for further study. *International journal of production research*, 53(18), 5592-5623. <https://doi.org/10.1080/00207543.2015.1037934>
- Uhl-Bien, M., & Arena, M. (2018). Leadership for organizational adaptability: A theoretical synthesis and integrative framework. *The leadership quarterly*, 29(1), 89-104. <https://doi.org/10.1016/j.leaqua.2017.12.009>

Vardarlier, P. (2019). Digital transformation of human resource management: digital applications and strategic tools in HRM. In *Digital business strategies in blockchain ecosystems: Transformational design and future of global business* (pp. 239-264). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-030-29739-8_11

Scientific Publishing.
<https://doi.org/10.4018/979-8-3693-5748-4.ch004>

Walumbwa, F. O., Avolio, B. J., Gardner, W. L., Wernsing, T. S., & Peterson, S. J. (2008). Authentic leadership: Development and validation of a theory-based measure. *Journal of management*, 34(1), 89-126.
<https://doi.org/10.1177/0149206307308913>

Wang, J., & Feng, T. (2023). Supply chain ethical leadership and green supply chain integration: a moderated mediation analysis. *International Journal of Logistics Research and Applications*, 26(9), 1145-1171.
<https://doi.org/10.1080/13675567.2021.2022640>

Weng, R. H., Huang, C. Y., Chen, L. M., & Chang, L. Y. (2015). Exploring the impact of transformational leadership on nurse innovation behaviour: A cross-sectional study. *Journal of nursing management*, 23(4), 427-439.
<https://doi.org/10.1111/jonm.12149>

Wieland, A., & Wallenburg, C. M. (2013). The influence of relational competencies on supply chain resilience: a relational view. *International journal of physical distribution & logistics management*, 43(4), 300-320.
<https://doi.org/10.1108/ijpdlm-08-2012-0243>

Yang, Q., Su, Q., Cui, H., & Capaldo, A. (2025). Realizing the npd benefits of the firm innovation strategy: The role of supply management and supply chain transformational leadership. *R&D Management*, 55(4), 1234-1250.
<https://doi.org/10.1111/radm.12750>

Yoganathan, S., Ullé, R. S., & Gopalan, B. (2025). Effectiveness of Leadership Qualities on Sustainable Supply Chain Practices: Achieving Operational Excellence-A Framework. In *Exploring Pillars of Sustainability for Modern Age Improvements* (pp. 65-86). IGI Global