

Fostering Service Innovation and Enhancing Firm Performance through a Nexus of Strategic Orientations: The Moderating Effect of Transformational Leadership

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Fostering Service Innovation and Enhancing Firm Performance through a Nexus of Strategic Orientations: The Moderating Effect of Transformational Leadership

ABSTRACT

Purpose – Drawing on the resource-based view (RBV) theory, this paper examines how market orientation (MO), learning orientation (LO), and technology orientation (TO) drive service innovation (SI) and enhance the performance of service firms. Additionally, it investigates how transformational leadership (TL) moderates the interplay among these strategic orientations in fostering SI.

Design/methodology/approach – This paper employs a quantitative research design to propose a research framework, which has been empirically tested through multiple regression analysis of survey data collected from 199 bank managers in first-, second-, and third-line positions in Jordan.

Findings – The findings reveal that MO, TO, and LO positively influence SI, which, in turn, enhances both the financial and non-financial performance of service firms. Additionally, TL strengthens the relationships between MO, LO, and SI, serving as a moderator. However, contrary to expectations, TL did not moderate the relationship between TO and SI.

Research limitations/approach – The cross-sectional research design employed in this study precluded causal inferences. Further, the research setting of this study is confined to the Jordanian banking sector, which may limit the generalizability of the findings.

Practical implications – The research highlights the importance of developing TL qualities in bank managers to effectively foster an organizational culture that integrates and harmonizes various strategic orientations, thus promoting SI.

Originality/value – Grounded in the RBV, this study widens SI literature by investigating the collective impact of MO, LO, and TO on fostering SI, as well as the moderating effect of TL on these interrelationships—an area that has not been previously examined in a single study.

Keywords: Market orientation, learning orientation, technology orientation, service innovation, strategic orientation, transformational leadership, firm performance

Paper type: Research paper

Introduction

In the increasingly competitive and dynamic modern markets characterized by rapid technological progressions paired with the heterogeneity of customers and their changing preferences and needs, the banking industry faces immense pressure to redefine their value creation logic by introducing innovative solutions (Bueno et al., 2024; Rabbani et al., 2023). More specifically, this requires banks to continuously upgrade their existing service offerings and introduce novel and innovative services, a process known as service innovation (SI) (Manohar et al., 2020; Tajeddini et al., 2020, 2024). Consequently, noteworthy SIs such as digital banking, chatbots, blockchain banking, machine learning, and robotic process automation have been recently introduced in the banking industry worldwide (Manohar et al., 2020).

The increased emphasis on fostering SI in the banking industry stems from its capacity to respond to market challenges more effectively and swiftly than conventional banks (Manser Payne et al., 2021). Prior literature identifies two main types of SIs in the banking industry in this regard: incremental and radical (Kumar et al., 2024; Mahavarpour et al., 2023). A bank's ability to balance radical and incremental innovations is crucial for its survival and enhancing both financial and non-financial performance (i.e., customer satisfaction, employee engagement, and capacity utilization). Radical innovation often requires significant learning and adopting new business strategies, whereas incremental innovations focus on improving existing business practices within current market conditions (Kumar et al., 2024). While incremental innovations enhance existing practices, radical innovations introduce entirely novel concepts that are novel to the market (Gustafsson et al., 2020). Both types of innovation are part of a cumulative learning process that supports a bank's survival and boosts overall performance in the long run (Manohar et al., 2020; Rabbani et al., 2023).

SI literature has been primarily dominated by studies focusing on defining, conceptualizing, and operationalizing the notion of SI in different service contexts (Mahavarpour et al., 2023; Wu et al., 2025). Prior literature reflects that SI is a complex social phenomenon combining creativity, intellectual content, technical capabilities, and market demand (Gustafsson et al., 2020). Consequently, recent research on SI emphasizes that service firms must develop an organizational culture that integrates intangible, market-based resources and capabilities—referred to as strategic orientations—to foster innovations (Arias-Pérez et al., 2021; Cheng & Sheu, 2017; Witell et al., 2016). However, how such a process unfolds in practice remains poorly understood (Patnaik et al., 2023; Peixoto et al., 2023). Further, since prior literature has conceptualized SI as both a process and an outcome, it is crucial to

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distinguish between them, with the process preceding the outcome (Mahavarpour, et al., 2023). Nevertheless, numerous studies on SI have concentrated on its role as an outcome, overlooking its critical function as a process that enhances service firm performance (e.g., Gustafsson et al., 2020; Kumar et al., 2024). Further empirical studies examining the role of SI as a process for enhancing firm performance in the banking industry are rare (Elia et al., 2023; Sheng & Ibrahim, 2019).

We address these voids in prior literature by examining how the nexus of different strategic orientations fosters SI within the banking industry. Among the various strategic orientations, we focus on three prominent ones that have garnered considerable attention in SI literature: MO, LO, and TO. MO involves fostering a culture and behaviours where customers, competitors, and markets are central to a firm’s activities (Gangwani & Bhatia, 2024); LO focuses on organizational values that drive explorative learning processes and commitment to creating and utilizing knowledge (Alerasoul et al., 2022); and TO refers to the extent to which firms prioritize acquiring and using advanced technologies to develop innovative market offerings (Gangwani & Bhatia, 2024). As implied, these three strategic orientations were particularly vital to the context of this study and, to the best of the researchers’ knowledge, have not been examined together in a single study in the banking industry. In other words, most studies on strategic orientation have concentrated on the individual direct effects of fostering SI (Sondhi et al., 2024), leaving the complementarity between these three orientations in fostering SI in single research largely unexplored (Reyes-Gómez et al., 2024).

When further exploring the links between strategic orientations and service innovation, the literature highlights that leadership style can significantly impact this relationship by fostering a supportive organizational climate (Gui et al., 2022). Among different leadership styles, the strategic management literature underscores the vital role that transformational leaders play in fostering strategic orientations that drive innovation and enhance performance in business firms (Shah et al., 2023; Yang et al., 2021). This is primarily because transformational leadership is the most widely recognized and applied leadership style linked to fostering strategic orientations and innovations. Additionally, transformational leaders foster organizational learning, encourage risk-taking, enhance decision-making, promote absorptive capacity, and cultivate a strong spirit of internal collaboration, which are necessary for promoting SIs. In this vein, recent studies have shown the impact of TL—encompassing idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration—on leveraging strategic orientations to foster SI in business firms (Yang et al., 2021; Gui et al., 2022). By taking insights from these arguments, this paper hypothesizes that

TL has a moderating effect on the relationships between MO, LO, TO, and SI in service firms—an area that has not been adequately explored in SI literature.

Building on the scholarly discourse presented, we aim to address the following research questions through the development and validation of a theoretically-driven conceptual framework grounded in the resource-based view (RBV).

1. Do MO, LO, and TO influence fostering SI in the banking industry?
2. Does TL moderate the interrelationships among MO, LO, TO, and SI in the banking industry?
3. Does SI influence the financial and non-financial performance of the banks?

We selected the RBV as the theoretical foundation of this paper because it is extensively recognized for demonstrating how both tangible and intangible firm resources contribute to competitive advantage (Ristyan et al., 2023; Ferreira & Ferreira, 2024; Tajeddini et al., 2024). Our study focuses explicitly on intangible firm resources, with particular emphasis on organizational culture, as demonstrated through the nexus of strategic orientations. Drawing from this perspective, the RBV directly relates to this study as we focus on how fostering a nexus of strategic orientations (i.e., MO, LO, and TO) that integrates intangible, market-based resources and capabilities drives SI and enhances performance. Using data from a questionnaire survey of 199 banking managers in Jordan, we conducted an empirical analysis employing multiple regression analysis. Our findings contribute to SI literature in three vital ways. First, grounded in the RBV, this empirical research widens SI literature by investigating the collective impact of MO, LO, and TO on fostering SI, an area that has not been explored collectively in a single study (Reyes-Gómez et al., 2024). In this attempt, this study further investigates the impact of SI on enhancing bank performance, addressing the gap in extant SI literature by investigating SI as a process. Second, this study adds to the SI literature by empirically examining the moderating effect of TL on the interrelationships among MO, LO, TO, and SI in service firms, which has received scant scholarly attention (Yang et al., 2021). Third, building on the RBV, this study proposes an integrated conceptual framework highlighting how the complementarity among different strategic orientations drives SI, considering the mediating role of SI and the moderating role of TL. This framework has been empirically tested in the banking industry in Jordan—a developing country that has not yet received sufficient attention in the SI literature (Al-Hawary et al., 2020; Alkhatib & Valeri, 2024). In doing so, the findings of this study provide a novel perspective for developing nations that are susceptible to challenges yet dedicated to fostering service innovations in the banking sector to enhance its competitiveness.

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The remainder of the paper is structured as outlined below. The following section critically evaluates the literature and establishes the context for creating hypotheses. The next section describes the research methods used, followed by a thorough discussion of the study findings. Finally, the empirical findings are discussed and compared with the extant literature, and through that, the study's theoretical contributions and practical implications are delineated.

Theoretical Background and Hypotheses Development

Resource-based View (RBV) Theory

The RBV theory forms the theoretical foundation of this study. Penrose (1959) delivered pioneering insights into the RBV theory, highlighting the essential role of firm resources in driving business growth. Extant literature on the RBV theory conceptualizes a business firm as a unique assemblage of diverse resources that collectively create a sustained competitive advantage (Barney, 1991, 1997). Firm resources encompass both tangible (i.e., technological, physical, organizational, and financial) and intangible (i.e., data and information, technical expertise, managerial acumen, efficient procedures, organizational culture, and innovation) resources (Wernerfeldt, 1984). The current research focuses explicitly on intangible resources, emphasizing organizational culture, as demonstrated through the nexus of strategic orientations.

Further, the RBV theory significantly relates to enhancing firm performance because it posits that firm resources provide the foundation for creating capabilities that can lead to improved performance over time (Ristyan et al., 2023; Ferreira & Ferreira, 2024; Shah et al., 2025). The RBV theory emphasizes that firm resources are the foundation of firm capabilities, which are defined as complex routines that determine how efficiently firms convert inputs into outputs (Ferreira & Ferreira, 2024). Since this study centres on SI, SI capability is the primary focus of our research (Figure 1).

Strategic Orientations as Organizational Culture

Strategic orientation is defined as the “*strategic directions implemented by a firm to create the proper behaviours for the continuous superior performance of the business*” (Gatignon & Xuereb, 1997, p. 78). Prior studies examining strategic orientations have emphasized the importance of fostering shared values and behaviours within business (Hakala, 2011). When strategic orientation is integrated across all levels of a business firm, it evolves into an organizational culture. (Pehrsson, 2016). Organizational culture is an intangible resource, and

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3 deploying these resources—through various strategic orientations—can have varying impacts
4 on the organization (Büschgens et al., 2013).

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6 Among the different strategic orientations available, this paper concentrates on three
7 well-established ones that have received extensive attention in SI literature: MO, LO, and TO.
8 MO has been specifically selected for this paper, as it is widely recognized as a key determinant
9 in fostering innovation within business firms (Tajeddini, 2015). One of the most studied
10 strategic orientations that complements MO is LO. Scholars (e.g., Baker & Sinkula, 1999;
11 Farrell, 2000) have argued that MO can only foster innovation and enhance firm performance
12 when combined with LO. In addition to LO, another strategic orientation highlighted by
13 management scholars is TO. For instance, Hakala (2011) argued that having both MO and TO
14 is crucial in fostering SI because MO focuses on customers and competitors, while TO centres
15 on the products, services, or technologies a firm offers.

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17 MO refers to the extent to which a business places the customer at the core of its
18 operations and decision-making processes. MO involves a culture and behaviours that put the
19 customer at the heart of a business firm's operations (Jaworski & Kohli, 1996). This customer-
20 centric approach enables market-oriented firms to be competitive, eventually leading to
21 tremendous success (Van Raaij & Stoelhorst, 2008). Market-oriented firms accomplish higher
22 performance by aligning with customer needs through a strong focus on customers or by
23 fostering an organizational culture dedicated to creating exceptional value (Esteban et al., 2002;
24 Van Raaij & Stoelhorst, 2008).

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26 LO is conceived as a fundamental attitude toward learning and reflects the role of
27 managers and business firms in encouraging organizational learning processes (Alerasoul et
28 al., 2022). Similarly, LO is seen as organizational culture influencing a business firm's
29 propensity to generate and utilize knowledge (Baker et al., 2022; Pira et al, 2025). It is a crucial
30 organizational resource because it enables firms to sustain their competitive advantage by
31 continually enhancing their ability to process and act on market information more swiftly than
32 their competitors (Magut & Kinyua, 2022). Business firms that excel in acquiring and
33 transferring knowledge are better equipped to adapt their behaviours, fostering innovation and
34 responding effectively to rapidly changing dynamics in a turbulent business environment
35 (Hakala, 2011; Baker et al., 2022).

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37 A core principle of TO is that the long-term success of business firms is mostly
38 effectively achieved through the development and implementation of innovative technology
39 solutions (Rupp et al., 2021). In other words, technologically oriented firms invest their
40 resources in acquiring cutting-edge technologies to develop new products, processes, and
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3 services (Zhani et al., 2021). Consequently, creativity and innovation act as fundamental
4 organizational norms and values in a technology-oriented business firm, shaping its business
5 strategies and processes (Mubarak & Petraite, 2021).
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8 In summary, scholars in the strategic management literature support the notion that MO,
9 LO, and TO are interconnected (Bado, & Dunakhir, 2024; Parray, 2020). Also, the prior
10 literature suggests that each of these orientations positively influences SI. However, most of
11 these studies have not examined their combined impact on fostering SI within a single study
12 that exclusively focuses on all three orientations together (Ibarra-Cisneros et al., 2024).
13 Therefore, in this study, we hypothesize that SI and superior performance are most effectively
14 achieved when complementary orientations are implemented together, as seen in the
15 integration of MO, LO, and TO.
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24 ***Service Innovation (SI)***

25 Innovation has become a vital priority in the highly dynamic modern markets, prompting
26 researchers to explore how businesses innovate and how these innovations are disseminated to
27 other firms and individuals (Gustafsson et al., 2020; Mendoza-Silva, 2021). However, most
28 prior literature predominately centred on product innovation, often overlooking SI (Tajeddini
29 et al., 2024; Taques et al., 2021). SI has predominantly been explored from a conceptual
30 standpoint, with limited empirical investigation (Gustafsson et al., 2020). Rogers (2003)
31 defined innovation as “an idea, practice, or object perceived as new by either an individual or
32 a business firm.” Although Rogers’s definition of innovation applies to the service context,
33 crafting a specific definition of SI is vital to capture its unique characteristics, such as
34 intangibility. SI involves creating a superior service that is perceived as novel and helpful to a
35 specific target audience (Gustafsson et al., 2020).
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45 Since services play a vital role in every business firm as it has become central to its
46 strategies and operations (Blichfeldt & Faillant, 2021), SI can significantly add value for
47 business firms (Gustafsson et al., 2020; Gamage et al., 2025). Further, SI is closely associated
48 with enhancing customer value by shaping a customer’s perceived preference for a market
49 offering’s attributes, performances, and outcomes (Tajeddini et al., 2020). As market
50 environments evolve, the factors defining customer value will likely change with time.
51 Consequently, generating value through SI often necessitates business firms anticipating future
52 customer needs (Vargo et al., 2020). Firms must anticipate environmental changes to deliver
53 superior customer value while developing new services. This often necessitates integrating new
54 knowledge with the firm's existing knowledge base, solid managerial support, adequate
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resource commitment, and, most importantly, an appropriate organizational culture that fosters SI (Vargo et al., 2024).

Further, because of economic liberalization and changes in economic policy, the service industry, including the banking industry, has been flourishing in many developing countries in recent years (Manohar et al., 2020). Although developing countries have increasingly focused on SI, there is limited literature on this topic, with most research instead concentrating on product innovation and technological capabilities (Bhutto et al., 2023). Consequently, the following sections discuss how complementarity among different strategic orientations creates a healthy organizational culture that fosters SI, particularly referring to the banking industry in Jordan. In Jordan, a developing country, SI has received insufficient attention, even though the banking industry has been experiencing rapid growth, and the service sector has become a significant sector of the economy (Al-Hawary et al., 2020; Alkhatib & Valeri, 2024).

Market Orientation (MO) and Service Innovation (SI)

Although research on the impact of MO on innovation has been expanding in recent years (Tajeddini et al., 2006; Grinstein, 2008), most studies were predominantly focused on product innovation, often overlooking the role of SI in this relationship (Newman et al., 2016). However, most scholars and industry practitioners recently recognized the need to foster innovations in the service sector (Gustafsson et al., 2020). Consequently, research has started focusing on the impact of MO on fostering SI (Cheng & Krumwiede, 2012; Feng et al., 2021).

Concerning SI, its success typically hinges on customer acceptance (Gustafsson et al., 2020; Vargo et al., 2020). In other terms, the success of SI depends on its ability to identify and respond to new service opportunities swiftly (Feng et al., 2021). Firms with a robust MO excel because they can efficiently gather, process, and utilize market information (Newman et al., 2016). This capability enables them to swiftly identify and address changing customer needs, resulting in timely SI that delivers exceptional benefits and superior quality compared to alternatives (Newman et al., 2016; Feng et al., 2021). Thus, it is reasonable to assume that a substantial degree of MO induces service firms to develop and implement strategies that focus on creating and satisfying customers through continuous service refinements (Feng et al., 2021). It also drives the establishment of systems and processes that foster the development of new services. This leads us to formulate the following hypothesis.

H₁: MO has a positive impact on fostering SI in the banking industry.

Technology Orientation (TO) and Service Innovation (SI)

In general, TO drives the development and adoption of advanced and innovative technologies, thus enabling business firms to achieve a competitive edge (Rupp et al., 2021). More specifically, TO is fundamental to fostering innovations in business firms (Mubarak & Petraite, 2021; Zhani et al., 2021). It involves leveraging advanced technologies such as artificial intelligence (AI), blockchain, cloud computing, and the Internet of Things to create new market offerings or improve existing ones, all aimed at addressing the evolving needs and preferences of customers (Zhani et al., 2021).

Although technology is considered a vital determinant of fostering innovations, technology adoption and TO have been slower in the service sector than in manufacturing (Opazo-Basáez et al., 2022). TO is crucial in promoting SI, as it enables and accelerates these innovations. TO enables service firms to understand how harnessing advanced technologies better address customer needs and requirements and also how to anticipate customer satisfaction (Arias-Pérez et al., 2021; Opazo-Basáez et al., 2022). For instance, AI enables service firms to automate routine tasks and deliver personalized services. Blockchain ensures secure and transparent transactions, while cloud computing provides scalability and robust data analytics capabilities. Surprisingly, despite the growing role of TO in fostering SI, the existing literature has largely overlooked this aspect, especially within the context of the banking industry (Mubarak & Petraite, 2020; Opazo-Basáez et al., 2022). Thus, we decided to address this void in the literature by formulating the following hypothesis.

H₂: TO has a positive impact on fostering SI in the banking industry.

Learning Orientation (LO) and Service Innovation (SI)

LO emphasizes the need to create and develop new insights to drive changes in business firms (Baker et al., 2022). LO involves continuously enhancing and expanding employees' skills and knowledge (Alerasoul et al., 2022). This approach fosters the development of innovative methods for interacting with customers and acquiring new technical and interpersonal skills, thus transforming the value-creation logic (Magut & Kinyua, 2022). Many scholars (e.g., Alerasoul et al., 2022; Baker et al., 2022; Kumar et al., 2020) suggest that a higher level of LO facilitates business firms to adopt participative decision-making and improve firm innovativeness, enhancing competitiveness in the long run. Consequently, LO and innovation are crucial foundations for future organizational success and essential for driving strategic change (Baker et al., 2022).

Regarding the banking industry, some scholars recently posited that LO positively enhances bank managers' proactive and innovative capabilities, driving new service

development and improvements to existing ones (Al-Hawary et al., 2020). Consequently, based on the above discourse, the following hypothesis is proposed:

H₃: LO has a positive impact on fostering SI in the banking industry.

Moderating Effect of TL

When examining the links between strategic orientations and SI, the literature highlights that leadership style can significantly influence this relationship by fostering a supportive organizational climate (Gui et al., 2022). Among various leadership styles, such as transactional and servant leadership, the strategic management literature emphasizes the crucial role of TL in promoting strategic orientations that drive innovation and improve performance in business firms (Yang et al., 2021). This is primarily because TL is characterized by leaders who inspire their followers to take risks and take ownership of their results (Gui et al., 2022) compared to other leadership styles. This, in turn, fosters a creative environment and motivates employees to pursue innovative work (Yang et al., 2021). By doing so, transformational leaders establish high standards for excellence and quality in their followers' work. Several scholars (e.g., Chen et al., 2014; Liu & Lee, 2019) argue that this leadership behaviour strengthens the relationships among strategic orientations and fostering SI since the full potential of the complementarity of the strategic orientations can only be effectively realized when a firm's employees create innovations that surpass the competition in both quality and speed to market.

Since service firms with high levels of MO, LO, and TO are likely to pioneer new services that significantly surpass existing offerings (Arias-Pérez et al., 2021; Han & Zhang, 2021), they need employees committed to achieving best-in-class service development and refinement outcomes. Further, transformational leaders foster high expectations among all their followers from different functional departments by urging them to collaborate and interact to meet the high expectations (Banks et al., 2016). This collaboration enhances communication and aligns activities crucial for utilizing the full potential of strategic orientations to foster SI (Yang et al., 2021; Gui et al., 2022). Since strategic orientations are integral to organizational culture, effective integration to promote SI requires contributions and coordination from all functional areas (Yang et al., 2021). Therefore, we assume that:

H₄: TL moderates the relationship between SI and MO (a), TO (b) and LO (c) in the banking industry.

Service Innovation and Business Performance

SI has been shown to impact firm performance in extant literature positively (Feng et al., 2021). However, scholars have not reached consistent conclusions about how this relationship prevails

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between SI and firm performance (Tajeddini et al., 2020; Woo et al., 2021). The discussion is largely dominated by two main schools of thought regarding this relationship. One school of thought strongly suggests that SI is critical to enhancing the financial performance of service firms (Snyder et al., 2016; Feng et al., 2021). As they emphasized, on the one hand, SI can improve firm performance by breathing new life into existing services (Feng et al., 2021). By refining existing services with new features, the value-added nature of SI allows a service firm to enter new markets and attract new customers, thus directly contributing to the enhancing financial performance of the firms (Gök & Peker, 2017). On the other hand, SI enables the creation of entirely new services, allowing firms to penetrate new market segments. The new service development allows service firms to generate a new source of revenue for the firm's financial growth (Snyder et al., 2016; Feng et al., 2021).

The other school of thought argues that SI has had a positive effect primarily on the non-financial performance of service firms (Feng et al., 2021; Maletič et al., 2021). Scholars following this line of inquiry have demonstrated that SI positively impacts various factors, including customer satisfaction, customer loyalty, employee satisfaction, internal process efficiency, and overall firm competitiveness (Lexutt, 2020). Since this paper seeks to evaluate service firm performance from both financial and non-financial perspectives, the final two hypotheses are formulated based on the discussion above as follows:

H₅: SI positively influences financial (a) and non-financial performance of the banks.

Please place Figure1 here

Methodology

The proposed study model and associated hypotheses have been empirically tested within the banking sector of Jordan, a research context that remains relatively underexplored in the literature on Service Innovation (SI) (Al-Hawary et al., 2020; Alkhatib & Valeri, 2024). Given that the banking industry is a crucial economic pillar in Jordan, currently experiencing significant innovation and revitalization (Alkhatib, 2022), it was deemed the ideal setting for data collection. Although the Jordanian banking sector encompasses both Islamic and non-Islamic banks, we opted to focus solely on non-Islamic banks to enhance the validity and applicability of our findings to the banking industry in other developing countries. Consequently, all non-Islamic banks operating in Jordan were identified as the study population, using data from the Central Bank of Jordan. The questionnaire for this study was initially developed in English and subsequently translated into Arabic by a Jordanian academic

researcher fluent in the language. To ensure conceptual equivalence and minimize variability in local Arabic usage, two independent skilled translators conducted a back-translation process. Following the completion of this process, the accuracy of the measurement scales in the Jordanian context was validated by comparing and reconciling discrepancies, in accordance with established guidelines from the literature (Kowal, 2024). We also carefully reviewed each question after translation to confirm that the original meaning remained intact for Jordanian participants, as recommended by Klotz et al. (2023). Furthermore, we performed exploratory factor analyses (EFA) and confirmatory factor analyses (CFA) to assess the reliability of the measurement scales within the Jordanian banking context.

No matter how much care is taken during the process to maintain the constructs' original meaning, the reliability and validity of the measurement scales could still be in jeopardy (Kowal, 2024). We reduced the risk of such constraints by pre-testing the surveys with five banking managers in Jordan to ensure the correct meaning of the Arabic version of the questionnaire. The questionnaire was then piloted with a sample of seven bank executives in Jordan to affirm that the survey instrument was unambiguous and that these executives, while already aware of the research constructs, fully understood their meaning. This was done to ensure that the survey instrument was transparent. Consequently, some slight alterations were made to ensure the respondents had no difficulty answering the questions.

Further, we used a variety of strategies to increase the response rate, including sending a personalised cover letter, promising to provide feedback on study results, and emphasising the confidentiality of responses through an assurance that all data would be maintained anonymous to decrease evaluation anxiety (Fife-Schaw, 2020). We also added a tea bag with each questionnaire as a thank you note, believing respondents would enjoy drinking it while filling out the survey.

The surveys printed on formal letterhead from the university were delivered in person to the headquarters and branch managers. Because of the psychometric features of the measurement scales, as well as the research's financial and time constraints, purposive, snowball, and random sampling approaches were used. Over a six-month period starting in January 2022, a total of 500 surveys were distributed to first-, second-, and third-line bank managers at both the headquarters and branches in Jordan. Of these, 239 surveys were returned.

However, in the end, only 199 responses were usable for the data analysis due to missing values and inconsistencies, yielding an effective response rate of 39.8%.

The questionnaire included two sections. The first section solicited information on participants' demographic characteristics, including the type of bank, size of the bank, age of

the bank, respondents' experience with the bank, and respondent's educational background. The second section included questions addressing the key theoretical constructs of the study: MO, TO, LO, TL, SI, and firm performance (FP). All the measurement scales were adapted from prior literature and measured using a seven-point Likert scale (1 = strongly disagree to 7 = strongly agree) (Please Appendix 1).

This study measured MO using the MKTOR scale of Narver and Slater (1990) due to its focus on the behavioural aspects of customer orientation, competitor orientation, and inter-functional coordination. The five-item scale used to measure TO was adapted from Zhou et al. (2005) and Masa'deh et al. (2018) and explicitly tailored to the banking context. LO is operationalized using a well-tested scale proposed by Calantone et al. (2002). SI is assessed using a five-item scale that has been adapted and refined based on previous research (Grawe et al., 2009; Thakur & Hale, 2013; Tsai & Wang, 2017). TL is measured using a five-item scale developed and validated by Carless et al. (2000) and further tested by Imran et al. (2016) (Please Appendix 1).

This study measures firm performance using financial and non-financial performance, specifically employing seven items adapted from several studies (Mahmood & Ahmed, 2023; Damanpour & Gopalakrishnan, 2001; Uzokurt et al., 2013). Managers were asked to assess their bank's performance over the past three years compared to competitors, focusing on metrics such as ROA, ROI, ROE, overall bank performance, customer loyalty, and perceived image and reputation. These performance indicators were chosen because they are widely recognized as key performance indicators in the banking industry (Uzokurt et al., 2013) (Please Appendix 1).

Banks vary in behaviour based on age, size, and type (Francis et al., 2012; Cornaggia et al., 2015). Additionally, managers' experience with innovation can affect their attitudes toward change, influencing SI and firm performance (Hanif & Asgher, 2018). To account for these variables and avoid non-causal relationships between SI and firm performance, this study controls for factors such as academic qualifications, job position, tenure, age, and the number of bank employees.

Results

Table 1 presents the demographic characteristics of the respondents along with the attributes of their respective banks. Among the 199 respondents to the study, 104 (52.3%) worked for non-Islamic banks and 95 (47.7%) for Islamic banks.

Please place Table 1 here

Table 1 also illustrates that a slight majority of non-Islamic banks (52.3%) and most Islamic banks (56.8%) have 10-20 employees. Regarding the respondents' education, all the managers (100%) have been educated at least to diploma level, with 84.9% having bachelor's degrees, 10% having postgraduate degrees (Master's and Ph.D.), and just 5% having only diplomas. Table 1 shows that 46.2% of the managers were branch managers. Banks aged more than 25 years and 21-25 years formed 59.8% and 15.6% of the study sample, respectively. Also, it can be seen from Table 1 that 21.1% of managers have worked in the banking sector for not more than five years, 28.6% for 6 to 10 years, 27.1% for 11 to 15 years, 12.1% for 15 to 20 years, and 9.5% have more than 20 years' experience.

According to Fornell and Larcker (1981), two criteria should be used to assess a model's validity. First, each scale's factor loading needs to be over 0.7 and significant. The average variance extracted (AVE) has to be more than 0.5 to reduce measurement error. Each factor loading, which ranges from 0.55 to 0.87 and is over the suggested level of 0.7, is significant at the 5% level of significance, as exhibited in **Tables 2 and 3**. Further, the lowest AVE of the constructs is 0.59, demonstrating acceptable convergent validity. To assess the extent to which the items were free from random error, composite reliabilities (CR) were **calculated¹**. All constructions had CR and AVE values that were higher than the specified cut-off (AVE > 0.5 and CR > 0.7) (**Tables 2 and 3**) (Gagnon et al., 2017). To confirm the provided constrained model, chi-square difference tests were performed in pairs for each major constructs (MO, LO, TO, SI, TL, and FP). The TO model demonstrated satisfactory fit because all fit indices were within the allowed range. All constructions had CR and AVE values higher than the proposed cut-off (CR = 0.92, AVE = 0.75).

In the TL results, all fit measures were approved; CFI, IFI, NFI, and TLI of the MO model were more than 0.90, RMSEA was 0.094, and χ^2/df was 2.736, which is less than two levels. As a result, these findings were compatible with those of the transformational leadership

¹ Notes

Notes

1. $CR_{\eta} = \frac{(\sum \lambda_{\gamma i})^2}{(\sum \lambda_{\gamma i})^2 + (\sum \epsilon_i)^2}$ where CR, composite reliability for scale η ; $\lambda_{\gamma i}$, standardized loading for scale item γ_i ; and ϵ_i , measurement error for scale item γ_i (Fornell and Larcker, 1981).
2. $V_{\eta} = \frac{\sum \lambda_{\gamma i}^2}{\sum \lambda_{\gamma i}^2 + \sum \epsilon_i^2}$ where V_{η} , average variance extracted for η ; $\lambda_{\gamma i}$, standardized loading for scale item γ_i and ϵ_i , measurement error for scale item γ_i (Anderson and Gerbing, 1988).

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approach. The CR and AVE of all constructs were more than the proposed cut-off (CR = 0.93, AVE = 0.72). The five SI items were subjected to CFA according to the EFA guidelines. All structures' CR and AVE were greater than the proposed cut-off (CR = 0.88, AVE = 0.59). CFI, TLI, and NFI were all larger than the allowed 0.90, RMSEA was 0.096, and χ^2/df was 2.833. As a result, the SI model had a good fit. CFA was applied to the firm performance scale, and Table 1b illustrates the results for both financial and non-financial performance. The CR and AVE of all constructs are more than the proposed cut-off for financial performance (CR = 0.93, AVE = 0.78) and non-financial performance (CR= 0.90, AVE= 0.75).

Table 2, which presents the results of the firm performance model, reveals that χ^2/df score was 3.939 and RMSEA was .122. The results show that CFI, TLI, and NFI exceeded the recommended 0.90. Consequently, the firm performance model was confirmed as having a good fit.

Please place Table 2 here

As previously indicated, CFA was required prior to EFA to confirm the structure of LO constructs (Orçan, 2018). CFA was applied to the 11 observed items, representing three LO scale elements. Table 3 displays the findings of the LO model. The results on the LO model shown in Table 1b indicate that CFI, IFI, NFI, and TLI of the MO model were more than 0.90, RMSEA was 0.078, and χ^2/df was 2.218, which is less than two levels. Therefore, these findings revealed a fine match for the LO model. The CR and AVE of all constructs were above the proposed cut-off: Commitment to learning (CR = 0.92, AVE = 0.74), Shared vision (CR= 0.87, AVE=0.63), and Open-mindedness (CR= 0.85, AVE= 0.66). The 12 items observed on the MO scale were exposed to CFA as classified into three components: competitor orientation, customer orientation, and inter-functional coordination, by the EFA. Table 3 shows the findings of CFA. All the fit indices values fell within the acceptable range. The model fit was exceptional, with the CFI, IFI, and TLI for the MO model all exceeding 0.90. The RMSEA was 0.058, and the χ^2/df ratio was 1.672, remaining well below the threshold of two. Specifically, the GFI value was 0.93, CFI at 0.94, NFI also at 0.94, and TLI at 0.93, all surpassing the recommended benchmark of 0.90. Additionally, both the RMR and RMSEA values were 0.05, meeting the established criteria for model fit.

Please place Table 3 here

Common method variance (CMV)

CMV is often cited as a potential issue in research utilizing reports from similar sources, such as interviews and survey questionnaires (Tehseen et al., 2017). This issue can lead to overestimating hypothesised links and misinterpreting results (Lindell & Whitney, 2001). We implemented various procedural and statistical measures to reduce and control potential CMV occurrences. To avoid double-barrelled questions, the items were initially evaluated cautiously. The scale items were carefully examined to ensure they were as clear, concise, and easy to understand as possible. Additionally, we changed the item order (ex-ante) (Spector, 2006). To give an additional CMV check, the scales were cleaned, and unrotated factors for all variables were run. Four factors with eigenvalues over 1.0 were identified by the factor analyses, accounting for 67.139 of the total variances, with factor 1 accounting for 35.604. CMV was unlikely in our data, as no single factor emerged as dominant and accounted for only a relatively small portion of the variance (Lindell & Whitney, 2001; Tehseen et al., 2017).

Please place Table 4 here

Table 4 shows the correlations among the study variables. The most important correlation was between LO and MO ($r = 0.687$), followed by an important correlation between MO and TO ($r = 0.610$). Then, there were moderately significant correlations between MO and SI and TL ($r = 0.548, 0.486$), respectively, whereas MO had moderate correlations with financial and non-financial performance ($r = 0.223, 0.264$). LO had significant correlations with TO, TL, and SI ($r = 0.587, 0.592, 0.570$), respectively, while it had moderate correlations with financial and non-financial performance ($r = 0.330, 0.378$).

Also, the findings demonstrated that TO had moderately important correlations with SI, TL, and non-financial performance ($r = .518, .470, .340$), respectively, whereas TO had a weak correlation with financial performance ($r = .140$). Furthermore, TL exhibited a constructive correlation with SI ($r = .536$), and a good correlation with financial and non-financial performance ($r = .227, .305$). Also, the findings revealed a good correlation between financial and non-financial performance ($r = .279$). Additionally, we calculated the shared variances between each pair of constructs to determine if they were lower than the AVE values for the individual constructs, thereby assessing discriminant validity across all scales. In every instance, the AVEs were larger than the related shared variance, according to the shared variances (SHVs) between pairs of all feasible scale combinations. Convergent validity hence met expectations (Fornell & Larcker, 1981).

Please place Table 5 here

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When a single metric dependent variable is thought to be linked to two or more metric independent variables in a research problem, the multiple regression method is appropriate (Desboulets, 2018). Multiple regression analysis attempts to predict how the dependent variable will change as the independent variables change. To achieve this goal, the statistical least squares method is most commonly used. Multiple regression is useful when predicting the dependent variable's amount or size (Desboulets, 2018). The following statistical criteria are used to evaluate the outcomes of multiple regression analysis (Mason & Perreault Jr, 1991). (1) The total regression model is regarded as significant when the p-value is $<.001$. $<.01$. $<.05$. (2) R^2 highlights the strength of the link between the dependent and independent variables. R^2 's range from 0 to +1.0 indicates how the dependent variable's variation is reflected in the independent variables. Strong links between the independent factors and the dependent variable are indicated by R^2 values that are near 1.0. (3) The beta coefficient (B) illustrates the magnitude and the direction (negative or positive) of the impact of the independent factors and the dependent variable. The range of value B was from -1.0 to + 1.0. A higher value of B indicates a stronger impact of the independent variable on the dependent variable. (4) The beta coefficient(s) B must be important for every independent variable using the t-statistics at p-value <0.001 . <0.01 . <0.05 ; when B is significant, it means that the independent variable could precisely predict the dependent variable (Table 5).

A hierarchical regression model was employed to investigate the effects of Market Orientation (MO), Learning Orientation (LO), and Technological Orientation (TO) on Service Innovation (SI) as independent variables, with Transformational Leadership (TL) serving as a moderator between the strategic orientations and SI. The regression analysis followed a sequential approach: first incorporating control factors, then adding the direct independent variables, and finally including the interaction variables. The accompanying table illustrates the progression of R^2 values. Results indicated that MO, LO, and TO all have a positive relationship with SI. Specifically, as shown in Table 5, MO emerged as a significant predictor of SI, with the regression analysis demonstrating a positive relationship ($B = 217$, $t = 2.442$). Consequently, these statistical results support the association, validating hypothesis H_1

Furthermore, both LO and TO were found to have a positive relationship with SI. A linear regression analysis was conducted to test this hypothesis, and the results showed that LO and TO positively influenced SI, with coefficients of $\beta = .186$ ($t = 2.244$) and $\beta = .134$ ($t = 2.318$), respectively. Thus, hypotheses H_2 and H_3 are accepted (Table 5).

To investigate the impact of MO, LO, and TO on SI, we employed multiple regression analysis to assess the role of TL as a moderator. The regression results indicate that TL positively affects the relationship between MO and SI ($\beta = .196$, $t = 2.289$) (Table 5). Additionally, TL was shown to moderate the relationship between LO and SI ($\beta = .271$, $t = 3.920$). However, the analysis revealed that TL did not moderate the link between TO and SI ($\beta = .001$, $t = .026$) (Table 5). Consequently, hypotheses H4a and H4b are confirmed, while H4c is rejected. While we provided evidence that transformational leadership positively influences the relationships between Market Orientation (MO) and Learning Orientation (LO) with Service Innovation (SI), our data did not demonstrate a moderating effect between Technology Orientation (TO) and SI. This oversight may leave readers with unresolved questions about the theoretical implications of our findings. Future research could investigate potential reasons for this absence of moderation, such as the intrinsic characteristics of Technology Orientation, the specific context of the banking sector, or the particular traits of transformational leadership in this scenario. A more thorough examination of these factors could deepen our discussion and ultimately provide readers with a clearer understanding of the moderating role of transformational leadership.

Please place Table 6 here

As presented in Table 6, this study found a positive impact of Service Innovation (SI) on firm performance, encompassing both financial and non-financial aspects. The results reveal that SI is positively associated with financial performance ($\beta = .258$, $t = 2.946$) and non-financial performance ($\beta = .190$, $t = 2.757$), resulting in the acceptance of hypotheses H5a and H5b (Table 6). Non-financial performance is essential in shaping the influence of Service Innovation (SI) on customer satisfaction and employee morale. Key positive indicators, such as customer satisfaction and brand reputation, create a feedback loop that enhances customer loyalty, resulting in repeat business and further innovation. Additionally, high employee morale and engagement motivate staff to actively support and contribute to SI initiatives, fostering a culture of innovation within the organization. By prioritizing these non-financial dimensions, organizations can cultivate an environment that enhances the impact of SI and boosts both customer satisfaction and employee engagement.

Additionally, we conducted three stepwise regression analyses to evaluate how well the independent variables account for variations in the dependent variable, SI. Table 6 presents the results of these models. In Model 1, the control variables explain only 3.3% of the variation in SI (Adjusted $R^2 = .033$). The second model indicates that the independent variables

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3 significantly contribute to explaining SI, with an Adjusted R^2 of .0455, accounting for 4.55%
4 of the differences in SI. As shown in Table 6, the third model – which includes interaction
5 effects – explains 46.7% of the variation in SI (Adjusted R^2 = .467). This table summarizes the
6 results across all four models, with Model 1 focusing on the control variables.
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15 To highlight the environment of the interaction terms, we exhibited the link between
16 SI and, MO and LO at high and low levels of TL (Fig. 2 and Fig. 3), along with a simple slope
17 examination for each (Aiken & West, 1991). **Figure 2** clarifies that the positive relationship
18 between MO and SI becomes significant at high levels (simple slope =+.71, t-value=2.76,
19 $p<.001$) versus low (simple slope = +.87, t-value=2.34, $p<.001$) levels of TL. **Figure 3**
20 illustrates that the positive relationship between LO and SI becomes important at higher levels
21 (simple slope =+.13, t-value=1.42, ns) versus low (simple slope = +.53, t-value=8.41, $p<.001$)
22 levels of TL.
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30 **Discussion**

31 Although SI is recognized as a critical driver of improved performance for service firms (Feng
32 et al., 2021), the practical impact of the complementarity among various strategic orientations
33 on fostering SI and enhancing firm performance remains poorly understood (Tajeddini et al.,
34 2020; Woo et al., 2021). Drawing on the RBV theory, we address this gap in the literature by
35 examining how MO, LO, and TO drive SI and enhance firm performance, referring to the
36 banking industry in Jordan. In our attempt, we further investigate the moderating effect of TL
37 on the interrelationships among MO, LO, TO, and SI. Our findings indicate that a nexus of
38 MO, LO, and TO have a positive collective influence on fostering SI, thus supporting H1, H2,
39 and H3. The findings further reveal that service firms that integrate and harmonize these
40 various strategic orientations are more likely to outperform those that rely on only one of these
41 orientations. Although our findings align with prior literature by examining the impact of each
42 strategic orientation on SI (Newman et al., 2016; Mubarak & Petraite, 2020; Feng et al., 2021;
43 Baker et al., 2022; Opazo-Basáez et al., 2022), the collective influence of these orientations is
44 a novel contribution. To the best of our knowledge, this combined effect has not been
45 previously explored in a single study within the banking industry.
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57 Our findings also proved that TL moderates the relationships among MO, LO, and SI,
58 supporting H4a and H4b. These findings correspond to the extant literature, which underscores
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the crucial role of TL in cultivating an organizational culture that maximizes the potential of MO and LO to foster SI (Arias-Pérez et al., 2021; Han & Zhang, 2021; Yang et al., 2021). Nevertheless, surprisingly, TL did not moderate the link between TO and SI as expected; thus, H4c is rejected. One possible explanation for this contradictory finding is that managers with TL qualities may not have a significant role to play in harnessing the full potential of TO in fostering SI. SI was positively related to financial and non-financial performance, as indicated by the results of H5a and H5b. Our findings largely corroborate both schools of thought in prior literature: one that highlights that SI can generate positive economic value for service firms (Snyder et al., 2016; Gök & Peker, 2017) and another that emphasizes its role in enhancing customer satisfaction, customer loyalty, employee satisfaction, internal process efficiency (Lexutt, 2020; Maletič et al., 2021), and overall firm competitiveness (Feng et al., 2021).

Theoretical contributions

Our findings make three vital contributions to the SI literature. First, most existing SI literature has concentrated mainly on defining, conceptualizing, and operationalizing the concept of SI across various service contexts (Mahavarpour et al., 2023). However, recent scholarly discourse highlights that SI is a complex social phenomenon that combines creativity, intellectual content, technical capabilities, and market demand (Gustafsson et al., 2020). Accordingly, several scholars (Arias-Pérez et al., 2021; Mahavarpour et al., 2023) have emphasized the importance for service firms to cultivate an organizational culture that integrates intangible, market-based resources and capabilities—referred to as strategic orientations—to drive SI. However, the practical process through which this occurs remains poorly understood (Peixoto et al., 2023). Drawing on the RBV, the findings of this study respond to this scholarly call by exploring the collective impact of MO, LO, and TO on fostering SI. This area has not yet been comprehensively examined in a single study within SI literature (Reyes-Gómez et al., 2024). While strategic management literature suggests that MO, LO, and TO are interconnected and each positively influences SI, few studies have explored their combined impact on fostering SI in a single study that integrates all three orientations.

Further, since prior literature has conceptualized SI both as a process and an outcome, it is essential to differentiate between the two, with the process preceding the outcome (Mahavarpour et al., 2023; Merkle et al., 2020). However, many studies on SI have focused primarily on its role as an outcome, neglecting its crucial function as a process that drives service firm performance (e.g., Gustafsson et al., 2020; Kumar et al., 2024). Empirical research exploring the role of SI as a process in enhancing firm performance, particularly in the banking

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industry, remains scarce (Elia et al., 2023; Qalati et al, 2024; Sheng & Ibrahim, 2019). This study fills this gap by investigating the impact of SI on improving bank performance, offering a much-needed contribution to SI literature by examining SI as a process (Mei-sheng et al., 2023; Gustafsson et al., 2020; Kumar et al., 2024).

Second, most studies on fostering SI have focused on the direct effects of antecedents such as MO, LO, and TO. However, there is abundant evidence in literature demonstrating that given the current competitive landscape in which service firms operate, change-oriented leadership becomes imperative, which has the potential to cultivate an organizational culture that fosters SI amid shifting circumstances (Gui et al., 2022; Yang et al., 2021). However, surprisingly, how TL impacts the interrelationships among MO, LO, TO, and SI remains insufficiently explored in research (Ibarra-Cisneros et al., 2024). We address this gap by empirically examining the moderating effect of TL on the interrelationships among MO, LO, TO, and SI in service firms, which has received scant scholarly attention (Yang et al., 2021). In doing so, we contribute to the SI literature by emphasizing the role of TL in leveraging the complementary nature of various strategic orientations to maximize the benefits of fostering SI amid current market dynamics.

Third, drawing on the RBV, this study sheds light on the potential mechanisms through which the nexus of strategic orientations influences SI and firm performance. This study contributes to SI literature by identifying and explaining the mediating role of SI and the moderating role of TL, thereby enhancing our understanding of the intricate link between conventionally studied linear relationships between strategic orientations and firm performance (Bado, & Dunakhir, 2024; Ibarra-Cisneros et al., 2024; Parray, 2020). Thus, extending SI literature based on the RBV, we propose an integrated conceptual framework that outlines the mediating role of SI and the moderating role of TL. This framework investigates how the complementarity among different strategic orientations drives SI and enhances the performance of the banking industry in Jordan—a research setting that has not yet received sufficient attention in the SI literature (Al-Hawary et al., 2020; Alkhatib & Valeri, 2024).

Managerial implications

Based on the study findings, we provide several vital managerial recommendations for fostering SI and enhancing firm performance in the banking sector. First, according to the study's findings, a nexus among MO, LO, and TO collectively influences fostering SI. This suggests that the combination of these strategic orientations, rather than any single orientation

in isolation, most effectively enhances the impact of strategic orientation on fostering SI. Therefore, bank managers should cultivate an organizational culture that integrates and leverages these different strategic orientations to work in harmony.

Second, the findings indicate that banks achieved higher performance levels—both financial and non-financial (e.g., ROA, ROI, ROE, brand image, and corporate reputation)—by fostering SI. Hence, managers should pay close attention to fostering an organizational culture that encourages and values innovation and is receptive to new ideas. Specifically, managers have three key paths to consider. First, focusing on customer needs and competition can help banks gain deeper market insights, enabling them to make informed, strategic decisions. This can be achieved through a strong MO. Second, prioritizing technology can encourage banks to embrace risk, remain open to new ideas, and foster innovation, ultimately helping them create a competitive edge. Lastly, fostering a culture of learning and growth enhances the bank's capacity for continuous innovation, enabling the development of new products, services, and management methods. This, in turn, allows banks to stay ahead of competitors and improve organizational performance.

Third, the findings uncovered that TL moderates the links among MO, LO, and SI, indicating that banks benefit when managers pursue transformational leadership qualities. Bank managers with transformational leadership qualities will effectively cultivate an organizational culture that integrates and harmonizes various strategic orientations, thereby fostering SI.

Limitations and future research directions

Despite several noteworthy findings, this study has several limitations that could be explored in future research. First, our study gathered data exclusively from the financial sector in one developing country, Jordan. Consequently, the findings can be generalised only to the Jordanian banking industry. To strengthen the robustness of the proposed framework, future research should test the hypotheses by gathering data from diverse research settings. Further, additional research with larger sample sizes from various industries will allow for more comprehensive comparisons of the proposed relationships, thereby enhancing the robustness of the findings.

Second, our study exclusively examines the three most commonly used types of strategic orientations and their combined impact on fostering SI. Future research could also explore the effects of other relevant strategic orientations, such as entrepreneurial orientation, and contextual factors, such as the type of bank (e.g., Islamic vs. non-Islamic), on the proposed

relationships between SI and firm performance. Also, other potential moderators that may influence the links between the intersection of strategic orientations and firm performance warrant further investigation. More specifically, since strategic orientations play a crucial role in fostering SI as a component of corporate culture, additional research is needed to empirically examine the factors that drive service firms to develop each strategic orientation. Third, our study relies on survey data, which restricts the ability to analyse the dynamics of the proposed interrelationships in depth (Coughlan et al., 2009). Future research employing qualitative methods could offer deeper insights into how the nexus between various strategic orientations in service firms fosters SI. Finally, our findings represent a snapshot of a single period and do not capture how evolving dynamics among different strategic orientations influence SI over the long term (Bowen & Wiersema, 1999). Future researchers should consider conducting longitudinal studies to address this gap.

Notes

- 1. $CR\eta = \frac{(\sum \lambda_{\gamma i})^2}{(\sum \lambda_{\gamma i})^2 + (\sum \varepsilon_i)^2}$ where CR, composite reliability for scale η ; $\lambda_{\gamma i}$, standardized loading for scale item γ_i ; and ε_i , measurement error for scale item γ_i (Fornell and Larcker, 1981).
- 2. $V\eta = \frac{\sum \lambda_{\gamma i}^2}{\sum \lambda_{\gamma i}^2 + \sum \varepsilon_i}$ where V_η , average variance extracted for η ; $\lambda_{\gamma i}$, standardized loading for scale item γ_i and ε_i , measurement error for scale item γ_i (Anderson and Gerbing, 1988).

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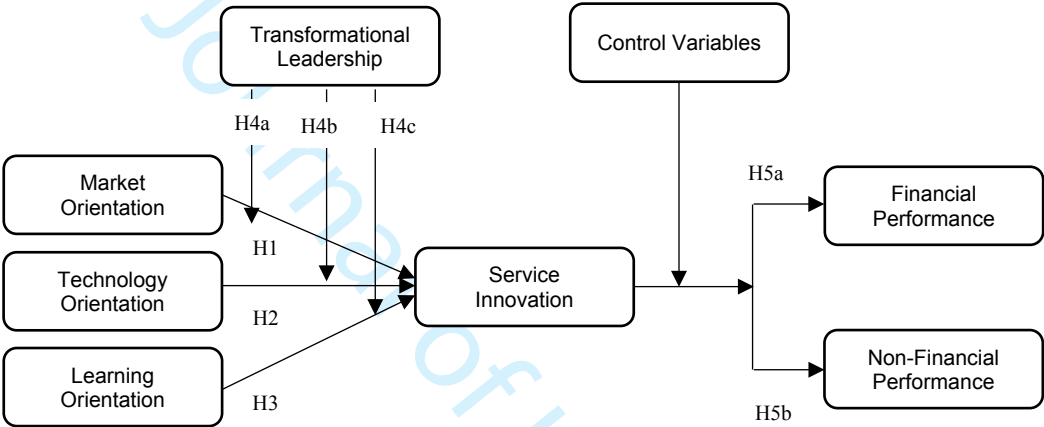
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Figure 1. Hypothesized Model



Source: Authors own work (Designed and Hypothesized by the authors)

Table 1. Demographic characteristics of sample

	n	%
Type of bank		
Non-Islamic	104	52.3
Islamic	95	47.7
Number of employees		
Less than 10	59	29.6
10 to 20	113	56.8
21 to 30	21	10.6
31 and more	6	3.0
Level of education		
Diploma	10	5.0
Graduate degree	169	84.9
Postgraduate degree	17	8.5
Doctoral degree	3	1.5
Position held in the bank		
CEOs	3	1.5
Branch manager	92	46.2
Associate manager	55	27.6
Frontline manager	4	2.0
Director of the department	45	22.6
Age of the bank		
5 to 10 years	8	4.0
11 to 15 years	30	15.1
16 to 20 years	11	5.5
21 to 25 years	31	15.6
More than 25 years	119	59.8
Number of years in position		
Less than 5 years	42	21.1
6 to 10 years	57	28.6
11 to 15 years	54	27.1
15 to 20 years	24	12.1
More than 20 years	19	9.5
Prefer not to say	3	1.5

Table 1. Sample characteristics (N= 199)

Source: Authors' own calculation (Statistical analysis of field research data; n=199, Survey based)

Table 2. Unidimensionality and convergent validity tests (n = 199).

Indicator (Parameter)			Factor	
Constructs	Field(s)	Item(s)	Loadings	
Technology orientation		$\alpha = .904$, CR = .92, AVE = .75		
	TO1	R&D activities are very important in my bank.	.853	
	TO2	Advanced technologies and methods are constantly used to develop new services in my bank.	.798	
	TO3	New technologies are integrated into my bank rapidly.	.866	
	TO4	My bank intends to develop new technologies in order to respond to the changing expectations of customers.	.798	
	TO5	My bank is very active in developing new technologies.	.740	
Model summary statistics: $\chi^2 = 14.909$, df = 5, $\chi^2/\text{df} = 2.982$, p = .011, GFI = .972, AGFI = .917, CFI = .984, TLI (rho2) = .968, IFI (Delta2) = .984, RMSEA = .100, ECVI = .176				
Indicator (Parameter)			Factor	
Constructs	Field(s)	Item(s)	Loadings	
Transformational leadership		$\alpha = .902$, CR = .93, AVE = .72		
	TL1	My bank managers communicate a clear and positive vision of the future.	.708	
	TL2	My bank managers treat staff as individuals, support and encourage their development.	.864	
	TL3	My bank managers foster trust, involvement and cooperation among team members.	.873	
	TL4	My bank managers encourage thinking about problems innovatively and questions assumptions.	.828	
	TL5	My bank managers instil pride and respect in others and inspire employees by being highly competent.	.760	
Model summary statistics: $\chi^2 = 13.682$, df = 5, $\chi^2/\text{df} = 2.736$, p = .018, CFI = .986, TLI (rho2) = .972, IFI (Delta2) = .986, RMSEA = .094, ECVI = .221				
Indicator (Parameter)			Factor	
Constructs	Field(s)	Item(s)	Loadings	
Service innovation		$\alpha = .821$, CR = .88, AVE = .59		
	SI1	Innovation is readily accepted in program/project management.	.596	
	SI2	Innovation in my bank is encouraged.	.917	
	SI3	My bank managers give special emphasis to service innovation.	.522	
	SI4	My bank constantly seeks new ways to provide better services to customers.	.710	
	SI5	My bank is able to change/modify our current service approaches to meet special requirements from customers.	.666	
Model summary statistics: $\chi^2 = 8.498$, df = 3, $\chi^2/\text{df} = 2.833$, p = .037, CFI = .985, TLI (rho2) = .949, IFI (Delta2) = .985, RMSEA = .096, ECVI = .215				
Indicator (Parameter)			Factor	
Constructs	Dimensions	Field(s)	Item(s)	Loadings
Firm performance			$\alpha = .925$, CR = .93, AVE = .78	
	Financial performance	FP1	Return on assets (ROA).	.784
		FP2	Return on equity (ROE).	.871
		FP3	Return on investment (ROI).	.979
		FP4	Overall, of the bank's performance.	.780
			$\alpha = .844$, CR = .90, AVE = .75	
	Non-Financial performance	NFP1	My bank has a good reputation.	.821
	Financial performance	NFP2	My bank has loyalty from existing customers.	.704
		NFP3	My bank has a well image.	.931
Model summary statistics: $\chi^2 = 43.334$, df = 11, $\chi^2/\text{df} = 3.939$, p = .000, CFI = .970, NFI (Delat 1) = .960, Delta2 = .970, RMSEA = .122, TLI (rho2) = .942, ECVI = .461				

Source: Authors' own calculation (Statistical analysis of field research data; n=199, Confirmatory Factor Analysis, AMOS)

Table 3. Unidimensionality and convergent validity tests (n = 199).

Constructs	Indicator (Parameter)		Factor Loadings	
	Dimensions	Item(s)		
Learning orientation	$\alpha = .881, CR = .92, AVE = .74$ Commitment to learning	COM1	The basic values of my bank include learning as an essential key to improvement.	.798
		COM2	The sense around here is that employee learning is an investment, not an expense.	.807
		COM3	Learning in my bank is seen as a key commodity necessary to guarantee organizational survival.	.785
		COM4	My bank managers basically agree that bank's ability to learn is the key to its competitive advantage.	.834
	$\alpha = .800, CR = .87, AVE = .63$ Shared vision	SV1	All employees are committed to the goals of my bank.	.601
		SV2	There is a commonality of purpose in my bank.	.728
		SV3	There is total agreement on my bank's vision across all levels, functions, and divisions.	.714
		SV4	As a manager, I make sure that employees view themselves as partners in charting the direction of the bank.	.718
	$\alpha = .733, CR = .85, AVE = .66$ Open mindedness	OPM1	My bank continually reviews the quality of decisions and activities taken over time.	.755
		OPM2	Employees in my bank realise that the very way they perceive the marketplace must be continually questioned.	.747
		OPM3	My bank is not afraid to critically reflect on the shared assumptions we have made about our customers.	.604
Model summary statistics: $\chi^2 = 88.725, df = 40, \chi^2/df = 2.218, p = .000, GFI = .923, AGFI = .872, CFI = .951, TLI (rho2) = .933, IFI (Delta2) = .952, RMSEA = .078, ECVI = .711$				
Constructs	Indicator (Parameter)		Factor Loadings	
	Dimensions	Item(s)		
Market orientation	$\alpha = .768, CR = .85, AVE = .59$ Customer orientation	CO1	My bank measures customer satisfaction on a regular basis.	.602
		CO2	My bank has regular measures for improving customer service.	.688
		CO3	My bank exists primarily to serve customers.	.724
		CO4	My bank's practices and procedures consistently focus on delivering customer satisfaction.	.670
	$\alpha = .784, CR = .85, AVE = .61$ Competitor orientation	CMP1	My bank is more competent as compared to other banks.	.606
		CMP2	My bank targets customers where it has an opportunity for competitive advantage	.751
		CMP3	My bank managers regularly evaluate competitors' strengths.	.609
		CMP4	My bank rapidly responds to competitive actions that threaten us.	.799
	$\alpha = .786, CR = .86, AVE = .62$ Inter-functional coordination	IC1	All of my bank functions are responsive to each other's needs.	.784
		IC2	My bank managers understand how employees can contribute to value of customers.	.859
		IC3	My bank managers from every function regularly review the bank's current customers.	.694
		IC4	All of my bank functions are integrated into serving the needs of our customer markets.	.470
Model summary statistics: $\chi^2 = 80.274, df = 48, \chi^2/df = 1.672, p = .002, CFI = .962, TLI (rho2) = .947, IFI (Delta2) = .962, RMSEA = .058, ECVI = .830$				

Source: Authors' own calculation (Statistical analysis of field research data; n=199, Confirmatory Factor Analysis, AMOS)

Table 4. Bivariate correlation matrix of all DVs and IVs of this study

	Bank Type	Education	Position	Experience	Bank Age	Size	MO	LO	TEO	TL	SIN	FINP	NFIN
Bank Type	1	.01	.00	.00	.21	.02	.02	.03	.01	.03	.02	.67	.07
Education	.110	1	.07	.00	.00	.01	.00	.00	.00	.00	.00	.02	.01
Position	.009	-.260**	1	.01	.00	.00	.00	.01	.18	.00	.00	.03	.00
Experience	-.036	.041	-.091	1	.03	.00	.05	.04	.03	.02	.00	.02	.02
Bank Age	-.464**	.040	-.066	.162*	1	.03	.00	.01	.01	.02	.00	.00	.00
Size	.148*	.124	.058	-.009	.166*	1	.01	.00	.00	.00	.00	.00	.01
MO	.156*	-.002	-.080	-.214**	.040	.111	1	.47	.37	.24	.30	.05	.07
LO	.179*	.047	-.113	-.196**	-.082	.066	.687**	1	.34	.35	.33	.11	.14
TEO	.085	-.029	.042	-.185**	-.090	.010	.610**	.587**	1	.22	.27	.03	.02
TL	.162*	-.047	-.078	-.135	-.141*	.038	.486**	.592**	.470**	1	.29	.02	.09
SIN	.138	.093	-.020	-.082	-.069	.063	.548**	.576**	.518**	.536**	1	.05	.08
FINP	.082	.140*	-.162*	-.133	-.052	-.091	.223**	.330**	.182*	.140*	.227**	1	.14
NFIN	.265**	-.081	-.034	-.153*	-.050	.119	.264**	.378**	.340**	.305**	.279**	.379**	1
Mean	1.48	2.07	5.22	2.65	4.12	1.89	5.50	5.33	5.33	5.27	5.32	5.23	5.85
Standard Deviation	.50	.43	1.62	1.28	1.27	.78	.72	.78	.96	.99	.76	.96	.82

Source: Authors' own calculation (Statistical analysis of field research data; n=199, Bivariate correlation (SPSS))

Note: Mo: market orientation, LO: learning orientation, TEO: technology orientation, TL, transformational leadership, SI: service innovation, FP: financial performance, and NFP: non-financial performance. Shared variances are included in the upper triangle of the matrix.

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

* . Correlation is significant at the 0.05 level (2-tailed).

N=199

Table 5. Hierarchical Moderated Regression Analysis, Sample size = 199

	Service innovation					
	Model 1		Model 2		Model 3	
Control variables	B (Std. Error)	t-value	B (Std. Error)	t-value	B (Std. Error)	t-value
Type of Bank	.175 (.127)	1.377	-.013 (.099)	-.131	-.004 (.096)	-.038
Education	.133 (.130)	1.027	.205 (.099)	2.062	.177 (.097)	1.829
Position	-.005 (.035)	-.156	.031 (.027)	1.155	.035 (.026)	1.364
Experience	-.047 (.043)	-1.102	.042 (.034)	1.261	.051 (.033)	1.546
Bank Age	-.008 (.051)	-.148	-.015 (.040)	-.385	-.017 (.038)	-.430
Size	.037 (.073)	.512	.003 (.056)	.058	.010 (.054)	.192
Direct effect						
Market Orientation (MO)			.217* (.089)	2.442	-.829 (.451)	-1.837
Learning Orientation (LO)			.186* (.083)	2.244	.602*** (.371)	4.320
Technology Orientation (TO)			.134* (.058)	2.318	.115 (.283)	.408
Transformational Leadership (TL)			.200*** (.053)	3.779	.578 (.321)	1.800
Interactions						
MO * TL					.196** (.085)	2.289
LO * TL					.271*** (.069)	3.920
TO * TL					.001 (.054)	.026
R ²	.033		.455		.502	
ΔR ²	----		.422		.047	
Adjusted R ²	.003		.427		.467	
F-value	1.096		15.727***		14.346***	

Notes: *Significant at 0.05 level; **significant at 0.01 level, ***significant at 0.1 level
Source: Authors' own calculation (Statistical analysis of field research data; n=199, Hierarchical Moderated Regression, SPSS)

Table 6. Hierarchical Moderated Regression Analysis, Sample size = 199

	Financial Performance				Non-Financial Performance			
	Model 1		Model 2		Model 3		Model 4	
Control variables	B (Std. Error)	t-value	B (Std. Error)	t-value	B (Std. Error)	t-value	B (Std. Error)	t-value
Type of Bank	.176 (.157)	1.118	.131 (.155)	.843	.522*** (.131)	3.984	.437*** (.120)	3.652
Education	.249 (.161)	1.550	.214 (.158)	1.358	-.274** (.134)	-2.053	-.373** (.122)	-3.051
Position	-.082 (.043)	-1.913	-.081 (.042)	-1.918	-.044 (.036)	-1.221	-.018 (.033)	-.565
Experience	-.113** (.053)	-2.140	-.101 (.052)	-1.942	-.103 (.044)	-2.344	-.061 (.041)	-1.508
Bank Age	.015 (.063)	.245	.017 (.062)	.281	.072 (.052)	1.381	.069 (.048)	1.457
Size	-.142 (.091)	-1.565	-.151 (.089)	-1.704	.079 (.075)	1.053	.114 (.069)	1.651
Direct effect								
Service innovation (SIN)			.258** (.087)	2.946			.190** (.069)	2.757
Financial Performance (FP)							.293*** (.056)	5.264
R ²	.075		.115		.127		.289	
ΔR ²	----		.04		----		.162	
Adjusted R ²	.046		.083		.100		.259	
F-value	2.606		3.563		4.647		9.641	

Notes: *Significant at 0.05 level; **significant at 0.01 level, ***significant at 0.1 level

Source: Authors' own calculation (Statistical analysis of field research data; n=199, Hierarchical Moderated Regression, SPSS)

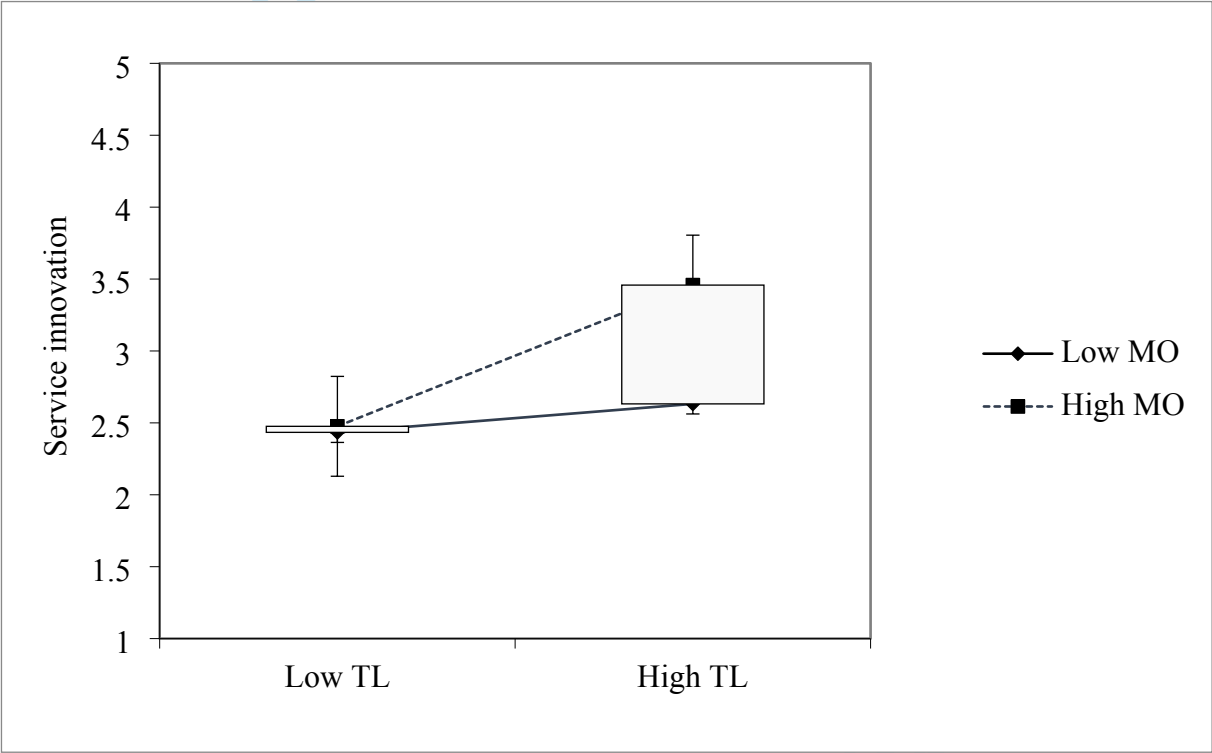


Figure 2. The moderating role of TL on the Market orientation – service innovation relationship.
Source: Authors own work (Statistical analysis of field research data; n=199)

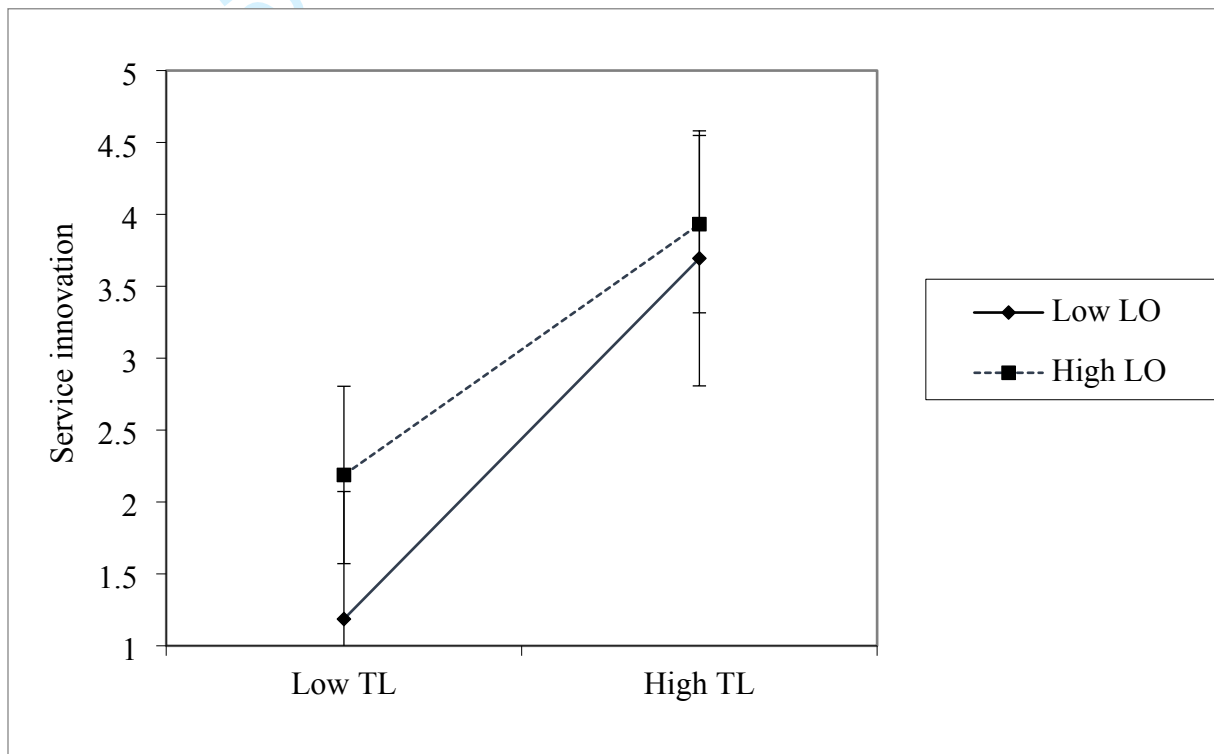


Figure 3. The moderating role of TL on the Market orientation – service innovation relationship.

Source: Authors own work (Statistical analysis of field research data; n=199)

Appendix 1. Measurement scales

<i>Market Orientation</i>
<i>Customer Orientation</i>
1 My bank measures customer satisfaction on a regular basis.
2 My bank has regular measures for improving customer service.
3 My bank exists primarily to serve customers.
4 My bank's practices and procedures consistently focus on delivering customer satisfaction.
<i>Competitor Orientation</i>
1 My bank is more competent as compared to other banks
2 My bank targets customers where it has an opportunity for competitive advantage.
3 My bank managers regularly evaluate competitors' strengths.
4 My bank rapidly responds to competitive actions that threaten us.
<i>Interfunctional Coordination</i>
1 All of my bank functions are responsive to each other's needs.
2 My bank managers understand how employees can contribute to value of customers.
3 My bank managers from every function regularly review the bank's current customers.
4 All of my bank functions are integrated into serving the needs of our customer markets.
<i>Technology Orientation</i>
1 R&D activities are very important in my bank.
2 Advanced technologies and methods are constantly used to develop new services in my bank.
3 New technologies are integrated into my bank rapidly.
4 My bank intends to develop new technologies in order to respond to the changing expectations of customers.
5 My bank is very active in developing new technologies.
<i>Learning Orientation</i>
<i>Commitment to Learning</i>
1 The basic values of my bank include learning as an essential key to improvement.
2 The sense around here is that employee learning is an investment, not an expense.
3 Learning in my bank is seen as a key commodity necessary to guarantee organisational survival.
4 My bank managers basically agree that bank's ability to learn is the key to its competitive advantage.
<i>Shared Vision</i>
1 All employees are committed to the goals of my bank.
2 There is a commonality of purpose in my bank.
3 There is total agreement on my bank's vision across all levels, functions, and divisions.
4 As a manager, I make sure that employees view themselves as partners in charting the direction of the bank.
<i>Open-Mindedness</i>
1 My bank continually reviews the quality of decisions and activities taken over time.
2 Employees in my bank realise that the very way they perceive the marketplace must be continually questioned.
3 My bank is not afraid to critically reflect on the shared assumptions we have made about our customers.
<i>Service Innovation</i>
1 Innovation is readily accepted in program/project management.
2 Innovation in my bank is encouraged.
3 My bank managers give special emphasis to service innovation.
4 My bank constantly seeks new ways to provide better services to customers.
5 My bank is able to change/modify our current service approaches to meet special requirements from customers.
<i>Transformational leadership</i>
1 My bank managers communicate a clear and positive vision of the future.
2 My bank managers treat staff as individuals, support and encourage their development.
3 My bank managers foster trust, involvement and cooperation among team members.
4 My bank managers encourage thinking about problems innovatively and questions assumptions.
5 My bank managers instil pride and respect in others and inspire employees by being highly competent.
<i>Firm performance</i>
1 Return on assets (ROA).
2 Return on equity (ROE).

3	Return on investment (ROI).
4	Overall of the bank's performance.
Non-financial performance	
1	My bank has a good reputation.
2	My bank has loyalty from existing customers.
3	My bank has a well image.

Source: Authors own work

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