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The impact of TQM on organizational learning: The moderating role of strategic thinking at Jordanian SMEs

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ABSTRACT

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In the workplace of the twenty-first century, there has been a rise in interest in organizational learning. The purpose of this research is to add to the body of knowledge regarding organizational learning, by analyzing how TQM affects organizational learning. Also in this study, we intend to indicate the influence of strategic thinking as moderator on the relationship between TQM and organizational learning. Data were gathered from respondents (N = 306) who were employed in industrial sectors and registered with the Amman stock exchange in Jordan. Furthermore, the study results support the assumption that TQM affects organizational learning. Moreover, the findings confirmed that strategic thinking plays a moderating role in the relationship between organizational learning and TQM, supporting the moderation hypothesis as well. After presenting theoretical and practical implications of the research, limitations and future direction are discussed.

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1. Introduction

Organizations work in a very agile and efficient manufacturing process in the current competitive world of globalization and technological growth (Jafari-Sadeghi, Mahdiraji, Busso, & Yahiaoui, 2022; Porter & Strategy, 1980; Wiersema & Bowen, 2008). Organizations constantly choose new strategies and tools in order to thrive, which gives them the ability to deal with uncertainty and impending changes (AlMaryani & Sadik, 2012). Their goal is to support managers and have an impact on their behavior in a way that can result in new business strategies (Hutchinson, 2007), which makes it extremely pertinent for study. Igashi, Sani, and Wuen (2022), mentioned that an organization could achieve its goals and effectively compete in the market based on the right tactics and judgments. Because of this, businesses are attempting to adjust their policies in order to make the transition from the current scenario to one that is anticipated to be realized in the future. (Koçyiğit & Akkaya, 2020). During this shift, they are frequently required to follow specific administrative procedures that have historically been advised to be assessed at each level in order to gauge their capacity to manage organizational learning (Do, Budhwar, Shipton, Nguyen, & Nguyen, 2022). Business development has resulted in a variety of activities being carried out by a single company as well as a variety of products being offered (Kang, Zhao, & Battisti, 2022). As a result of this trend, administrative processes such as planning, organizing, directing, and controlling as well as decision-making have become more complex (Kumkale, 2022). In order to achieve the desired TQM, it is increasingly important for businesses to use modern methods. The path to this goal is to use information-gathering techniques that will aid in the search for the best possible uses of available resources and the lowest possible production costs because sound information results in sound decisions. Companies are increasingly focusing on the quality of their products, rating their operations to multiple activities for more accurate cost product information, and as a result of the various changes in information and consumer tastes (Cui, Lim, & Song, 2022). Technology has changed the managers' traditional role of providing information to a more effective role, placing them within the integrated management team, which seeks to plan and make appropriate decisions to achieve (Al-Sayyed, 2015).

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Odor (2018), claims that organizational learning refers to a business that supports its employees' learning and develops itself continuously. Additionally, organizational learning is a three stage process that comprises knowledge gathering, information dissemination, and shared interpretation, according to Antunes and Pinheiro (2019) Previous studies have shown that organizational learning has a positive impact on performance (Akhtar, Arif, Rubi, & Naveed, 2011; Hartono, Wahyudi, Harahap, & Yuniawan, 2017; Hui et al., 2013; Maktabi & Khazaee, 2014; Sampe, 2012). However, due to industry-specific samples and uneven measurement, these findings are not generalizable. These difficulties impede our ability to better comprehend organizational learning. According to (Garcia-Morales, Martín-Rojas, & Lardón-López, 2018; Maletič, Maletič, & Gomišček, 2018), this study will contribute to using organizational learning as a dependent variable.

Lastly, after the financial industry, the industrial sector is the most active and significant contributor to the Jordanian economy. The purpose of this study is to look into how TQM changed in Jordanian businesses. Globalization has altered the business climate in Jordan by fostering greater unpredictability, escalating industrial competition, and advancing technological capabilities. New technology has been brought in by globalization, which has also opened up emerging nations to more competition.

2. Literature Review

2.1 Organizational Learning

Organizational learning is the process through which individuals inside an organization pick up the abilities, resources, and knowledge required to develop capabilities, resources, and abilities for superior performance (North & Kumta, 2018). According to the definition, organizational learning is based on knowledge management techniques that all organization members use. When knowledge is not applied, especially during seminars or symposia, it is not useful (Hislop, Bosua, & Helms, 2018). According to Namada (2018) organizational learning is a continual process by which an organization adapts to its environment by leveraging a range of abilities, knowledge, and skills with the goal of gaining a competitive edge. On the other hand, organizational learning, according to Dixon (2017) is a by-product of organizational inquiry. Workers will interact with cognoscentes individuals with cognate experience on the operation management as a process of organizational inquiry through which they acquire knowledge (Weinstein, 2012). Gilley and Maycunich (2000) and Dixon (2017) both agreed that organizational learning is a direct result of interactions with people who have developed operational skills within the business. Organizational learning is characterized as an environment in which individuals continuously improve their ability to attain desired outcomes, where new thought patterns are fostered, where group goals are liberated, and where individuals learn to learn together (Malhotra, 1996); Igashi, et al., 2022). Organizational learning places a strong emphasis on an organization's capacity to gather, access, use, and disseminate tacit knowledge that will help them dominate their market (Hussein, Mohamad, Noordin, & Ishak, 2014). The study interprets organizational learning as a thoughtfully planned process that enables ongoing growth in working abilities and dexterity as ideas and knowledge are exchanged among employees in a company. This understanding comes from the deluge of definitions.

2.2 Total Quality Management (TQM)

TQM implementation will increase quality overall and enhance business performance in the service sector (Haque, Sarwar, Azam, & Yasmin, 2014). This strategy has been examined and explored by numerous scholars. According to Pambreni, Khatibi, Azam, and Tham (2019) “ Total quality in reference with is an approach to doing business that attempts to maximize the competitiveness of an organization through the continuous improvement of the quality of its products, services, people, processes, and environments”. In a highly variable and complex corporate environment, with a competitive and dynamic market environment (Permana, Purba, & Rizkiyah, 2021). Organizations continue to face challenges from globalization, rapid technical advancements, competition, innovative business models, and emerging new markets (Koçyiğit & Akkaya, 2020). These problems apply to both large and small organizations. Businesses must be prepared to adjust to this circumstance, which calls for a high standard of product or service quality, quicker delivery, and a reasonable pricing Jafari-Sadeghi, et al., 2022). The company needs to reassess its priorities so that their new model places more emphasis on how well they satisfy consumer needs than on how much money they are producing (Mizuno & Bodek, 2020). Businesses all across the world have purposefully exploited quality to get clients (Neyestani & Juanzon, 2016). Customers' needs are always changing to meet the widening range of lifestyles, and every product must meet the highest standards of quality and usefulness (Mukhopadhyay, 2020). Organizations must implement a thorough strategy for ensuring that their customers are satisfied by offering the highest calibre goods and services. The company needs to develop a strategy that will be focused on enhancing business operations in order to beat the competition and increase its competitive edge (Bakır, Özdemir, Akan, & Atalık, 2022; Kantardjieva, 2015). To address these issues, organizations should think about the Total Quality Management (TQM) approach. TQM is widely employed by numerous organizations all over the world, where it is successfully implemented and greatly helps the organization. As part of organizational excellence objectives to achieve customer satisfaction, the TQM strategy is focusing on enhancing the efficacy of the processes and responsiveness in satisfying customer expectations (Wahyuni, Sara, Sri Meitri, & Darma, 2021).

2.3 Strategic Thinking

Strategic thinking is described in the literature as the cognitive technique to identify and resolve novel challenges based on predicted environmental conditions (Dixit, Singh, Dhir, & Dhir, 2021) and it aids in increased performance (Jalali & Golmohammadi, 2022). Innovative and innovative methods are used in strategic thinking to develop clever tactics (Smriti, Dhir, & Dhir, 2021). Strategic thinking aids in defining the portfolio for businesses with a variety of activities (Ershadi & Dehdazzi, 2019). Through scenario planning, strategic thinking firms can comprehend the present and be ready for the future. As a result, strategic thinking aids in balancing potentially conflicting future assumptions (Moh'd Abu Bakir, 2019).

Strategic thinking is viewed by Dixit et al. (2021), as a synthetic process that aids in defining dependencies and establishing internal alignments. According to Karami and Gorzynski (2022) the unionizing process of strategic thinking involves the application of intuition and imagination. A comprehensive view of the firm is frequently the outcome. Strategic thinking, according to O'Shannassy (2006), is a synthesis of two approaches: the data-driven approach, which views "strategy as an intelligent machine," and the imaginative approach, which views "strategy as creative imagination." According to Dhir, Dhir, and Samanta (2018), a method of resolving strategic problems is similar to strategic thinking. Confluent and logical thinking are combined with creative and divergent thought processes in strategic thinking. Strategic thinking, according to Srivastava and D'Souza (2021), is a change in the way that employees perceive the organization—where they stop seeing it as a collection of disparate parts competing for scarce resources and start seeing it as a whole where every component is working toward a single objective. The following hypotheses are recommended for testing and are in line with the objectives of the current study and the literature reviewed;

H₁: *There is a statistically significant impact of TQM on Organizational Learning.*

H₂: *Strategic thinking has a statistically significant role as a moderator in improving the impact of TQM on Organizational Learning.*

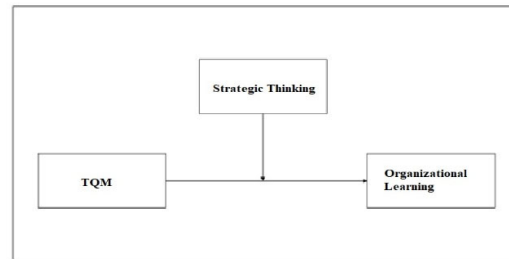


Fig. 1. The Conceptual model

3. Research Methodology

3.1 Population, Sample Size, and Respondent

The most suitable research methodology for this study is the quantitative research method, which is the foundation of this research. The quantitative approach includes a series of questions. This kind of research focuses on the opinions of the respondents or research subjects. Quantitative results are simple to gather, understand, and apply to the topic (Brannen, 2017). The population of the present study is based on employees of SMEs. Therefore, for a population of 15109 employees, the calculated required size of the sample is 306 according to (Krejcie & Morgan, 1970). The focus is on industrial sectors because of their direct impact on the environment, reputation of being competitive, and quickly learning. Industrial sectors require diligence on the part of its members to create and maintain TQM and organizational learning. Stratified random sampling also is employed to choose the respondents for this research. The questionnaires were sent through emails to the respondents from the first of April until June 2022.

3.2 Measurement Instrument

After a thorough analysis of the literature on overall quality management, organizational learning, and strategic thinking, the questionnaire was created. The researchers adapted items for TQM practices from the measurement instruments of Agyabeng-Mensah et al. (2020). We adapted items for organizational learning from the studies of Izwan and Azman (2015). Finally; adapted items for strategic thinking from the study of Dhir et al. (2018). The items used to measure TQM practices were scored on a five-point Likert scale, where 1 denoted strongly disagree and 5 denoted strongly agree.

3.3 Statistical Analysis

The respondents' characteristics

To get the results of the respondents' characteristics, the study relied on frequencies and percentages. The 306 respondents were distributed according to gender, age, practical experience and education. All of the participants are employees of SMEs

which are registered and available in the Ministry of Industry and Trade, and the Jordanian Chamber of Commerce records to April 2022. 48.6 % of the participants are females, 51.4 % are males. This low variation between the two genders indicated that managerial positions are available to females as they are for males. When it comes to age 21.7 % were less than 30 years old, 49.7 % were between 30 to 40 years old, 28.6% of the respondents were more than 40 years old. The diversity of participants' age denoted that age is not an obstacle for managing SMEs. The results highlighted the efforts of the Jordanian civil society organizations and the government that aim to support and empower young graduates to run their own (small and entrepreneurial businesses). According to education: 30.5 % of the respondents have a diploma, 62. 8% have B.A in different specializations. Moreover, the rest 6.7 % have master's degrees. All the participants have a minimum 5-year practical experience in general. Within the same context Fink, & Kraus, (2009) pointed out that managing small and medium size projects requires knowledge, awareness, and experience in addition to time and effort devotion. Based on the results the participants have a convenient qualification to handle project management successfully.

3.4 The questionnaire reliability (the internal consistency)

To identify the internal consistency of the questionnaire questions, Cronbach's alpha was used, according to Sekaran, & Bougie, (2016) this measurement gives insights of the degree to which the items of the scale are closely related as a group. If the value exceeds 0.70 this is an indication that the questions of the variables are internally consistent. The results of TQM = 0.821, Organizational learning = 0.795, and Strategic thinking = 0.860. Consequently, based on the results the study instrument is reliable, all the values are > the threshold (0.70).

3.5 Descriptive statistics analysis results

This part aimed to assess the degree of applying the 3 variables by the Jordanian SMEs. One sample t test was employed, with p value = 5% and (3.5) as the comparison mean. Based on the results in Table 1 the mean of total quality management = 3.838. This value indicates a satisfactory level of applying TQM principles, mainly customers' satisfaction, which necessities, quality planning, quality at the source, quality assurance and quality control. Table 1 shows a high level of strategic thinking among the Jordanian SMEs managers, the mean value = (4.35) revealed that they have future insights, systems thinking accompanied with risk taking and prospective planning. While the arithmetic mean of organizational learning = 3.871, indicated a convenient level of learning existed in the surveyed SMEs, according to the participants view the projects management are concerned with developing the skills and capabilities of all the staff, who are provided with up to date continuous training joined with personal mastery and empowerment. The project managers are keen to reward learning, and creativity, encouraging experimentation, information and knowledge transfer and sharing. All these elements dominated the internal environment of the projects. The values of t sig of all the variables = 0.000, since it is less than 0.05 revealed an application of all the three variables in the Jordanian SMEs.

Table 1
Descriptive analysis and (one sample t test) results

Variables	Mean	Standard deviation	T value	T sig
TQM	3.838	.33466	17.736	0.000
Strategic Thinking	4.358	.45071	33.448	0.000
Organizational learning	3.871	.26389	24.719	0.000

N= 306

4. Hypotheses testing

The study is intended to test first the impact of TQM as a single variable on organizational learning as a single variable either.

H1: *There is a statistically significant impact of TQM on Organizational Learning.*

As a next step to test the moderating role of strategic thinking in improving the impact of TQM on organizational learning

H2: *Strategic thinking has a statistically significant role as a moderator in improving the impact of TQM on Organizational Learning.*

4.1 The first hypothesis results

To test the first hypothesis, simple regression was used with p value = 0.05. The rule for accepting H1 the researchers depend on the value of t sig, if this value is less than 0.05 the hypothesis will be accepted.

Table 2
The first hypothesis (H1) results (simple regression)

Model 1	Model summary		ANOVA		Standardized coefficient	Standardized coefficient	T	T Sig
	R	R ²	F	F sig				
Predictor					B	Beta		
TQM	0.589	0.347	163.459	0.000	0.465	0.589	12.785	0.000

Table 2 shows that there is a moderate positive relationship between TQM and organizational learning based on the value of R (Pearson correlation) which = 0.589. The value of the coefficient of determination R^2 (0.347) denoted that 34.7 % of the positive variation in organizational learning is explained by TQM. The sig value of F (0.000) < 0.05 proved that there is an impact of the independent variable (TQM) on the dependent (organizational learning). However, the coefficient parts according to Beta value expressed the impact power of TQM on organizational learning, B value indicated that an increase in TQM by one unit will increase the organizational learning by 46.5%. The value of t sig (0.000) < 0.05 proved that this impact is statistically significant. Based on the above-mentioned results, the first hypothesis (H1) will be accepted.

4.2 The results of testing the second hypothesis

Table 3

The results of testing the second hypothesis (hierarchical regression results)

Model	R	R ²	R ² change	F	sig	F change	Beta	T	T sig
1	0.589	0.347	0.347	163.459	0.000	163.459	3.638	7.642	0.000
2	0.657	0.431	0.084	116.111	0.000	45.218	2.841	8.576	0.000
3	0.779	0.607	0.175	156.892	0.000	136.002	4.470	7.038	0.000

To test the moderation effect of strategic thinking in the relationship between TQM and organizational learning the hierarchical regression was calculated. The researchers relied on three steps with 3 models as follows:

In the first step, the impact of TQM on organizational learning was calculated to confirm a statistically significant impact of the independent variable on the dependent based on t sig = (0.000). With R value =0.589 and $R^2 = 0.347$ and Beta = 3.638. In the second step, the strategic thinking impact on organizational learning was tested, with F= 116.111 at (0.000) sig level, and t = 8.576 at (0.000) sig level. The results of the 2nd model revealed a statistically significant impact of the moderator variable on the dependent, with R value = 0.657 and $R^2 = 0.431$, and Beta = 2.841. In the third step, model the interaction between TQM and strategic thinking impact on organizational learning was tested. The results in Table (3) show that R = 0.779 and $R^2 = 0.607$ and Beta = 4.470, with an increase in comparison of the first and second steps/ models. The T value = 7.038 at 0.000 sig level proved that there is a statistically significant impact of the interaction between TQM and Strategic thinking on organizational learning. The change in $R^2 = 0.175$ revealed that the impact of TQM on organizational learning improved by 17.5% with the existence of strategic thinking. Based on the above mentioned results, the second hypothesis (H2) will be accepted.

5. Discussion

It is clear that the debates and research on TQM, strategic thinking, and organizational learning that have been going on since the beginning of historical development are still relevant and important now. As social researchers, our goal was to comprehend how these notions, which make up the majority of modern business life, relate to one another and to translate them into both theory and practice. Throughout this context, strategic thinking is recognized as a significant antecedent of organizational learning, and TQM has a significant impact on both individual and organizational learning. As a result, the impacts of TQM on organizational learning were investigated as well as the moderating effects of strategic thinking.

As H1 (*there is a statistically significant impact of TQM on organizational learning*) is supported, it reveals the reality that organizational learning will be favorably impacted if the organization adopts TQM. The findings indicate that the implementation of TQM is a significant antecedent of organizational learning. The results are in line with the Cognitive Learning Theory since one of the basic tenets of organizational learning theory is that learning takes place when individuals engage while identifying and resolving problems (Basten & Haamann, 2018; Tucker, Edmondson, & Spear, 2002). TQM procedures appeared to promote higher organizational learning, allowing for improved outcomes, an increase in the capacity for creativity, and the ability to learn again from an organization's changing environmental conditions (Dahlgaard, Reyes, Chen, & Dahlgaard-Park, 2019; Tuomi, 2012). TQM is successful when it enables firms to learn more, innovate more, and respond to quality issues more effectively (Ali & Johl, 2022; Chaudhry, Awan, Bilal, & Ali, 2018; Chienwattanasook & Jermstipparsen, 2019; Yazdani, Attafar, Shahin, & Kheradmandnia, 2016). From this vantage point, constant quality implementation is crucial for developing a learning organization.

Given that recent research has shown that strategic thinking moderates the relationship between talent management and core competence; entrepreneurial orientation and SME performance; and leadership style and decision-making (Balasubramaniam, Salamzadeh, Richardson, & Plakhin, 2021; Bani-Hani, 2021; Muhammed & Abdulkadir, 2021), it suggests that strategic thinking may indeed play a moderating role between TQM and organizational learning. In the same context, our finding support H2 (*Strategic thinking has a statistically significant role as a moderator in improving the impact of TQM on Organizational Learning*), the results unambiguously demonstrate that strategic thinking acts as a moderator between TQM and organizational learning and that both TQM and strategic thinking are significant contributors to improving organizational learning. Likewise, previous research has shown that TQM and strategic thinking concentrate on identifying and developing exceptional chances to provide value to an organization (Kaplan & Norton, 2001; McAdam, Leonard, Henderson, & Hazlett, 2008). Even though Leonard and McAdam (2002) discovered that the bulk of corporate strategic processes and the most important strategic drivers are outside the TQM environment. With the addition of strategic thinking to the equation, the current study builds on these ambiguous results and broadens the argument.

5.1 Managerial and Theoretical Implications

Fewer researchers have tried to study the connection between TQM and organizational learning. The lack of studies has led to a variety of theories regarding the relationship between TQM, strategic thinking, and organizational learning. This study expands on the conventional understanding of strategic thinking as a moderator of the connection between TQM and organizational learning. Additionally, in contrast to studies done in a western environment, the researchers tested the proposed framework in Jordan, a non-western nation. By doing so, we would be able to better comprehend TQM, strategic thinking, and organizational learning in situations that reflect the distinct cultures and characteristics of Arab nations. Previous research has established the implicit assumption that TQM may support learning organizations while ignoring the role played by the setting and prevailing organizational norms. Exploring the moderating impact of strategic thinking reveals key factors thought to be crucial for enabling TQM's role in encouraging learning in organizations. Our research highlights the fact that strategic thinking presents opportunities for businesses to support instructional managers in using critical thinking to address difficult issues related to the delivery of learning and plan for future teaching and learning outcomes that will be successful.

The current study suggests and offers numerous pieces of management advice for managers in Jordanian SMEs, which has substantial practical and managerial significance. TQM and its practices that support and provide SMEs a helpful environment for learning. The findings of this study demonstrate how TQMs can assist SMEs in identifying related work learning gaps and providing the appropriate training, education, or mentoring to fill such gaps. The conclusion from this research for SMEs managers is that TQM promotes learning, thus managers should be aware of this and ensure that TQM is offered. SMEs employees should be encouraged to apply TQM more frequently in this situation to boost their learning. Additionally, TQM and strategic thinking improve SMEs' capacity to develop a workable strategy to support problem solving, goal achievement, stronger competitiveness, increased productivity, and decreased costs.

5.2 Limitations of the Study and Future Study Directions

There are certain limitations to this paper. First, the cross-sectional research strategy used in this study has limitations when it comes to inferring causal relationships. We encourage future research that can establish causation through a longitudinal research design. Second, we performed questionnaire surveys in industries that were listed on the Amman Stock Exchange, which to some extent resulted in a lack of sample variety. As a result, future studies can be carried out with a larger geographic focus to produce more abundant and thorough conclusions. Third, while the researchers considered other significant constructs that influence organizational learning, such as knowledge management and organizational culture (Antunes & Pinheiro, 2020; Basten & Haamann, 2018); various organizational leadership styles (Pasamar, Diaz-Fernandez, & de La Rosa-Navarro, 2019; Xie, 2018); and HRM practices (López-Cabrales, Real, & Valle, 2011), in the current research, we only examined the effects of TQM and strategic thinking. As a result, to better understand the mechanism of TQM's influence on organizational learning, future studies are advocated to be conducted with a more dynamic framework that considers such constructs. Finally, this study lays the groundwork for further investigation into the connection between TQM, strategic thinking, and organizational learning.

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