

Article

The Impact of Learning Organization on Intrapreneurship: The Case of Jordanian Pharmaceuticals

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Abstract: Due to the competitive and uncertain environment nowadays, organizations could respond to these environmental factors effectively by being more learning-oriented, where individuals and teams are encouraged to constantly learn and grow and knowledge is shared and disseminated throughout the organization. This may allow the organization to better understand its environment and respond to changing circumstances in a more effective and efficient way. By improving the organization towards learning organization, the organization could continuously improve its ability to adapt and change through the acquisition and application of new knowledge and skills. Moreover, intrapreneurship could assist organizations in adapting to internal and external environmental changes, which in turn could help firms to innovate and revitalize their businesses. To actualize this study, data were gathered from 263 managers in Jordanian pharmaceutical companies. The collected data were coded against SPSS 25, then normality, validity, and reliability were tested and multiple regressions were used to examine the hypotheses. Thus, this research found an effect for learning organization dimensions (supportive learning environment, concrete learning processes and practices, leadership that reinforces learning, and creating learning structures) on intrapreneurship the context of Jordanian pharmaceutical companies.

Keywords: learning; innovativeness; proactiveness; corporate entrepreneurship; intrapreneurship; Jordan



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1. Introduction

The term learning organization refers to an organization where employees are constantly acquiring, disseminating, and sharing new knowledge and attempt to apply that knowledge in performing their work tasks and taking decisions [1–3]. Organizations have to focus on the use of knowledge and continuous learning, which could have a significant role in the constant improvements and innovation [4]. Intrapreneurship (corporate entrepreneurship) is considered as a process where the employees inside organizations detect and pursue opportunities [5,6]. This process can lead to new business ventures, innovative activities and orientations for modern technology, products, services, strategies, administrative techniques, and competitive postures [7,8]. Intrapreneurs might have the ability to transform the ideas into valuable results; therefore, they are not necessarily idea generators. They can seek and stimulate business ventures, product innovation, and strategic renewal activities [9,10]. Intrapreneurship could assist the organizations in adapting to internal and external environmental changes, which in turn could help firms to innovate and revitalize their businesses [11–13]. Moreover, intrapreneurship could be a useful solution to resolve a range of complexities and guide innovation advancement in organizations [14–16]. Moreover, intrapreneurial initiatives could improve the organizational performance by gaining

a competitive advantage [17]. By combining the concepts of a learning organization and intrapreneurship, organizations may create an environment where employees are empowered to think creatively, take risks, and develop new ideas that can lead to growth and increased success. This can lead to a culture of innovation and continuous improvement, resulting in a sustainable competitive advantage.

This research examines the importance of various dimensions of these concepts and investigates the relationship between learning organization and intrapreneurship. The literature review section covers the key definitions, dimensions, and importance of the relevant concepts and the related areas to formulate the research gaps. Evident knowledge gaps emerged from the review of the relevant literature. Accordingly, a new framework was developed. The framework explores the learning organization by combining various dimensions “supportive learning environment, concrete learning processes and practices, leadership that reinforces learning, and creating learning structures”. At the same time, intrapreneurship is defined by combining the dimensions of “new business venturing, innovativeness, self-renewal, proactiveness, and risk-taking”. The research is conducted in a developing economy, the pharmaceutical sector in Jordan.

Jordan is considered one of the leading developing countries in pharmaceutical manufacturing. The pharmaceutical sector is one of the most important sectors, with success stories for Jordanian pharmaceutical firms both locally and globally. The pharmaceutical sector is the kingdom’s second-largest exporter; about 75 per cent of pharmaceutical products manufactured in Jordan are exported to 80 countries around the world. This sector pays massive attention to R&D and is continually looking to sustain its achievements and working to improve competitiveness locally and globally. The president of the Jordanian Association of Pharmaceutical Producers mentioned that the sector has the procedures for growth and success, commending the ministers’ interest in expanding exports to other countries and achieving pharmaceutical security. Over the past decade, the pharmaceutical industry has faced global challenges, prompting pharmaceutical manufacturers to aim to gain new sources of profit and shifting their focus to developing markets. Accordingly, it is expected that developing markets might sustain the growth of the global pharmaceutical industry.

2. Literature Review

After an extensive review of the literature, it could be concluded that various scholars have explored different elements, characteristics, and instruments to investigate and diagnose the implementation of the learning organization.

2.1. Learning Organization

There are four main tools used in the literature to measure the learning organization, as described below.

2.1.1. Dimensions of the Learning Organization Questionnaire (DLOQ) Developed by [18]

The DLOQ was developed by [18]. It has been used internationally in fourteen different countries, denoting that there is a perceived utility in a diversity of cultural contexts [19]. Moreover, ref. [20] mentioned that the framework of the learning organization developed by [18] has several important features that provide a broad and lucid definition of the learning organization concept and contains a sufficient measurement domain. Moreover, refs. [18,21] mention that the DLOQ has been used in different sectors, such as governmental organizations, profit/nonprofit organizations, and non-governmental entities. The DLOQ has been examined in different cultures and has been translated into at least fourteen languages, for example Spanish, Chinese, Arabic, Taiwanese, Korean, Portuguese, Turkish, Malaysian, and Persian. The reliability result estimated for these versions was stable, with most of the Cronbach’s alpha values over (0.8). Marsick and Watkins’ approach is focused on the organization’s culture and what is embedded in it more than action imperatives and specific behaviors.

2.1.2. The Fifth Discipline Developed [22]

The Fifth Discipline by Senge [22], revealed that there were five core disciplines of the learning organization “building shared vision, mental models, personal mastery, team learning, and systems thinking” which are considered as vital dimensions in building organizations that can continually and genuinely learn. The studies conducted by [23,24] indicated that most of the studies that implemented Senge’s model used a qualitative method and that there were many different interpretations, various understandings, and views for Senge’s model. However, other scholars developed surveys using the model in [22], such as [24–27]. The key dimension in Senge’s model is system thinking, advocating that the key way to influence events is to modify the system [28].

2.1.3. A Typology of the Idea of the Learning Organization Developed [29]

Örtenblad started writing about the learning organization concept in [30] by differentiating between organizational learning and learning organization. In [29], Örtenblad presented a typology of the idea of the learning organization. The typology is inductively developed based on the literature and practitioners used the term learning organization; it includes four aspects (learning at work, organizational learning, developing a learning climate, and creating learning structures) [31]. Although Örtenblad has published different books and articles such as [23,29–37] that are related to the learning organization typology, there are no studies that have used Örtenblad aspects to measure the learning organization.

2.1.4. The Building Blocks Developed by [38]

The concept of the building blocks of learning organization was introduced for the first time in [38]. There are three building blocks, including “supportive learning environment, concrete learning processes and practices, and leadership that reinforces learning”. The building blocks presented a concrete, comprehensive instrument to enable an organization to assess its learning and compare it against the benchmark scores of other organizations [39]. The authors have mainly used the [38] instrument with a quantitative method. Garvin’s research focuses on works that reinforce an organization’s capacity to learn [40]. Table 1 summarizes the learning organization dimensions by the main authors in the field.

Table 1. Learning Organization Dimensions.

Author/Tool Name	Dimensions
The Fifth Discipline [22]	• mental models • personal mastery • building shared vision • systems thinking • team learning
Dimensions of the Learning Organization Questionnaire DLOQ [18]	• connect the organization to its environment • promote inquiry and dialogue • encourage collaboration and team learning • create continuous learning opportunities • empower people toward a collective vision • provide strategic leadership for learning • create systems to capture and share learning
A typology of the learning organization [32]	• learning at work • organizational learning • developing a learning climate • creating learning structures
Three building blocks [38]	• a supportive environment • concrete learning processes • leadership that reinforces learning

From the overview of the different learning organization measurement tools (above), it could be concluded that there are similarities and differences between these works. The supportive learning environment in [38] could be similar to the developing a learning climate in [41], whereas the concrete learning processes and practices in [38] could be compared with the organizational learning in [41]. Additionally, the leadership that reinforces learning in [38] could be reflected in the learning at work and learning climate in [41]. On the other hand, refs. [18,38] could be meeting in the following views: first, the importance of the connection between the learning organization and the external environment and second, the importance of creating a learning system to pick up and share the learning across the organization [40]. Additionally, refs. [22,38] are similar in that they have focused on the learning process of the managers to proceed in new ways, whereas ref. [18] focused on embedding the learning in the organization's culture [21]. In contrast, the DLOQ that was developed by [18] is mainly a quantitative instrument that has been used internationally in fourteen different countries and been translated into at least fourteen languages [18,19,21,40]. Likewise, the three building blocks survey developed in [38] has been mainly used by the authors with a quantitative method. Conversely, the fifth discipline developed by [22] was mostly used with the qualitative method, and there are many different interpretations and various understandings and views for Senge's model [23,24]. Finally, although Örtenblad published different books and articles that are related to the learning organization typology, there are no other studies that have implemented Örtenblad's aspects to measure the learning organization.

This research explores the learning organization by combining [38] in terms of three dimensions "supportive learning environment, concrete learning processes and practices, and leadership that reinforces learning" and one aspect (creating learning structures) developed in [32]. There are no previous studies that examine learning organization by combining the dimensions "supportive learning environment, concrete learning processes and practices, and leadership that reinforces learning" with the aspect (creating learning structures).

2.2. The Relationship between Learning Organization and Different Concepts

2.2.1. Learning Organization and Employee's Satisfaction, Job Involvement, and Commitment

In the literature, various authors have explored the relationship between learning organization and different concepts, such as: employee's satisfaction, job involvement, and employee's commitment and performance. For example, refs. [42–46] employed quantitative methods using the Dimensions of the Learning Organization Questionnaire (DLOQ) to measure the learning organization. They found that learning organization positively impacts employee satisfaction, job involvement, employee commitment, and performance. In the same context, other scholars, such as [47,48], used a quantitative method to explore the relationship between the learning organization and job satisfaction, using the five disciplines of learning organizations developed in [22] to measure the learning organization. They found a positive relationship between the dimensions of learning organization and job satisfaction. They stated that with the presence of the learning organization, employees might be able to exchange knowledge, opinions, and ideas; thus, they could improve their ability to solve problems and be innovative. From another perspective, ref. [49] used the seven dimensions of the DLOQ to measure the learning organization. The findings revealed that the direct effect of the learning organization on the employee's job performance was not significant, although there were indications that cultural factors influence employee's performance along with behavioral factors, so more attention to the employee's individual behaviors, self-efficacy, and work engagement should be given.

2.2.2. Learning Organization and Knowledge Management

The concept of the learning organization and knowledge management are overlapping, as both focus on the knowledge processes [50]. An investigation by [51,52] about

the impact of organizational learning on the knowledge management practices used the seven dimensions of the DLOQ. The findings showed that all the dimensions of learning organization have a positive relationship with knowledge management practices. Similar results were found in another study [53] using the Learning Organization Practice Profile instrument that was developed in [54]. They indicated that learning organization and knowledge management are mutually reinforcing concepts and that the objective of both concepts is to support knowledge gaining, collecting, and using by developing teamwork, openness, and a culture of trust between the employees.

Furthermore, ref. [55] explored the connection between learning organization and knowledge management theoretically using the five-discipline model improved by [22]. The findings showed that the learning organization disciplines positively influence knowledge management processes, explaining that the knowledge management processes and the learning organizations are considered as two sides of the same coin.

From another perspective, ref. [56] found that culture is one of the most critical barriers for knowledge management implementation in which employees do not share and disclose knowledge because they consider it as a threat to their job security. Hence, the organization has to create a culture that focuses on and encourages learning.

2.2.3. Learning Organization and Innovation

There are various studies that have discussed the innovation concept; for example, ref. [57] stated that organizational innovations are the adoption of a new organizational method related to business practices, workplace organization, and external relationships. Moreover, ref. [58] indicated that product innovation provides the novel and unique use and characteristics of the products or services and responds to the changing customer's needs. Although [59] argued that innovation is not limited to the development of new service or product, it is also the development of the organization's administrative system, management processes, and employee's motivation that enable the organizational change and adaptation. Thus, innovation is considered to be an essential key for organizations to thrive, which provides a means to respond to the regulatory, economic, social, and technological changes [60].

2.2.4. Learning Organization and Organizational Performance

Other studies have examined the relationship between learning organization and organizational performance. For example, ref. [45] explored the impact of a learning organization on organizational performance with the mediating role of organizational commitment. The results showed that there was a positive relationship between learning organization and organizational performance. They suggested that the organizations that seek to be learning organizations have to take into account the organizational commitment to improving their performance.

From another perspective, ref. [61] explored the impact of organizational learning on performance using the seven dimensions of the DLOQ in Pakistan. The findings revealed that just two dimensions (systems connection and inquiry and dialogue) out of the seven dimensions have a significant positive impact on organizational performance. In contrast, the other five dimensions (embedded systems, teamwork, leadership, continuous learning, and empowerment) had an insignificant relationship with the organizational performance. This is in line with the study reported in [62], which examined the effect of learning organization culture on organizational performance using the DLOQ to measure learning organization in Kenya. The results showed that the dimensions of collaboration and team learning and continuous learning had a positive but weak relationship with organizational performance, whereas employee empowerment had a positive but average relationship with the performance. The dimensions of strategic leadership, embedded systems, inquiry and dialogue, and systems connection had a significant positive relationship with the performance. The study recommended future research to measure the dimensions over a long time and explore how long the changes in learning take to improve

the performance. Moreover, ref. [63] explored the impact of learning organization on organizational performance using a questionnaire with eight parameters, namely “Shared vision, Synergy, Holistic frame, Empowerment, Internality, Learning, Strategic thrust, and Information flow”, to measure the learning organization. The results revealed that the learning organization affected organizational performance to a minimal extent. They recommended future research to extend the sample to more consultancy firms and a higher number of participants.

2.3. Intrapreneurship

Some researchers took the broadest definition of intrapreneurship, i.e., it is the entrepreneurship implemented by the employees in the established organizations regardless of its size [14,64,65]. Other researchers, such as [66,67], used a narrow definition for the intrapreneurship by focusing on corporations and excluded small organizations. However, others have focused on new venture teams and joint ventures, such as [68–71].

Some authors have closely connected intrapreneurship with entrepreneurship. For instance, refs. [5,8] stated that intrapreneurship is “entrepreneurship within the existing organization”. However, other authors have highlighted some key differences between these two concepts (intrapreneurship/entrepreneurship); for example, refs. [72–74] indicated that the main differences between intrapreneurs and entrepreneurs are summarized into two categories: first, intrapreneurs make risky decisions using the organization’s resources; thus, they may be apprehensive about taking risks to protect their positions in the organization. However, entrepreneurs make risky decisions using their own resources and they face uncertainty and take higher risks because they believe in the considerable premiums returning if successful. Second, the locus of control; the intrapreneur’s locus of control is within the context of the organization, which includes the organizational structure, culture, and limitations, such as bureaucracy and rigid routines, whereas the locus of control for entrepreneurs is external to the organization and they identify the opportunities then will propel them into an organization.

Intrapreneurship Dimensions

In the literature, intrapreneurship has been measured using different dimensions. In addition, there are authors who build various tools to measure intrapreneurship using different titles. For instance, ref. [75] used it under the title of entrepreneurship with three dimensions: “Innovation, Risk-taking, and Proactiveness”, whereas [76] used the term entrepreneurial posture and the dimensions of “Innovativeness, Proactiveness, and Risk-taking”. Other authors, such as [77,78], referred to the corporate entrepreneurship using the dimensions: “Strategic Renewal, Venturing, and Internal Innovation”. However, ref. [79] argued that it is related to the entrepreneurial orientation in terms of five dimensions: “Risk-taking, Autonomy, Competitive aggressiveness, Proactiveness, and Innovativeness”. In a similar vein, ref. [80] argued that if these categorizations of intrapreneurship are integrated, there will be eight dimensions (new ventures, new business, process innovativeness, product/service innovativeness, proactiveness, risk taking, self-renewal, and competitive aggressiveness). As a result, refs. [5,81] indicated that intrapreneurship has four main dimensions “Self-renewal, New business ventures, Proactiveness, and Innovativeness”. Nevertheless, several studies have used more than four dimensions to intrapreneurship, such as [82], who discussed theoretically five dimensions of intrapreneurship (proactiveness, new business venturing, innovativeness, risk taking, and self-renewal). Moreover, ref. [11] explored six dimensions of entrepreneurship (proactiveness, competitive energy, innovation, autonomy, risk/uncertainty, and risk/challenges). Furthermore, ref. [83] discussed six dimensions of intrapreneurship (new business venturing, self-renewal, entrepreneurial/organizational learning, innovativeness, entrepreneurial leadership, and proactiveness). The following “Table 2” summarizes the work of the main authors in the field.

Table 2. Intrapreneurship Dimensions.

Concept/Author Name	Dimensions
Entrepreneurship [75]	• Innovation • Risk-taking • Proactiveness
Entrepreneurial posture [76]	• Risk taking • Innovativeness • Proactiveness
Corporate entrepreneurship [77,84]	• Internal innovation and venturing • Strategic renewal
Entrepreneurial orientation [79,85]	• Competitive aggressiveness • Autonomy • Proactiveness • Risk taking • Innovativeness

Developed by the authors.

This research examines the intrapreneurship by combining the four dimensions of [5] and the risk-taking dimensions in [75,76,79,85] for several reasons: First, risk taking is an essential dimension of intrapreneurship [86–90].

Second, the four dimensions of [5] is combined between two scales. The ENTRESALE and the CORPORATE ENTREPRENEURSHIP scale. As there are insufficient studies that examine intrapreneurship by combining the four dimensions (proactiveness, new business ventures, self-renewal, and innovativeness) in [5] (which combined the ENTRESALE and the CORPORATE ENTREPRENEURSHIP scale) and risk taking, which is an essential dimension in various works, such as [75,76,79,85].

2.4. Hypothesis Development

In a highly competitive environment, organizations are under pressure to adopt best practices and position themselves in the market to sustain themselves and grow innovatively. Organizations have to create an innovative culture, enhance the learning and support of employees at all levels to boost the intrapreneurs' opportunities, gain new ideas, and take risks [91,92]. Organizations have to focus on the use of knowledge and continuous learning, which have a significant role in the continuous improvements and innovations [4,93]. Learning is a core key in corporate entrepreneurship, where it allows the intrapreneurs to gain or improve their business skills, habits, knowledge, and attitudes [94,95]. Furthermore, the improving organizational culture so that employees can learn, share knowledge, and have the opportunity to express their new ideas is considered as one of the significant elements to developing intrapreneurship [96]. In the same context, refs. [12,97–99] demonstrated that intrapreneurship is an essential element in the development of the organization; thus, it is crucial to explore the factors that boost intrapreneurial activities.

In the literature, several studies have examined the importance of learning with intrapreneurship. For example, ref. [100] explored the relationship between learning organization dimensions (using the seven dimensions of the DLOQ) and intrapreneurship in terms of "Incentive Policy, Structural Flexibility, Entrepreneurial Cultural, Task Innovation, Entrepreneurial Employee, and Entrepreneurial Leadership" in Razi University in Iran using a quantitative method. The findings showed that there was a positive relationship between university learning and intrapreneurship. They recommended that in order to implement intrapreneurship, a learning culture should be created to encourage the employees to learn continuously, innovate, discover, and share knowledge. In addition, they suggested that learning organization could lead to the improvement and development of intrapreneurship.

Moreover, ref. [101] explored the relationship between organizational learning and intrapreneurship and how the pertinent concepts are interrelated by applying a case study of three companies in Portugal and employing a qualitative method. They did this using the organizational learning dimensions (organizational culture, organizational structure, information/knowledge sharing, and leadership), whereas they studied the intrapreneurship in terms of (environment open to change, proactiveness, creativity, innovation, management style and orientation, risk taking, informal organizational structure, transparent communication, and long-term strategy). They found that both concepts were interlinked and that the dimensions of the two concepts were interdependent and interrelated. The limitation of the study revealed that the dimensions of the two concepts in the study shared the same characteristics and were mutually dependent. Additionally, more scrutiny is needed for the study framework to examine the relationship between the two concepts. The study recommended future research to explore the relationship between the two concepts using other dimensions and different methods to support the interdependencies of the concepts.

In the same vein, ref. [102] theoretically examined the role of the learning organization dimensions (using the DLOQ dimensions) in intrapreneurship dimensions (competitive aggressiveness, proactiveness, risk taking, and innovativeness) and organizational performance. The findings revealed that intrapreneurship mediates the relationship between the mentioned concepts. In a different study [103] that theoretically investigated the relationship between learning organization and intrapreneurship with the moderating effect of organizational factors. They discussed how learning organizations (using the DLOQ dimensions) could be linked to intrapreneurship in terms of competitive aggressiveness, innovativeness, proactiveness, and risk taking. The study elaborated on how organizational factors, such as management support, organizational structure, reward systems, organizational culture, and resource availability, moderate the relationship between the two concepts. The aforementioned studies recommended further empirical research to explore the link between learning organization and intrapreneurship.

Other authors, such as those from study [104], investigated the relationship between an independent variable (learning organization) and an independent variable (entrepreneurship activity) in the scientific faculty members from Urmia University in Iran. They did this using a quantitative method and employing the model from [22] to measure the learning organization and four key elements to measure the entrepreneurship activity (executing new economic and entrepreneurial activities, self-renovation, effectiveness, and innovation). The findings revealed that there was a positive relationship between the learning organization dimensions and the entrepreneurship activities of the scientific faculty members. Accordingly, the study suggested that developing a learning culture, creative environment, and integration between the employees could lead to entrepreneurship inside the organization.

Other studies were more focused on exploring the relationship between learning organization culture and other variables such as organizational performance and organizational innovativeness. For instance, refs. [105,106] examined the relationship between learning culture and two dependent variables (organizational performance and innovativeness) in Malaysia using the seven dimensions of the DLOQ and employing a quantitative method. The findings of these studies revealed a positive relationship between learning organization culture and the other variables. These studies used only one dimension of intrapreneurship (innovativeness). They recommend future research to explore this relationship with other variables to give a better understanding of the relationship.

Relationship between Learning Organization and Intrapreneurship

In summary, this research contributes to the body of knowledge by bridging the gaps that were identified in the literature review. First, although numerous articles have investigated the relationship between learning organization and other concepts, such as leadership, human resource practices, employee satisfaction, job involvement, employee commitment and performance, knowledge management practices, innovation, and orga-

nizational performance, it is nevertheless apparent that there are insufficient studies that have explored the relationship between learning organization and intrapreneurship. This limitation, coupled with the recommendation of the studies, showed the need to further examine the relationship between learning organization and intrapreneurship.

Second, the following studies recommended future research to explore more antecedents that enhance intrapreneurship. For example, refs. [107–111] explored five factors (organizational boundaries, rewards/reinforcement, work discretion/autonomy, time availability, and top management support) that are considered antecedents of intrapreneurship and the importance of these factors in facilitating and improving intrapreneurship. These studies recommended future research to explore other internal factors that facilitate intrapreneurship actions.

Third, various studies [112–116] have explored other factors, such as organizational culture, vision, team management, compensation, market orientation, flexibility, and job satisfaction, as antecedents of intrapreneurial orientation. These studies revealed that these factors play an essential role in facilitating intrapreneurship actions. The investigations concluded with recommendations for future research to explore more critical factors and investigate the additional internal organizational variables that boost intrapreneurship, such as organizational systems, processes, structure, vision, strategy, and leadership.

Fourth, the previous studies were restricted in scope and context and only looked at specific types of countries without focusing on frontier countries. This study is the first study that examines the relationship between learning organization and intrapreneurship in a developing economy using the pharmaceutical sector in Jordan.

Based on the knowledge gaps that emerged from the literature review, the importance of the present study lies in developing a new framework to explore the relationship between learning organization and intrapreneurship considering the recommendations of the previous studies. Hence, this research explores learning organization by combining the aspects in [38] in terms of three dimensions “supportive learning environment, concrete learning processes and practices, leadership that reinforces learning” and one aspect (creating learning structures) developed in [32].

The rationale behind choosing these dimensions of learning organization is based on the limitation and recommendation of the reviewed previous studies in order to explore more critical factors and investigate additional internal organizational variables that boost intrapreneurship, such as organizational systems, processes, structure, vision, strategy, and leadership. Moreover, the rationale of adding the fourth aspect from [32] (creating learning structures) to the three blocks from [38] included many reasons: First, this aspect is significant in the studies [18,22]. Second, various studies, such as [36,88,109,112,117], have argued that the organizational structure is an essential factor in enhancing or hindering intrapreneurship initiatives. Third, although Örtenblad has published different books and articles such as [23,29–34,36,37,41] that are related to the learning organization typology, there are no studies that used Örtenblad’s aspects to measure the learning organization. Therefore, this study is the first study that examines the aspect of creating learning structures that presented in [31]. Moreover, this research explores intrapreneurship by employing the four dimensions (proactiveness, new business ventures, self-renewal, and innovativeness from [5] and risk taking, because these dimensions are part of the works of the main authors in the field [75–79,85]. In addition, these dimensions combine two scales (ENTRESCALE and CORPORATE ENTREPRENEURSHIP scale) as discussed previously. Furthermore, the importance of this research lies in examining the managers’ perspectives of the relationship between learning organization and intrapreneurship in a developing economy, the pharmaceutical sector in Jordan.

The below research model (Figure 1) entails testing the relationship between the learning organization as an independent variable and intrapreneurship as a dependent variable. The learning organization is defined by combining [38] in terms of three dimensions “supportive learning environment, concrete learning processes and practices, and leadership that reinforces learning” and one aspect (creating learning structures) from [32].

Intrapreneurship is defined by combining the four dimensions developed in [5] and one dimension (risk taking) from [118]. Accordingly, the following hypothesis has been developed:

H1: *There is a significant effect of learning organization dimensions (supportive learning environment, concrete learning processes and practices, leadership that reinforces learning, and creating learning structures) on intrapreneurship.*

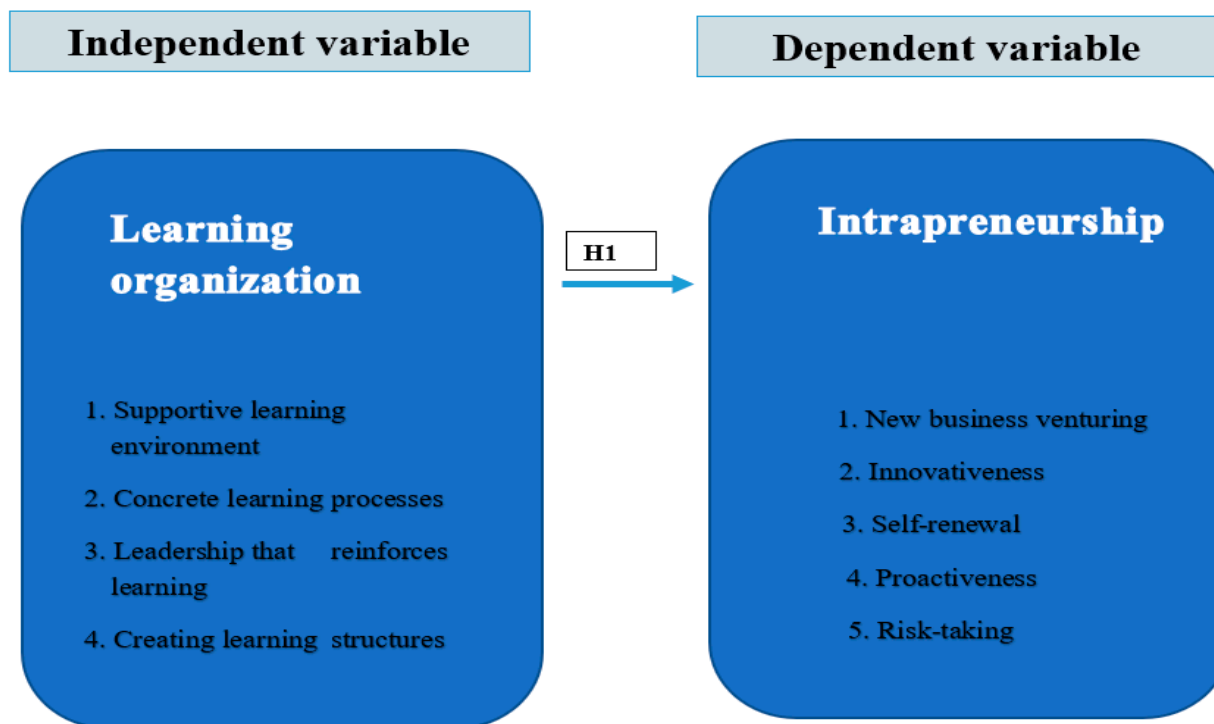


Figure 1. Research model. Developed by the authors.

3. Methodology

This research chose a survey strategy using a questionnaire to collect the data. The questionnaire of this research used a “Likert-style with five points rating scale” to increase the response rate and quality while reducing respondents’ confusion. This allows the respondents to choose one of five options (strongly disagree/disagree/neither agree nor disagree/agree/strongly agree) according to how strongly they agree or disagree with a statement. The questionnaire included 54 statements; 35 statements were divided into four dimensions: supportive learning environment, learning process and practices, leadership that reinforces learning, and creating learning structure, whereas 19 statements were divided into five dimensions: new business venturing, innovativeness, self-renewal, proactiveness, and risk taking. There are twenty-four (24) pharmaceutical companies with 787 managers; to calculate the sample size, the published tables of Krejcie and Morgan, which were published in 1970, were used. This greatly simplified the size decision by providing a table that ensured a good decision model [119]. Referring to this table, the sample size was 263 managers. The data from 263 questionnaires were used to test the hypothesis.

4. Data Analysis

4.1. Normality Test

To check the normality of the data, skewness and kurtosis are commonly used. Table 3 and Figures 2 and 3 show that the given values support the normality distribution, where all values of skewness are below the cut-off point of 3, whereas the kurtosis values are below 8. The cut-off point of skewness is 3; if the values are more than 3 it is described as severely

skewed. If the kurtosis values are above 8, it indicates severe kurtosis. The skewness values for learning organization and intrapreneurship appear negative, indicating that the majority of scores are in the upper the mean. However, the kurtosis values of both variables appear positive, which implies a higher peak (more vertical).

Table 3. Normality Test.

	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
Learning organization	−0.675	0.150	0.735	0.299
Learning environment	−0.765	0.150	0.705	0.299
Learning process and practices	−0.744	0.150	0.757	0.299
Leadership	−0.758	0.150	0.291	0.299
Continuous learning structures	−0.404	0.150	0.471	0.299
Intrapreneurship	−0.714	0.150	10.339	0.299
New business venturing	−0.539	0.150	0.997	0.299
Innovativeness	−1.099	0.150	20.269	0.299
Self-renewal	−0.764	0.150	0.793	0.299
Proactiveness	−0.741	0.150	0.449	0.299
Risk taking	−0.529	0.150	0.312	0.299

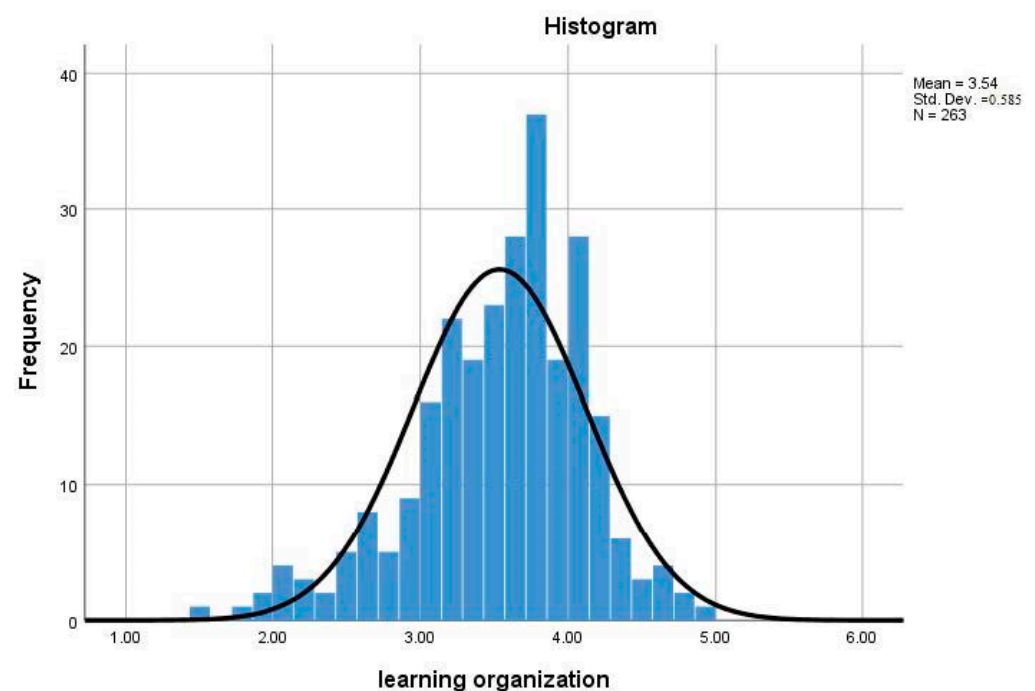


Figure 2. Learning Organization Normality Test.

4.2. Reliability Test

This research used Cronbach's alpha to assess reliability. Tables 4 and 5 show the Cronbachs' Alpha values for the independent and dependent variables. It appears that the Cronbachs' Alpha values are in the range between 0.890 and 0.950, which is more than 0.7. Therefore, the questionnaire is reliable and its items are consistent.

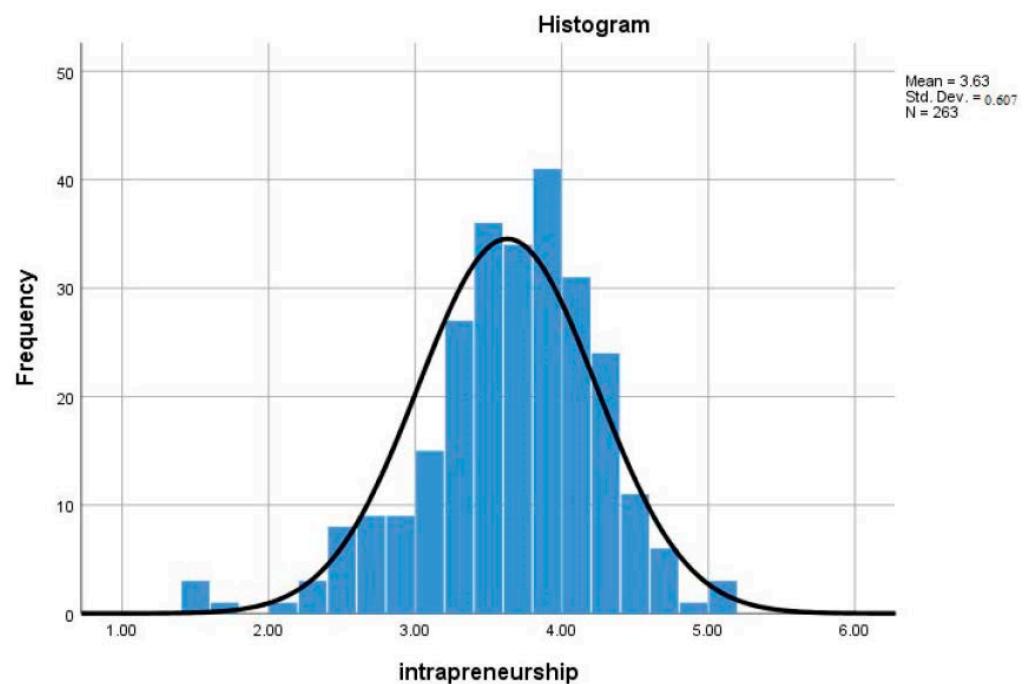


Figure 3. Intrapreneurship Normality Test.

Table 4. Reliability of Learning Organization Dimensions.

Factors	Cronbach Alpha Coefficient	Number of Items
Supportive learning environment	0.898	7
Learning process and practices	0.932	11
Leadership that reinforces learning	0.944	8
Creating learning structures	0.897	9

Table 5. Reliability of Intrapreneurship Dimensions.

Factors	Cronbach Alpha Coefficient	Number of Items
New business venturing	0.890	3
Innovativeness	0.934	3
Self-renewal	0.940	4
Proactiveness	0.950	4
Risk taking	0.930	4

4.3. Hypothesis Testing

In order to test the hypothesis (H1), multiple regressions were used. Multiple regressions refer to the situation where more than one independent variable is hypothesized to affect one dependent variable. Learning organization dimensions (supportive environment, concrete learning processes, leadership that reinforces learning, creating learning structures) were entered as the independent variable and intrapreneurship was entered as the dependent variable to obtain the results of the regression analysis from SPSS. The results of testing the hypothesis are demonstrated in the following “Table 6”.

Table 6. Multiple Regression Test—H1.

	R	R ²	Adjusted R ²	F-Value	Sig	Standardized Beta	t-Value	Sig
Constant	0.741	0.548	0.541	78.345	0.000			
Supportive learning environment						−0.091	−1.634	0.103
Concrete learning processes and practices						0.425	6.367	0.000
Leadership that reinforces learning						0.298	4.326	0.000
Creating learning structure						0.170	3.077	0.002

Developed by the authors.

The correlation coefficient $R = 0.741$ indicates that there is a positive correlation between learning organization dimensions (supportive environment, concrete learning processes, leadership that reinforces learning, and creating learning structures) and intrapreneurship. This proves that the independent variables and dependent variables change in the same direction.

The coefficient of determination (R square) is an indication of the goodness of fit of the regression model. It demonstrates the percentage of variance in the intrapreneurship that is explained by the variation in the learning organization. The value of $R^2 = 0.548$ indicates the number of variations in intrapreneurship that are accounted for by the fitted model and have been explained by learning organization dimensions (supportive environment, concrete learning processes, leadership that reinforces learning, and creating learning structures). The adjusted R^2 indicates the generalized ability of the model. It describes the generalization of the results of the sample to the whole population. The adjusted R^2 value of 0.541 is close to the value of $R^2 = 0.548$. If the adjusted R^2 is excluded from R^2 , the value will be $0.548 - 0.541 = 0.007$. That means if the whole population participates in the research and the model has been fitted then there will be 0.7% reduction in the variance of the outcome.

The next step is the analysis of variance (ANOVA). The results of the ANOVA show that the F-ratio = 78.345, which is significant at the level of $p < 0.05$ (sig. < 0.000). This result indicates that there is a less than 5% chance that an F-ratio of this value would occur by chance alone. Since the p -value is smaller than the level of significance (0.05), the hypothesis is accepted at a $p < 0.05$ significance level. Hence, there is a statically significant relationship between learning organization dimensions (supportive environment, concrete learning processes, leadership that reinforces learning, and creating learning structures) and intrapreneurship.

The results from the coefficients table revealed that the (significance and t-) values indicate the contribution of each independent variable. A small p -value and a big absolute t-value indicate that the independent variable does contribute to the dependent variable. The results show that the dimensions of learning organization, except supportive environment, are significant contributors to intrapreneurship (p -value < 0.05). Furthermore, the standardized beta coefficient is a measure of the contribution of the independent variable to the dependent variable. The bigger value indicates that a unit change in this independent variable has a stronger effect on the dependent variable. In this research, the dimension concrete learning processes and practices has the most contribution to intrapreneurship, with $\beta = 0.425$, and leadership that reinforces learning and creating learning structures follow with β values of 0.298 and 0.170, respectively.

Therefore, these findings support the hypothesis (H1), which states “There are significant effect of learning organization dimensions (supportive environment, concrete learning processes, leadership that reinforces learning, creating learning structures) on intrapreneurship”.

5. Discussion

The findings for testing the hypothesis (H1), which states “There are significant effect of learning organization dimensions (supportive environment, concrete learning processes, leadership that reinforces learning, creating learning structures) on intrapreneurship”, showed that the dimensions of the learning organization have a strong effect on intrapreneurship.

The findings of the main hypothesis (H1) are in accordance with the studies in [4,103], which examined the role of various factors on enhancing intrapreneurship. The studies indicated that the learning process could make a behavioral change that could enhance entrepreneurial activities. Knowledge could promote problem-solving creatively, the assessment of potential opportunities, innovation, and entrepreneurial behavior. In addition, the flexible organizational structure and system could enhance the adaptation to the environments and the leaders have a key role in boosting learning and fostering entrepreneurial orientation. Moreover, the findings are aligned with other studies, such as [84], which revealed that learning could generate knowledge that enhances entrepreneurial activities and opportunities. In the context of the learning organization, ref. [38] conducted a study using four organizations with diverse sizes and locations; they revealed that leadership gained higher scores than supportive learning environment and learning process and practices. They demonstrated that leadership alone is insufficient. It could be concluded that organizations have to integrate and improve all of the dimensions of learning organization to develop an infrastructure that boosts the employment of intrapreneurship. Learning organization is considered a valuable method to promote intrapreneurship [93]. Learning organization could build a bridge between organizational systems and people by boosting individual and corporate learning, encouraging the expression of implicit knowledge, and promoting entrepreneurial practices [120,121]. Overall, the findings of this research indicate that there is a significant and positive correlation between learning organization and intrapreneurship (with $p < 0.05$).

The results revealed that there was a significant and positive correlation between learning organization and intrapreneurship. Learning organization is considered an essential antecedent of intrapreneurship and it is an integrated and interconnected process. Another significant contribution of this research is developing a new model combining various dimensions to measure the relationship between learning organization and intrapreneurship. As various studies have discussed the concept of learning organization in different industries and sectors, for instance in health care [122–125], higher education [126,127], the non-profit sector [128,129], the public sector [130], schools [131–135], and the private sector [136,137]. This research, investigating the learning organization/intrapreneurship and the relationship between them using the pharmaceutical sector is the first research—to the best knowledge of the researchers—that has examined these variables and the relationship between them in the pharmaceutical industry in Jordan.

6. Conclusions

Previous studies were restricted in scope and context to only look at specific types of countries. They did not focus on the frontier countries; there are insufficient studies that have examined learning organization/intrapreneurship in developing economies. This research examined the learning organization and intrapreneurship in the developing economy of Jordan. This research also presented a contribution to practitioners, as the theoretical framework of this research could increase the managers' knowledge about the importance of intrapreneurship and how the organization could enhance the improvement of the intrapreneurship on the individual and organizational levels.

This research also presented a contribution to practitioners, as the theoretical framework of this research could increase the managers' knowledge about the importance of intrapreneurship and how the organization could enhance the improvement of the intrapreneurship on the individual and organizational levels. Additionally, this study offers practitioners in the pharmaceutical industry a theoretical framework that can be tested

in the industry's export sector, which has exported to over 65 countries and has a value of roughly JOD 500 million, making it Jordan's first exporting industrial sector and the second-largest exporter overall. Due to the various circumstances under which Jordan lives, this sector is frequently susceptible to tremors and crises. The findings of this study may therefore be crucial for workers and practitioners to understand how organizational learning affects intrapreneurship in this industry.

7. Limitations and Avenues for Future Research

This research investigated the relationship between learning organization and intrapreneurship. Future research could use the developed instrument of learning organization to investigate other relationships between learning organization and other variables. In addition, the developed model investigated the direct relationship between learning organization and intrapreneurship. Future research could use mediating or moderating variables and examine the impact of these variables on the relationship between learning organization and intrapreneurship. Moreover, this research targeted the managerial levels in pharmaceutical companies to answer the research questions. Future research could target the employee level and compare the findings of the managers' and employees' perspectives. Additionally, the context of the pharmaceutical sector in Jordan was chosen to test the model empirically. Future research could target other sectors and compare the findings between different sectors. In addition, the sample used in this research was 263 participants distributed between small, medium, and large organizations using a stratified sampling method. Future research could extend the sample for each size to enhance the generalizability of the findings.

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