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The mediating role of organizational capabilities on the relationship between lean supply chain and operational performance

Reyad A. Alkhwaldah^{a*}, Feras S. ALShalabi^b, Ziad Ali Eid Alshwabkeh^c, Hamzeh Yuosef Saleh Alsha'ar^a, Mahmoud Yahya Alzoubi^d, Rawan Odeh Alshwabkeh^e and Mohammad Ahmed Mohammad AL Dweiri^f

^aBusiness Administration Department, Amman University College for Financial and Administrative Sciences, Al-Balqa Applied University, Jordan

^bManagement Information System Department, Amman College, Al-Balqa Applied University, Jordan

^cBusiness Administration Department, Faculty of Business, Al-Balqa Applied University, Jordan

^dCertified trainer at the Jordanian Institute of Public Administration and in many private training centers, Jordan

^eBusiness Administration Department, Business School, Al-Ahliyya Amman University, Jordan

^fAl-Zaytoonah University of Jordan, Jordan

ABSTRACT

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The aim of the study is to examine The Mediating Role of Organizational Capabilities on the relationship between Lean Supply Chain and Operational Performance. The study population consisted of the managers in the upper and middle management of industrial companies listed on the Amman Stock Exchange, which (84) companies. To achieve the study objectives, a questionnaire was formulated to measure the variables of the study. Data were primarily gathered through self-reported questionnaires created by Google Forms The structural model was used to test the study hypotheses. The study results show that Organizational Capabilities mediate the relationship between Lean Supply Chain and Operational Performance.

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1. Introduction

With the increasing intensity of competition among global companies, the need has become urgent for modern and sophisticated ways to enhance their competitiveness, and to increase their ability to survive and continue in the labor market. The lean supply chain is one of these methods (Fisher, 1997), as it contributes to enhancing manufacturing and production and providing high-quality products. As well as it helps in speeding up dealing with fluctuating demand and short life cycle products (Ruiz-Benítez, López, & Real, 2018). The importance of supply chains also stems from the need to introduce new products that meet the needs of customers at high speed and great effectiveness, and in dealing with rapid changes in delivery requirements according to quantity and time. Organizations can fulfill these requirements by adopting lean supply chain strategies (De Giovanni, 2021). Many studies have focused on the relationship between lean supply chain strategy and operational performance (Zimmermann et al., 2020; AL-Zyadat et al., 2022; Aityassine et al., 2022; Novais et al., 2020; Inman, & Green, 2018). On the other hand, organizational capabilities have an important role in achieving the goals of business organizations represented in their ability to perform a coordinated set of tasks using the available organizational resources to achieve the best results required (Yang, Jiang & Guo, 2014). It is also considered essential to help companies solve their organizational problems as their content is the dealings and methods that these companies follow to exploit their strengths and avoid their weaknesses to help them achieve their goals efficiently and effectively, and to maintain their survival and continuity and achieve a competitive advantage (Obuba, 2022). Consequently, business organizations' adoption of lean supply chain strategies and better utilization of their organizational capabilities will help them improve their operational

* Corresponding author

E-mail address reyadavef@bau.edu.jo (R. A. Alkhwaldah)

performance (Al-Nawafah et al., 2022; Shaheen, 2022). Performance is considered because of the ability of these organizations to exploit their various resources distinguished by scarcity in a way that makes them able to achieve their goals using a set of competitive priorities such as cost, quality, speed, flexibility and delivery (Sharma & Modgil, 2019). The economic developments and the opening up of global markets to each other have led to the exposure of the economies of Arab countries, in general, and the Jordanian economy in particular, to great challenges represented in their ability to withstand foreign products. The products of Jordanian industrial companies have become unable to compete with foreign products because of the high costs of production, maintaining and improving their quality to compete with international products and preserve their market share. This study derives its importance through its discussion of vital and contemporary administrative issues of great importance in the performance of business organizations. In addition, it seeks to provide an integrated theoretical framework for those interested in studying this topic. This study also derives its importance through its research in the Jordanian industrial companies' sector, which is one of the most important economic sectors in Jordan and which is an important tributary to the Jordanian economy, as this sector contributes (24%) to the gross domestic product and provides (240,000) job opportunities. As well, industrial domestic exports reach a value of (3.6) billion dollars annually, and their contribution to national exports is (91%) (Jordan Investment Authority, 2020). This makes it imperative for these companies to adopt lean supply chain strategies and develop them in line with the nature of their business in a regulatory environment characterized by turmoil, speed of change and fluctuating demand rates for products from time to time to increase their productivity and create a competitive advantage that leads to improving levels of overall performance.

2. Literature Review

2.1 Organizational capabilities

Organizational capabilities play a vital role in increasing the organizations' ability to coordinate their resources, utilize their assets and distribute them efficiently (Kouhizadeh et al., 2021; Alolayyan et al., 2022a). Moreover, they improve the rates of organizational innovation (Xia, Weng, & Zhang, 2021), and business completion correctly, achieving the goals of the organizations, and developing advantages, processes and internal structures to create economic value that helps them maintain competitive advantage and achieve organizational performance superior to other organizations (Joseph et al., 2021). The term organizational capabilities appeared in business organizations as an important tool to achieve superiority, excellence and survival, and to achieve sustainable and high rates of returns and profits, through the optimal use of the organization's tangible and intangible resources. Organizational capabilities are defined as the organization's ability to perform a coordinated set of tasks and solve the organizational problems it faces by using its tangible and intangible resources in order to achieve a satisfactory result (Kouhizadeh et al., 2021; Alolayyan et al., 2022b). It is also defined as the ability of organizations to harness their tangible and intangible resources to improve their performance levels, as the internal strengths of organizations determine how to improve performance and achieve a competitive advantage over other organizations (Rehman, Mohamed and Ayoup, 2019). Organizational capabilities include a set of dimensions, which are: Organizational learning: It is the creation, retention, transfer, and use of knowledge in developing products (goods and services) in a way that meets customers' needs, (Soomro et al., 2020). Administrative creativity: It is creating and investing new ideas to give greater benefit to the organization and the customer. Administrative creativity includes innovation in products, creativity in operations, innovation in the system, and social creativity. Organizational Flexibility: It is the company's ability to survive and maintain positive adaptation to the changing and accelerating environmental conditions, through management capabilities and speed. Organizational flexibility includes the following types: structural flexibility, strategic flexibility, and operational flexibility (Lichtarski et al., 2019; Al-Awamleh et al., 2022). The organizational capabilities are embodied in the ability to generate knowledge and administrative creativity (Soomro et al., 2020). Moreover, organizational capabilities can be expressed through the organization owning of Valuable, rare, and unique resources that enable them to exploit the available potentials to achieve competitive advantage (Mohammad, 2020; Agyapong, & Acquah, 2021), or through the ability to manage various resources such as employees to gain a competitive advantage and meet the needs and desires of customers (Aleksic, 2018).

2.2 Lean supply chains

Lean supply chains are essential for contemporary organizations, and they aim at quick and effective response to changing customers' needs (Alshwabkeh et al., 2022; Green et al., 2019), by dealing with the unsteady demands and short product life cycles, and by responding to delivery requests in terms of quantity, quality and speed (Al-khawaldah et al., 2022; Inman, & Green, 2021). They are all the activities and processes that help in maintaining the flow of goods, services, information, and money from the moment they are produced to the moment of their consumption and contribute to reducing costs and wastes and meeting the needs of customers (Ikumapayi et al., 2020). There are effective methods to improve processes and eliminate waste in all stages of the production process (Agrawal et al., 2021). The lean supply chain has three main goals: being flexible through the diversity of the shapes, types and sizes of the products offered by the organization. The adoption of this system has had a fundamental role in Toyota's achieving competitive advantage and achieving the added value that is provided to customers by quickly responding to their requests and eliminating waste of resources to ensure a smooth production process (Khanna, 2007). The lean supply chain includes a set of basic processes: Lean procurement: Lean purchasing was developed to address the issues of high procurement costs as well as to deal with the difficulties of market fluctuations and short product lifecycles. It is the collection of auxiliary activities that Porter referred to in the value chain and was incorporated into SCM to improve its administrative processes. Lean transport: it is considered a strategic direction towards eliminating waste and

excessive costs and achieving value, as the results of the study (Arriaga et al., 2013) showed that lean transport contributed to reducing the number of methods used to transport the product by (35%). In addition, it contributed to reducing the transport cycle time by (46%) and contributed to reducing packaging losses by (60%), which contributes to reducing the organization's total costs. Lean Warehousing: It is considered one of the most important logistical activities in industrial and service companies alike, as lean storage contributes to maintaining storage, and reducing operations that do not add value in addition to reducing storage spaces and collecting storage orders and managing them in the best possible way (Swart, 2015). Lean manufacturing To cut waste, lean manufacturing has been widely used. To quantify waste and cost reduction in lean manufacturing, this project intends to design a simulation modeling. Lean supply: Since creating value and eliminating waste is no longer an option for businesses, lean supply is emerging as a strategy for achieving a competitive edge and even for survival, not just for manufacturers but also for service providers. Lead time is the amount of time it takes for clients to place an order and make payment for the goods.

2.3 Operational performance

Operational performance refers to organizations' ability to achieve their goals through the efficient and effective use of their available resources (Sharma, & Modgil, 2019). Studies have shown a direct impact of operational performance on the financial benefits of organizations such as efficiency and operation (Liu, Wu, Zhong & Ying Liu, 2020). as well its contribution to improving effectiveness Production and creation of high-quality products, which leads to increased customer satisfaction and increased revenues and profits (Sharma, & Modgil, 2019). In addition to the fact that operational performance, in turn, affects business performance metrics such as market share and customer satisfaction (Ghobakhloo & Azar, 2018). Operational performance refers to the measurable aspects of the organization's operations results, such as reliability, product life cycle and inventory turnover. The organization aims to achieve it through the following dimensions (quality, flexibility and cost) (Sharma, & Modgil, 2019). Operational performance can be defined as the strategic dimensions of competing companies, which include flexibility and delivery, while (Daft, 2003) defines it as the organization's ability to achieve its goals using available resources in an efficient and effective manner. There are multiple indicators to measure operational performance, which are: Measures of financial performance: the most important of which are the rate of return on investment and the rate of return on sales. Operational performance metrics: It relates to the goal of achieving the desired operational performance through the measures of cost, quality, delivery, quality, flexibility and creativity. on-financial performance measures: focus on short-term goals such as product quality, after-sales services, the level of employee training and cost control. Efficiency and effectiveness measures: where the first means the degree of achieving the goals, while the second means the optimal use of the available resources to achieve the goals.

3. Theoretical Framework:

Organizational capability's role is shown through enhancing the various human resources processes, exploiting the entrepreneurial capabilities of workers, managing conflicts, activating teamwork and improving operational effectiveness. it contributes to leading change and achieving organizational coordination and integration (Annunziata, Pucci, Frey, & Zanni, 2018), in addition to its contribution in supporting organizations' ability to achieve competitive advantage (Bhatti, Rehman, & Rumman, 2020) and their role in building good relationships with customers by focusing in increasing sales volumes, loyalty and improving the organization reputation, which ensures its market growth, (Annunziata, Pucci, Frey, & Zanni, 2018). Organizational capabilities can be expressed through knowledge that distinguishes and supports competitive advantages through creativity and flexibility by using available resources (Rehman, Mohamed, & Ayoup, 2019). Administrative creativity aims to transform knowledge into an economic or social value for the organization (Hafi, Ujianto, & Andjarwati, 2022). Organizational capabilities have an important role in achieving organizations goals through their ability to convert inputs into outputs depending on skills, assets, people, and processes used (Liao, Hu, & Chen, 2021), as well as the organization ability to perform a coordinated set of tasks by using its various resources to achieve the required results, it also contributes to reducing the costs of purchasing raw materials and storing costs (Khan, & Farooq, 2022) and allows the continuous flow of organization materials (Sharma, Raut, Sehrawat, & Ishizaka, 2023). While lean supply chains reduce transportation costs by as much as (35%) of the total costs (Hezbon, 2016), and works to reduce storage space (Swart, 2015) to address the problems of high purchasing costs (Raed, 2018).

Lean supply chains help increase the efficiency of manufacturing processes by increasing the efficiency of machines and workers, and improving flexibility, competitiveness, and success (Ahmed, & Huma, 2021), as well as helping to reduce costs, improve quality levels and reduce the proportion of defective units in production (Sharma, Sohani, & Yadav, 2021). In addition, they play a role in increasing customer satisfaction levels and improving communications, as they are an effective way to achieve competitive advantage (Raed, 2018). Another study indicated that lean transportation helps in improving the efficiency of the transportation process by reducing the time Waiting, long distances, and delivering products to customers at specified times, which contributes to increasing their levels of satisfaction (Ghani-Ali, Abbas, & Rafek, 2021). Operational performance is one of the essential and important concepts for business organizations (Sharma, & Modgil, 2019). Some researchers focused on operational performance in its narrow concept that focuses on financial performance, while others focused on the broad concept that is determined by the extent to which the complex goals are accomplished with its quantitative and qualitative dimensions. Many industrial companies realized that to be a leader in their field, they must

increase their interest in operational performance in order to be able to provide products that meet customer requirements on the one hand, and face competitors on the other hand (Sharma, & Modgil, 2019). The operational performance contributes in improving company's productivity and their environmental responsibilities and increases the regulatory compliance, and contributes to the reduction of the production time cycle and wastes resulting from production process (Hwang, Han, Jun, and Park, 2014). In addition to that, the operational performance plays a fundamental role in achieving the goals of the organizations through organized, efficient and effective manufacturing processes to meet customer needs, reduce management costs and the demand cycle, and contribute to improving the efficiency of raw material use and distribution capabilities (Ghobakhloo, & Azar, 2018)), studies have shown a direct impact of operational performance on the organization financial benefits such as efficiency and operation (Liu, Wu, Zhong and Ying Liu, 2020). Operational performance also contributes to improving companies' productivity, environmental responsibilities, increases regulatory compliance, contributes to reducing production time cycle, and waste resulting from the production process (Hwang, Han, Jun, and Park, 2014). Depending on the above discussion research hypotheses can be formulated as following (See Fig. 1):

H⁰¹: *There is a statistically significant impact of lean supply chain with its dimensions on operational performance with its dimensions through organizational capability.*

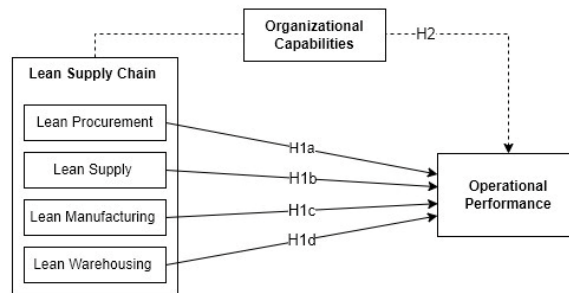


Fig. 1. Research Model

4. Methodology

4.1 Data and Measures

To achieve the study objectives, a questionnaire was formulated to measure the variables of the study, it consisted of four parts the first part was for the demographic data, the second part was for lean supply chain and its sub variables, these questions were in line with (Nunes, Causer, & Ciolkosz, 2020), the third part was for organizational capabilities these was in line with (Rehman, Mohamed, & Ayoup, 2019), the final part was adopted from (Rehman, Mohamed, & Ayoup, 2019) to measure operational performance. The study population consisted of industrial companies listed on the Amman Stock Exchange, which (84) companies (monthly report, Amman Stock Exchange, month of 2019), the managers in the upper and middle management reached (1260), from all these companies 26 agreed to cooperate in providing data, which constitutes 31% of the total number of companies. As a result, 388 questionnaires were distributed, but due to Coronavirus and the epidemiological situation in Jordan, and to maintain social distance, the questionnaires were distributed through Google Forms, so 313 were returned for statistical analysis.

4.2 Confirmatory Factor Analysis

The confirmatory factor analyses (CFA) were used to first assess the fitness of the reliability test, and then to assess the reliability and validity of the constructs (Anderson and Gerbing, 1988; Straub, 1989).

4.3 Model Fitness

A variety of indicators of adjustment were measured (CMIN/DF; GFI; AGFI; NFI; CFI; RMSEA) for the adequacy of unidimensionality and model fitness for data (Byrne, 2010). All the fit indicators were located within the indicated ranges: CMIN/DF=2,944; GFI=0,911; AGFI=0,808, RMSEA=0,079; NFI=0,932; CFI=0,951, as seen in Table 1.

Table 1
Results of Measurement Model

Fit indices	Cut-off point	Measurement goodness of fit	model
CMIN/DF	≤3.000	2.945	
GFI	≥ 0.90	0.911	
AGFI	≥ 0.80	0.808	
NFI	≥ 0.90	0.932	
CFI	≥ 0.90	0.951	
RMSEA	≤ 0.08	0.079	

Table 2
Constructs Reliability and validity

	Composite Reliability	Average Variance Extracted
LM	0.916	0.784
OC	0.954	0.754
OP	0.938	0.656
LP	0.917	0.688
LS	0.925	0.755
LT	0.868	0.687
LWC	0.916	0.785

4.4 Construct Reliability

After the model's measurement and goodness of fit were established, the construct reliability was assessed by measuring composite reliability (CR) and average variance extracted (AVE) for each construct (Anderson & Gerbing, 1988). Composite reliability, as suggested by Fornell and Larcker (1981), was calculated. Table 2 shows the adequacy of composite reliability of at least 0.868 in all latent structures. Table 2 shows that OC had the highest value of 0.954, followed by CREW with a value of 0.944, and the LT had the lowest value of 0.868. The AVE for all latent constructs was calculated and found to be above the threshold value of 0.50. (Hair et al, 2010). LWC had the highest AVE value of 0.785, followed by LM with 0.784, and OP had the lowest AVE value of 0.656. (See Table 2). As a result, this demonstrates that the tests used were able to meet the CR and AVE efficiency standards (Fornell & Larcker, 1981).

4.5 Construct Validity

The CFA used both "convergent and discriminant validity" to determine the constructs' validity. Table (4.15) shows that both elements had "standardized regression weights" greater than 0.50 and were "statistically significant" for a p-value of less than 0.0001 (Sarairoh et al., 2022; Hair et al., 2010). An analysis of the AMOS correlation table showed that all values for inter-correlation were lower than 0.85 threshold value (Brown, 2006; Mukhlis et al., 2022; Kline, 2005). Importantly, the square root of AVE for each latent construct was higher than the inter-correlation figures for other corresponding constructs, as seen in Table (4.16). (Boudlaie et al., 2022; Mohammad et al., 2022; Fornell and Larcker, 1981). Both interventions met the criteria for convergent and discriminant validity based on these findings.

Table 3
Constructs Validity: Regression Weights (factor loading)

Latent Constructs	Items		Estimate	AVE	Square Root of AVE	
Organizational Capabilities	OC1	←	OC	.850	0.808	.898
	OC2	←	OC	.816		
	OC3	←	OC	.800		
	OC4	←	OC	.801		
	OC5	←	OC	.776		
	OC6	←	OC	.801		
	OC7	←	OC	.783		
	OC8	←	OC	.796		
	OC9	←	OC	.839		
	OC10	←	OC	.828		
	OC11	←	OC	.801		
Operational Performance	OP1	←	OP	.797	.808	0.898
	OP2	←	OP	.812		
	OP3	←	OP	.744		
	OP4	←	OP	.696		
	OP5	←	OP	.852		
	OP6	←	OP	.868		
	OP7	←	OP	.853		
	OP8	←	OP	.844		
Lean Procurement	LP5	←	LP	.861	.828	.909
	LP4	←	LP	.880		
	LP3	←	LP	.794		
	LP2	←	LP	.811		
	LP1	←	LP	.797		
Lean supply	LS4	←	LS	.835	.868	.931
	LS3	←	LS	.884		
	LS2	←	LS	.881		
	LS1	←	LS	.875		
Lean transportation	LT3	←	LT	.760	.827	.909
	LT2	←	LT	.855		
	LT1	←	LT	.868		
Lean Manufacturing	LM3	←	LM	.886	.885	.94
	LM2	←	LM	.921		
	LM1	←	LM	.848		
Lean Warehousing	LW1	←	LW	.866	.886	.941
	LW2	←	LW	.900		
	LW3	←	LW	.892		

Table 4
Discriminant Validity

	LM	OC	OP	LP	LS	LT	LWC	CREW
LM	0.886							
OC	0.746	0.809						
OP	0.727	0.739	0.810					
LP	0.736	0.793	0.716	0.829				
LS	0.749	0.758	0.768	0.769	0.869			
LT	0.776	0.814	0.786	0.741	0.718	0.829		
LWC	0.818	0.745	0.775	0.781	0.745	0.781	0.886	

4.6 Structural Model

The structural model in the second phase of "SEM" has been tested to validate the conceptual model and to verify the hypothesis of research (Mohammad et al., 2022; Hair et al., 2010). An evaluation of the structural model was carried out and fitting measures of the structural model were identified as being within their threshold values (CMIN/DF 2.983, GFI=0.904, AGFI=0.81, NFI=0.901, CFI=0.940 and RMSEA=0.079). It suggests therefore that the data is properly fitted with the "structural model." In addition, the statistical findings substantially supported the conceptual model with an explanation of 88% and 91% of variation in OC OP. About the path coefficients analyses, the coefficient values of the paths ending to OC including CREW ($\gamma=0.208$, $p<0.002$), LWC ($\gamma=0.149$, $p<0.035$), LM ($\gamma=0.168$, $p<0.005$), LT ($\gamma=0.445$, $p<0.028$) and LP ($\gamma=0.376$, $p<0.043$) were found to be statistically significant. The non-significant path observed between LS and OC ($\gamma=0.098$, $p<0.173$). OP also was significantly influenced by OC ($\gamma=0.889$, $p<0.000$).

Table 5
Results of Hypotheses Testing

Hypotheses	Hypothesized path	Estimate	S.E.	C.R.	P	Label
H5	OC \leftarrow LWC	.149	.025	5.961	.035	par_54
H4	OC \leftarrow LM	.168	.051	3.294	.005	par_55
H3	OC \leftarrow LT	.445	.202	2.200	.028	par_56
H2	OC \leftarrow LS	.098	.072	1.362	.173	par_57
H1	OC \leftarrow LP	.376	.186	2.026	.043	par_58
H6	OP \leftarrow OC	.889	.054	16.514	***	par_52

After demonstrating the direct impact, the mediating effect of Organizational Capabilities was assessed by measuring the indirect effects using the bootstrapping test suggested by Gaskin & Lim (2018). In terms of mediating impacts, the data in the table below suggest that interaction substantially mediated the impact of LW, LM, LT, and LP on EP (see Table 6). As a result, in the current analysis, (Hd, He, Hb, Hc, Ha) was supported. The online interaction, on the other hand, was unable to mediate the relationship between LS and OP. As a result, this theory was disproved.

Table 6
Results of mediating effects

	Indirect Effect	Standardized estimate (β)	95% CIb	p-value
He	LW \rightarrow OC \rightarrow OP	0.147	0.112- 0.551	<0.010
Hd	LM \rightarrow OC \rightarrow OP	0.194	0.227-0.652	<0.042
Hc	LT \rightarrow OC \rightarrow OP	0.541	0.101- 0.662	<0.001
Hb	LS \rightarrow OC \rightarrow OP	0.085	0.221-0.509	<0.251
Ha	LP \rightarrow OC \rightarrow OP	0.284	0.072- 0.510	<0.005

5. Discussions

This research has examined the mediating role of organizational capabilities in the relationship between lean supply chain and operational performance, study results showed that lean purchasing impact the researched companies operational performance, using lean purchasing operations which based on the electronic procurement method, and the available materials matching customers' requirements and needs at the lowest cost, this result is consistent with (2015, Macharia) (Kharasheh, 2019). Furthermore, Lean purchasing contributed to improving the organizational capabilities of the researched companies, which led to improving the quality of the offered products, reducing costs, and thus increasing customer satisfaction level, this result is consistent with the result of (Ghobakhloo, & Azar, 2018). Lean supply chain policies of the researched companies have contributed to creating awareness, and appropriate knowledge among workers about the importance of lean supply, which has contributed to increasing their organizational capabilities, and thus improving their operational performance levels, this result is consistent with (Abbasi, Akbari and Tajeddini, 2015).Lean transportation impact

the operational performance of the researched companies through modern and advanced transportation, and addressing all forms of waste in transportation activities, which contributes to reducing transportation costs, and thus enhancing the competitive position, this result is consistent with the result of study (Hezbon, 2016; Shaligram, 2014). The researched companies' policies related to Lean transportation impact the efficiency of the transportation process by reducing waiting times and distances, it's also contributed to product delivery to customers at the specified times, which contributes to increase their satisfaction levels, and this reflected in improving the organizational capabilities, thus improving performance significantly, this result agrees with (Abbasi, Akbari & Tajeddini, 2015). Moreover, study results showed that the researched companies' policies related to lean manufacturing contributed to increasing the productivity, production quality levels, not to mention their significant contribution to reducing the time needed for the production process, and also contributed to reducing waste through continuous improvement efforts for these activities, which contributes to Improve the organizational capabilities, and thus improving operational performance, this result is consistent with ((Hezbon, 2016). Lean storage did not contribute to improving the organizational capabilities and affecting the operational performance, as these companies did not invest any workers experience the storage, nor did they invest the available specialized information system in warehouses to improve their operational performance levels, this result is consistent with Swart (2015). Reducing and controlling costs contributed to affect operational performance of the researched companies by addressing all forms of waste in the production process in its various stages from purchasing, transporting, manufacturing and storing, and thus by reducing the costs of all activities across the supply chain, which contributes to improve organizational capabilities, and thus improving the operational performance of the researched companies, Finally, The organizational capabilities (organizational flexibility, organizational learning and encouraging creativity and innovation) contributed to improve operational performance of insurance companies, this result is consistent with (Yassin Al Kharasheh, 2019).

6. Limitations and further research

This study has provided cognitive and applied addition, however, the study faced many limitations, this study dealt with lean supply chains only as an independent variable, while there are many other independent variables that can affect operational performance, therefore this study recommends researchers to study the impact of other variables on organizational capabilities and organizational performance in the future, to increase the understanding of operational performance determinants. In addition, the actual application of this study was limited to Jordanian industrial companies, and thus limited the extent to which the results could be generalized to other industrial and production sectors. Hence, future studies can apply the current study model, to reach a higher degree of generalization. In addition to that, this study has developed quantitative data collected through closed questions questionnaire, to provide a deeper perception in the role of supply chains in operational performance through organizational capabilities, it is necessary to rely on qualitative data collection methods Such as interview or focus groups, to give a deeper perception of the studied phenomenon.

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