

THE IMPACT OF THE PRACTICES OF LOGISTIC MANAGEMENT ON OPERATIONAL PERFORMANCE: A FIELD STUDY OF ROAD TRANSPORT COMPANIES

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Abstract

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The research focuses on the impact of logistic management practices on the performance of their operations using the sector of road transport companies in Jordan. To fulfill the research aims, the descriptive-analytical approach was utilized to collect data, evaluate it, and test hypotheses. Several statistical analyses were also carried out to determine the correlation coefficient, standard deviation regression analysis, arithmetic averages, and variance. A thirty-item questionnaire was employed as the primary data-gathering tool. According to the findings of the research, logistic management practices have a considerable positive impact on its dimension (inventory management, warehousing, order process management, transportation, and packaging) on the operational performance of road transport companies in Jordan. As a result of the findings, it is suggested that Jordanian industrial companies concentrate on all aspects of logistic operations such as purchasing, storage, transportation, distribution, handling, packaging, customer service, and scheduling in the industry sector.

Keywords: Logistic Management Practices, Operational Performance, Road Transport Companies, Jordan

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1. INTRODUCTION

The economic growth of the national and global market operations increases the need for logistics services, primarily transport services, which are more and more critical to business and operational performance (Atz, 2019). Hence, globalization has a profound and powerful impact on all countries. It has changed the way business operates and they are expanding their commercial transactions. This expansion transformed the transport and logistics market and increased the value of logistics. Transport and logistics are one of the world's and Jordan's fastest-growing markets (Hamed, 2019;

Ozoglu & Buyukkeklik, 2013). Thus, manufacturing and logistics help in fulfilling consumer requirements. Since these shifts over time, ideologies of production have also shifted. Novel approaches to production and logistics to circumvent rising costs and competitive drawbacks in the global markets are required with the present switch towards more individual products (Winkelhaus & Grosse, 2020). As a result, the consequences of logistics on the economy are becoming relevant in the context of integration. When a country's economy grows, so does the growth of logistics (Nguyen, Luong, & Hoang, 2021).

These services are not mutually exclusive with the supply chain practices whereby some academic people and experts consider the logistics practices as a part of the total supply chain management processes (Ballou, 2007). Many sectors have successfully utilized supply chain cooperation and supply chain management to varying degrees (Vajirabhoga, Sutiwartnarueput, & Pornchaiwisukul, 2021). Although the original concept of logistics emerges from a military background which refers to providing the necessary weapons, munitions, and supplies as and when deemed necessary, the current philosophy and practice of logistics are about service provision and time-effective non-military facilities, especially commercial ones. This operation includes the transfer of items from one point to another, storing them in a suitable venue, inventory, packaging and other working activities such as the delivery of orders (Islam, Fabian, Aditjandra, Zunder, & Pace, 2013). Organizations have long endeavored to implement innovative management methods and strategies that would enhance their operational performance (Abushaikha, Salhieh, & Towers, 2018). Logistics has played a vital role in the useful application of supply chain management strategies. Management of logistics activities is a link that connects manufacturing companies and their customers (Fernando & Chukai, 2018). The main aim of good logistics practices is to achieve optimal operational performance to sustain overall business performance and competitive advantage (Mbovu & Mburu, 2018). As such, managers should strive to incorporate the logistic activities to make sure that all the activities and processes included in the chain operate together in harmony.

Many studies have been published in recent decades to study the significance of logistics activities in meeting consumer wants and expectations (Amin & Shahwan, 2020; Green, Whitten, & Inman, 2008; Mangala & Moronge, 2019; Nyaberi & Mwangangi, 2014; Ramanathan, 2010). This research pattern is based on the idea that effective management of various logistical operations (e.g., inventory, storage, warehousing, order processing) is a vital endeavor for establishing and improving organizational operational efficiency and, as a result, overall performance (Amin & Shahwan, 2020; Green et al., 2008; Tissayakorn & Akagi, 2014).

Many of the problems and challenges faced by organizations and companies in Jordan, particularly road transport companies, such as quality and customer base, in addition to revenues, stem from the supply and storage phase, and this is due to a deficiency in logistics management and speed of reaction, in addition to the high level in the organization management's perception that there is a specialized department.

The body of the present research is categorized as follows. Section 2 consists of the literature review and research hypothesis development. Section 3 consists of the research model and methodology. Section 4 demonstrates the data analysis and testing of the hypotheses. Section 5 presents a discussion of the findings. Lastly, Section 6 presents the conclusion of the research, the recommendations, limitations, and suggestions for future research.

2. LITERATURE REVIEW AND RESEARCH HYPOTHESIS DEVELOPMENT

2.1. Logistics management practices

Logistics management practices are described as a group of activities carried out by the company to facilitate auspicious logistics management (Adebayo, 2012). Hence, logistics management companies can design and implement approaches that generate a sustainable competitive advantage if implemented successfully. Given the different scope and perception of the logistics, there are different definitions in the related literature and from practitioners. Earlier, logistics can be defined as the movement of resources to fulfill the requirements of consumers or businesses between the place of origin and the destination of consumption (Brown & Herring, 1995). Later on, Mangan, Lalwani, and Fynes (2008) show that logistics expects the right product to be delivered in the best possible quality and right quantity at the right location and time, for the right customer, and at the right price. These definitions are expanded to include other criteria such as the delivery should be accomplished cost-effectively and as the customer wanted as asserted by Rushton, Croucher, and Baker (2014) in their study.

Regardless of the scope and perception, a consensus has been found in the literature about the fundamental logistics activities and managerial practices. In this line, managing activities in logistics involved fundamental practices and support practices. Customer service, inventory management, transport, and information flow are fundamental practices whereas the complementary practices supporting the core practices encompass warehousing, packaging, and order and information processing (Ballou, 2004; Islam et al., 2013). The primary role of providing several qualified transport logistic capability modes using long-term and well-established logistics such as the infrastructure is to facilitate any firm in any country. The movement of goods, products, items, components, semifinished goods, and raw materials for both inbound and outbound and outbound logistics through various partners giving them increased flexibility, and speed, and for global trade, agility is essential (Al-Shboul, 2019).

2.2. Inventory management

Inventory is the storage of any material or item used by a company. The system of inventory management refers to a collection of policies and procedures, which regulate stock levels and decide how stocks must be retained and the size of the order to replenish the shortage (Prempeh, 2015). In this context, inventory management or inventory planning and control pertain to the continuous provision of standard items with independent demand, where there should always be specific speculative quantities (Heizer & Render, 2006). Companies keep such inventories for different purposes, which include safety from general deficiencies or possible supplier issues, or because fluctuations in unit prices are likely inevitable. Usually, the resulting inventories allow businesses to deliver provisions without costly delays for the recipients (Nyaberi & Mwangangi, 2014).

Consequently, there are two inventory management methods. The first is the just-in-time approach where companies prepare to obtain goods as required, instead of retaining high levels of inventory. The second is the preparation of materials needs, which involves arranging the delivery of materials based on demand predictions. Efficient inventory management necessitates a company to pursue stocking and use optimized inventory valuation methods to avert under or overstate profits (Kotabo, 2002). It was found that the use of different approaches to inventory management will assist companies in enhancing their performance (Kushwaha, 2012; Otundo & Bichanga, 2015). As a result of the previous clarification, it is estimated that:

H1: There is a positive impact of inventory on operational performance.

2.3. Warehousing

Warehousing comprises the planning of space, arrangement of stocks, settings, and positioning of stocks (Ballou, 2007). Furthermore, warehousing activities include large-scale storing of products in a structured and organized fashion and allowing them conveniently accessible where appropriate (Mukolwe & Wanyoike, 2015). Logistics includes supplying the right products at the right volume based on the correct selection and dispatch of the warehousing. Warehousing assures that items are shipped on schedule, in the right location, and to the right consumer. The warehouses serve as an entry and storage place for raw materials and component items while assisting in manufacturing operations. One of the key benefits for businesses is that warehousing makes mixing supplies simpler. In other words, this aggregation consists of several different materials necessary for production, which are then transported to the plant efficiently when required (Tracey, Lim, & Vonderembse, 2005).

Warehouse management is influential in determining logistics performance because the operation of these two components is interrelated, and proper warehouse management will improve the flow of materials, provide a strong backbone for increased inventory, and indirectly lower shipping costs. As a result, logistics performance will improve (Mohamad et al., 2018).

According to Abushaikha et al. (2018), warehousing good practices and activities optimization can result in a direct positive impact on operational performance which in turn leads to better overall business performance. Similarly, a study by Kushwaha (2012) asserted that the warehousing management system has a considerable impact on operational performance while automation of activities of warehousing improves the speed and accuracy of operation meanwhile reducing the wastage and non-added value activities (Mukolwe & Wanyoike, 2015). Following the above clarification, it is estimated that:

H2: There is a positive impact of warehousing on operational performance.

2.4. Order process management

At the individual level, order processing includes creating, filling, distributing, and fulfilling the requests and orders of the customer. In some

instances, this is the exclusive channel that the customer communicates with the company, and the order process will do so. Hence, this helps to determine the customer's experience (Croxtan, 2003; Shapiro, Rangan, & Sviokla 1993). To implement this scenario correctly, the order processing unit should comprehend all specifications thoroughly and ensure that the process is configured to comply with them. Customer preferences may necessitate management to establish a variety of order-processing schemes (Croxtan, 2003).

In logistics, the purpose of order processing management is to make sure that every machine and workspace receives the right product at the right time in a suitable quantity and quality (Simchi-Levi, Kaminsky, Simchi-Levi, & Shankar, 2008). It is not transporting itself, which is concerned but rationalizing and monitoring the operation by introducing value activities and removing non-value-adding activities (Nyaberi & Mwangangi, 2014; Simchi-Levi et al., 2008). Thus, customer response and capital efficiency can only be accomplished by order processing logistics (Nyaberi & Mwangangi, 2014). The more responsive the supply chain and logistics management, the more reliable and up-to-date information about consumer purchasing behavior is relevant. Customer preferences are conveyed as instructions in most supply chains. Nevertheless, such orders cover anything from the original issuance, shipping, invoicing, or the selection of the order to handling the customer's needs (Bowersox, Closs, & Cooper, 2010).

Seebacher and Winkler (2015) argued that timely and cost-effective order processing can only be achieved by maintaining a high level of process management and flexibility. As the needs of clients grow and/or become more unpredictable, this becomes increasingly important. Demand forces supply chain sub-processes and activities to be more agile. They went on to say that the supply chain mechanism's sub-processes and activities should be investigated further because stiff sub-processes and activities contribute to processing bottlenecks. As a result, its operational performance suffers. As a result of the foregoing clarification, it is projected that:

H3: There is a positive impact of order process management on operational performance.

2.5. Transportation

A transport and logistics system is formed by the processes of managing transportation services. The forecasting and planning of cargo flows, as well as the distribution of resources, have a significant impact on the efficiency of these processes' management (Du, 2021).

Transport can be described as the practice of transporting materials or persons from a location to a designated place. Transport performs a significant part in the success, as the entire system will not be capable of functioning to its full capacity without the effective transport of final goods and raw materials (Randall, Defee, & Brady, 2010). Transportation management is activities that if dealt with them correctly is considered to be the most successful and realistic in helping organizations

attain their transportation objectives, particularly concerning cost savings, timeliness, transport-associated optimization, and Resource maximization (Brown et al., 2001).

Typically, each company keeps a record for each transport, comprehensive records are held for every executive transport within the company, to assist in the evaluation of every future transport by comparing the costs of earlier transports. As such, documentation of each transportation reveals the transport time needed and the so-called breakpoints. Scheduled transport strategy eliminates all the breakpoints that have taken place in past transports (Ristovska, Kozuharov, & Petkovski, 2017).

Ristovska et al. (2017) affirmed that companies monitor and keep databases of all transports executed previously, facilitate the timing of delivery to the customer, and thus forecast and minimize total transportation costs. In this respect, it is possible to select the lowest. A transport and logistics system is formed by the processes of managing transportation services. The forecasting and planning of cargo flows, as well as the distribution of resources, have a significant impact on the efficiency of these processes' management (Sirina & Zubkov, 2021). Following the above clarification, it is estimated that:

H4: There is a positive impact on transportation operational performance.

2.6. Packaging

Packaging's traditional and basic definition as a means of preserving commodities (Verghese, Lewis, Lockrey, & Williams, 2015) is no longer the sole method to define packaging in the supply chain. However, over the last few years, new packaging design requirements have been adopted: on the one hand, improving the product's distinguishing capability (marketing function), and on the other hand, improving the product's quality in logistics and production (García-Arca, González-Portela Garrido, & Prado-Prado, 2016). Packaging is the process of designing, maintaining, storing, and safeguarding against damage and waste in the context of logistics. Goods are packaged to meet marketing needs for branding and commercial goals, while damage and waste prevention include packing to ensure that the product arrives in good condition (Ballou, 2004; Verghese et al., 2015).

In this vein, the choice of "best packaging" is typically related to cost-saving criteria. The nature of packaging, therefore, influences both direct (waste and purchasing) and indirect (packaged, treated, processed, transported, and loss) costs (García-Arca et al., 2016). Similarly, this packaging productivity should be considered not only for logistic and process practices but also for environmental considerations, including the elimination of packaging consumption and raw materials, e.g., re-use, recycling, and/or reuse in packaging waste (Grönman et al., 2013).

As logistics management practices have a significant focus on improving supply chain performance to achieve a competitive advantage within the market (Germain, Claycomb, &

Dröge, 2008), packaging appears among the critical activities within the logistics practices that can support the successful implementation of them through enhancing operational performance (García-Arca et al., 2016). Following the above clarification, it is estimated that:

H5: There is a positive impact of packaging on operational performance.

2.7. Operational performance

Operational performance describes the level of functioning of an organization, as assessed versus standard efficacy, productivity, and environmental responsibility benchmarks, for example, eliminating waste and regulatory consent (Omoush, 2020). The supply chain has generally focused heavily on effective and cost-efficient operations as a determinant for successful performance (McDonald, 2016; Zhang & Okoroafo, 2015).

The logistics practices are among long series of actions and processes that contribute to the overall company performance and better serve final consumers and business customers (Cohen & Roussel, 2005; Green et al., 2008).

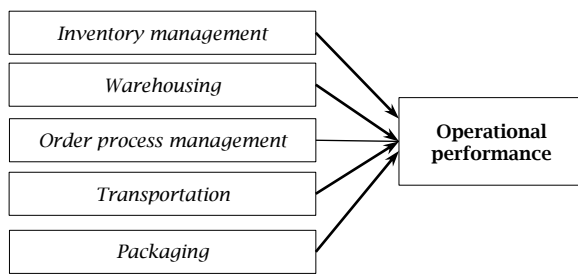
Based on existing literature, we can conclude two different general streams of research related to logistics practices. The first is related to the investigation of holistic logistics performance by taking into consideration a group of logistics activities (e.g., inventory, storage, warehousing, and order processing by Green et al., 2008; Islam et al., 2013; Tissayakorn and Akagi, 2014). The second is related to studying each activity alone by examining its impact on logistics performance and/or organizational performance such as inventory, transport, and packaging (Abushaikha et al., 2018; Gbadamosi & Oluwole, 2019; Otundo & Bichanga, 2015).

The current study followed the first stream as it is found that these activities are interrelated with each other. For example, transportation optimization relies on order processing management, which in turn is derived from optimal inventory management and better selection of warehouses location whereby packaging practices should be integrated to streamline the whole process (Islam et al., 2013; Regattieri & Santarelli, 2013).

Hence, inventory management, warehousing, order processing, transportation, and packaging practices are the best measures to identify and assess the real operational performance of the logistics.

3. RESEARCH MODEL AND METHODOLOGY

Based on the previous study related to logistic management in the road industry sector, the researcher is going away to discuss the impact of logistic management practices as an independent variable including (*Inventory management, Warehousing, Order process management, Transportation, and Packaging*) on operational performance as a dependent variable. Hence, the proposed model is shown in Figure 1 below.

Figure 1. Research model

The researcher developed the model based on research sources by Green et al. (2008), Islam et al. (2013), Tissayakorn and Akagi (2014), Verghese et al. (2015) and Randall, Defee, and Brady (2010) for independent variable, i.e., the logistic practices and McDonald (2016), Zhang and Okoroafor (2015) for dependent variable, i.e., the operational performance.

The research technique describes the ways for testing theories empirically and so provides a strategy for answering the research question and hypothesis (Omoush, 2020). The research used descriptive methodology to review the literature relating to logistics management practices and as well as earlier studies that were relevant to the subject of this work.

The Statistical Software for Social Sciences (SPSS) was used to analyze the research variables and assess the propositions using the mean, standard deviation, variance inflation factory (VIF) evaluate, tolerance test, and skewness test. Field methods were used to evaluate and infer the analysis hypothesis by relying on a special tool developed for this study and the SPSS was used to analyze the research variables and assess the propositions using the mean, standard deviation, VIF. The questionnaire was created by the guidelines.

3.1. The population and sample

The sample population consisted of a total of 20 Jordanian road transport companies available on the Amman Stock Exchange (ASE) in Jordan. Element of sampling and the research were conducted by the executive director, transportation expert, operations manager, and service employee in transport companies. The researcher uses a purposeful survey of 120 participants to pick a survey for the analysis. Out of the overall questionnaires provided to the survey, 112 of them were taken. The data collected was used for statistical analysis for each company (see Table 1).

3.2. Instrument validity

The study tool was presented to a jury of academic specialists from Jordanian universities. Depending on their viewpoints, the questionnaire's language and measurement are both understandable. In the same way, the questionnaire is adequate and relevant for the current study.

3.3. Instrument reliability

This research determined the reliability of the instrument by Cronbach alpha coefficients to guarantee internal consistency among questionnaire items. So, each factor of the study and the values of the reliability coefficient were acceptable. Based on Hair, Black, Babin, Anderson, and Tatham (2006), the Cronbach alpha ranges between 0.70 and 0.90. The results can be seen in Table 2.

Table 1. The distribution of sample individuals based on personal and job variables

Variable	Variable category	Count	Percentage %
Age	30 years or less	10	0.08
	31-40 years	40	0.36
	41-50 years	62	0.55
Gender	Male	75	0.67
	Female	37	0.33
Education	Diploma	10	0.08
	Bachelor	65	0.58
	Higher education	37	0.33
Job title	Executive director	20	0.17
	Logistic specialist	30	0.27
	Operation manager	40	0.36
	Operation employee	17	0.15
Experience	Less than 3 years	0	0
	3-5 years	30	0.27
	6-10 years	40	0.36
	More than 10 years	42	0.38
Total		112	100%

Table 2. The internal consistency for each dimension

	Dimension	Cronbach's alpha
Logistics management practices	Inventory management	0.90
	Warehousing	0.78
	Order process management	0.95
	Transportation	0.90
	Packaging	0.77
Operational performance		0.89

4. DATA ANALYSIS OF HYPOTHESES TESTING

This research verified the suitability of the data for two conditions of simple regression analysis to test the hypothesis in Table 6, so the results of Table 3 demonstrate that the values of VIF for all variables were < 10, and the values of the tolerance test were > 0.05; hence, there is no multicollinearity problem between the variables. In addition, the results indicate that the values of skewness were < 1; thus, the data follow a normal distribution (Hair et al., 2006).

Table 3. The results of variance inflation factory, tolerance, and skewness tests

Independent variables	VIF	Tolerance	Skewness
Inventory management	2.301	0.435	0.457
Warehousing	2.557	0.447	0.898
Order process management	1.757	0.561	0.796
Transportation	3.257	0.306	0.831
Packaging	2.983	0.336	0.401

As stated in Table 4, the findings show that the R-square value is 0.619, indicating that the model explains 0.619 of the variation in the dependent variable. The dependent variable (*Operational performance*) by logistic management practices is explained by other factors.

The regression analysis results of the “impact of logistics management practices” on operational performance can be seen in Table 5. The calculated value (*F*) indicates the suitability of the model for the regression test.

Table 4. Model summary

Model	R	R-square	Adjusted R-square	Std. error of the estimate	Sig. F change
1	0.757	0.619	0.669	0.351	0.000*

Note: * Statistically significant at the level of significance ($\alpha \leq 0.05$).

Table 5. ANOVA

Model		Sum. of squares	df	Mean square	F	Sig.
1	Regression	7.200	5	1.440	13.139	0.000
	Residual	9.974	91	0.110		
	Total	17.174	96			

Note: Dependent variable: operational performance. Predictors: (Constant), dimension variable of logistic management practices (Inventory management, Warehousing, Order process management, Transportation, and Packaging).

The impact between the independent and dependent variables follows the linear model; value (*F*) 13.139 with significance (0.000) which is lesser than the value (0.05), so the model is fit and satisfactory.

Table 6. Coefficients

	Model	B	Std. error	β	t	Sig.
1	(Constant)	1.266	0.387			
	Inventory management	0.0.838	0.106	0.055	34.510	0.000
	Warehousing	0.084	0.110	0.051	30.612	0.000
	Order process management	0.308	0.119	0.033	28.857	0.000
	Transportation	0.109	0.196	0.044	20.234	0.000
	Packaging	0.838	0.106	0.043	21.435	0.000

Note: * Significant at the level of statistical significance ($\alpha \leq 0.05$).

Based on these results shown in Table 6, the research hypotheses prove there is a (positive) significant statistical impact at the level of ($\alpha = \leq 0.05$) on the operational performance with dimensions (Inventory management, Warehousing, Order process management, Transportation, Packaging). Furthermore, the researcher explores the arithmetic mean to see how high a vocabulary’s responses are studied on the paragraphs, dimensions, and main items of the questionnaire. To know the extent of the variation and the dispersion study of the vocabulary responses for each paragraph of the arithmetic mean, as whenever its value approaches zero responses, are focused and dispersed as shown in Table 7.

Table 7. The responses of the respondents to the questionnaire items’ means and standard deviations

<i>Inventory management</i>		Means	SD
The firm shall provide the external client with the appropriate inventory level for its inventory management activities.		3.66	0.999
Inventory management activities help the organization prevent an inventory bottleneck in production.		3.95	0.834
Resource management practices hold expenses to a low.		3.76	0.851
The company uses the Enterprise Resource Planning System (Barcode) to track its inventory.		4.15	0.741
The firm uses the best asset control methodology (JIT, Kaizen, ABC analysis, etc.) to handle its asset.		3.99	0.729
Average		3.90	-
<i>Warehousing</i>		Means	SD
Products are delivered in the right quantity to the customer.		4.23	0.700
The firm label and loads its product to the right vehicle.		3.87	0.964
Products leave the warehouse clean and damage-free for the customer.		3.88	0.904
The firm's house is close to the proximity of the customer.		3.87	0.920
The firm stores its products using its facility.		4.24	0.718
Average		4.10	-
<i>Order process management</i>		Means	SD
Orders are processed promptly.		4.23	0.700
The company maintains a database to chart its orders and inventories.		3.87	0.964
The company has suppliers who can provide customers with parts or stock when the inventory runs low.		3.88	0.904
The company has branches throughout the country which it uses to ensure that orders are handled at the branch level.		3.87	0.920
The company has a system that allows customers to monitor their transactions.		4.24	0.718
Average		4.01	-
<i>Transportation</i>		Means	SD
Transport management practices allow the delivery of goods and services to consumers in good time.		4.20	0.745
Products are made available to the consumer by transport management.		4.07	0.599
The company provides its goods and services with the right mode of transport.		3.70	0.844
The company spends a minimum amount to deliver the goods to the customer.		4.24	0.555
The businesses use an electronic system to monitor all goods delivered to the customer.		3.62	0.809
Average		3.96	-
<i>Packaging</i>		Means	SD
The company's product can be easily distinguished from other competitors.		3.82	0.947
The goods can be moved to various locations without damage.		3.72	0.933
Company product information is easily recognized by its value and purpose.		3.95	0.834
The company's goods are packaged in a way that protects them from damage.		4.15	0.741
The company's goods are designed to safeguard them.		4.23	0.700
Average		3.97	-
<i>Operational performance</i>		Means	SD
The company has the potential to react to changes in product quality and outputs as a result of environmental change.		4.31	0.7328
The company continues to change the mechanism and method of marketing its goods.		4.27	0.6109
The company retains the minimum inventory cap to allow it to operate in case of delay in the raw materials and cut costs per product.		4.20	0.7307
The company is swift to meet pressing demands with high quality.		3.16	0.6852
The company decreased customer complement.		4.11	0.7618
Average		4.01	-

Based on the result of the study, Table 7 shows the rank of the item of logistic practices through the mean of the arithmetic mean for the responses of the sample members to the warehousing terms (4.10). Thus, this is between the sums of the averages of logistic management practices. This indicates that the warehousing process is one of the most important logistical management practices for preserving raw materials or manufactured materials.

The order process management with a value of 4.01 and is also considered to be of great importance considering that customers are the top priority on which to build the logistics management process by organizing orders and delivering them at the agreed date. This is followed by the practice of packaging with a value of 3.97, followed by transportation with a value of 3.96, and followed lastly by Inventory management with a value of 3.90. The operational performance as a dependent variable has a value of 4.01, which is a good indicator of the item that supports the study.

5. DISCUSSION

Based on the literature analysis and debate, logistics management is one of the most recent fields of management science and involves an interconnected set of operations inside and outside the enterprise, such as ordering, transportation, transport, delivery, handling, packing, customer support, and coating schedule.

Based on the answers of specialists in the logistics, procurement, and storage departments obtained by the researcher, it was noted that road companies were interested in logistics management mechanisms and practices where the answers were close to the middle and the dispersion between the answers was few this shows the interest of road companies in the logistics system but only increased attention and focus on the quality of output.

One of the responsibilities of logistics management is to organize and incorporate these operations and ensure that goods and manufacturing materials are produced at the correct time. The statistical findings from the realistic presence of road transport firms in Jordan.

The logistics concept is based on a holistic view of the system that encompasses numerous functions in the transportation of resources and goods from suppliers to users-end. As a result, it forces management to consider the overall system's management. Due to the on-time delivery of materials, proper usage of semi-finished materials and goods in the manufacturing process, and other factors, the logistics involved assisting in the efficient flow of manufacturing operations. Logistics management processes (*Inventory*

management) impact the operational performance of road transport firms in Jordan. Logistics management systems (*Warehousing*) have an impact on the operational performance of road transport companies in Jordan. The logistics management systems and activities (*Order process management*) impact the operational performance of road transport companies in Jordan. Logistics management processes (*Transport*) have an impact on the operational performance of road transport firms in Jordan. Logistics management processes (*Packaging*) impact the operational performance of road transport companies in Jordan.

6. CONCLUSION

As a result, proper management of these activities is necessary to improve the logistics' operational performance. However, only a small number of researchers have investigated the link between logistics and operational performance. Land transport, to the best of our knowledge, is one of Jordan's most vital industries for that purpose; the current study investigates the link between logistical activities and practices (inventory management, warehousing, order process management, transportation, and packaging) and operational effectiveness at Jordanian road transport companies.

The current research recommended completing the picture more clearly in any logistics institution looking to develop. Logistics management aims to meet the system's requirements: it entails engaging with the user and provider by agreeing on the specific item to be provided in the agreed-upon quantity. Delivery entails delivering the order to the right location and in a timely manner. Both include organizing distribution activities for transportation and shipping. Obtaining quality includes the implementation to be in its current situation and better condition, implying that it must avoid any type of harm during transportation and delivery. This is especially crucial for products that are repairable, sensitive, or temperature specific in road sectors.

While the current study's contribution has limitations and future research, in terms of the numerous industries, logistical techniques, and implementation procedures, For Jordanian road companies and logistics specialists such as technicians and engineers in the research population, the conclusions are limited to the road sector in Jordan, and generalizing the findings is difficult. In future studies, the focus will be on the work of technology in logistics management and the use of modern systems such as the blockchain in managing the logistics of the industrial sector and linking it to the Internet to ensure high efficiency.

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