

Investigation the Relationship Between Supply Chain Management Activities and Operational Performance: Testing the Mediating Role of Strategic Agility

A Practical Study on the Pharmaceutical Companies

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Abstract

This study has been conducted to investigate the relationship between the supply chain management (SCM) activities and operational performance through testing the mediating factor strategic agility in (16) pharmaceutical companies listed on Amman stock exchange in Jordan Which is considered one of the most important industrial sectors, where the nature of the work and the problems faced in the performance of supply chain were identified the reasons for the delay of the logistical orders of raw materials they need from suppliers, and found that there is a missing link between partners and is the proportion of obtaining the necessary information from suppliers to complete operations Streamlined and easy production. In terms of identifying the activities of supply chain management as the most important factors supporting the best practices of SCM in pharmaceutical companies (i.e. Alliances with suppliers, Customer Relation Management, Logistic, flow Information and knowledge sharing). The study population consisted of all the executives and directors of departments, sections and employee specialized in SCM in pharmaceutical companies, and a simple random sample was chosen from pharmaceutical companies to conduct a field survey using a tool, a questionnaire, of which 150 were distributed and 139 were retrieved. In addition, a number of statistical techniques have been used for data analysis; such as statistical analysis package for Social Sciences (SPSS) and AMOS, which depends on Structure Equation Modeling approach because of the presence one variable, as well as for the reason of examining the importance of the track. Based on the results of the statistical analysis, it was concluded that there is an impact of the independent variable managing the supply chain on operational performance, but in terms of the intermediate variable, the results showed that the relationship is partial in terms of the strategic agility variable through Path Analysis.

Keywords: supply chain management activates, alliances with suppliers, customer relationship management, logistic, information and knowledge sharing, operational performance, pharmaceutical companies

1. Introduction

Within this current era of globalization, the advancement in the technology, and the rapid changes in the environment surrounding the business organizations, supply chains have become an important phenomenon help the organization in achieving its objectives, and also helps it to look towards exploiting the external opportunities, whether locally regionally, or globally, as a result of relationships connecting the partners, suppliers, and the customers inside the chain. This will provide it with power factor Customer Retention and to keep strong relationships with the suppliers for specific demands at times of high demand, so to satisfy their expectations. Organizations become looking for the global competition, since the challenges related to receive the product and the service should be timely available, at the right place and less cost, the issue made the organizations to start considering that un-sufficient to develop and improve the efficacy inside the organization.

So, supply chain management strategy became successful in linking the partners together and interesting in transporting the materials from the supply sources to deliver the products to the customers, to facilitate information flow through the supply chain parties (Beamon, 2000).Successfully supply chain management one of the strategic challenges facing the business organizations, success of this idea or the practices depends on the

supply parties integration, which means the suppliers, manufacturers and the customers, for these parties to achieve goals such as growth & financial objectives, especially at the long term (Beamon, 2000). Most of the studies and the researches that had addressed this confirm the need for persuasion that of the supply chain requires the need for achieving integration coordination, cooperation, and exchange of information between the chain's parties (Mentzer, 2001).

(SCM) is one of the most important trends leading to compete with the requirements of the organizations' competitive power, since they compete in frame of competitive between some organizations, and the ability of these chains for continuous rapid response within the changes in the business environment (Taylor, 2004). (SCM) is considered one of the important functions that should be undertaken effectively and in competence in all business (Gbadeyan, Boachie-Mensah, Osemene, 2017). By looking at the basic goals of SCM, it can be easily noted that all above effects related to customers service. Some of the advantages include: (1) Reducing the demand's time, (2) Assuring reliability, quality and flexibility in the delivery, (3) The optimal level of the supplies inside the supply chain as a whole (4) Reducing the total costs of the goods flow (Dtugoz, 2010).

This study aims to find out the relationship between SCM activities and the operational performance through a mediating variable which is the strategic agility. Since it is noticed the absence of previous researches that have addressed this variable, since the researcher has felt from the present reality of the supply chain and the production in the pharmaceutical factories in Jordan which is considered one of the most important industrial sectors, getting acknowledge with the nature of the work and the problems encountered in performance of the supply chain, the most important that they have problem in finding out reasons for the delay in the logistic demands for the raw materials they need from the suppliers, also found out that there is a missing chain between the partners represents in the percentage of receiving the needed information from the suppliers to compete the production processes with ease and harmony.

Depending on a number of previous studies regarding the problems facing the organizations in the supply chain, it become clear that there are a number of problems, the most important, time of delivery, flexibility, and response, information sharing, and the relationships linked with supply chain, perceiving the concept organizational agility as a mediating variable between SCM activities and achieving the operational performance. Strategic agility importance includes the ability to adapt with the environmental changes in a continuous way and the rapid response to the changing markets, response to the customers, flexible up-dates of the products in accordance with the organizations' strategies and goals.

2. Literature Review

2.1 Concept of Supply Chain Management

A supply chain refers to the organization's providers and distributors of goods, within their factories and warehouses that handle various tasks such as procurement, inventory control, production, distribution, and delivery (Stadtler & Kilger, 2008). Essentially, as (Kandagatla, 2005) states, a supply chain is a sequence of shared operations and associations between Common Processors, and it entails all aspects of getting raw materials, turning them into finished products, and delivering them to the final customer.

These processes need not occur at a single company. In fact, a supply chain "consists of two or more companies connected" via the flow of resources, information, and finances, as (Stadtler, 2008) put it. The connected companies serve each other by dividing the tasks of producing parts and components, producing finished products, processing logistics services, and distributing to the final customer. Thus, several companies, with differing functions and purposes, must collaborate in order for the supply chain to operate fluidly (Chance, 2010). From another perspective, these associated companies may be seen as a processing chain, or a network of companies connecting their upstream and downstream operations and activities, for the central purpose of delivering value to the end consumer (Santos, 2006).

With that in mind, supply chain management (SCM) serve the business functions of producing enhanced performance and optimal supply chain decisions in a given organization, internally and externally (Rotimi et al., 2017). It may be seen as assimilating the supplier's crucial business procedures in service of the final user, so as to provide added value through products, services, and information to all beneficiaries involved (Lambert, Garc ía-Dastugue & Croxton 2005).

2.2 Supply Chain Management Activities

In exploring the various scopes of SCM activities, the researcher found much scientific research that describes the multiplicity and diversity of these activity dimensions; which may result from combining theoretical and practical applications in the supply chain. These dimensions may involve the establishment of partnerships with

suppliers, and the deliberate application of outsourcing, informational interactions, and pressure cycle times (Alvarado and Kotzab, 2001). They concern the practices of quality assurance, procurement, and customer relationship building, which may be convened using a common inter-organizational pivot system—a system that may, among other things, involve the disposal of excess inventory through postponements. Put simply, the scopes of SCM comprise a set of activities carried out by an organization in order to augment the efficiency and efficacy of its supply chain management practices (Alvarado & Kotzab, 2001; Li, Ragu-Nathan, Ragu-Nathan, Rao & Subba, 2006).

2.2.1 Alliances with Suppliers

It was noted, towards the end of last century, that organizations which maintained successful partnerships with suppliers tended to increase their competitive advantage (Vencataya, Seebaluk & Doorga, 2016). Such supply chain partnerships are tactical unions and collaborations between two or more businesses in a supply chain, which aim to facilitate their shared efforts in such activities as research, product development, manufacturing, marketing, sales, and distribution. This type of partnership is one of the most prevalent hybrid organizational forms in SCM (Agus & Hassan, 2008).

(Fawcett, Magnan & McCarter, 2008) conducted a study where they asked managers to specify the extent to which certain practices may contribute to value creation through SC partnerships, in order to understand how businesses are attempting to overcome the obstacles to partnership success. The researchers found that SC relationships may need a modicum of SC simplification, which can be accomplished upstream by supply base rationalization (Fawcett, Magnan, & McCarter, 2008). Inter-organizational diversity may present in a variety of forms among partners, a factor which may affect the performance of their alliance, positively and negatively. Thus, an ideal alliance, exhibiting true collaborative success, requires the concurrent search for partners with different characteristics on certain scopes, and similar characteristics on other scopes (Sayuti, 2011).

2.2.2 Customer Relationship Management (CRM)

Soliman (2011) affirms that in a majority of worldwide projects, CRM systems are presently one of the most important targets, and they could further improve in applicability and beneficiary awareness if they were easy to use and carry out. In CRM, the strategy is a customer-focused one designed to attract, preserve, and expand a company's base. These systems establish and build on the bonds and relationships with external parties, such as end customers (Soliman, 2011). One type of CRM, the operational CRM, provides a unique source of information about customers, deals with the creation of information, and supports sales, marketing, and customer service (Laketaet., al, 2015). It is more and more necessary, in the current competitive business landscape, to enact strategies to deliberately attract and keep customers. A key factor of a company's success in this is customer value, wherein customers will choose goods or services that they perceive as contributing the most value (Rahiminik & Ashamsadini, 2014). If the CRM system in an active company functions well, the results would be sustainable and timely customer segmentation. That segmentation can only be fully exploited for certain objectives if the system contains current, detailed data—such as the interest of the product portfolio, the capacities of the business, and so on (Pohludka & Štverková, 2019). A CRM may come to form as results of a company's decisions regarding the inception of relational activities, as targeted towards specific groups of customers, or individual customers, with whom the company wishes to engage in a cooperative or collaborative relationship (Parvatiyar & Jagdish, 2001).

2.2.3 Logistics

The challenge now is to determine how to successfully carry out SCM, with this distinction made by the premier logistics professional organization in mind (Lambert, Cooper & Pagh, 1998).

The facets of outsourcing and hiring of agents are directly related to their impacts on the logistics of organizations and their transportation activities (Kherbacha & Mocan, 2016). It may be helpful, then, to view SCM as a network, with many directly and indirectly linked factions, involved in a comprehensive effort to request, source, purchase, and administer logistics processes (Kherbacha & Mocan, 2016).

To have any effect on the end consumer, the true value of the logistic service, as well as of the presented good or service, must be distinguished by the supply chain. The typical client's product expectations are ever climbing, in contrast to their dwindling loyalty to any specific company, so it is essential to construct logistics system deeply engrained in all aspects of the supply chain. It should dynamically adjust to the effects of market analysis, which is constantly assessed for the desires of the different, relevant consumer populations (Długosz, 2010).

2.2.4 Information and Knowledge Sharing

Knowledge management (KM) refers to how well verifiable and effective information flows across the supply

chain (Mentzer, 2001, Yu et al. 2001, Li, Ragu-Nathan, Ragu-Nathan, Rao & Subba, 2006). To better utilize KM, it is crucial to understand what it offers to the supply chain, and its roots in how the industrial landscape ultimately moved from intensive data processing operations to being comprised of knowledge-based organizations (Liew & Talalayevsky 2008). It is also helpful, here, to understand that the supply chain may be perceived as an fundamentally intricate and dynamic system of flows— where information and knowledge flow drive material and capital flow (Del Rosario et al., 2013).

To add some distinction, a supply chain in which knowledge is shared is actually a progression of the information-based supply chain. This is because knowledge is considered a more valuable, more practically advantageous type of information, in the lexicon of organizations (Rashed, Azeem & Halim, 2010). That being said, it is the precision, timeliness, suitability, and trustworthiness of information exchanged throughout the supply chain that determines the quality of that information (Li, Ragu-Nathan, Ragu-Nathan, Rao & Subba, 2006). the incorporation of information in a supply chain may also bring substantial advantages specific to manufacturing sector. These may include the ability to cut costs intelligently, a decrease of uncertainties, increased organizational efficacy, improved services, building and solidification of social bonds, earlier problem discovery, faster responses, reduced cycle time from order to delivery market, an ability to decrease inventory due to efficient inventory management, and so on. Of course, it has to be said that some obstacles may arise to information distribution, which necessitates having contingency plans to overcome them (Lotfi, Mukhtar, Sahran, & Zadeh, 2013). Specialized data is in sub group of the data that is found inside the data storage which is usually directed toward a specific line or specific work-team or it is used for a specific goal to achieve knowledge sharing (Rahahleh, & Omoush, 2020).

2.3 Strategic Agility

Companies have come to pursue, more and more, the development of unique approaches for business development in all its phases (Macclever, Anna & Boahen, 2017). To that effect, the approach of agile management, where agility and time needs reductions are the main elements, may be used to provide speedy responses to changes in demand, or to customers' ever-changing needs. Agile supply chains strategies are most effective when dealing with differentiated products in circumstances of changing demand. When the total lead time is quite limited, this strategy may be found to be the least demanding to execute (Długosz, 2010). Deliberate and planned agility may, therefore, be considered a special type of dynamic organizational competence (Arbussa, Bikfalvi, & Marquès, 2017).

Doz & Kosonen (2010) defined strategic agility as the ability to dynamically adapt or restructure an organization and its strategies, wherein the shifting professional environment and changing customer tendencies accounted for continuously, without deserting the business's vision. Building on that, (Ojha, 2008) described it as the capacity to perceive and take advantage of environmental opportunities, which involves efficient, short-term and long-term planning for anticipated organizational changes. It may also be seen as the ability to make crucial decisions in limited time, as would be expected for typical markets and strategic circumstances (Brannen & Doz, 2012).

Sull & Bryant (2006) described strategic agility as a relative concept, representing an organization's capacity to exploit opportunities in a more-timely fashion than its competitors, and to conquer crises more successfully than competitors with weaker capabilities. It has been clarified by (Sull, 2009) as recognizing and seizing opportunities faster than competitors. Here, the emphasis is placed on *strategic sensitivity*, or the ability to be open and sensitive, and to anticipate needs and opportunities, by sorting through available information and maintaining relationships with a variety of individuals and organizations (Kosonen and Doz, 2008). This also integrates the concept of response speed, which refers to the degree to which an organization can take immediate action at a certain point, such the ideal opportunity to introduce a new product (Abu Radi, 2013).

Beltrame (2008), on the other hand, placed a greater focus on the practice of change, and described strategic agility as a process of adjusting an organization's strategic orientation to developments and changes in its environment. He saw the growing perception is that an organization as agile if it can continuously maximize strength and flexibility, thereby giving itself access to more options to deliver what is necessary— at the right time and place for clients. Correspondingly, organizations are reacting to this increasing desire for flexibility, in an ever more diverse organizational environment, by incorporating it as a key aspect of their strategies (Macclever, Anna & Boahen, 2017). (Long, 2000) believes that an organization's core capabilities, in conjunction to its judicious application of knowledge, are the combination needed to attain desired speed for strategic agility. In the absence of knowledge, it will not be able to pursue its opportunities, and will instead misuse them.

2.4 Operational Performances

Operational performance refers to an organization's level of functioning, as weighed against typical benchmarks of efficacy, productivity, and environment accountability— including waste reduction and regulatory acquiescence, for example. This performance may be improved by including the consumer on pertinent matters like quality and material flows, resulting in faster and more precise delivery of results. This CRM dimension must be given suitable significance when coming up with SCM strategies (Vencataya, Seebaluk & Doorga, 2016). Slack, Chamber Johnston (2004) quantified five distinct points to operational performance Costs the ability to manufacture or provide at low cost and quality: the ability to manufacture or provide according to requirements, without defects and speed: the ability to respond quickly to customer requests, and thus provide short time periods also reliability: the ability to deliver goods and services as was promised to customers 5. Flexibility: The capacity to vary procedures, in presence of changing circumstances. (Jensen and Sage, 2000), in the same vein, identified many measurement goals for evaluating the performance of operations. These goals included Cost-effectiveness, strategic positioning, sufficiency, utility, deliverability and feasibility, consistency, reliability, accuracy, frequency, reasonableness, timeliness, response, known functions, and safety. It can be seen that flexibility is a key factor, which many researchers see as increasing the efficacy of operational performance. (Vanichchinchai,2014) argues that many organizations use flexibility, or their operational ability to successfully adapt to environmental changes and address requirements, to achieve a level of competitive advantage. Russell & Taylor (2004) noted that flexibility has become an important competitive weapon because it leads to quicker, more substantial production and delivery of new products in response to customer needs.

3. Framework and Research Hypotheses

3.1 Research Model

Based on the literature review, the researcher is going to discuss the propose model impact of SCM activities on operational performance. To reproduce more accurate analysis between SCM activities and operational performance, the purpose of Strategic agility is mediated as important section in SCM In Industrial Companies.

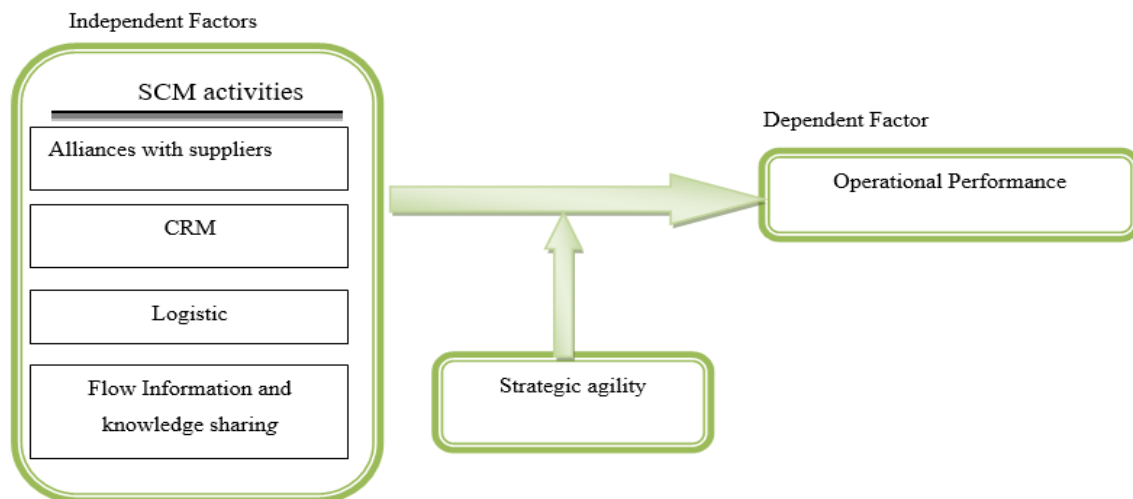


Figure 1. the Study Model

3.2 Research Hypothesis

The First Main Hypothesis:

H₀₁: There is No relationship between SCM activities (Alliances with suppliers, Customer Relationship Management, Logistic, Information and knowledge sharing) and operational performance (at 0.05 levels).

From This Main Hypothesis the Following Sub-Hypotheses.

H₀₁₋₁: There is No relationship between SCM activities (Alliances with suppliers) and operational performance (at 0.05 level).

H₀₁₋₂: There is No relationship between SCM activities (Customer Relationship Management) and operational performance (at 0.05 level).

H₀₁₋₃: There is No relationship between SCM activities (Logistic) and operational performance (at 0.05 level).

H₀₄₋₂: Strategic Agility (SA) does not mediate the relationship between Information - Knowledge Sharing(IKS) and operational performance (OP) at 0.05 level.

The Second Main Hypothesis:

H₀₂: Strategic Agility (SA) does not mediate the relationship between SCM activities and operational performance (OP) at 0.05 level.

H₀₁₋₂: Strategic Agility (SA) does not mediate the relationship between Alliance with Support (AWS) and operational performance (OP) at 0.05 level

H₀₂₋₂: Strategic Agility (SA) does not mediate the relationship between Customer Relation Management (CEM) and operational performance (OP) at 0.05 level.

H₀₃₋₂: Strategic Agility (SA) does not mediate the relationship between Logistic and operational performance (OP) at 0.05 level.

H₀₄₋₂: Strategic Agility (SA) does not mediate the relationship between Information - Knowledge Sharing(IKS) and operational performance (OP) at 0.05 level.

4. Research Methodology

The study methodology describes the methods used to test the conceptual framework in an experimental manner and thus provides a method for answering the research problem and research questions. In this research the descriptive research describes the data and characteristics of what is being studied. The idea behind this type of research is to study frequencies, averages, and other statistical calculations. Describing the phenomena for area will be studied as well. To test the proposed theoretical model, the (22) AMOS program is used. An important feature of the structural the equation model method used is not only the flexibility of its role in the interaction between theory and data, but also its ability to bridge the gap between theoretical and empirical knowledge to obtain a perfect conception of the world (Fornell & Larcker, 1981). This type of analysis enables the formation of modeling based on both apparent and underlying variables, which is an important characteristic of well-assumed model, since most formulations represent an unnoticeable abstraction rather than experimental and concrete phenomena. Moreover, in modeling the structural equation, measurement errors, multi-group comparisons and variables with multiple indicators are taken into account. This type of Analysis enables modeling to be modeled based on both apparent and latent variables. Moreover, when formulating the structural equation, measurement, multi-group comparisons, and variables with multiple indices are taken into account.

4.1 The Population and Sample of the Study

The study population consisted of all Jordanian companies 'pharmaceutical companies listed on the Amman stock exchange in Jordan it was (16), The sampling element and analysis was all the executives and directors of departments, sections and employee specialized in SCM in pharmaceutical companies. To Select the sample of the study, the researcher employs a simple random sample representing Composed of 150 members were distributed questionnaires to the sample were retrieved 139 questionnaires, which is supposed to collect data for statistical analysis for each company.

Table (1) presents the characteristics of study sample.

Table 1. Describing the Sample's Personal and Demographic Variables

Variable	Category	Counts	%
Gender	Males	59	42.4
	Females	80	57.6
	Total	139	100
Job	1	22	15.8
	2	33	23.7
	3	49	35.3
	4	21	15.1
	5	12	8.6
	6	2	1.4
	Total	139	100
Department	1	44	31.7
	2	27	19.4
	3	7	5.0
	4	14	10.1
	5	22	15.8
	6	25	18.0
	Total	139	100

Experience	1	16	11.5
	2	75	54.0
	3	32	23.0
	4	3	2.2
	5	13	9.4
	Total	139	100
Position	1	10	7.2
	2	39	28.1
	3	27	19.4
	4	63	45.3
	Total	139	100

4.2 Study Instrument

The questionnaire in this study which is prepared by researcher in based on literature review and a pilot test before distributing the questionnaire contains a cover letter and a general definition that explained the purposes of the survey and its perceived importance embedded in the questionnaire. In addition, the questionnaire is divided into four major sections (See Appendix A). The first section is devoted to identify the sample characteristics, including the characteristics of the respondents (gender, job position, department, and Experience). The second section of the questionnaire includes five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree) to identify the purpose of research includes 4 items for every factor in part one and SCMincludes 4 items in every factor in part two the mediating factor strategic agility and finally 4 questions about the operational performance includes 4 items.) Saunders et al., 2007) indicates rating questions most frequently use the Likert-style rating scale.

4.3 Confirmatory Factor Analysis (CFA)

Confirmatory factor analysis (CFA) was performed using AMOS version 22 software. It provides both the standardized and unstandardized loading for each item on its proposed (latent) variable. The software provides an advantage that it gives an indication for the goodness of fit for the overall data variables being used in the model. The provided indicators are numerous. The researcher will use the most common indicators (five) that most studies rely on to decide the goodness of model fit, chi square test (χ^2), the (χ^2/df), comparative fit index CFI, the goodness of fit index GFI and the root mean square error approximate RMSEA. Each of these indicators has a reference value, which reflects good model fitting. In general, the chi square test is the inferential test that uses probability to accept or reject the goodness of fit; the desire situation is that the probability of chi square test is > 0.05 suggesting no statistical differences between the real (actual measured model) and the theoretical one. One major negative aspect of chi square is that it is sensitive to the sample size (i.e. its affected and varied largely among different sample sizes) accordingly rarely that a researcher obtains a suitable desired chi square value (i.e. $p > 0.05$). In the same context the RMSEA indicator refers to the average of squared errors, so as less the value as the desired situation is met, typically a value less than 0.08 is considered to be good indicator, (the ideal situation is to equal 0.00). Both the CFI and GFI indicators ranges between (0 -1) so a value of 0.90 or higher suggest good fitting. Concerning the χ^2/df indicator, it is considered good indicator if the obtained value was (< 3)

The results pertaining the independent variable (SCMA), the dependent variable (OP) and the mediator variable (SA) are provided in the following tables.

Table 2. Convergent Validity and Reliability analysis Results Composite (CR) And Cronbach Alpha (CA) Using Confirmatory Factor Analysis (CFA)

Factor	Code	Factor loadings	AVE	CR	Cronbach alpha
Alliance with suppliers (AWS)	IV 1.1	0.749	0.546	0.868	0.810
	IV 1.2	0.648			
	IV 1.3	0.837			
	IV 1.4	0.711			
CRM	IV 2.1	0.637	0.513	0.832	0.710
	IV 2.3	0.745			
	IV 3.1	0.638			
Logistic	IV 2.4	0.826	0.521	0.872	0.804
	IV 3.11	0.751			
	IV 3.2	0.822			
	IV 3.3	0.754			

	IV 3.4	0.529			
	IV 4.1	0.656			
Information -Knowledge sharing(IKS)	IV 4.2	0.823	0.508	0.857	0.814
	IV 4.3	0.751			
	IV 4.4	0.603			
	MV 4.1	0.839			
Strategic agility (SA)	MV 4.2	0.613	0.542	0.860	0.864
	MV 4.3	0.727			
	MV 4.4	0.748			
	DV 4.1	0.668			
Operational Performance (OP)	DV 4.2	0.876	0.515	0.861	0.871
	DV 4.3	0.698			
	DV 4.4	0.598			

Table (2) presents the results items loadings reflect the concept of convergent validity using the technique of CFA (confirmatory factor analysis). Inspecting the results provided by table (2) it can be seen that the minimum loading was assigned to the item coded (IV 3.4) in the logistic factor which was (0.529) so this value was above the minimum required (0.50) suggesting reasonable convergent validity for each factor. As a result, the convergent validity is considered satisfied the table presents the values of an important indicator for the factors validity (AVE) it represents the amount of variance among the items of the factor, this indicator values must be > 0.50 as a good indication of the factor validity. Inspecting the provided values, we can see that the minimum value was (0.508) for the Information - Knowledge sharing (IKS). So, the results tell that the validity of the factors has been satisfied.

The table also indicates the results of both the composite and Cronbach alpha reliabilities. Inspecting the provided values (CR) it can be seen that the minimum value obtained was (0.832) for CRM items factor, while the minimum value obtained using the (CA) was (0.710) for CRM items factor. The reliability mentioned values reflect satisfactory reliability values (> 0.70) so a conclusion of a high reliability could be considered.

Table 3. Model fitting indicators

	χ^2	p	χ^2/df	GFI	CFI	RMSEA
Indicators	3.16	0.674	0.633	0.98	0.99	0.010
critical values	0.00	1.00	3.00	(0.90 – 1.00)	(0.90 – 1.00)	(0.00 – 0.08)

According to the results provided in table (3) the chi square value (3.16) is considered to be not statistically significant as the related probability value (0.674) was > 0.05 suggesting no significant differences. The value of χ^2/df indicator was (0.633), the value of the goodness of fit index GFI was (0.98) and the value of the comparative index CFI was (0.99) suggest a very good and acceptable values as they were above the critical (0.90). Finally, the RMSEA value was (0.010) suggesting a good and acceptable fitting as the value was < 0.08. The mentioned indices suggest good model fitting.

4.4 Discriminate Validity

Table 4. Discriminate Validity Results

FACTORS	AWS	CRM	Logistic	IKS	Strategic agility
AWS	0.739				
CRM	.447**	0.716			
Logistic	.484**	.485**	0.722		
IKS	.496**	.484**	.481**	0.713	
Strategic agility	.609**	.615**	.721**	.670**	0.736

Table (4) indicates the discriminate validity results. This type of validity assumes that the variable correlate with an acceptable degree (generally < 0.70). According to results included the greatest correlation value between Logistic and the mediator variable (Strategic agility) was (0.721). Such value may be considered to be accepted as these two variables are strongly correlate in real despite that the importance of each as a separate variable. Another important measure for discriminate validity is the square root of the (AVE) presented in bold and diagonally. With this measure its assumed that its value will be greater than the other correlations included by the other variables. Obviously, the mentioned values satisfy this criterion; accordingly, the discriminate validity is considered to be met.

4.5 Statistical Analysis and Hypothesis Testing.

Table 5. Means, Standard Deviations and Relative Importance Index RI

No.	Factors	M	SD	RI %	Level
1	Alliance with Suppliers (AWS)	4.09	0.53	81.80	High
2	CRM	4.23	0.57	84.60	High
3	Logistic	3.93	0.65	78.60	High
4	Information - Knowledge sharing (IKS)	3.78	0.59	75.60	High
5	SCMA activities	4.01	0.46	80.20	High
6	Strategic agility (SA)	4.05	0.47	81.00	High
7	Operational performance (OP)	4.13	0.48	82.60	High

Note. Means description (1 – 2.33 low, 2.34 – 3.67 moderate, 3.68 – 5 high)

Table (5) indicates the values of means and standard deviation and relative importance index RI (expressed in percentage), for the study variables (factors). The results tell that all the variables had been reported “high” according to the sample’s opinions. Concerning the sub factors of (SCMA) it was noticed that CRM was the highest sub factor rated (4.23) and that the (IKS) was minimal sub factor that was rated (3.78). The Strategic agility (SA) was rated by a mean of (4.05) and the that the operational performance was assessed by the sample by a mean of (4.13).

Table 6. Means and Standard Deviations for the Items in each Dimension

DIMENSION	ITEMS	MEAN	SD
Alliance with suppliers	a1	4.06	0.74
	a2	4.04	0.89
	a3	3.97	0.85
	a4	4.29	0.63
CRM	b1	4.17	0.83
	b2	4.35	0.70
	b3	4.26	0.71
	b4	4.16	0.85
Logistic	c1	4.03	0.77
	c2	3.96	0.78
	c3	3.94	0.84
	c4	3.81	0.87
Information - Knowledge sharing	d1	3.81	0.81
	d2	3.94	0.81
	d3	3.77	0.73
	d4	3.59	0.89
Strategic agility	M1	4.14	0.59
	M2	4.18	0.70
	M3	3.99	0.72
	M4	3.89	0.62
Operational Performance	Y1	4.23	0.63
	Y2	4.37	0.65
	Y3	4.01	0.70
	Y4	3.89	0.60

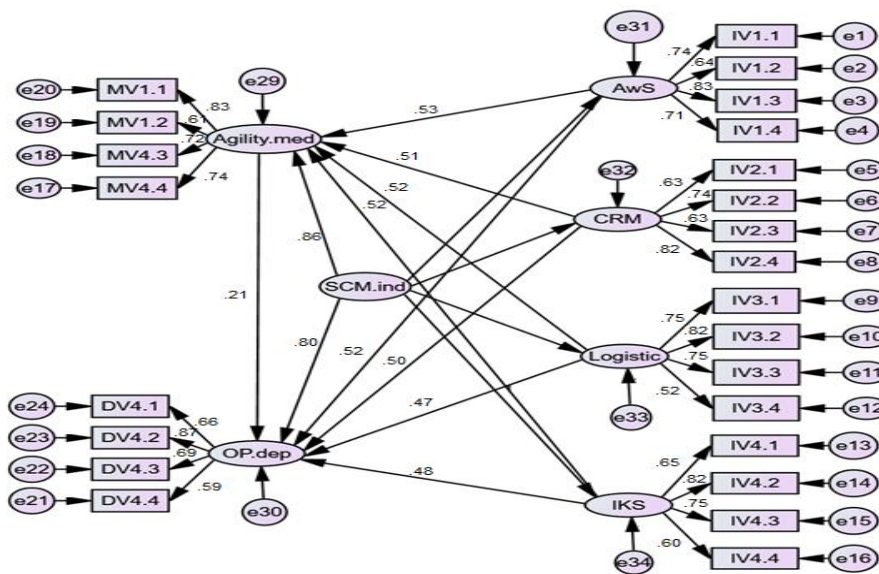
4.5.1 Hypothesis Testing

The hypotheses related to the impact of the independent variable on the dependent variable

Table 7. Standardized Total Effects

Hypotheses	Impact Direction		β	prob	
H01	SCM (IV)	--->	OP	0.991	***
H01-1	AWS	--->	OP	0.643	***
H01-2	CRM	--->	OP	0.613	***
H01-3	Logistic	--->	OP	0.585	***
H1-4	IKS	--->	OP	0.598	***

Note. Indicate that the probe value is < 0.001***



Model 2. results using structured equations model

1- Results of Testing the Main Hypothesis:

H₀₁: There is No relationship between SCM activities (Alliances with suppliers, Customer Relationship Management, Logistic, Information and knowledge sharing) and operational performance (at 0.05 levels).

Based on the results provided by table (6) the impact value of the SCM activities on the operational performance (OP) was expressed by the standardized beta coefficient (0.991) this impact value was considered to be statistically significant as the related probability value was < 0.05 (actually < 0.001). Consequently, the null hypothesis represented by the main one is rejected concluding that SCM activities affects (OP).

2- Results of testing the sub hypothesis:

H₀₁₋₁: There is No relationship between SCM activities (Alliances with suppliers) and operational performance (at 0.05 level).

Based on the results provided by table (6) the impact value of the Alliances with suppliers (AWS) on the operational performance (OP) was expressed by the standardized beta coefficient (0.643) this impact value was considered to be statistically significant as the related probability value was < 0.05 (actually < 0.001).

Consequently, the null hypothesis represented by the main one is rejected concluding that the Alliances with suppliers (AWS) affect (OP).

H₀₁₋₂: There is No relationship between SCM activities (Customer Relationship Management) and operational performance (at 0.05 level).

Based on to the results provided by table (6) the impact value of the Customer Relationship Management (CRM) on the operational performance (OP) was expressed by the standardized beta coefficient (0.613) this impact value was considered to be statistically significant as the related probability value was < 0.05 (actually < 0.001).

Consequently, the null hypothesis represented by the main one is rejected concluding that Customer Relationship Management affects (OP)

H₀₁₋₃: There is No relationship between SCM activities (Logistic) and operational performance (at 0.05 level).

Based on the results provided by table (6) the impact value of Logistic on the operational performance (OP) was expressed by the standardized beta coefficient (0.585) this impact value was considered to be statistically significant as the related probability value was < 0.05 (actually < 0.001).

Consequently, the null hypothesis represented by the main one is rejected concluding that Logistic affects (OP).

H₀₁₋₄: There is No relationship between SCM activities (Information and knowledge sharing) and operational

performance (at 0.05 level).

Based on the results provided by table (6) the impact value of the Information and knowledge sharing (IKS) on the operational performance (OP) was expressed by the standardized beta coefficient (0.598) this impact value was considered to be statistically significant as the related probability value was < 0.05 (actually < 0.001).

Consequently, the null hypothesis represented by the main one is rejected concluding that Information and knowledge sharing (IKS) affects (OP).

The hypotheses related to the mediator variable strategic agility (SA) effect on the relationship between the independent variable (SCM) on the dependent variable (OP).

Results of testing the second main hypothesis

Table 8. Standardized Direct Effects for the Relations between the Independent Factors and Mediator

Relation direction	Direct Effects	
	β	p
SCMA (IV)	0.863	***
AWS	0.537	***
CRM	0.510	***
Logistic	0.522	***
IKS	0.529	***
SA (MV)	0.212	***

Note. Indicate that the prob value is < 0.001 (***)

Table 9. Standardized Direct, Indirect and Total Effects, With the Confidence Interval for the Models Mediated Relations

Relation direction	Direct Effects	Indirect effects	Total effect	VAF (%)						
	β	p	value	CIL	CI.U					
SCMA (IV)	--->	(OP)	0.808	***	0.183	0.088	0.311	0.991	22.65	
AWS	--->	(OP)	0.529	***	0.114	0.240	0.467	0.643	21.55	
CRM	--->	(OP)	0.505	***	0.108	0.274	0.493	0.613	21.39	
Logistic	--->	(OP)	0.474	***	0.111	0.274	0.456	0.585	23.42	
IKS	--->	(OP)	0.486	***	0.112	0.230	0.431	0.598	23.05	

Note. (VAF < 20 no mediation, between 20 to < 80 partial mediation and 80 + full mediation)

H₀₂: Strategic Agility (SA) does not mediate the relationship between SCM activities and operational performance (OP) at 0.05 level.

Based on the results provided by table (8) the indirect effect of strategic agility on the relationship between supply chain management SCM activities and operational performance (OP) was estimated by (0.183) this value was considered to be statistically significant as the biased corrected confidence interval limits did not include “zero”. (The lower bound of the interval 0.088 was > 0.00). The table also provides the direct impact value of the independent variable on the dependent variable this value was (0.808) so the total effect was (0.991). The mediation that appeared is considered to be partially affecting the relationship between the independent and dependent variables because the relationship significance was the same prior and with the presence of the mediator. In the same context the VAF (variance accounted for) value (22.65 %) which reflects the percentage of the indirect effect to the total effect indicate that the mediation numerically is considered to be partially too. once the impact signs of the two paths of mediator were the same (positive); the effect is called complementary partial.

Consequently, the null hypothesis represented by the main one is rejected concluding that strategic agility (SA) mediates the relationship between SCM activities affects (OP) at 0.05.

2- Results of testing the second sub main hypothesis:

H₀₁₋₂: Strategic Agility (SA) does not mediate the relationship between Alliance with Support (AWS) and operational performance (OP) at 0.05 level.

Based on the results provided by table (8) the indirect effect of strategic agility on the relationship between Alliance with Support (AWS) and operational performance (OP) was estimated by (0.114) this value was considered to be statistically significant as the biased corrected confidence interval limits did not include “zero”. (The lower bound of the interval 0.240 was > 0.00). The table also provides the direct impact value of the independent variable on the dependent variable this value was (0.529) so the total effect was (0.643). The

mediation that appeared is considered to be partially affecting the relationship between the independent and dependent variables because the relationship significance was the same prior and with the presence of the mediator. In the same context the VAF (variance accounted for) value (21.55 %) which reflects the percentage of the indirect effect to the total effect indicate that the mediation numerically is considered to be partially too. once the impact signs of the two paths of mediator were the same (positive); the effect is called complementary partial.

Consequently, the null hypothesis represented by the first sub main hypothesis is rejected concluding that Strategic Agility (SA) mediates (partially) the relationship between Alliance with Support (AWS) and operational performance (OP) at 0.05.

H₀₂₋₂: Strategic Agility (SA) does not mediate the relationship between Customer Relation Management (CEM) and operational performance (OP) at 0.05 level.

Based on the results provided by table (8) the indirect effect of strategic agility on the relationship between Customer Relation Management (CEM) and operational performance (OP) was estimated by (0.108) this value was considered to be statistically significant as the biased corrected confidence interval limits did not include “zero”. (The lower bound of the interval 0.274 was > 0.00). The table also provides the direct impact value of the independent variable on the dependent variable this value was (0.505) so the total effect was (0.613). The mediation that appeared is considered to be partially affecting the relationship between the independent and dependent variables because the relationship significance was the same prior and with the presence of the mediator. In the same context the VAF (variance accounted for) value (21.39 %) which reflects the percentage of the indirect effect to the total effect indicate that the mediation numerically is considered to be partially too. once the impact signs of the two paths of mediator were the same (positive); the effect is called complementary partial.

Consequently, the null hypothesis represented by the second sub main hypothesis is rejected concluding that strategic agility (SA) mediates (partially) the relationship between Customer Relation Management (CEM) and operational performance (OP) at 0.05.

H₀₃₋₂: Strategic Agility (SA) does not mediate the relationship between Logistic and operational performance (OP) at 0.05 level.

Based on the results provided by table (8) the indirect effect of strategic agility on the relationship between Logistic and operational performance (OP) was estimated by (0.111) this value was considered to be statistically significant as the biased corrected confidence interval limits did not include “zero”. (The lower bound of the interval 0.274 was > 0.00). The table also provides the direct impact value of the independent variable on the dependent variable this value was (0.474) so the total effect was (0.585). The mediation that appeared is considered to be partially affecting the relationship between the independent and dependent variables because the relationship significance was the same prior and with the presence of the mediator. In the same context the VAF (variance accounted for) value (23.42 %) which reflects the percentage of the indirect effect to the total effect indicate that the mediation numerically is considered to be partially too. once the impact signs of the two paths of mediator were the same (positive); the effect is called complementary partial.

Consequently, the null hypothesis represented by the third sub main hypothesis is rejected concluding that strategic Agility mediates (partially) the relationship between logistic and (OP) at 0.05.

H₀₄₋₂: Strategic Agility (SA) does not mediate the relationship between Information - Knowledge Sharing (IKS) and operational performance (OP) at 0.05 level. based on the results provided by table () the indirect effect of strategic agility on the relationship between Information - Knowledge Sharing (IKS) and operational performance (OP) was estimated by (0.112) this value was considered to be statistically significant as the biased corrected confidence interval limits did not include “zero”. (The lower bound of the interval 0.230 was > 0.00). The table also provides the direct impact value of the independent variable on the dependent variable this value was (0.486) so the total effect was (0.598). The mediation that appeared is considered to be partially affecting the relationship between the independent and dependent variables because the relationship significance was the same prior and with the presence of the mediator. In the same context the VAF (variance accounted for) value (23.05 %) which reflects the percentage of the indirect effect to the total effect indicate that the mediation numerically is considered to be partially too. once the impact signs of the two paths of mediator were the same (positive); the effect is called complementary partial. Consequently, the null hypothesis represented by the fourth sub main hypothesis is rejected concluding that strategic Agility mediates (partially) the relationship between Information - Knowledge Sharing (IKS) and operational performance (OP) at 0.05.

5. Conclusion

Based on literature review the Strategic agility aims to make companies respond to the changes that occur around them in the external environment, and keep pace with that by leaving the traditional routine practices that do not achieve the goals of the institution quickly, efficiently and quality required, which makes them slow performance in an era characterized by rapid and continuous change, and replaced by practices and mechanisms. A new business that makes the organization faster in performance - more flexible - towards achieving the desired goals effectively in the era of competition and aims to make the business respond quickly to the changes that take place around it in the external environment, and keep pace with that by leaving the traditional routine practices that do not achieve the goals of the institution as quickly Efficiency and required quality, which makes its performance slow in an era characterized by rapid and continuous change, and its replacement by a new practice and mechanisms of work that make the institution faster in performance - more flexible - towards achieving the desired goals effectively in the era of competitiveness. At below reflect the Statistical results from practical implication from Pharmaceutical Companies.

1. The null hypothesis represented by the main one is rejected concluding that the alliances with suppliers (AWS) Affect (Op).
2. The null hypothesis represented by the main one is rejected concluding that customer relationship management affects (OP).
3. The null hypothesis represented by the main one is rejected concluding that logistic affects (OP).
4. The null hypothesis represented by the main one is rejected concluding that information and knowledge. Sharing (IKS) affects (OP).
5. The null hypothesis represented by the main one is rejected concluding that strategic agility (SA) mediates the relationship between SCM activities affects (OP).
6. The null hypothesis represented by the first sub main hypothesis is rejected concluding that strategic agility (SA)mediates (Partially) the relationship between alliance with support (AWS) and operational performance (OP).
7. The null hypothesis represented by the second sub main hypothesis is rejected concluding that strategic agility (SA) mediates (Partially) the relationship between customer relation management (CEM) and operational performance (OP).
8. The null hypothesis represented by the third sub main hypothesis is rejected concluding that strategic agility mediates (Partially) the relationship between logistic and (OP).
9. The null hypothesis represented by the fourth sub main hypothesis is rejected concluding that strategic agility mediates(Partially) the relationship between Information - Knowledge Sharing (IKS) and Operational Performance (OP).

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Appendix 1. Questionnaire

No.	The clause	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Alliances with Suppliers						
1.	The company confirms communication openness with the basic suppliers.					
2.	The company deals with its suppliers based on the partnership.					
3.	The company work to engage the basic suppliers in process of developing its products and services.					
4.	The company's strategy depends on building good relationship with the basic suppliers.					
Customer Relationship Management						
5.	Customer satisfaction is a good which the company seeks for.					
6.	In the company there is a specialized division for the customer's service.					
7.	In the company deals with the customers notes and complaints in an appropriate way.					
8.	The company keeps complete database about the customers.					
Logistics						
9.	Does the company responds to the orders from time of receiving the order and during its transportation and till handling the bill and receiving the financial merits.					
10.	Is there a system in the company for accuracy and complete orders- the absence of returned orders?					
11.	Logistics management in the company includes planning, scheduling the production and monitoring them.					
12.	Logistic management includes all planning and implementation levels (The Executive and Tactical Strategy)					
Flow Information and Knowledge Sharing						
13.	The company possesses electronic system to speed-up the information exchange internally.					
14.	The company uses the electronic networks for exchanging information with the customers.					
15.	The company uses the electronic networks to exchange information with the suppliers.					
16.	The company shares the knowledge's and the information with the suppliers in building its plans.					
Operational Performance						
17.	The company has the ability to respond to the changes in the products qualities and the outputs according to environment change.					
18.	The company continues in updating the promotion means and method for its products.					
19.	The company keeps the minimum limit of the stock to enable it to work in case of delay in the raw materials and to reduce cost per-piece .					
20.	The company cares about delivering the urgent demands quickly with high quality.					
Strategic Agility						
21.	Distribution flexibility or the ability to provide widespread access to products.					
22.	The company adjusts its strategy to felt with the changing conditions and the surrounding environment.					
23.	The company's management possesses the flexibility in redistributing the resources and benefit from them.					
24.	The company provides ease of reach to the information concerning the customers and the workers alike.					

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