

The role of Lean supply chain management activities in supporting logistical excellence

An analytical study of opinions of a sample of administrative leaders in General Company for Pharmaceutical Industry and Medical Supplies in Samarra

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Abstract: The main objective of current study is to measure role of Lean supply chain management activities (Lean procurement, Lean production, Lean storage and Lean transport) in supporting logistical excellence of a sample of management leaders in General Pharmaceutical and Medical Industries Company in Samarra, sample of study was (132) led, so problem of study was formulated with respect to relationship between variables involved in study, following which objectives of study were set out in hypothesis and formulation of special hypotheses measured in statistical package to model structural equations in small squares way. (AMOS.V.25) For an analysis provided by Study Department, a range of statistical methods were used, consisting of syntactic general analysis, Cronbach Alpha coefficient and identification coefficient (R^2), normal distribution of data, descriptive statistics of computational medium and standard deviation, correlation factor, and results of study showed a clear and important perception of relationship between Lean supply chain management and logistical superiority. Perhaps main findings of study are reflected in a statistically significant correlation and impact between Lean supply chain management and logistical excellence. In addition, need to limit company considering adoption of information system contributes to development of logistical activities to relevant parties; This indicates need for institution concerned to use high-level technology mechanisms to ensure that its proposals are implemented in a high quality manner.

Keywords: Supply Chain Management &Logistics Excellence.

I. Introduction

Today, in a world of business, where there are many rapid fluctuations as a result of development of communication technology and intense competition that has misled production processes, many organizations have sought modern practices and methods that are suited to demands of times. Lean supply chain management has become real artery of a company's growth and sustainability, being first major link to its processors, consumers and customers to become more responsive to changing competitive environment around it. So many of these organizations have gone on to adopt concept of Super Chain Management. (SCM) because of its advantages and advantages in providing and supporting logistical excellence, Thus, Lean supply chain management has become an effective management approach that helps eliminate waste and reduce costs. concept of agility in industrial and service environment has increased in contemporary organizations that already suffer from competition in order to respond to changing competitive environment. management of Lean supply chain with its various activities is better than adoption of principles of agility by adopting principle of elimination of waste in all its forms and becoming most important factor in success of companies in their productive and service sectors.

Building Lean supply chain management contributes to improving Organization's performance in developing its midwives in supporting logistical superiority by identifying strengths, weaknesses, opportunities and threats, investing strengths and opportunities, addressing vulnerabilities and countering threats.

Hence this research to highlight importance of Lean supply chain management To that end, research was divided into four part, among first scientific methodology of study, while second produced theoretical aspect of research, and third reflected practical aspect of research, and fourth reflected conclusions and recommendations of research.

II. First Part: Scientific methodology for research

First: Study problem

The rapid developments and changes in industrial environment have reflected need to introduce concept of agility in all its areas, in particular supply chain activities, in order to eliminate or reduce waste that would hinder production or service process. The nature of sample considered requires its departments to use Lean supply chain in their internal operations in order to ensure waste reduction. In this sense, the main problem of study arises and can be reversed in question that (How interested is field of study in embracing Lean supply chain activities of (Lean procurement, Lean production, Lean storage and Lean transport) to achieve logistical

excellence in their operations? Therefore, in order to answer this question, it must be prepared by outlining nature of a series of important questions:

1. At what level does company adopt field of study for Lean supply chain activities (Lean procurement, Lean production, Lean storage and Lean transport)?
2. What level of logistical excellence can a company create in field of study?
3. What is nature of relationship between Lean supply chain management in its dimensions (Lean procurement, Lean production, Lean storage, Lean transport) and logistical superiority?

Second: Importance of study

There are many reasons that have contributed to importance of choosing study, first of all studies and recent research on a number of innovative and modern variables. Perhaps most notably, Lean supply chain management and logistical excellence, as well as several other considerations demonstrating importance of current study, are at forefront:

1. The study dealt with one of relatively recent topics that has recently been of great importance to many interested researchers.
2. Highlighting need for productive firms, including field of study, to be interested in Lean and representative supply chain activities (Lean procurement, Lean production, Lean storage and Lean transport).
3. Demonstrate need to recruit and direct Lean supply chain activities to ensure proper application in productive firms, including in research field.
4. This study is a modest addition to Scientific Library's support for further information on study's variables through collection and compilation of various theoretical concepts related to Lean supply chain activities.

Third: Objectives of study

The underlying objective of determining problem and importance of study is a set of important objectives that study seeks to meet and achieve, which can be reversed as follows:

1. Identifying knowledge gap between Lean supply chain management and logistical excellence.
2. To clarify Lean activities of supply chain and requirements for their implementation and to identify most important components and problems in achieving them.
3. Recognize extent to which Lean and representative supply chain activities (Lean procurement, Lean production, Lean storage and Lean transport) contribute to logistical excellence.
4. To clarify concept of logistical excellence and identify requirements for achieving them and problems facing them.
5. To direct company's field of study towards need to activate use of Lean supply chain activities to become more responsive to competitive environment.
6. Diagnosis of position of industrial enterprises, including company considered, with regard to effectiveness of Lean supply chain activities and their role in achieving excellence and logistical excellence.

Fourth: Hypothetical Search Scheme

The hypothetical model of study illustrates set of logical relationships that are in quantitative, qualitative or combined with main features of reality in which they are concerned. The model of study is designed as a hypothetical outline by studying relationships identified by problem and questions of study, which illustrated variables of study. In addition to taking advantage of previous contributions that were subsequently presented, on this basis measures of study variables were identified as follows:

1. Independent variable: Lean supply chain management, four dimensions have been adopted for measurement (Lean procurement, Lean production, Lean storage and Lean logistics), with a scale (Thuranira, 2016).
2. Dependent variable: Logistical excellence, study relied on measuring this variable as a one-dimensional variable by identifying a scale (Grozniak & Xiong, 2012; Pettersson, 2015) for that. It is in this sense that hypothetical model of study, illustrated in figure 1, has been developed.

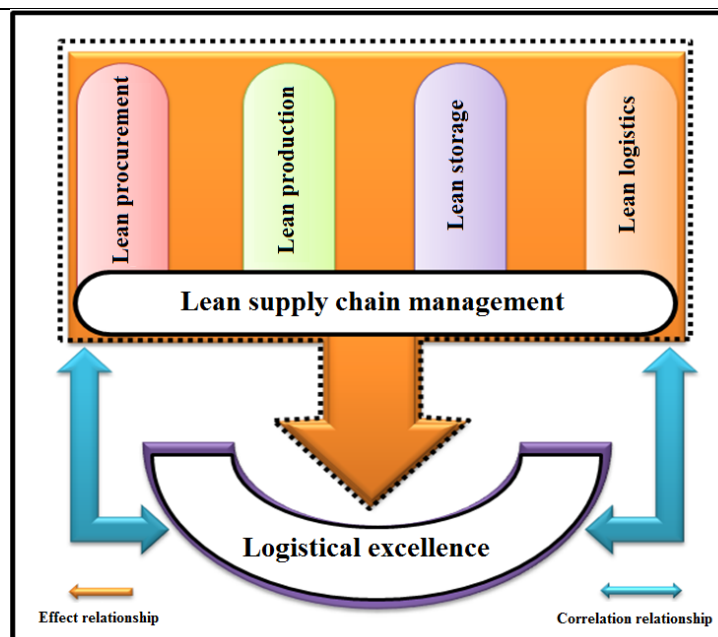


Figure 1 Hypothetical Search Scheme

Fifth: Study Hypotheses

The hypothesis can be defined as uncertain, but it is testable and predicts what is expected to be achieved through applied data, hypotheses of study are formulated by proceeding from questions raised and problem of study and its outline:

Key Hypothesis First: There is a statistically significant correlation between Lean supply chain management and logistical superiority, and several sub-hypotheses emerge from this hypothesis:

First sub-hypothesis: A statistically significant correlation between Lean procurement and logistical excellence

Sub-Hypothesis Second: A statistically significant correlation between Lean production and logistical excellence

Sub-Hypothesis Third: A statistically significant correlation between Lean storage and logistical superiority

Sub-Hypothesis Fourth: A statistically significant correlation between Lean transport and logistical superiority.

Key Hypothesis Second: The moral impact of Lean supply chain management in its dimensions (Lean procurement, Lean production, Lean storage and Lean transport) on logistical superiority stems from several sub-hypotheses:

Sub-Hypothesis First: There's a moral impact of Lean procurement dimension in logistical superiority.

Sub-Hypothesis Second: There is a moral impact of subtle production dimension of logistical superiority.

Sub-Hypothesis Third: The subtle storage dimension has a moral effect on logistical superiority.

Sub-Hypothesis Fourth: There is a moral impact of Lean transport dimension in logistical superiority.

Sixth: - Procedural definitions

1. Lean Supply Chain Management: They represent a combination of principles, practices, titles and means aimed at reducing waste, improving quality of services and products delivered through cost reduction, improving efficiency and flexibility of internal and external operations of Organization, and creating value for internal clients and Organization in particular.

2. Logistical excellence: Represents a product of skills, capacities, experience and knowledge geared towards proper use and investment of Organization's capabilities to address vulnerabilities, expand markets and build positive relationships with actors.

Seventh: Description of study sample

The study community is composed of 153 management leaders of Samarra State Pharmaceutical and Medical Services Company. The study sample therefore covered all study community because all divisional and unit officials and their assistants were targeted. Thus, study community was represented by (100%), and a questionnaire form was distributed (153) and retrieved (146). After breakdown of distributed forms, it was found that analytical forms were 132 after exclusion of (14) of invalid forms, i.e. response rate was 90%.

Eighth: Methods of data and information collection

Measurement is a fundamental concept of scientific research and can be defined as process of assigning numbers to a variable based on certain rules that enable variable to be accurately represented. measurement tool was questionnaire, in order to collect necessary information and data about studied sample. Therefore, table 1 shows variables and dimensions of study.

Table 1 Variables and dimensions of study

Variables	Dimensions	paragraphs	code	Sources
Lean Supply Chain Management (MSCL)	Lean Purchase	5	MLCU	Thuranira,2016
	Lean Production	4	MLDT	
	Lean Storage	5	MLWA	
	Lean Transport	3	MLWR	
Logistical excellence	One-Dimensional	20	LOEX	Groznik& Xiong,2012 ; Pettersson,2015

III. second part: Theoretical aspect of research

First: Lean supply chain management

1. Concept of Lean Supply Chain Management

Lean supply chain management plays an important role in ensuring that key goods, services and technology flow to customers without waste. The Lean Supply Chain management improves ability of Organization to negotiate with suppliers and customers, strengthen its long-term strategies and eliminate losses in regulatory process, As well as improving Organization's awareness of its shortcomings and working on high-level treatment procedures (Tortorella et al., 2017:8), table 2 shows views on concept of Lean supply chain management.

Table (2) concept of Lean supply chain management

N	Researcher	Concept
1	Al-Aomar & Weriakat,2012:289	A multidimensional entry that focuses on reducing cost by reducing unnecessary activities that add no value to Organization and customers
2	Myerson,2012:3	A task force–based entry point to ensure continuous improvement in activities and performance of Organization.
3	Arif-Uz-Zaman& Ahsan,2014:2	The underlying catalyst for Organization's adoption of a highly efficient system that contributes to environmental conservation and meets customer requirements in reducing environmental waste.
4	Vrat,2014:166	Ensure continuity of flow of resources within Organization to coordinate strategic, tactical and operational client supply decisions.
5	Boonsthonsatit&	Strategic tool to optimize investment of

	Jungthawan,2015:2	time, effort and resources in products of Organization
6	Landscheidt& Kans,2016:25-26	One way for Organization to achieve a competitive advantage and to improve Organization's operational potential, skills and performance.
7	Tortorella et al.,2017:5	Organization's ability to ensure that primary resources are delivered to end-customers
8	Nimeh et al.,2018:2	A distinct strategy used by Organization to improve efficiency and flexibility of its internal operations in order to improve its marketing performance
9	Buendía et al.,2019:129	A means of improving Organization's disposability to waste, improving product quality, reducing costs and increasing flexibility of all its operations
10	Núñez-Merino et al.,2020:3	Applying and managing Lean management principles and practices in supply chain to reduce costs, reduce waste and meet customer requirements

From above, it can be said that Lean supply chain management represents a combination of principles, practices, titles and means aimed at reducing waste, improving quality of services and products delivered through cost reduction, improving efficiency and flexibility of internal and external operations of Organization and creating value for internal and organizational clients in particular.

2. Activities of Lean Supply Chain Management

There is a range of activities for Lean supply chain management, which can be summarized as follows:

- a. Lean purchase: This dimension represents philosophy, style, culture and value of work within Organization. Lean procurement contributes to enhancing credibility of Organization's members towards demonstrating commitment to organizational process, as Lean procurement is used by a few suppliers of products in specific quantities at right time and location (Thuranira, 2016:16). (Nyakagwa & Muthoni, 2014:3) found that Lean buying was a way of selling products to customers at right place and time. Baladhandayutham & (Venkatesh, 2012:1), revealed that Lean buying represented Organization's ability to achieve long-term benefits by selling as much sales as possible to customers.
- b. Lean production: Lean production is an alternative concept to traditional production models, which brings benefits to Organization and limits waste of time and effort. Lean production represents difference between inputs of Organization to its output. Lean production emphasizes disposal of untapped materials and need for a continuous flow of production, allowing customer to purchase products in large quantities. as well as achieving excellence in performance and improving flow of materials and information throughout

Organization, which promotes large-scale production and improves workers' efforts to produce high-quality products (Thuranira, 2016: 16-17).

c. Lean storage: Storage for agility represents head of Lean supply chain management, as it works to reduce losses, increase working space, improve worker productivity and meet growing demands of customers. Thanks to time and workplace management, organizations using Lean storage need to redistribute Lean in order to reduce loss in supply chain to ensure that products are made available in time to final customer and in accordance with required quality and specifications (Thuranira, 2016: 17-18). In his view (Anđelković et al., 2016:517) (Prasetyawan & Ibrahim, 2020: 1.2), Lean storage is a concept that requires continuous, systematic, sustainable and measurable improvement with full participation of all workers.

d. Lean transport: Lean transport refers to an entry point for improving resource transfers focused on identifying high efficiency waste (Villarreal et al., 2018:928), considers (Oko, 2016. 2073) that lean transport contributes to improving administrative processes by selecting appropriate modes of transport, compiling commands for value flow, and disposing of waste during transport, and in same context (Johansson, 2010:20) that, prior to implementation of Lean transport, it is necessary to determine flow of value through transport activities and with interest.

Second: Logistical excellence

1. Concept of Logistical excellence

Logistical excellence is a foundation for assessing achievements of workers and organizations, which contributes to motivating them to improve their desired performance (Dahlgaard-Park, 2009:5). Furthermore, logistical excellence is a key resource used by Organization to improve its own institutional performance, as well as logistical efficiency through change within Organization in dynamic environmental contexts (Bowersox, 2013: vii), and table 3 therefore reflects most important concepts put forward by researchers on logistical excellence.

Table 3. Concept of logistical excellence

N	Researcher	Concept
1	Conneely & Mehrjerdi, 2009:52	The process of investing organizational capacities in order to gain a sustainable competitive advantage
2	Barbosa & Musetti, 2010:1	A means of developing organizational strategies and improving their performance to achieve client satisfaction with Organization
3	Torbianelli & Mazzarino, 2010:918	Developing Organization's midwives to rebuild and design its products in such a way that it can achieve outstanding performance
4	Barbosa & Musetti, 2011:2-3	The ability to make periodic and radical changes to internal structural processes of organization in a way that contributes to adaptation of organization to external environmental variables

5	Quesada et al.,2012:38	Capacity of Organization to contribute by strengthening logistics services to improve its business performance
6	Pettersson,2015:2	A means of improving ability of Organization to manage its supply chains
7	Abbas,2016:3	Recruiting abilities, skills and knowledge to improve organizational performance
8	Salam& Khan,2018:4084	The organization's effort to achieve excellence in organizational contexts.
9	Zehir& Ozturk,2019:143	A source of competitive advantage for Organization through efficient and effective investment of its resources and strategies
10	Castro et al.,2020:102	The process of ensuring continuous improvement and creativity within Organization

From above, logistical excellence can be said to be a product of skills, capabilities, experience and knowledge geared towards proper use and investment of Organization's capabilities to address vulnerabilities, expand markets and build positive relationships with actors.

2. Importance of logistical excellence

The importance of logistical excellence stems from following points:

(Mehdi& Ahmed,2017:73) (Sandberg et al.,2011:123) (Richey et al.,2007:195) (Kearney,1994:49) (Luo et al.,2018:655)

- Competitive advantage: Organizations focus on excellence in order to gain a sustainable competitive advantage.
- Investing available resources to reduce problem of obsessive resources
- Discover more opportunities to improve Organization's profitability.
- Improving organizational performance.
- Building positive relationships with customers, suppliers and service providers by harmonizing strategies, agreeing on requirements and synchronizing flow of products and information
- Integrate internal planning and procedures across functional areas and locations to satisfy clients as efficiently as possible
- Ensure effective management to drive and implement continuous improvement.
- Assist Organization in developing its long-term strategies.

IV. Third Part: Application aspect of research

First: - Natural distribution of variables

The results of table (4) show that data included in analysis follow normal distribution. This is a result of fact that moral value of tests used was higher than that of tests used. (0.05), according to which data included in analysis are subject to a natural distribution test, as well as alternative hypothesis that (Data on variables and dimensions involved in analysis are tested for natural distribution)While zero hypothesis that (data on variables and dimensions involved in analysis are not subject to normal distribution testing) is rejected.

Table 4 Natural data distribution test

Dimensional	Kol-Smi	P-value	Sha-Wil	P-value
Lean Purchase	0.197	$P \geq 0.05$	0.922	$P \geq 0.05$

Lean Production	0.185	$P \geq 0.05$	0.930	$P \geq 0.05$
Lean Storage	0.173	$P \geq 0.05$	0.938	$P \geq 0.05$
Lean Transport	0.183	$P \geq 0.05$	0.905	$P \geq 0.05$
Lean Supply Chain Management	0.124	$P \geq 0.05$	0.958	$P \geq 0.05$
Logistical excellence	0.074	$P \geq 0.05$	0.978	$P \geq 0.05$

Second:- Stability of measuring instrument

The results in table 5 for Cronbach α -coefficients indicate that all results range from 0.860 to 0.863 and are statistically accepted values in management and behavioural research because their value is greater than required standard, and study measurement tool is relatively constant with total persistence (0.895). This corresponds to persistence of study variables by 0.890 for logistical excellence and 0.889 for Lean supply chain management, so it can be argued that measurement tool can be highly stable in interest of studied directorate and achieve its intended objectives.

Table 5 Cronbach's alpha coefficients for study variables

Variables	Dimensions	N	Cronbach alpha per dimension	Cronbach alpha for variable as a whole	Cronbach alpha for study as a whole
Lean Supply Chain Management (MSCL)	Lean Purchase	5	0.863	0.889	0.895
	Lean Production	4	0.863		
	Lean Storage	5	0.860		
	Lean Transport	3	0.839		
Logistical excellence	One-Dimensional	20	0.890	0.890	

Third: - Descriptive statistics of study variables

1. Variables Of Lean Supply Chain Management

From a review of results in table 6, it is noted that overall agreement ratio of Lean supply chain management variable was (74%), an average arithmetic of 3.7 and an equal standard deviation (0.77%), indicating interest and agreement of enterprise concerned in Lean transport dimension, an average arithmetic of 3.91, a standard deviation of 0.783, an agreement of 78%. After Lean production, it came in second, with an agreement equal to that of (74%) with an average arithmetic of 3.72, a standard deviation of 0.786 and a high agreement level, representing Lean storage dimension in third place with an average arithmetic of 3.59 and a standard deviation of 0.788 and an agreement level of 72%. Lean purchase dimension is last ranked with an average arithmetic equal to 3.56 and a standard deviation of 0.779 and an agreement level of 71%. This demonstrates interest of enterprise in Lean purchase dimension in order to ensure that quality and specifications required of buyers are met.

Table 6 mean, Standard Deviations, Relative Importance and Response Level Variable of Supply Chain Management

Dimensional	Mean	standard deviation	Relative importance%	Order of Importance
Lean Purchase	3.56	0.779	71%	4
Lean Production	3.72	0.786	74%	2
Lean Storage	3.59	0.788	72%	6
Lean Transport	3.91	0.783	78%	1
Lean Supply Chain Management	3.7	0.77	74%	***

2. Variables Of Logistical excellence

The results reviewed in table (7) indicated that agreement ratio for Logistics Excellence Variable was (72%), with an average arithmetic of (3.62) and a standard deviation of (0.717), with a high level of response, indicating interest and agreement of enterprise considered in paragraph 2 (Loex 2) (company considers that

focusing on customer and understanding its requirements contributes to improving quality of logistics service). with an average arithmetic of 4.24, a standard deviation of 0.655, a high level of agreement and a relative importance equal to 85%. fourth paragraph (Loex 14) of Act gives company's executive managers importance to employees of company for their influence in achieving excellence. Last ranked with an agreement ratio equal to 61%, an average arithmetic of 3.06 and a standard deviation of 0.889, indicating company's interest in developing skills and knowledge of logistics managers by improving logistical excellence and developing cross-relations with suppliers with a view to building positive relationships and long-term mutual trust.

Table 7 mean, standard deviations and response level of Logistical excellence variable

N	mean	standard deviation	Relative importance %	Order of Importance	N	mean	standard deviation	Relative importance %	Order of Importance
Loex1	4.18	0.577	84%	2	Loex13	3.3	0.761	66%	17
Loex2	4.24	0.655	85%	1	Loex14	3.06	0.889	61%	20
Loex3	4.03	0.676	81%	3	Loex15	3.36	0.691	67%	15
Loex4	3.88	0.642	78%	4	Loex16	3.64	0.85	73%	9
Loex5	3.73	0.753	75%	7	Loex17	3.48	0.961	70%	14
Loex6	3.76	0.857	75%	6	Loex18	3.61	0.739	72%	11
Loex7	3.36	0.774	67%	16	Loex19	3.61	0.817	72%	12
Loex8	3.24	0.743	65%	19	Loex20	3.62	0.721	72%	10
Loex9	3.27	0.934	65%	18	LOEX	3.62	0.717	72%	***
Loex10	3.48	0.929	70%	13					
Loex11	3.64	0.734	73%	8					
Loex12	3.79	0.811	76%	5					

Fourth:- Research hypotheses

1. Connection hypothesis

Key Hypothesis First: This hypothesis states (a statistically significant link between Lean supply chain management and logistical superiority)

The results of table of correlation matrix (8) showed that there was a direct and strong correlation and at less moral significance than (0.01) between Lean supply chain management and logistical excellence (0.787) This indicates that error rate is 0.213 and therefore enterprise considered has to improve its dynamics towards improving relationship between Lean supply chain management and logistical superiority, as well as that this result demonstrates validity of first sub-hypothesis. Several sub-hypotheses of this hypothesis are as follows:

Sub-Hypothesis First: This hypothesis states (a statistically significant correlation between Lean procurement and logistical superiority)

The results in table 8 show that there is a strong, statistical link between Lean procurement and logistical superiority. (0.766) and at a moral level (0.01), this indicates that error rate received during purchase of products is and (0.234) this contributes to need to improve ability of enterprise concerned to adopt procurement strategies capable of improving customer service and reducing waste in procurement.

Sub-Hypothesis Second: This hypothesis states (a statistically significant correlation between Lean production and logistical superiority)

The results in table 8 show that there is a strong correlation between Lean production and logistical superiority of 0.877, which is a direct relationship and at a moral level below 0.01. This indicates need for company to integrate vision, culture and strategy to serve customers at high quality, low cost and short delivery times in company by 0.123.

Sub-Hypothesis Third: This hypothesis states (a statistically significant correlation between Lean storage and logistical superiority)

Sub-Hypothesis Fourth: This hypothesis states (a statistically significant correlation between Lean transport and logistical superiority)

Table 8 Correlation Matrix

	Lean Purchase	Lean Production	Lean Storage	Lean Transport	Lean Supply Chain Management
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Pearson Correlation	0.766	0.877	0.873	0.659	0.787
Sig. (2-tailed)	0.000				
N	132				

2. Effect hypothesis

Key Hypothesis Second: The moral impact of Lean supply chain management in its dimensions (Lean procurement, Lean production, Lean storage and Lean transport)

The results of table (9) and data reviewed in figure (2) show that there is a moral impact of Lean supply chain management on logistical superiority, as increasing Lean supply chain management by one unit leads to an improvement in logistical superiority (0.924), a standard error ratio equal to 0.036 and a critical value (25.667). This indicates that interest of enterprise involved in management of Lean supply chain leads to improved logistical excellence by improving ability of enterprise to develop its logistics activities so that they are tailored to meet customer requirements, thus contributing to improved logistics operations for cost reduction is a requirement for logistical excellence.

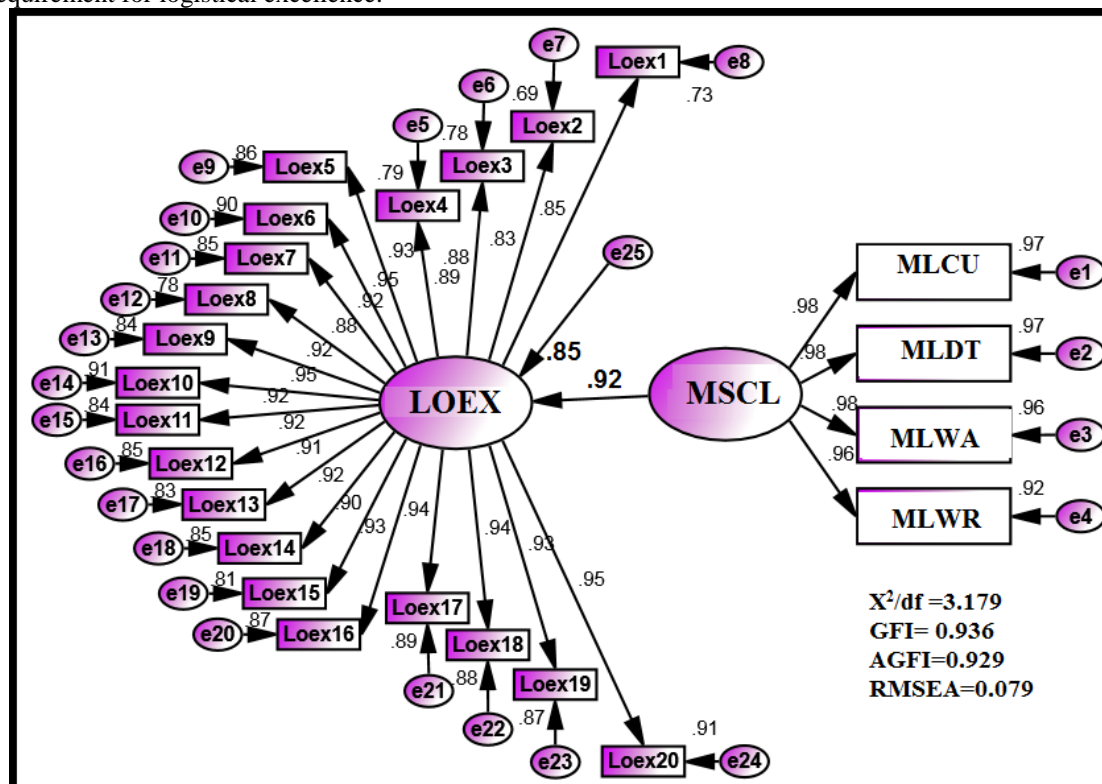


Figure 2. Standard pattern of impact of Lean supply chain management on logistical excellence
The results of table 10 indicated that management of Lean supply chain contributed to interpretation of 0.854 issues limiting logistics excellence, indicating that company must take into account in design of logistics network standards of service provided for its excellence, in order to ensure that company's logistics capabilities for logistics excellence are developed by 0.146.

Table (9) Standard weights of impact of Lean supply chain management on logistical excellence

Path			Standard weights	S.E	C.R	R ²	P-Value	Effect
Lean Supply Chain Management	--->	Logistical excellence	0.924	0.036	25.667	0.854	***	moral

V. Fourth Part: Conclusions & Recommendations

First:- Conclusions

1. There is a statistically significant correlation between Lean supply chain management with its dimensions (Lean procurement, Lean production, Lean storage and Lean transport) and logistical superiority, which demonstrates potential of enterprise concerned to improve its high-level procurement, production, storage and transport of materials.

2. The moral impact of supply chain management dimensions (Lean production, Lean storage and Lean transport) on logistical excellence, which improves ability of enterprise concerned to develop its logistics activities to meet customer requirements.
3. There is no moral impact of Lean procurement dimension on logistical superiority, which indicates that enterprise concerned lacks capacity to reduce waste in procurement and build positive relationships with suppliers.
4. The interest of institution concerned in improving its vision of external products and services to contribute to its ability to adapt to external changes.
5. The focus of institution concerned is on investing flexible production techniques in order to ensure reduction of waste in stores of raw materials.
6. The institution concerned shall ensure integration of vision, culture and strategy to serve clients at high quality, low cost and short delivery times in institution concerned.

Second:- Recommendations

1. The institution concerned should ensure that adoption of information system contributes to development of logistical activities to relevant parties, indicating need for institution concerned to use high-level technology mechanisms in order to ensure that its proposals are implemented in a high quality manner.
2. The need for institution concerned to adopt experienced personnel in management of logistics activities, indicating need for institution concerned to ensure that personnel participate in its decisions to develop innovative logistics plans capable of responding to threats.
3. The enterprise concerned must give company's living managers importance to employees of company for their influence in achieving excellence, indicating that institution concerned must encourage employees to build indulgence within their assigned functions in order to ensure logistical excellence.
4. The need for institution to ensure excellence by managing its logistics through distinct logistics task forces demonstrates need for institution concerned to manage its logistics services with environmental uncertainty and thus contribute to development of its capacity to cope with difficult situations.
5. The need for institution concerned to take care to achieve logistical excellence so as to contribute to improvement of logistics operations to reduce cost is a requirement for logistical excellence, which demonstrates need for institution concerned to develop its logistical capabilities in designing logistics networks that are compatible with standards of service provided.
6. The need for enterprise concerned to take into account standards of service provided for excellence in design of logistics network, which indicates need for enterprise concerned to build partnerships and exchanges with suppliers with a view to achieving logistical excellence.

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