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SUPPLY CHAIN MANAGEMENT PRACTICES OF LEATHER FOOTWEAR SECTOR IN VELLORE DISTRICT, TAMILNADU.

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ABSTRACT
Any organisation in the world, they benefit directly or indirectly from the practices of supply chain management. Effectiveness and efficiency of a manufacturing companies depended upon by using resource that is available and adopting management principles. This study aims to identify the effects of supply chain management practices namely lean supply chain management practices and agility management practices of a leather production Industry at Vellore District of Tamil Nadu South India. The researchers used the convenience sampling to collect the data. The questionnaires were sent to 37 department head of 5 various leather footwear industries in Vellore District Tamil Nadu. The result of the study showed that Footwear Industries in Vellore District adopts Supply Chain Management to sustain their business in the market.

KEYWORDS: Leather Footwear Industry, Supply Chain Management, Lean Supply Chain Management, Agility Management, Vellore District, Tamil Nadu, Anova, Multiple Regression.

1.1INTRODUCTION
The oldest leather shoe found in a cave in Armenia and it is 5,000 years old (Dolares Monet, 2022). It is used as sandals made from leather. The modern shoes are produced about 2000-2500 years ago in Armenia. Shoemaking become more commercialised in the mid-18thcentury. When British came to India in the mid 19th century they bring the technology of leather manufacturing along with them. The Industries that manufacture leather products namely footwears create a work opportunity to 2.5 million individuals in India. In fact in India a community is established to work with leather products, and later it become a livelihood to that community. The community is known as "*sakliyar*" in Tamil Nadu.

Indian Leather Industries are established and started as an exporter of finished andvalue-added leather products to other countries as well. The industry has accomplished a few achievements in past years. In Asia India is one of the exporters of finished leather product as mentioned in (Indianmirror,2022). India is the second biggest exporter of leather products of clothing, third biggest exporter of Saddlers and Harness and fourth biggest exporter of Leather Goods in the world.

Today the Indian Industry has attained the status of Industries that earns foreign exchange for

the country. In Tamil Nadu most of the leather production is done in Vellore district which is northern part of Tamil Nadu. It contributes 37% of the Indian leather goods that is exported to overseas, country like Southeast Asia, Italy and Spain Texfash.com,2022). Tamil Nadu government has given subsidies to the industry to aid them in Infrastructure and sustain them in the business.Tamil Nadu also unveiled the Footwear and Leather Products Policy 2022 which will create 2,00,000 jobs as mentioned (Vellorelive,2022). Vellore District has been contributing a significantly as a prime percentage within the economic system manufacturing leather-based footwear, belts, toys, luggage, jackets, garments, gloves to manufacture and export of completed items.

Industries in Vellore adopt thesupply chain management(SCM) thatcomprehends the planning, organising, co-ordination and management of all activities that engaged in sourcing and procurement, production and logistics. SCM is an Integrating Philosophy to achieve the total flow of raw materials, work-in-progress, finished products and Information from suppliers to the customers across the value chain. SCM practices are those practices made upon by an organisation to foster effective SCM. Michael Quayle(2006) said that Supply Chain Management is recognised as key in 21st century.

2. REVIEW OF LITERATURE

We read more than 50 articles and those were close to our research mentioned here. The proposed framework was derived after the reading and we framed the proposal model for the research.

Shobana(2015) studied about the influence of management practices on supply chain performance.The study was on the role of dynamic capabilities and IT competency in maximising the effect of supply chain management practices and the supply chain performance it ascertained using factor analysis and fuzzy Quality Function Deployment. The study was on Indian footwear sector and it concluded that supply chain management practices positively influence supply chain operational performance and it is said that use of IT tools to integrate activities in design development manufacturing and SCM.

Qrunfleh and Tarafdarm (2014) studied about the impacts on supply chain performance and firm performance The researchers investigated the relationship between supply chain management practices and supply chain performance with the sample size of 196 firms in Kingdom of Saudi Arabia. It concluded that Lean Supply chain strategy focuses on the elimination of waste and increase in efficiency- maximum output with minimum input and therefore expected to enhance supply chain performance.

Siddig Balal Ibrahim (2014) studied about the supply chain management practices and supply chain performance effectiveness. The research was on Supply Chain Management Measurement on Sudanese industrial firms. Pearson's Correlation Coefficient tool was used for the study with sample size of 150 among top level managers. The researchers concluded that managing of suppliers enhance the effectiveness of the supply chain management.

Tomas Cherkos Kassaneh and Robel Negussie Workalemahu(2018) studied about the performance measurement and improvement method for leather footwear industries in Ethiopia. Data was collected from the 14 large and medium sized enterprise in Ethiopia.The research found that the industry has both external and internal problems the external problems need participation of different bodies of government and internal problems can be solved by firms using its potentials.

3.PURPOSE OF RESEARCH

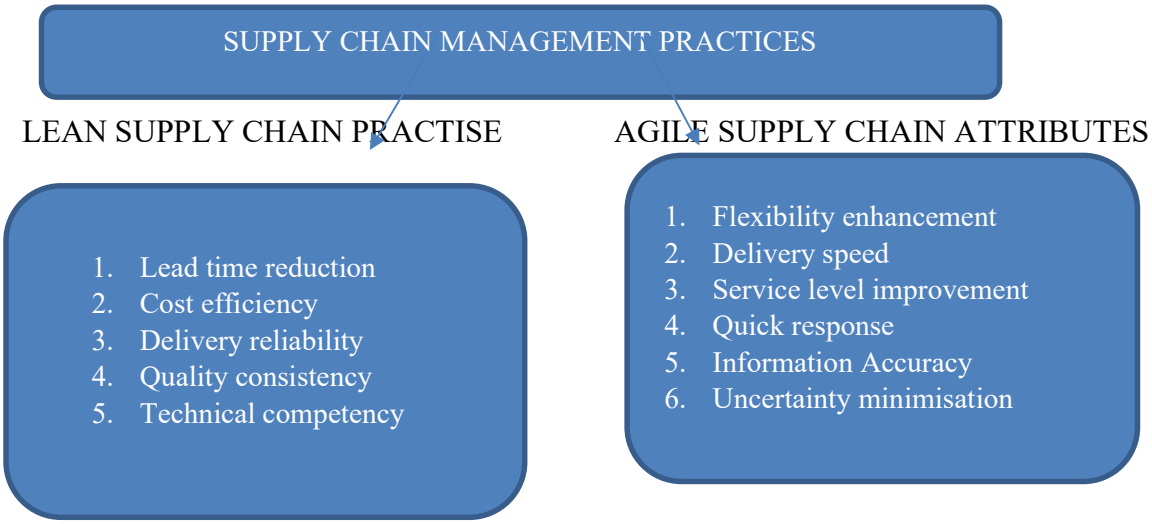
The purpose of study is to explore the practices of supply chain management in leather footwear industry at Vellore District Tamil Nadu. The outcome may assist the industries to manage their leather production and operation.

4. OBJECTIVES

1. To measure the performance of Lean Supply Chain Management practices.
2. To measure the performance of Agility Management practices.

We mapped out the objectives based on Josef Packowski(2014) and David Witaeus & Jamed Creel Man(2019) concept of Supply Chain Management and Agility Management Practices

5. PROPOSED FRAMEWORK



The Research is descriptive in nature and the study was conducted in Vellore District Tamil Nadu.There were around 1,226 leather units in Vellore district predominantly in *Alangayam*, *Madhanur* and *Wallajah* blocks. Secondary data was collected from research journal, magazine and relevant web resources. The Primary data was collected from 37 managers of the leather firm.The duration of data collection was about 6 months. The researcher adopted convenient sampling method to collect the Data. The data was evaluated using multiple regression and ANOVA to know the relationship of the independent and dependent variable.

7.DATA ANALYSIS AND INTERPRETATION

7.1 Regression analysis of performance of Lean Supply Chain Management practices.

Table 7.1.1 Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.605[a]	.366	.263	1.019
a. Predictors: (Constant), Lead time reduction, Cost efficiency, Delivery reliability, Quality consistencyand Technical competency				

Table 7.1.1 shows that R = 0.605, there is a impact. R square value is 0.366; which means 36.6% of the variance in the data can be explained by the predictor variables were related to the dependent variables.

Table 7.1.2 ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	18.535	5	3.707	3.572	.011[b]
	Residual	32.168	31	1.038		
	Total	50.703	36			
a. Dependent Variable: Lean Supply Chain Management Practices						
b. Predictors: (Constant), Lead time reduction, Cost efficiency, Quality consistency, Technical competency and Delivery reliability						

Table 7.1.2 shows that the significant value is less than 0.05 at F(5,31). Variables has significant impact on lean supply chain management practices.

Table 7.1.3 Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.132	.746		-.177	.016
	Lead time reduction	.161	.137	.185	1.175	.040
	Cost efficiency	-.059	.189	-.059	-.311	.050
	Delivery reliability	.319	.213	.298	1.499	.040
	Quality consistency	.143	.162	.137	.884	.034

	Technical Competency	.275	.170	.267	1.623	.015
a. Dependent Variable: Lean Supply Chain Management Practices						

Table 7.1.3 shows that the sig value of (lead time reduction, cost efficiency, delivery reliability, quality consistency, technical competency) is less than 0.05. Likewise,these variables have a significant impact on lean supply chain management practices.

7.2 Regression analysis of performance of Agility Management practices.

Table 7.2.1 Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.441[a]	.194	.033	1.150
a. Predictors: (Constant), Flexibility enhancement, Delivery speed, Service level improvement, Quick response, Information accuracy and Uncertainity minimization				

Table7.2.1 shows that R = 0.441,there is a impact. . R square value is 0.194; which means 19.4% of the variance in the data can be explained by the predictor variables were related to the independent variable.

Table 7.2.2 ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	9.559	6	1.593	1.204	.331[b]
	Residual	39.684	30	1.323		
	Total	49.243	36			
a. Dependent Variable: Agility Management Practices						
b. Predictors: (Constant), Flexibility enhancement, Delivery speed, Service level improvement, Quick response, Information accuracy and Uncertainity minimization						

Table7.2.2 shows that the significant value is greater than 0.05 F(6,30). Variables has no significant relationship with the independent variable.

Table 7.2.3 Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	2.300	.763		3.015	.005
	Flexibility enhancement	.007	.183	.011	.039	.019

	Delivery speed	-.093	.210	-.108	-.442	.001
	Service level Improvement	.352	.213	.498	1.647	.010
	Quick response	-.084	.172	-.113	-.489	.029
	Information accuracy	.043	.156	.056	.276	.058
	Uncertanity minimisaton	.034	.129	.053	.264	.039
a. Dependent Variable: Agility Management Practices						

Table7.2.3 shows that the sig value of (flexibility enhancement, delivery speed, service level improvement, quick response, uncertaintyminimisation) is less than 0.05. It is evident that these variables have a significant impact on agility management practices except Information Accuracy which was not significant.

8. CONCLUSION

The research revealed that the Industries in Vellore District of Tamil Nadu indulged in supply chain management. The proposed framework shows that the lean supply chain practise was significantly related towards the leather product manufacturing and management at Vellore District. However, the agile supply chain attribute was not significant. The result shows that technical competency and Delivery speed has been widely used in Vellore District.

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