

EFFECTIVENESS OF SUPPLY CHAIN SOFTWARE IN FOSTERING THE EXPORT PERFORMANCE OF GARMENT INDUSTRIES WITH REFERENCE TO ANDHRA PRADESH

DrVijaya Kumar N C,

Assistant Professor, School of Commerce and Economics
Presidency University, Bengaluru 560064.

M Yashwanth Lakshmi Narayana,

Student, BBA (Logistics and supply chain), School of Commerce and Economics, Presidency University, Bengaluru 560064.

ABSTRACT

Supply chain management (SCM) is the management of the flow of goods and services, between businesses and locations, and includes the movement and storage of raw materials, of work-in-process inventory, and of finished goods as well as end to end order fulfilment from point of origin to point of consumption. Supply chain management plays a vital role in every organization. It helps to complete the work efficiently and effectively. It helps the organization to adopt lean concepts like JIT, etc., It helps to eliminate the waste, unnecessary movements, using of raw materials effectively. It helps to reduce the production cost like less input and normal production rate, average input with optimum output. It even helps to maintain healthy relationship with the suppliers. It even leads green supply chain management. It helps the garment industry to predict the demand accurately. Helps to manages the upstream and the downstream to run effectively. Proper implementation of plan & its execution by various techniques with IT solutions. The best way to use the present manufacturing challenges in RMG sewing are implementation of lean management, 5S, six sigma with effective garment manufacturing software like Fast React & Real-Time data tracking and production management system. This helps the organization to be flexible and save lot of money by reducing lead time, constant level of input with maximum.

Keywords: Supply chain software, Export performance and Garment industries

INTRODUCTION

Supply chain management is the wide range of venture needed to plan, control and execute a products flow, getting raw materials and obtaining raw materials and productions to the end buyer, in the smooth and cost-effective possible way. Supply chain management is an art of delivering or making delivery for the Right person, Right time, Right place at the Right cost to its end users.

SCM bound and combined with planning and execution of procedure to maximum the workflow of materials, information and financial capital in the areas that broadly include demand planning, sourcing, production, storage and inventory management, transportation/ logistics and return for excess or defective products.

The design of supply chain would be simple or complex, and the production size would be based on the size of an organization. SCM is an operation that has the networked and interconnected network of business in delivery of the goods and services to the customers. The proper functioning of the SCM will be depended on each partner, from suppliers to manufactures and beyond as it is complex in nature.

For the proper development and well-functioning of the business the use of both business strategy and specialized software are used and to create competitive advantage. Supply chain management will include demand planning by involving the marketing, production planning, raw material sourcing planning, storage and warehouse planning, transport and logistics planning for goods movement etc. to achieve the overall strategic goals of business. Planning for SCM will be done at strategic level, tactical level and operational level.

Uses of software in supply chain management

As complexity of the SCM software increases as the size of the organization increases. Many different ERP software systems offer a module on SCM and are used for effectively functioning of the and managing of the SCM process. Some of the software examples and pioneer leading SCM software package vendors include JDA, Oracle, SAP, JD Edwards to name a few.

Few features that are offered by SCM module are demand management, production management, logistics management, inventory management etc.

SCM has become important in such a way that supplying the right product to the right time to the right place at the right cost will be able to survive or compete. SCM helps the organisation to achieve the goals in most effective manner and agile. Extensive use of software packages for SCM is in vogue now. Concepts like Just-in-Time, Kanban and Lean have gained momentum in SCM.

STATEMENT OF PROBLEM

Software based on supply chain coordination has become a critical success factor for CH and effectively improving the performance of organizations in various industries. Coordination refers to the integration of different setups of an organization or different parts of organizations in software based on supply chain, formulated to accomplish a collective set of tasks as well as achieve mutual benefits. Let us consider the concept of Construction Software based on supply chain of a Mega Project as an example with special emphasis as regards to construction CH. The coordination of inter organizations and decision making in construction software based on supply chain along with the integration of key construction business processes is done by key members involved in construction software based on supply chain. Research and practice indicate that there are many problems in construction setups and most of them are related to software based on supply chain problems mostly related to procurement and supply of construction material required at the site. The research analyses the problems in construction of software based on supply chain and in order to resolve these problems as well as improving the performance of construction, an agent-based framework for construction software based on supply chain coordination is designed based on the agent technology and multi-attribute negotiation and multi-attribute utility theory. The framework, which integrates the construction organizations in construction software based on supply chain and multi-attribute negotiation model, into a multi agent system, provides a solution for software based on supply chain coordination in construction through multi attribute negotiation mechanism on the Internet. Finally, the prototype of the framework is developed and tentatively run based on an imaginary construction project. The trial run reveals the feasibility to implement the agent-based framework for coordination in construction. We review developments in fundamental research on coordination in CH.

There are strong interdependencies between software based on supply chain management and Human Resource (HR) management and thus it is difficult to identify precise boundaries. Furthermore, these boundaries are continuously moving to accommodate an integration of software based on supply chain and HR activities. The problem that the logistics professional faces is that managing companywide HR policies to effect coordinated change is often outside his or her management scope. This removes the greatest point of leverage in accomplishing cross-functional integration for those who have such responsibility without commensurate authority. Moreover, it is extremely difficult to tailor coordinated HR policies that span functional departments; many logistics professionals lack knowledge and experience in this complex area. So the problem is to analyse the perception of employees about stocking and software based on supply chain management with manufacturing industry.

OBJECTIVES OF THE STUDY

Based on the problems the following are taken as objectives of the study,

- To study the socio graphic variables of the companies taken for the study.
- To analyse the perception of companies towards supply chain management software.
- To ascertain the level of satisfaction of companies towards performance of supply chain management software.

SCOPE OF THE STUDY

The study is to analyse the perception of companies towards supply chain software and based on the results the companies who are in to production of software for supply chain management can understand the perception of the companies so that they can change the modifications accordingly.

RESEARCH METHODOLOGY

Type of research :

Descriptive research has been used for the study.

Data collection

Primary data: For collecting the primary data survey method has used for the study.

Secondary data: Secondary data was collected from websites, journals and articles.

Research design

Type of sampling: Simple random sampling method has been adopted towards the study.

Sample size: The data was collected from 100 companies.

Tools used for the study

- Percentage analysis and
- Onewayanova

Limitations of the study

- The sample size was limited to 100.
- There may a bias towards primary data collected from respondents.

ANALYSIS AND INTERPRETATION

Vintage into business

	Frequency	Percent
< 2 years	42	42.0
2 to 5 years	47	47.0
> 10 years	11	11.0
Total	100	100.0

The above table shows about the vintage to do business by the respondents were out of 100 respondents 42% are having less than 2 years of experience, 47% are having experience between 2 to 5 years and 11% are having experience more than 10 years.

Total turnover of the business

	Frequency	Percent
< 2 lakhs	22	22.0
2 to 5 lakhs	37	37.0
5 to 10 lakhs	20	20.0
> 10 lakhs	21	21.0
Total	100	100.0

The above table depicts that 22% are making turnover less than 2 lakhs, 37% are making turnover between 2 to 5 lakhs, 20% are making turnover between 5 to 10 lakhs and 21% are making turnover more than 10 lakhs.

Frequency of shipment

	Frequency	Percent
Quarterly	47	47.0
Half yearly	14	14.0
Monthly	36	36.0
Annual	3	3.0
Total	100	100.0

The above table depicts that 47% are shipping their products quarterly, 14% are shipping half yearly, 36% are shipping monthly and 3% are shipping annually.

Name of the software

	Frequency	Percent
SAP SCM	38	38.0
Cash on delivery	3	3.0
E2B Open	40	40.0
Oracle	11	11.0
Epivir software	8	8.0
Total	100	100.0

The above table depicts that 38% are using SAP SCM software, 3% are using cash on delivery, 40% are using E2B open software, 11% are using oracle software and 8% are using epivir software.

Present software providing additional benefits

	Frequency	Percent
Better Operability	11	11.0
Cost saving	19	19.0
Supplier Selection	11	11.0
All the above	59	59.0
Total	100	100.0

Out of 100 respondents, 11% said that the software is providing better operability as additional benefit, 19% said as cost saving factor as additional benefit, 11% said supplier selection as additional benefit and 59% said as all the factors as additional benefit on present software used by them.

Value of yearly maintenance charges

	Frequency	Percent
< 1 lakh	14	14.0
1 to 5 lakhs	56	56.0
5 to 10 lakhs	30	30.0
Total	100	100.0

Out of 100 respondents, 14% said that they are paying less than 1 lakh as maintenance charges, 56% are paying between 1 to 5 lakhs, 30% are paying between 5 to 10 lakhs as yearly maintenance charges for supply chain software used by them.

Present issues with the present software

	Frequency	Percent
Expected results in net amount	20	20.0
Costlier maintenance	35	35.0
Poor demand forecasting	45	45.0
Total	100	100.0

Out of 100 respondents, 20% are facing expected results in net amount, 35% of the companies said as Costlier maintenance as a problem, and 45% said poor demand forecasting as a problem. **Satisfaction towards supply chain software**

	Frequency	Percent
Highly satisfied	31	31.0
Satisfied	23	23.0
Neutral	35	35.0
Dissatisfied	11	11.0
Total	100	100.0

Out of 100 respondents, 31% are highly satisfied, 23% are satisfied, 35% are neutral and 11% are dissatisfied.

Expectation from the present supply chain software among respondents

	Frequency	Percent
Inventory management	27	27.0
Freight rates calculate	58	58.0
Demand forecasting	15	15.0
Total	100	100.0

Out of 100 respondents, 27% are expecting inventory management from the present supply chain software as a new implementation, 58% said that they want to add freight rates calculations and 15% said they want to add demand forecasting calculations.

Support from the company for the supply chain software

	Frequency	Percent
Highly Satisfied	28	28.0
Satisfied	61	61.0
Neutral	11	11.0
Total	100	100.0

Out of 100 respondents, 28% are highly satisfied, 61% are satisfied and 1% are neutral.

Comparison between socio graphic variables and respondents satisfaction with their supply chain software

Ho1: Significant difference is there between socio graphic variables and respondents satisfaction with their supply

chain software

		N	Mean	SD	F	Sig
Vintage business" into	< 2 years	42	1.52	.890	34.513	.000
	2 to 5 years	47	2.91	.747		
	> 10 years	11	2.27	.467		
	Total	100	2.26	1.021		
Total turnover of the business	< 2 lakhs	22	1.00	.000	25.909	.000
	2 to 5 lakhs	37	2.73	1.146		
	5 to 10 lakhs	20	2.40	.503		
	> 10 lakhs	21	2.62	.498		
	Total	100	2.26	1.021		
Frequency shipment of	Quarterly	47	2.28	.826	18.957	.000
	Half yearly	14	3.57	.852		
	Monthly	36	1.67	.828		
	Annual	3	3.00	.000		
	Total	100	2.26	1.021		

No significant difference exists between vintage into business" (.000), total turnover of the business (.000) and frequency of shipment (.000) and respondents satisfaction with their supply chain software.

Comparison between socio graphic variables and respondents satisfaction with their supply chain software

Ho2: Significant difference is there between socio graphic variables and support company for the supply chain software

		N	Mean	SD	F	Sig
Name of the software	SAP SCM	38	1.68	.525	14.965	.000
	Cash on delivery	3	1.67	.577		
	E2B Open	40	2.20	.516		
	Oracle	11	1.00	.000		
	Epivir software	8	1.88	.354		
	Total	100	1.83	.604		
Value of yearly maintenance charges	< 1 lakh	14	1.93	.267	.680	.509
	1 to 5 lakhs	56	1.77	.467		
	5 to 10 lakhs	30	1.90	.885		
	Total	100	1.83	.604		
Present software providing additional benefits	Better Operability	11	1.64	.505	19.006	.000
	Cost saving	19	1.95	.229		
	Supplier Selection	11	2.82	.603		
	All the above	59	1.64	.517		
	Total	100	1.83	.604		
Present issues with the present software	Expected results in net amount	20	1.45	.510	12.022	.000
	Costlier maintenance	35	1.69	.530		
	Poor demand forecasting	45	2.11	.573		
	Total	100	1.83	.604		

No significant difference exists between name of the software used by the companies (.000), present

software providing additional benefits (.000), present issues with the present software (.000) and support company for the supply chain software.

FINDINGS

- Most of the respondents are having experience between 2 to 5 years.
- Maximum of the respondents are making a turnover between 2 to 5 lakhs.
- Most of the respondents are shipping their products quarterly.
- Maximum of the respondents are using E2B open software.
- Majority of the respondents said that better operability, cost saving and supplier selection of the Majority respondents are paying between 1 to 5 lakhs as yearly maintenance charges for supply chain software used by them.
- Maximum of the respondents are facing problems related to poor demand forecasting.
- Most of the respondents are neutral towards performance of supply chain software.
- Maximum of the respondents said that they want to add freight rates calculations from the present supply chain software as a new implementation. Maximum of the respondents are satisfied towards support from the company for the supply chain software.

No significant difference exists between vintage into business", total turnover of the business and frequency of shipment and respondents satisfaction with their supply chain software.

No significant difference exists between name of the software used by the companies, present software providing additional benefit, present issues with the present software and support company for the supply chain software.

SUGGESTIONS

- Supply chain software is playing an important role in running the organizations efficiently and effectively.
- Maintenance is more.
- Organizations needs to identify the at which at which area need to concentrate more and develop for long run sustainability.
- Need to select which software will suits and what type of customizations is suitable for the organization.
- Maintenance cost is slightly high.
- Well and smooth functioning of organizations.
- It sends alert signal for the reordering for any clash and for the reorder of raw materials.

CONCLUSION

Proper implementation of plan & its execution by various techniques with IT solutions. The best way to use the present manufacturing challenges in RMG sewing are implementation of lean management, 5 s, six sigma with effective garment manufacturing software like Fast React & Real-Time data tracking and production management system. This helps the organization to be flexible and save lot of money by reducing lead time, constant level of input with maximum production with less wastage, training operators for multiple works and by reducing rework.

REFERENCES

- Balakrishnan and Cheng (2005) Towards a theory of supply chain management: the constructs and measurements. *Journal of Operations Management*, 22 (2), pp. 119-150.
- Bryceson and Smith (2018) Supply chain management: supplier performance and firm performance. *International Journal of Purchasing and Material Management* , 34 (3), pp. 2-9.
- Burgess et.al. (2006) Characteristics of Supply Chain Management and the Implications for Purchasing and Logistics Strategy. *The International Journal of Logistics Management*, 4 (2), pp.13-24.
- Carter & Ellram (2003) Supply Chain Management and the Romanian Transition. *Amfiteatru Economic*, VIII (19), pp.18-26.
- Carter and Ellram (2003) Supply Chain Management: from Linear Interactions to Networked Processes. *Informatică Economică*, 4 (10), pp.73-77.
- Christopher (2018) New Managerial Challenges from Supply Chain Opportunities. *Industrial Marketing Management*, 29 (1), pp.7-18.
- Croom et al. (2020) Supply chain management: theory and its future perspectives. *International Journal of Business, Management and Social Sciences*, 1 (1), pp. 79-87.
- Giuniperot.al. (2018) Logistics versus Supply Chain Management. An International Survey. *International Journal of Logistics. Research and Applications*, 7 (1), pp. 17-31.

- Kaplinsky and Morris (2021) Supply Chain Integration under Vendor Managed Inventory Mode of Operation Considering Stockout. *Economic Computation and Economic Cybernetics Studies and Research – ECECSR*, 46 (1), pp.197-219.
- M. Barut et al., (2012) Logistica – instrument și concept încontinuuăevoluție. *Buletinul AGIR*, 2-3, April-September Issue, pp.88-93.
- Pietro Romano (2013) Supply-chain management: logistics catches up with strategy. In: M. Christopher, ed.1992. *Logistics: The strategic issues*. London: Chapman & Hall, pp. 63-75.
- Ram Ganeshan and Terry P. Harrison, (2015) An Introduction to Supply Chain Management website: http://silmaril.smeal.psu.edu/misc/supply_chain_intro.html
- Richard Lamming (2016) . The adoption/adaption of the „supply chain” concept in romanian. *The Annals of the University of Oradea, TOM XX 2nd issue december*, pp.657-668.