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Supply Chain Management Practices of Organized Retail Sector –An Empirical Study Based on the State of Punjab

Abstract

Supply chain management is getting the right things, to the right places, at the right times for maximum profit. Many important strategic decisions impact the supply chain: how to coordinate the production of goods and services, including which suppliers to buy materials from; how and where to store inventory; how to distribute products in the most cost effective, timely manner; and how and when to make payments. The highly competitive environment of the organized retailing sector has made companies look for a competitive advantage.

While supply chain management is as old as trade itself, new information and communication technologies have made today's supply chains better, faster and cheaper. Information engineering that combines new information technologies with improved production, inventory, distribution and payment methods has revolutionized supply chain operations. For example, one way to buy a computer is to get on Dell's web site and configure and price a system exactly as one wants. As soon as the online order is submitted, all of Dell's global suppliers—those providing chips, monitors and so on—are immediately notified of the sale and go to work so that one can receive the computer typically within a week. In contrast the old model of supply chain management requires the customer to go to a store in search of a product that the manufacturer thinks you want to buy.

Keywords: Supply Chain Management, Punjab

Introduction

Throughout history, new ideas and technologies have revolutionized supply chains and changed the way of work. Two hundred years ago, giant machines replaced manual labor to complete tasks in large factories. Railroads, electricity and new communications media has expanded markets and has made supply chains better, faster and cheaper.

Evolution of Supply Chain

Mass Production Era.

In the early 1900s, Henry Ford had firstly created the assembly line. This reduced the time required to build a car (Model T) from 728 hours to 1.5 hours and ushered in the mass production era. Over the next 60 years, American manufacturers became adept at mass production and streamlined supply chains with the help of scientific management methods and operations research techniques.

Lean Manufacturing Era.

But in the 1970s, U.S. manufacturing's superiority was challenged. Foreign firms in many industries made higher quality products at lower costs. Global competition forced U.S. manufacturers to concentrate on improving quality by reducing defects in their supply chains. Starting in the early 1970s, Japanese manufacturers like Toyota changed the quantity. Significant lean manufacturing ideas include just-in-time inventory and total quality management.

Mass Customization Era.

Beginning around 1995 and coinciding with the commercial application of the Internet, manufacturers started to mass-produce customized products. Dell may be the most famous mass customizer, the elimination of middlemen (such as travel agents, warehousemen and salespeople) and the sharing of critical information in real time with key partners make this era significantly different. Perhaps a more accurate



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term would be the “information engineering” or “information management” era.

Review of Literature

Logistics management has the potential to assist the organisation in the achievement of both a cost/productivity advantage and a value advantage (Christopher, 1998). But, the logistics perspective that considers the company itself without considering its supply chain members is not sufficient. To gain this competitive advantage, there is the need to adopt the Supply Chain Management (SCM) approach and consider the supply chain as a whole.

Supply Chain Management (SCM) is “the management of upstream and downstream relationships with suppliers and customers to deliver superior customer value at less cost to the supply chain as a whole” (Christopher, 1998). This philosophy requires a movement away from arms-length relationships toward partnership-style arrangements.

SCM involves integration, co-ordination and collaboration across organisations and throughout the supply chain. It means that SCM requires internal (intraorganisational) and external (interorganisational) integration.

In stage I, the logistics function is seen merely as a distribution function, separated from the rest of the organisational functions. In stage II, there is an integration of the various components of logistics within the firm’s boundaries. And, finally, in stage III the internal integration (achieved in the previous stage) is extended to suppliers and customers. Internal integration is the integration across functional boundaries within a firm.

The level of internal integration is reflected by the extent to which logistics activities interact with other functional areas, as well as by the extent to which logistics is or is not a separate functional unit (Stock, Greis & Kasarda, 1998).

Gimenez and Ventura (2002) have analyzed the relationship between internal and external integration processes, and their significant effect on firms’ performance and competitive advantage. The study uses variables such as competitive advantage, firm’s performance, and the internal and external integration process based on supply chain management (SCM), which is measured and operationalized in terms of absolute and relative performance in areas of teamwork, shared ideas, information, planning, objectives, responsibility; sales, logistics processes and cost efficiencies,

Greis & Kasarda (1998) define external integration as the integration of logistics activities across firm boundaries. It is to think of the manufacturing enterprise in terms of the entire supply chain, which increasingly consists of many separate firms banded together in network arrangements.

Research Methodology

The study was carried out to know the supply chain management practices followed by organized retail sector in Punjab. For this purpose, the primary data was collected from the two major cities of Punjab .i.e Ludhiana and Jalandhar. The total number of respondents each from 40 executives of the select three retail stores viz. Vishal Mega-mart. Reliance Super, Easy Day. The questionnaire was framed on the basis of five point Likert scale and was administered to the executives. Further, additional information has also been gathered by way of personal interviews and discussions. The reliability of the scale was tested and the reliability coefficients (Cronbach Alpha α) for such scale was found as 0.789. The various statistical tool used for the analysis of data include arithmetic mean, standard deviation and ANOVA etc.

Objective of the study

The study is carried out due to following reasons.

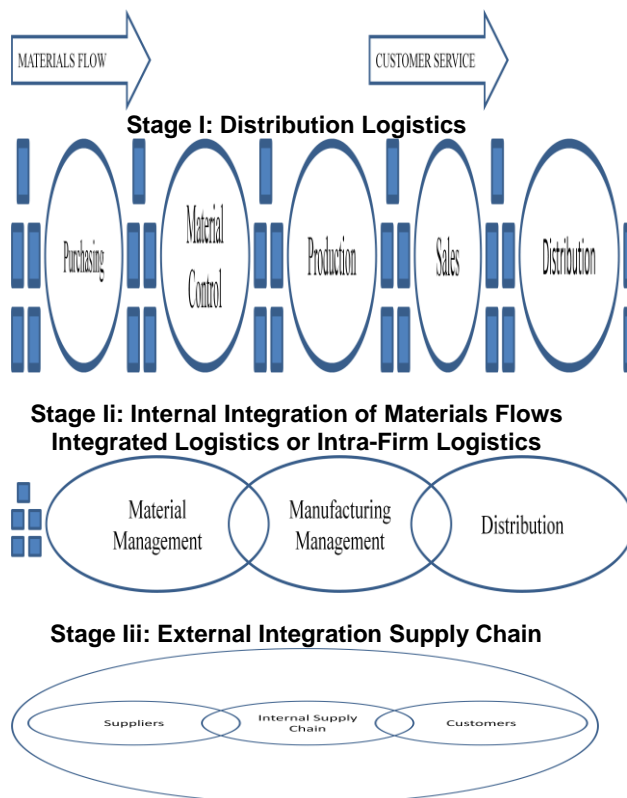
1. To study the internal integration in organised retail sector
2. To study the external integration in organised retail sector

Limitation of the Study

1. Due to financial constraints, the scope of study is limited to the state of Punjab only.
2. Primary data might have been influenced by the inhibitions of the respondents and lack of conceptual clarity about the issues involved.
3. The results are based on a sample size of 115 responses. This sample size may not be true representative of the retail industry of Punjab.

Analysis and Interpretation

One-way ANOVA was used to whether significant difference exist among the select retail store regarding their internal integration. The results are presented below:



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There is no significant difference regarding internal integration among the select stores.

Table 1 shows that significant difference is found in informal teamwork, joint establishment of objectives and joint decisions about ways to improve cost efficiency.

Table 1
Select Retail Stores and Dimensions of Internal Integration: Anova

Internal Integration		Sum of Squares	df	Mean Square	F	Sig.
Informal teamwork	Between Groups	49.1	2	24.55	14.95	.000
	Within Groups	183.8	112	1.64		
	Total	232.9	114			
Shared ideas, information and other resources	Between Groups	1.2	2	.61	.313	.732
	Within Groups	218.3	112	1.95		
	Total	219.6	114			
Established teamwork	Between Groups	3.9	2	1.96	1.12	.327
	Within Groups	195.4	112	1.74		
	Total	199.3	114			
Joint planning to anticipate and resolve operative problems	Between Groups	10.71	2	5.35	2.11	.126
	Within Groups	284.42	112	2.53		
	Total	295.13	114			
Joint establishment of objectives	Between Groups	137.78	2	68.89	52.37	.000
	Within Groups	147.34	112	1.32		
	Total	285.13	114			
Joint development of the responsibilities understanding	Between Groups	1.71	2	.858	.57	.56
	Within Groups	169.28	112	1.51		
	Total	170.99	114			
Joint decisions about ways to improve cost efficiency	Between Groups	53.81	2	26.91	16.55	.000
	Within Groups	182.04	112	1.62		
	Total	235.86	114			

Source: Primary data

Table 2 below shows that informal teamwork and joint decisions about ways to improve cost efficiencies are the significant determinant of internal integration for Reliance Super whereas joint planning

to anticipate and resolve operative problems is significant factor of internal integration for Vishal Mega-Mart.

Table 2
Select Retail Stores and Dimensions of Internal Integration: Descriptive

Variables	Groups	N	Mean	Std Dev.
Internal Integration				
Informal teamwork	Vishal Mega-mart	30	1.70	1.12
	Reliance Super	45	3.26	1.48
	Easy Day	40	3.07	1.14
	Total	115	2.79	1.43
Shared ideas, information and other resources	Vishal Mega-mart	30	2.63	1.29
	Reliance Super	45	2.77	1.55
	Easy Day	40	2.9	1.28
	Total	115	2.78	1.39
Established teamwork	Vishal Mega-mart	30	2.9	1.77
	Reliance Super	45	2.58	1.12
	Easy Day	40	2.43	1.13
	Total	115	2.61	1.32
Joint planning to anticipate and resolve operative problems	Vishal Mega-mart	30	3.60	1.71
	Reliance Super	45	2.89	1.66
	Easy Day	40	2.93	1.42
	Total	115	3.09	1.61
Joint establishment of objectives	Vishal Mega-mart	30	4.56	0.56
	Reliance Super	45	1.8	1.25
	Easy Day	40	2.92	1.32
	Total	115	2.91	1.58
Joint development of the responsibilities Understanding	Vishal Mega-mart	30	3.1	1.74
	Reliance Super	45	3.07	1.03
	Easy Day	40	2.82	.93

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	Total	115	2.99	1.22
Joint decisions about ways to improve cost efficiencies	Vishal Mega-mart	30	2.06	1.41
	Reliance Super	45	3.78	1.35
	Easy Day	40	3.30	1.06
	Total	115	3.16	1.43

Source: Primary data

Table 3 shows that significant difference is found external integration in the organized retail sector with regard to joint planning to anticipate, resolve operative problems and joint establishment of objectives.

Table 3
Select Retail Stores and Dimensions of External Integration: Anova

External Integration		Sum of Square	df	Mean Square	F	Sig.
Informal teamwork	Between Groups	51.07	2	25.53	19.23	.072
	Within Groups	148.72	112	1.32		
	Total	199.79	114			
Shared information about sales forecasts, sales and stock levels	Between Groups	4.92	2	2.46	1.38	.254
	Within Groups	198.61	112	1.77		
	Total	203.53	114			
Joint development of logistics processes	Between Groups	5.12	2	2.56	1.48	.232
	Within Groups	193.54	112	1.73		
	Total	198.66	114			
Joint planning to anticipate and resolve operative problems	Between Groups	15.47	2	7.74	3.74	.027
	Within Groups	231.65	112	2.06		
	Total	247.12	114			
Joint establishment of objectives	Between Groups	76.84	2	38.42	23.35	.000
	Within Groups	184.28	112	1.65		
	Total	261.12	114			
Joint development of the responsibilities' understanding	Between Groups	1.71	2	.858	.56	.568
	Within Groups	169.28	112	1.51		
	Total	170.99	114			
Joint decisions about ways to improve cost efficiencies	Between Groups	53.81	2	26.91	16.55	.072
	Within Groups	53.82	112	1.63		
	Total	182.04	114			

Source: Primary data

Table 4 below shows that Vishal Mega-Mart has given more importance to joint planning to anticipate and to resolve their operative problems as well as for the joint establishment of objectives.

Table 4
Select Retail Stores and Dimensions of External Integration: Descriptive

VARIABLES	Groups	N	Mean	Std Dev.
External Integration				
Informal teamwork	Vishal Mega-mart	30	1.70	1.12
	Reliance Super	45	3.31	1.18
	Easy Day	40	3.07	1.14
	Total	115	2.81	1.32
Shared information about sales forecasts, sales and stock levels	Vishal Mega-mart	30	2.56	1.22
	Reliance Super	45	3.09	1.44
	Easy Day	40	2.90	1.28
	Total	115	2.89	1.34
Joint development of logistics processes	Vishal Mega-mart	30	2.97	1.73
	Reliance Super	45	2.60	1.14
	Easy Day	40	2.43	1.13
	Total	115	2.64	1.32
Joint planning to anticipate and resolve operative problems	Vishal Mega-mart	30	3.70	1.64
	Reliance Super	45	2.82	1.30
	Easy Day	40	2.92	1.42
	Total	115	3.09	1.47
Joint establishment of objectives	Vishal Mega-mart	30	4.40	.899
	Reliance Super	45	2.35	1.44
	Easy Day	40	2.92	1.32
	Total	115	3.08	1.51
Joint development of	Vishal Mega-mart	30	3.1	1.74

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the responsibilities' understanding	Reliance Super	45	3.06	1.03
	Easy Day	40	3.82	.93
	Total	115	2.99	1.22
Joint decisions about ways to improve cost efficiencies	Vishal Mega-mart	30	2.07	1.41
	Reliance Super	45	3.78	1.35
	Easy Day	40	3.30	1.07
	Total	115	3.16	1.44

Source: Primary data

Summary and Conclusion

From the findings of the present study many significant conclusions can be made out which in turn can be useful for further investigation in the field.

It is concluded that informal teamwork and joint decisions about ways to improve cost efficiencies are the significant determinant of internal integration for Reliance Super whereas joint planning to anticipate and resolve operative problems is significant factor of internal integration for Vishal Mega-Mart.

Also from the study, it can also be concluded that Vishal Mega-Mart stressed more importance to joint planning to anticipate, resolve operative problems as well as on joint establishment of objectives.

There is lot of scope for IT enabled service providers in conjunction with retail organizations for enhancement of the supply chain system. This will not only enhance the profitability for retail and ITES solution providers but will also generate value for consumers as well as producers.

As has been found in the study that Vishal Mega-Mart has given more importance to joint planning to anticipate and to resolve their operative problems as well as for the joint establishment of objectives and it is a very successful retail chain, therefore it is a very good technique for supply chain management.

In this era, poor people are struggling to make both ends meet and wastage on a large scale is beyond the tolerance level.

The benefits accrued from waste reduction can be shared by manufacturers as well as by consumers. Moreover it will also be helpful in control of inflation and fluctuation in the market for the prices of products.

References

1. Arbuckle, J. (1997): AMOS User's Guide Version 3.6. Chicago: Smallwaters Corp.
2. Armstrong, J.S. & Overton, T.S. (1977): "Estimating non-response bias in mail surveys"; *Journal of Marketing Research*; Vol.14 no.3; pages 396- 402.
3. Bentler, P. M. (1995): EQS Structural Equations Program Manual. Encino, CA: Multivariate Software, Inc.
4. Byrne, S.M. & Javad, S. (1992): "Integrated Logistics Information Systems (ILIS): Competitive advantage or increased cost"; *Council of Logistics Management Annual Conference Proceedings*; Oak Brook, Illinois; pages 55-73.
5. Christiansee, E. & Kumar, K. (2000): "ICT-enabled coordination of dynamic supply webs"; *International Journal of Physical Distribution and*

Logistics Management; Vol.30 no.3/4; pages 268-285.

6. Christopher, M. (1998): *Logistics and Supply Chain Management: Strategies for reducing cost and improving service*; Financial Times Pitman Publishing.
7. Daugherty, P.J.; Ellinger, A.E. & Gustin, C.M. (1998): "Integrated Logistics: The performance connection"; *Council of Logistics Management Annual Conference Proceedings*; Anaheim, California; pages 383-388.
8. Daugherty, P.J.; Ellinger, A.E. & Rogers, D.S. (1995): "Information accessibility: Customer responsiveness and enhanced performance"; *International Journal of Physical Distribution and Logistics Management*; Vol.25 no.1; pages 4-17.
9. Daugherty, P.J.; Sabath, R.E. & Rogers, D.S. (1992): "Competitive advantage through customer responsiveness"; *Logistics and Transportation Review*; Vol.28 no.3; pages 257-271.
10. *Distribución Anual (2002): "Anuario de la Distribución 2001"*; Vol. 1.
11. *Fomento de la Producción (2000): "España 25.000 (DataBase)"*; Edition 2000.
12. Fox, R.; Crask, M. & Kim, J. (1988): "Mail survey response rate: A Metaanalysis of selected techniques for inducing response"; *Public Opinion Quarterly* 52; no.1; pages 467-491.
13. Groves, G. & Valsamakis, V. (1998): "Supplier-customer relationships and company performance"; *The International Journal of Logistics Management*; Vol.9 no.2; pages 51-63.
14. HR Lemma, R Singh, N Kaur (2015), "Determinants of supply chain coordination of milk and dairy industries in Ethiopia: a case of Addis Ababa and its surroundings, SpringerPlus, Vol 4, No1, pp1-12.
15. Qi Feng et.al (2015), "Dynamic Bargaining in a Supply Chain with Asymmetric Demand Information, *Management Science*, Vol61, No2, pp 301-315.
16. Nishat Faisal and Faisal Talib (2016), "Implementing Traceability in Indian Food Supply Chains: An Interpretive Structural Modeling Approach", *Journal Of Food Service Business Research*, Vol.19, No 2, pp 171-196.
17. S Shashi, R Singh (2015), "Uncertain Supply Chain Management", *Modeling cold supply chain environment of organized farm products retailing in India*, Vol 3, No 3, pp.197-212.
18. Shapiro, R.D. (1984): "Get leverage from logistics"; *Harvard Business Review*; Vol. 62 no.3; pages 119-126.

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19. Stank, T.P.; Crum, M. & Arango, M. (1999): "Benefits of inter-firm coordination in food industry supply chains"; Journal of Business Logistics; Vol.20 no.2; pages 21-41.
20. Stank, T.P.; Daugherty, P.J. & Autry, C. (1999): "Collaborative planning: Supporting automatic replenishment programs"; Supply Chain Management; Vol.4 no.2; pp. 75- 85.