Research Paper

Supply Chain- Operational Efficiency in Retail Sector

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ABSTRACT   *Organized retail is in a nascent stage of growth in India as it just has a 5.9% share in the total Indian retail trade. However, in recent years, organized retailing has been growing at a robust rate due to rise in the number of shopping malls as well as in the number of organized retail formats. In the course of this retail evolution in India, the supply chain has also seen significant activity. After all, Supply chain forms a major part of the sustenance of any retail venture. For the retail venture to flourish successfully, it should have an efficient and well established supply chain. In the modern format, when all the other aspects of retailing have been discarded as being a differentiating factor, the role of supply chain has become even more important. From being just a part of the operations of a network, supply chain is soon going to become the source of competitive advantage for some firms.*

INTRODUCTION

The balancing act of maintaining a high level of service and low costs is becoming harder for retail supply chain directors as businesses try to meet the growing customer mantra of "more for less." This pressure comes at a time when business is becoming more global, supply chains are lengthening, and competition is on the rise. Although this challenge is not new, the outlook is that it will intensify as a number of factors — economic, regulatory and market-driven — become more acute. Consequently, supply chain performance will have increasingly significant impact on overall business success. Globally, forward-thinking retailers are also redefining the way they do business with their customers and their suppliers, adopting innovative ideas to respond to market trends and developing new channels to meet consumer shopping preferences, many of which are being brought about by shifting lifestyles in Western economies. Already highly complex, the supply chain of the future will grow even more complex as it serves a greater variety of buying channels (store, Internet, kiosk, telephone, mail order, TV, PC) delivering to more outlets (different store formats, order and collection options, homes, multiple pickup options) in potentially more regions — all while managing more products from a greater number of sourcing locations. Although the supply pipeline needs to be more efficiently designed so goods can flow seamlessly from the producer to the consumer, it will also need to work well in reverse to release value tied up in returned and obsolete products; and it will need to do so as quickly as possible at the lowest possible cost. For the supply chain to work more efficiently, all parties involved — from raw material suppliers to consumers and every touch-point in between — will need to work more collaboratively and invest in technology that enables them to more easily share accurate product information. Progressive businesses are looking more holistically at where the burden of costs is carried. Because store operations personnel want to move some of the more costly, labor-intensive aspects of store retailing further upstream — e.g., suppliers or distribution centers providing floor-ready merchandise — cost models are being used to illustrate the tradeoffs to make the right decisions.

To increase efficiency, a retail unit must develop cost-effective transportation rates while reducing its overhead, total inventory and overall cost-per-order processing. Warehouse operations, including processes, layout and flow, can be positively affected by closely working with your transportation provider. By establishing a two-way relationship with the transportation carrier frequently a retailer can share best practices, issues and opportunities. Conversely, disjointed transportation flow ties up space on the receiving dock, stored and shipped back to the source. This process uses extra labor and space. Additionally, lack of a

reliable delivery time requires the retailer to carry more inventories, which decreases inventory turns and increases costs for the added storage space.

The operational efficiency of a retail unit is dependent on a number of factors considering service, customer and business perspective. By implementing the Supply chain management practices in the business, the retailers have gained various operational efficiencies. The operational efficiency includes 1. Customer Competency, 2. Service competency and 3. Business competency. The selected factors were employed through factor analysis and the resultant factors inducing operational efficiency were analyzed with cluster analysis.

Table 1 Clustering of Inducing Variables into Factors

Factor	Inducing Variables	Rotated factor loadings
"Distinctive Factors"(I)	Supplier Selection Mode of Transport	.812 .801
"Unique Factors"(II)	Allocation of Suppliers to Different Parts Work Load Balancing Inventory Decisions Improvement in The Usage of Warehouses	.799 .778 .783 .744
"Distinguishing Factors"(III)	Work Routing Vehicle Routing Distribution Policy	.663 .658 .630

Source: Primary data

The EIGEN value for a factor indicates the 'Total variance' attributed to the factor. From the extraction sum of squared loadings, it was learnt that the I factor accounted for the variance of 13.271 which was 13.198%, the II factor accounted for the variance of 12.898 which was 25.819%, the III factor accounted for the variance of 11.392 which was 37.323%, the IV factor accounted for the variance of 10.727 which was 48.512%. The V factor accounted for the variance of 10.139 which was 58.967. The four components possessing the Eigen values greater than 1.0 accounted for the total cumulative variance of 58.967%.

The association between the ownership nature and the factors influencing operational efficiency was tested using ANOVA with a null hypothesis at 5 per cent level of significance and it was found that, all the factors were above 5 per cent level of significance, hence the hypothesis is rejected and it was concluded that there is an association between the ownership and the factors influencing operational efficiency of the retail owners.

Table 2 ANOVA

Ho: There exists no significant association between the Ownership and the factors influencing operational efficiency of the retail owners.

Factors	Sum of Squares	DF	F	Sig.
Supplier Selection	1195.649	2	.271	.762
Allocation of Suppliers to Different Parts	.403	2	.129	.879
Improvement in The Usage of Warehouses	.164	2	.055	.946
Inventory Decisions	5.784	2	2.570	.077
Distribution Policy	5.734	2	2.572	.077
Vehicle Routing	3.225	2	1.481	.228
Work Routing	3.069	2	1.071	.343
Work Load Balancing	4.922	2	2.055	.129
Plan of Production	5.685	2	2.120	.121
Mode of Transport	.359	2	.148	.863

Source: Primary data

The association between the Kind of outlet and the factors influencing operational efficiency of the retail owners and that of the factors influencing operational efficiency of the retail with the type of retail unit was also tested applying ANOVA which concluded that there is an association between the Kind of outlet and the factors influencing operational efficiency of the retail owners and also association between the factors influencing operational efficiency of the retail with the type of retail unit.

By analyzing the first discriminant function, it can be noticed that Customers' Satisfaction has a good influence (**1.049**) on the discriminant function, while the Increase in Business Volume & Profit has a major one (**1.109**). Thus, the created latent dimension (first discriminant function) is based highly on the perceived value variable.

Table 3 Canonical Discriminant Function Coefficients

Impact on business experiences in due usage of Logistics Services	Function		
	1	2	3
Logistic Performances (Trucking, Door-To Operation In Container Loading, Express Cargo Delivery, Warehousing Etc)	.647	.709	-.031
Customers' Satisfaction	.893	.551	1.049
Employee Moral	-.301	.479	-.672
Increase in Business Volume & Profit	1.109	-.568	-.427
Improvement in Supply Chain Management	.277	-.468	.474

When taking into account of factors considered for the studying the Impact on business experiences in due usage of Logistics Services, the appropriate factors which emerged were the ultimate customers' satisfaction derived through which is the increase in Business volume and profit.

Results and discussion
Demographic factors:
- It is well from understood from the analysis that a majority of the owners have set their retail units in multiple locations and a 33% of the owners have set their units under partnership mode.
- The retail owners in order to capture the attention of the public and induce them to purchase products a majority of 22.6 percent of the owners have set their retail units in Main roads and the store lay out have been designed on a format of piggy wiggle store lay out.
- The market driven stores in retail arena was convenience stores and majorities of 28.9 percent of the owners have set up Convenience store. It has been opined by the retail owner that their shop is visited by a 100 customers in a Day.
- In order to boost the sales and derive customer satisfaction a majority of (51.4 %) of the retail owners offer multiple brands. And a majority of (55.8%) of the retail owners has profound in the Local market.
- The retail units owners have provided credit sales and they outsource logistics service and a (34.8%) of the retail owners have allocated 60 percent of the amount to outsource logistics service. It is also understood that a highest of 35.3% of the retail owners adopt 11- 20 days for cyclic time for shelving the products in retail units.
- The retail owners have concentrated on Customers' Satisfaction and Increase in Business Volume & Profit in order to increase their performance. By implementing the various logistics strategies the employee morale and improvement in supply chain management will go down.
- The implementation of SCM will fetch greater profits and a separate notion of morale will be sustained in the retail units and there is a possibility of slower commitment and there are better ways of shifting all the reasons by stating a reason on shortage of logistics without concentrating on all aspects.
- In the near future in order to sustain in the retail business the owners of the retail shops has to concentrate on three dimensions viz., "Integrating Employees and meeting the Service Demand", "Resolving customer expectation's with safety and integrity" and "Implementing Technology to meet customer's" needs. As the world is ruled by technology the retail units in order to excel in their business has no exemption and so by implementing proper technologies the customers demand is met with utmost safety and security.
- It is clear from the structural equation modeling that there is a brighter scope by implementing the Supply chain management practices in the retailing sector where in the Benefits derived, Areas to be strengthened and the factors influencing Efficiency.

Conclusion

The Retail businesses have various inbound competencies which has earmarked profits. The effective implementation of the Supply chain includes "Distinctive Factors" which may be termed as Best selection of Supplier and transport and "Unique Factors" may be termed as efficient selection of suppliers and inventory units. The "Distinguishing Factors" may be termed as proper planning of work, vehicle and distribution policies. Hence the combination of the above three factors assures the retail owners to cherish the operational efficiency in their business

Further there was an attempt made to find the impact of Business experience by using logistics services through cluster analysis and the selected retail shops in the Coimbatore city has been classified through the different kind of outlet viz., 1. Stand alone 2. Multiple locations 3.Franchise 4.Company owned and a hypothesis was promoted to test the association between the Kind of outlet and the benefit of experience in due usage of logistics service.

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