

LOGISTICS MANAGEMENT PRACTICES IN FMCG AND CONSUMER DURABLES SECTOR IN KERALA – AN EMPIRICAL STUDY

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ABSTRACT

The Logistics Management Practices in the market are implemented by Physical Supply, Physical Distribution, Purchasing and Demand Management. This study identifies four components viz., Purchase Management Practices, Distribution Management Practices, Supply Management and Demand Management Practices. The descriptive research design has been followed to fulfill the objectives of the study. Major wholesalers in FMCG and consumer markets at Thiruvananthapuram, Cochin, Kollam, Kottayam, Palakad and Trichur have been selected as the samples of the study which are identified by the traders association in the above said six cities. The outcomes of Logistics Management Practices are classified into 3 broad categories namely efficiency of logistics, effectiveness of the logistics and differentiation. The study concludes that the four components of Logistics Management Practices in the FMCG and consumer durables market in Kerala justify its validity and reliability.

Keywords : *Logistics, Management Practices, Customer Services, Supply Chain, Kerala*

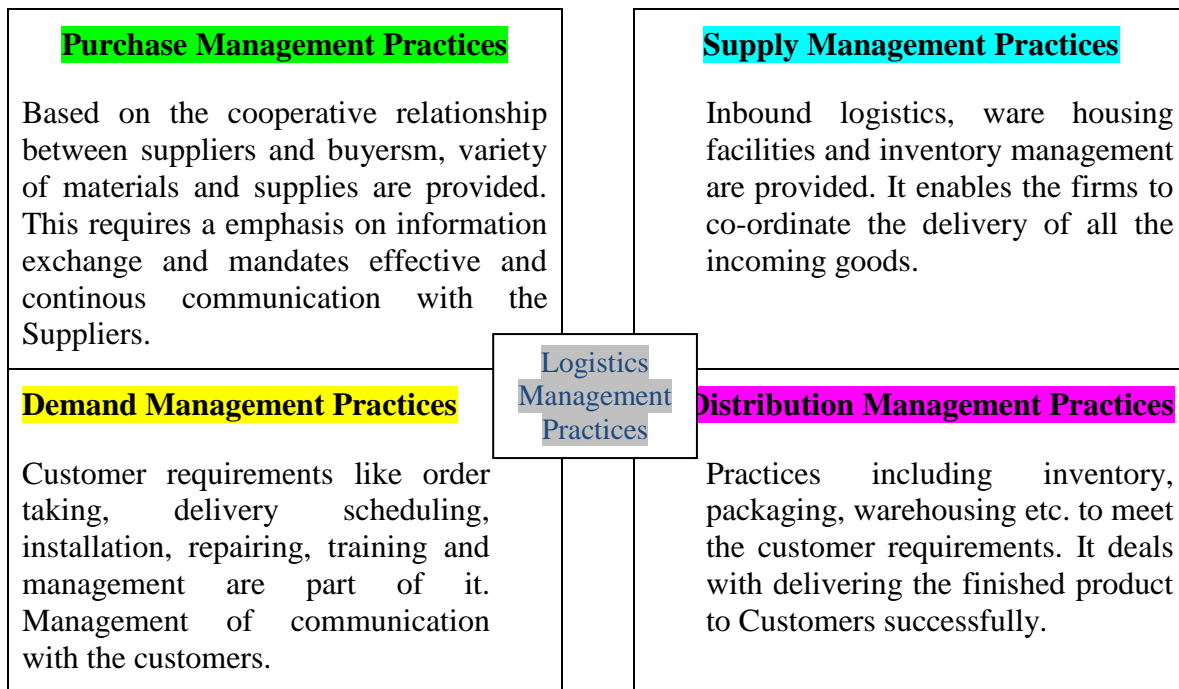
Introduction:

In the last ten years a dramatic increase in the finished goods resulted in a market change from sellers' market into a consumer market. The media is characterized by the difference in the supply over the demand. The ever increasing competition between the businesses lead to client-oriented marketing concept in the market. The retailers turnover is becoming an important concept at the market (Shumilo, 2014). A rapid change in the tastes and preferences in the market reflects on the implementation of Logistics by the Marketers (Russo and Comi, 2006).

The logistics includes so many new concepts and technologies for their customer service. These include management based on demand (Dolia, 2009); resource planning

based on requirements (Myerson, 2010); logistics on the reverse gear (Brix et al., 2016), Just-In-Time (Borghesi, 2017); Faster response (Lowson et al., 1999); Lean Production and Logistics (Lamming, 1996); Consumer Response (Reyes and Bhutta, 2005); Vendor managed inventory process (Book binder et al., 2010); Logistics based on time (Muilerman, 2001); Green led Logistics (Mejasz-Lekh, 2016); customer intended manufacturing (Gesser, 2002); Value Added Logistics (Rajgopal, 2016); and the Customer Driven Supply Chain management (Juttner, et al., 2007).

The Logistic Management Practices in the market are implemented by Physical Supply, distribution based on physical movements, Purchasing and Demand Management (Zhang et al., 2006). The above said practices are implemented to enrich their Customer Satisfaction (Paulraj and Chen, 2007) and also the cost reduction at the retail unit level (Halldorsson et al., 2008). The objectives of the Logistics Management Practices are presented in the given diagram :



Source: Zhang et al., 2002; 2003; 2005.

It is imperative to implement the logistics management practices in the competitive market to retain the market share and provide sustenance to organisations (Shah and Sharma (2014) especially in FMCG and consumer durables market.

Materials and Methods:

The Logistics Management is the management process starts from Purchasing to Distribution (Chu, et al., 2011). It covers a wider range of practices (Lummus et al., 2005). The contents includes Purchasing Management (Scrafford et al., 2006), Physical Supply (Squire, et al., 2019), Demand Management (Duclos et al., 2003), Customer Centricity (Vachon, et al., 2009), Distribution Management (Moon et al., 2012), Warehousing (Zhang, et al., 2005), Distribution Network (Khan et al., 2009), Delivery (Naim, et al., 2006), Packaging (Barad and Even, 2003) and Reverse Logistics (Coronado and Lyous, 2007). The variables included in the Logistics Management Practices in the study are given in Table 1.1.

TABLE 1.1: Variables in Logistics Management Practices (LMP)

Sl. No.	Variables in LMP	Sl. No.	Variables in LMP
I	Purchase Management Practices <ol style="list-style-type: none"> 1) Select Supplier with variable capacity 2) Dependable Delivery Premises 3) Multiple kinds of material to meet specifications 4) Flexibility in choosing Suppliers 5) Ability to change the volume and varieties 	II	Supply Management Practices <ol style="list-style-type: none"> 1) Respond quickly to the unexpected changes 2) Handling the Changes in the quantity of the Suppliers Order 3) Add and remove Supplier as per the Customer needs 4) Keeping various Suppliers resources 5) Select the optimum source of Supplier at the time
III	Demand Management Practices <ol style="list-style-type: none"> 1) Handling wide swings in demand 2) Handling unexpected events over start periods 3) Adjusting Customer Location Changes 4) Increase the access to the Customers 5) Advanced Notification to the Customers 6) Negotiate the price and delivery time with Customers 	IV	Distribution Management Practices <ol style="list-style-type: none"> 1) Warehousing facilities 2) Distribution networks 3) Multiple transportation modes 4) Ability to maintain on-time delivery to Customers Order 5) Flexibility in point of sales 6) Adjusting delivery to Customer charges 7) Multiple kinds of Product Packaging 8) Flexible return policies

	7) Maintaining Prompt Customer Services and Quality 8) Keep up the promises to the Customers		
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The respondents were asked to rate the above as per the rate of implementation at their unit.

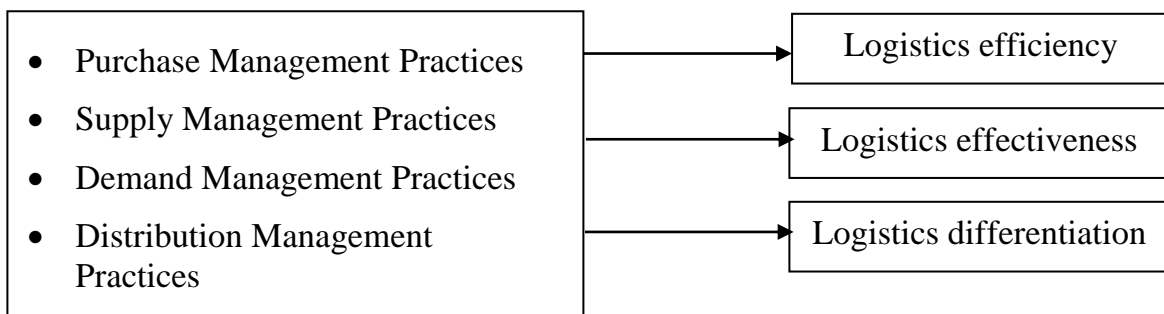
Outcome of Logistics Management Practices

The ultimate impact of marketing is in the Customer Service and Customer Satisfaction (Leuschner, et al., 2013). The outcome of Logistics Management Practices are classified into efficiency of logistics, effectiveness and differentiation (Fugate et al., 2010). Efficiency represents the consistent delivery relevant value to the customers in terms of cost savings (Mentzer et al., 2004). Effectiveness generates the Customer’s value and customer satisfaction (Leuschner et al., 2013). Differentiation generates the Customer loyalty (Wallenburz, 2009), Referrals (Knemeyer et al., 2003) and Ultimately Market Share (Stank et al., 2003).

At this juncture, this study has made an attempt to examine the rate of implementation of Logistics Management Practices and its outcome in FMCG and Consumer durable market in Kerala.

Proposed Research Model

The proposed research model of the present study is given below:



Based on the proposed research model, the learnings from the study are:

- i) the rate of implementation measuring of Logistics Management Practices and its outcome; and

- ii) evaluating the impact of Logistics Management Practices on its outcome.

Methodology

The descriptive research design has been followed to fulfill the objectives of the study. Society of major wholesalers in FMCG and consumer markets at Thiruvananthapuram, Cochin, Kollam, Kottayam, Pallakad and Trichur have been selected as the sample of the study which are identified by the traders association in the above said six cities. Hence, the applied sampling procedure of the study is snow ball sampling. This study is mainly based on primary data, special care was taken to design the questionnaire. An initial attempt was made to enrich the quality of questionnaire. Responded units on the questionnaire came down to 42 units. The required statistical analysis was adopted to process the data.

Results and Discussion

Initially, rate at which Logistics Management Practices are implemented at the units is computed by the mean of the variables in each component of Logistics Management Practices. Before that the confirmatory factor analysis was adopted to test the reliability and validity of variables in each component. The overall reliability of variables in each component is tested by Cronbach's alpha. The results are given in Table 1.2.

TABLE1. 2

Reliability of Validity of Variables in Components of Logistics Management Practices (LMP)

<i>No.</i>	<i>Component of LMP</i>	<i>No. of variables</i>	<i>Range of standardized factor loading</i>	<i>Range of 't' statistics</i>	<i>Cronbach's alpha</i>	<i>Composite reliability</i>	<i>Average variance extracted</i>
1.	Purchase Management Practices	5	0.8714-0.6247	3.8119*-2.2949*	0.7723	0.7504	53.12
2.	Supply Management Practices	5	0.8903-0.6349	3.9698*-2.3981*	0.7904	0.7711	54.34
3.	Demand Management Practices	8	0.9172-0.6514	4.0417*-2.5694*	0.8248	0.8012	56.88
4.	Distribution Management Practices	8	0.8843-0.6173	3.9341*-2.1941*	0.7811	0.7603	53.82

*Significant at five per cent level.

It was found that standard loading of variables in each component of LMP are greater than 0.60 which reveals the content is valid. The significance of 't' statistics of the standard factor loading of variables in each component of LMP reveal its convergent validity. It was also ensured by the composite reliability and average variance extracted since these are greater than its standard minimum of 0.50 and 50.00 per cent respectively. The cronbach alpha of all components of LMP is greater than its minimum threshold of 0.60 which reveals the internal consistency.

Implementation of Logistics Management Practices (LMP) at the Units

The implementation rate of LMP at the unit is examined by the rate of implementation of Purchase, Supply, Demand and Distribution Management Practices. The rate of implementation of above said four components of LMP is derived by the scores of all variables in each component of LMP. The mean, deviation and the coefficient of variation in implementation of LMP have been computed separately. The results are given in Table 1.3.

TABLE 1.3
Rate of Implementation of LMP at the Units

<i>No.</i>	<i>Components of LMP</i>	<i>Mean</i>	<i>Standard deviation</i>	<i>Co-efficient of variation (in per cent)</i>
1.	Purchase Management Practices	3.5117	0.4902	17.96
2.	Supply Management Practices	3.6043	0.5466	15.17
3.	Demand Management Practices	3.7309	0.5208	13.96
4.	Distribution Management Practices	3.7914	0.5097	13.44

The highly implemented components of LMP are Distribution and Demand Management Practices since its mean are 3.7914 and 3.7309 respectively. Higher

consistency in the implementation of LMP is noticed in the above said two components since its co-efficient of variations are 13.44 per cent and 13.96 per cent respectively.

Outcome of LMP at the Units

The outcome of the LMP in the present study is studied by Logistics Efficiency, Logistics Effectiveness and Logistics Differentiation. The data collected from both marketing and customer service departments of FMCG and Consumer Durable Marketers and are rated at five point scale. The levels of outcome of LMP at the units are given in Table 1.4.

TABLE 1.4
Outcome of LMP

<i>No.</i>	<i>Outcome of LMP</i>	<i>Mean</i>	<i>Standard deviation</i>	<i>Co-efficient of variation (in per cent)</i>
1.	Logistics Efficiency	3.3084	0.4394	13.28
2.	Logistics Effectiveness	3.1179	0.3946	12.66
3.	Logistics Differentiation	3.2908	0.4134	12.56

The highly viewed outcomes of Logistics Management Practices at the units are Logistics Efficiency and differentiation since its mean are 3.3084 and 3.2908 respectively. The higher consistency of outcomes are noticed in the case of Logistics Differentiation and Effectiveness since the co-efficient of variations are 12.56 and 12.66 per cent as such.

Logistics Management Practices on Outcomes

The impacts of logistics management practices on the outcome in the units have been tested with the help of multiple regression analysis. Those included dependent variables were Logistics Efficiency, Effectiveness and Differentiation whereas the included independent variables are Purchase, Supply, Demand and Distribution Management Practices. The impact of LMP on each outcome estimated separately. The results are shown in Table 1.5.

TABLE 1.5
Impact of LMP on the Outcome of LMP

No.	LMP	Regression co-efficient on		
		Logistics efficiency	Logistics effectiveness	Logistics differentiation
1.	Purchase Management Practices	0.1774*	0.1121	0.1556*
2.	Supply Management Practices	0.1022	0.1667*	0.1703*
3.	Demand Management Practices	0.0886	0.1509*	0.1941*
4.	Distribution Management Practices	0.2449*	0.2072*	0.2709*
	Constant	0.3802	0.4199	0.5142
	R ²	0.6911	0.7308	0.7996
	F statistics	8.1344*	8.8946*	9.4413*

*Found that significant at five per cent level.

The important influencing components of LMP on Logistics Efficiency in the units are Purchase and Distribution Management Practices as its regression co-efficients are significant at five per cent level. Any single unit increase in the implementation of above said two components of LMP result in an increase in the Logistics Efficiency by 0.1774 and 0.2449 units respectively.

Regarding the Logistics Effectiveness, it was found that any one unit increase in the Supply, Demand and Distribution Management Practices results in an increase in Logistics Effectiveness by 0.1667, 0.1509 and 0.2072 units respectively. In Logistics Differentiation, any unit increase in the implementation of Purchase, Supply, Demand and Distribution Management Practices result in an increase in the Logistics differentiation by 0.1556, 0.1703, 0.1941 and 0.2709 units respectively. Any changes in the implementation of LMP explain the changes in Logistics differentiation in higher

extend since its R^2 is 0.7996 compared to Logistics Effectiveness and Efficiency since its R^2 are 0.7308 and 0.6911 respectively.

Conclusion

This study concludes that the four components of Logistics Management Practices in the FMCG and Consumer Durables marketers in Kerala justify its validity and reliability. The rates of implementation of LMP by the units are above average but not at a higher level. The rate of implementation of LMP is studied to lot of variation in the sampled units. The units which implement the LMP at a higher scale reap its benefits through Logistics Efficiency, Effectiveness and Differentiation. The highly produced outcome of LMP at the units is Logistics differentiation. Hence the study reveals that the implementation of LMP produce better results in the units through Cost minimization (Logistics Efficiency), Customer Satisfaction (Logistics Effectiveness) and Customers Loyalty (Logistics Differentiation).

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