



A STUDY ON SUPPLY CHAIN MANAGEMENT PRACTICES IN SUPERMARKETS IN TAMIL NADU

Mr. P. Senthilkumar* Dr. R. Ganapathi**

*Ph.D. (Part-Time) Research Scholar, Department of Management Studies, PRIST University, Thanjavur, Tamil Nadu State.

**Assistant Professor, Directorate of Distance Education, Alagappa University, Karaikudi, Tamil Nadu State.

Abstract

By addressing supply chain management practices that contribute to supply chain responsiveness, will help the supermarkets better understand the scope and activities related to supply chain management that create enhanced level of supply chain responsiveness in competitive business marketplace. The supermarket's supply chain management practices can generate the organizational success as well as its performance. The strategic supplier partnering, customer relationship management, information sharing, information quality, internal lean practice, vision and goals and risk are the supply chain management practices in supermarkets. The supermarkets are extremely better in sales and on time deliveries, while, they are better in customer response time. The strategic supplier partnering, customer relationship management, information sharing, information quality, internal lean practice and vision and goals are positively and significantly influencing the output performance of supermarkets, while, risk is negatively and significantly influencing the resource performance of supermarkets. The supermarkets should have continuous improvement programmes that include its key suppliers and include its key suppliers in its planning and goal setting activities. The supermarkets must have frequent follow-up with its customers for quality / service feedback and frequently measures and evaluates customer satisfaction.

Key Words: Output Performance, Regression, Supermarkets, Supply Chain Management.

Introduction

A supermarket normally sells grocery, fresh, cut vegetables, fruits, frozen foods, toiletries, cosmetics, small utensils, cutlery, stationery and gift items. The growth of supermarkets of India in recent years has been quite heartening. With the economic liberalization and opening-up of Indian markets to foreign investments, the Indian economic growth was catapulted significantly. The growth of the Indian supermarkets can be attributed to the rising of the Indian service sector. Today, a number of Indian business houses are diversifying in to the retail sector to capitalize on the tremendous growth opportunity (Sinha and Kar, 2007).

In today's competitive business, there is an increased focus on delivering value to the customer. The focus on attention of most of businesses is providing products and services that are more valuable compared to its competitors. Concurrent to the focus on customer value, the marketplace in which businesses operate today is widely recognized as being complex and turbulent. The growth of supply chain aims to improve profitability, customer response and ability to deliver value to the customers and also to improve the interconnection and interdependence among firms.

Due to market expanding from domestic market to global market increase customer demands, for instance demanding lower prices, faster delivery, higher quality products or services and increase the variety of items. The end customer in the marketplace today determined by the success of failure of supply chains management practices. They stated that getting the right product, at the right price, at the right time to the customer is not only improved competitive success but also the key to survival.

By addressing supply chain management practices that contribute to supply chain responsiveness, will help the supermarkets better understand the scope and activities related to supply chain management that create enhanced level of supply chain responsiveness in competitive business marketplace. The supermarket's supply chain management practices can generate the organizational success as well as its performance. Therefore, the present research is attempted to study supply chain management practices in supermarkets in Tamil Nadu.

Methodology

The Tamil Nadu state has been purposively selected for the present study. There are 12 municipal corporations in Tamil Nadu state namely, Chennai, Madurai, Coimbatore, Tiruchirappalli, Tirunelveli, Erode, Salem, Thoothukkudi, Vellore, Tirupur, Thanjavur and Dindigul. These municipal corporations in Tamil Nadu have been selected purposively for the present study. The supermarkets from these municipal corporations have been selected by adopting multi stage random sampling technique. The data have been collected from 678 supermarkets through pre-tested and structured questionnaire. In order to study the profile of supermarkets, the frequency and percentage analysis have been worked out. The mean and standard deviation have been calculated for supply chain management practices and impact of supply chain management practices on



output performance of supermarkets. In order to examine the influence of supply chain management practices on output performance of supermarkets, the multiple linear regression has been employed

Results and Discussion

Profile of Supermarkets

The profile of supermarkets was analyzed and the results are presented in Table-1. The results show that 71.24 per cent of supermarkets are operating as sole proprietorship, while, 28.76 per cent of supermarkets are operating in partnership. It is clear that 30.97 per cent of supermarkets have the investment of Rs.6 – 10 lakhs, 27.73 per cent of supermarkets have the investment of Rs.11 – 15 lakhs, 24.78 per cent of supermarkets have the investment of Rs.16 – 20 lakhs, 8.70 per cent of supermarkets have the investment of more than Rs.20 lakhs and 7.82 per cent of supermarkets have the investment of less than Rs.5 lakhs.

The results indicate that the nationalized bank is the source of finance for 44.10 per cent of supermarkets, own money is the source of finance for 33.04 per cent of supermarkets, the private finance is the source of finance for 13.13 per cent of supermarkets and the private bank is the source of finance for 9.73 per cent of supermarkets. It is observed that 37.61 per cent of supermarkets are operating in leased establishments, 32.74 per cent of supermarkets are operating in rented establishments and 29.65 per cent of supermarkets are operating in owned establishments.

Table-1. Profile of Supermarkets

Profile	Number of Supermarkets	Percentage
Nature of Ownership		
Sole Proprietorship	483	71.24
Partnership	195	28.76
Investment		
Less than Rs.5 Lakhs	53	7.82
Rs.6 – 10 Lakhs	210	30.97
Rs.11 – 15 Lakhs	188	27.73
Rs.16 – 20 Lakhs	168	24.78
More than Rs.20 Lakhs	59	8.70
Source of Finance		
Nationalized Bank	299	44.10
Private Bank	66	9.73
Private Finance	89	13.13
Own	224	33.04
Establishment		
Own	201	29.65
Leased	255	37.61
Rented	222	32.74
Business Experience		
Less than 1 year	68	10.03
2 – 3 years	194	28.61
4 – 6 years	227	33.48
7 – 9 years	91	13.42
10 – 12 years	80	11.80
More than 12 years	18	2.66
Employment		
Less than 5	237	34.96
6 – 10	242	35.69
11 – 15	121	17.85
More than 15	78	11.50

The results reveal that 33.48 per cent of supermarkets have business experience of 4 – 6 years, 28.61 per cent of supermarkets have business experience of 2 – 3 years, 13.42 per cent of supermarkets have business experience of 7 – 9 years, 11.80 per cent of supermarkets have business experience of 10 – 12 years, 10.03 per cent of supermarkets have business experience of



less than 1 year and 2.66 per cent of supermarkets have business experience of more than 12 years. It is apparent that 35.69 per cent of supermarkets provide employment for 6 – 10 employees, 34.96 per cent of supermarkets provide employment for less than five employees, 17.85 per cent of supermarkets provide employment for 11 – 15 employees and 11.50 per cent of supermarkets provide employment for more than 15 employees.

Supply chain management practices in supermarkets

Strategic supplier partnering

The strategic supplier partnering in supermarkets was analyzed and the results are presented in Table-2.

Table-2. Strategic Supplier Partnering in Supermarkets

Sl. No.	Strategic Supplier Partnering	Mean	Standard Deviation
1.	Our supermarket rely on few dependable suppliers	4.43	0.27
2.	Our supermarket rely on few high quality suppliers	3.64	1.17
3.	Our supermarket consider quality as number one criterion in selecting suppliers	3.63	1.18
4.	Our supermarket strive to establish long term relationship with its suppliers	4.46	0.38
5.	Our supermarket helps its suppliers to improve their product quality	4.73	0.25
6.	Our supermarket has continuous improvement programmes that include its key suppliers	3.60	1.27
7.	Our supermarket include its key suppliers in its planning and goal setting activities	3.33	0.80
8.	Our supermarket actively involves its key suppliers in new product development processes	3.69	1.10
9.	Our supermarket certifies its suppliers for quality	4.22	0.77
10.	Our supermarket regularly solve problems jointly with its suppliers	4.02	0.73

The results show that the supermarkets are strongly agreed with they help their suppliers to improve their product quality, while, they are neutral with they include their key suppliers in its planning and goal setting activities. Besides, the supermarkets are agreed with they rely on few dependable suppliers, they rely on few high quality suppliers, they consider quality as number one criterion in selecting suppliers, they strive to establish long term relationship with their suppliers, they have continuous improvement programmes that include their key suppliers, they actively involve their key suppliers in new product development processes, they certify their suppliers for quality and they regularly solve problems jointly with their suppliers.

Customer Relationship Management

The customer relationship management in supermarkets was analyzed and the results are presented in Table-3.

Table-3. Customer Relationship Management in Supermarkets

Sl. No.	Customer Relationship Management	Mean	Standard Deviation
1.	Our supermarket shares a sense of fair play with its customers	4.73	0.23
2.	Our supermarket frequently interacts with customers to set its reliability, responsiveness, and other standards	4.65	0.29
3.	Our supermarket has frequent follow-up with its customers for quality / service feedback	4.42	0.28
4.	Our supermarket frequently measures and evaluates customer satisfaction	3.34	0.60
5.	Our supermarket frequently determine future customer expectations	3.94	0.84
6.	Our supermarket facilitates customers' ability to seek assistance from it	4.69	0.23
7.	Our supermarket frequently evaluates the formal and informal complaints of its customers	3.37	0.50
8.	Our supermarket periodically evaluates the importance of its relationship with its customers	3.89	0.28



The results indicate that the supermarkets are strongly agreed with they share a sense of fair play with their customers, they frequently interact with customers to set their reliability, responsiveness and other standards and they facilitate customers' ability to seek assistance from them, while, they are neutral with they frequently measure and evaluate customer satisfaction and they frequently evaluate the formal and informal complaints of their customers. Meanwhile, they are agreed with they have frequent follow-up with their customers for quality / service feedback, they frequently determine future customer expectations and they periodically evaluate the importance of their relationship with their customers.

Information Sharing

The information sharing in supermarkets was analyzed and the results are presented in Table-4.

Table-4. Information Sharing in Supermarkets

Sl. No.	Information Sharing	Mean	Standard Deviation
1.	Our supermarket shares its business units' proprietary information with its trading partners	3.32	0.80
2.	Our supermarket informs its trading partners in advance of changing needs	4.27	0.31
3.	Our supermarket's trading partners share proprietary information with our super market	3.99	0.99
4.	Our supermarket's trading partners keep our super market fully informed about issues that affect its business	4.63	0.15
5.	Our supermarket's trading partners share business knowledge of core business processes with our super market	4.66	0.16
6.	Our supermarket and its trading partners exchange information that helps establishment of business planning	4.09	0.67
7.	Our supermarket and its trading partners keep each other informed about events or changes that may affect the other partners	4.03	0.71

The results indicate that the supermarkets are strongly agreed with their supermarket's trading partners keep their super market fully informed about issues that affect their business and their supermarket's trading partners share business knowledge of core business processes with their super market, while, they are neutral with their supermarket shares their business units' proprietary information with their trading partners. Besides, they are agreed with their supermarket informs their trading partners in advance of changing needs, their supermarket's trading partners share proprietary information with their supermarkets, their supermarket and their trading partners exchange information that helps establishment of business planning and their supermarket and their trading partners keep each other informed about events or changes that may affect the other partners.

Information Quality

The information quality in supermarkets was analyzed and the results are presented in Table-5.

Table-5. Information Quality in Supermarkets

Sl. No.	Information Quality	Mean	Standard Deviation
1.	Information exchange between our supermarket and its trading partners is timely	3.77	0.73
2.	Information exchange between our supermarket and its trading partners is accurate	3.88	0.75
3.	Information exchange between our supermarket and its trading partners is complete	3.19	0.71
4.	Information exchange between our supermarket and its trading partners is adequate	3.72	0.69
5.	Information exchange between our supermarket and its trading partners is reliable	3.62	0.74



The results show that the supermarkets are agreed with information exchange between their supermarket and their trading partners is timely, information exchange between their supermarket and their trading partners is accurate, information exchange between their supermarket and their trading partners is adequate and information exchange between their supermarket and their trading partners is reliable, while, they are neutral with information exchange between their supermarket and their trading partners is complete.

Internal Lean Practice

The internal lean practice in supermarkets was analyzed and the results are presented in Table-6.

Table-6. Internal Lean Practice in Supermarkets

Sl. No.	Internal Lean Practice	Mean	Standard Deviation
1.	Our supermarket strives to reduce time wastage in operations	3.16	0.71
2.	Our supermarket has continuous quality improvement programme	3.86	0.63
3.	Our supermarket supplies what has been demanded by customers	4.75	0.11
4.	Our supermarket pushes suppliers for shorter lead times	3.22	0.54
5.	Our supermarket streamlines ordering, receiving and other paper work from its suppliers	4.03	0.36

The results show that the supermarkets are strongly agreed with their supermarkets supply what has been demanded by customers, while, they are neutral with their supermarkets strive to reduce time wastage in operations and their supermarkets push suppliers for shorter lead times. Besides, they are agreed with their supermarkets have continuous quality improvement programme and their supermarkets streamline ordering, receiving and other paper work from their suppliers.

Vision and Goals

The vision and goals of supermarkets was analyzed and the results are presented in Table-7.

Table-7. Vision and Goals of Supermarkets

Sl. No.	Vision and Goals	Mean	Standard Deviation
1.	Our supply chain members have common, agreed to goals for supply chain management	4.25	0.35
2.	Our supply chain members are actively involved in standardizing supply chain practices and operations	3.89	0.42
3.	Our supply chain members clearly define roles and responsibilities of each other cooperatively	4.13	0.39
4.	We all know which supply chain members are responsible for what activity within the supply chain	3.85	0.41

The results indicate that the supermarkets are agreed with their supply chain members have common, agreed to goals for supply chain management, their supply chain members are actively involved in standardizing supply chain practices and operations, their supply chain members clearly define roles and responsibilities of each other cooperatively and they all know which supply chain members are responsible for what activity within the supply chain.

Risk

The risk in supermarkets was analyzed and the results are presented in Table-8.

Table-8. Risk in Supermarkets

Sl. No.	Risk	Mean	Standard Deviation
1.	Our supply chain members share risks and rewards	3.83	0.78
2.	Our supply chain members share research and development costs and results with each other	3.74	0.71
3.	Our supply chain members help each other finance capital equipment	3.78	0.73



The results show that the supermarkets are agreed with their supply chain members share risks and rewards, their supply chain members share research and development costs and results with each other and their supply chain members help each other finance capital equipment.

Impact of supply chain management practices on output performance of supermarkets

The impact of supply chain management practices on output performance of supermarkets was analyzed and the results are presented in Table-9.

Table-9. Impact of Supply Chain Management Practices on Output Performance of Supermarkets

Sl. No.	Output Performance	Mean	Standard Deviation
1.	Sales	4.76	0.12
2.	On time deliveries	4.68	0.19
3.	Customer response time	3.80	0.82
4.	Customer complaints	3.16	1.53
5.	Supply errors	3.13	0.99

The results reveal that the supermarkets are extremely better in sales and on time deliveries, while, they are better in customer response time. Meanwhile, the supermarkets are fair in customer complaints and supply errors.

Influence of Supply Chain Management Practices on Output Performance of Supermarkets

In order to examine the influence of supply chain management practices on output performance of supermarkets, the multiple linear regressions has been employed and the results are presented in Table-10. The supply chain management practices are considered as independent variables and output performance is considered as dependent variable.

The results show that the coefficient of multiple determination (R^2) is 0.81 and adjusted R^2 is 0.80 indicating the regression model is good fit. It is inferred that about 80.00 per cent of the variation in dependent variable (Output Performance) is explained by the independent variables (Supply Chain Management Practices). The F-value of 146.495 is statistically significant at one per cent level indicating that the model is significant.

Table-10. Influence of Supply Chain Management Practices on Output Performance of Supermarkets

Supply Chain Management Practices	Regression Coefficients	t-Value	Sig.
Intercept	20.631**	15.932	.000
Strategic Supplier Partnering (X_1)	.084**	3.962	.000
Customer Relationship Management (X_2)	.091**	5.025	.000
Information Sharing (X_3)	.137**	5.043	.000
Information Quality (X_4)	.318**	11.183	.000
Internal Lean Practice (X_5)	.156**	4.258	.000
Vision and Goals (X_6)	.278**	9.068	.000
Risk (X_7)	-.110**	4.234	.000
R^2	0.81	-	-
Adjusted R^2	0.80	-	-
F	146.495**	-	.000
N	678	-	-

Note: ** Significance at one per cent level

The results indicate that strategic supplier partnering, customer relationship management, information sharing, information quality, internal lean practice and vision and goals are positively and significantly influencing the output performance of supermarkets at one per cent level, while, risk is negatively and significantly influencing the resource performance of supermarkets at one per cent level. Hence, the null hypothesis of there is no significant influence of supply chain management practices on output performance of supermarkets is rejected.

Conclusion

The foregoing analysis reveals that strategic supplier partnering, customer relationship management, information sharing, information quality, internal lean practice, vision and goals and risk are the supply chain management practices in supermarkets. The supermarkets are extremely better in sales and on time deliveries, while, they are better in customer response time. The strategic supplier partnering, customer relationship management, information sharing, information quality,



internal lean practice and vision and goals are positively and significantly influencing the output performance of supermarkets, while, risk is negatively and significantly influencing the resource performance of supermarkets.

The supermarkets should rely on few dependable suppliers and rely on few high quality suppliers. The supermarket should consider quality as number one criterion in selecting suppliers and strive to establish long term relationship with its suppliers.

Besides, the supermarkets should have continuous improvement programmes that include its key suppliers and include its key suppliers in its planning and goal setting activities. In addition, the supermarkets should actively involve its key suppliers in new product development processes and certify its suppliers for quality and regularly solve problems jointly with its suppliers.

The supermarkets must have frequent follow-up with its customers for quality / service feedback and frequently measures and evaluates customer satisfaction. The supermarkets should frequently determine future customer expectations and frequently evaluates the formal and informal complaints of its customers.

The supermarkets should share its business units' proprietary information with its trading partners and inform its trading partners in advance of changing needs. The supermarket's trading partners should share proprietary information with their supermarkets and supermarket and its trading partners should exchange information that helps establishment of business planning. Besides, the supermarkets and its trading partners should keep each other informed about events or changes that may affect the other partners.

The supermarkets must exchange information timely, accurately, completely, adequately and reliably between them and their trading partners. The supermarkets should strive to reduce time wastage in operations and have continuous quality improvement programme. The supermarkets must push suppliers for adequate and reasonable lead times and streamline ordering, receiving and other paper work from its suppliers. The supermarkets must share risks and rewards among all the supply chain members and supply chain members should share research and development costs and results with each other. The supermarkets should address customer complaints efficiently and reduce supply errors.

References

1. Avizit Basak and Israfil Shahin Seddiq, M.M., "Supply Chain Management of Super Shops in Perspective of Bangladesh", *Global Journal of Management and Business Research: A Administration and Management*, 2014, Vol.14, No.9, pp.1-9.
2. Beamon, B.M., "Measuring Supply Chain Performance", *International Journal of Operations & Production Management*, 1999, Vol. 19, No.5, p.275.
3. Charles Mensah, Daniel Diyuh and Dorcas Oppong, "Assessment of Supply Chain Management Practices and It Effects on the Performance of Kasapreko Company Limited in Ghana", *European Journal of Logistics Purchasing and Supply Chain Management*, 2014, Vol.2, No.1, pp.1-16.
4. Davis, T., "Effective Supply Chain Management", *Sloan Management Review*, 1993, Vol.1, No.1, pp.35-45.
5. Frohlich, M. and Westbrook, R., "Arcs of Integration: An International Study of Supply Chain Strategies", *Journal of Operations Management*, 2001, Vol.19, No.2, pp.185-200.
6. Gattorna, J., "Dynamic Supply Chain Alignment: A New Business Model for Peak Performance in Enterprise Supply Chains across all Geographies", Gower Publishing Limited, Farnham, England, 2009, pp.43-47.
7. Holmberg, S., "A Systems Perspective on Supply Chain Measurements", *International Journal of Physical Distribution and Logistics Management*, 2000, Vol.30, No.10, pp.847-868.
8. Khandoji Rao, M. H. and Eswara Reddy, E., " Supply Chain Management in Specialty Stores - A Case Study of Pai Internationals Shivamogga", *Acme Intellects International Journal of Research in Management, Social Sciences & Technology*, 2014, Vol.5, No.5, pp.1-13.
9. Linton, D., Klassen, R. and Jayaraman, V., "Sustainable Supply Chains: An Introduction", *Journal of Operations Management*, 2007, Vol. 25, No.6, pp.1075-1082.
10. Moslem Ghatebi, Elham Ramezani and Mohammad Ali Enayati Shiraz, "Impact of Supply Chain Management Practices on Competitive Advantage in Manufacturing Companies of Khuzestan Province", *Interdisciplinary Journal of Contemporary Research in Business*, 2013, Vol.5, No.6, pp.269-274.
11. Piyush Kumar Sinha and Sanjay Kumar Kar, "An Insight into the Growth of New Retail Formats in India", *Indian Institute of Management, Ahmedabad*, 2007, pp.11-12.
12. Raghuram Naga Venkata, J. and Ravilochanan P., "The Role of Supply Chain Management on Organized and Unorganized Grocery Retailers - A Review on Indian Perspective", *Asian Social Science*, 2014, Vol.10, No.22, pp.1-16.
13. Suhong Li, Bhanu Ragu-Nathan, Ragu-Nathan, T.S. and Subba Rao, S., "The Impact of Supply Chain Management Practices on Competitive Advantage and Organizational Performance", *The International Journal of Management Science*, 2006, Vol.34, pp.107-124.
14. Tan, Kannan, Handfield and Ghosh, "Supply Chain Management: An Empirical Study of Its Impact on Performance", *International Journal of Operations & Production Management*, 1999, Vol.19, No.9, p.1034.
15. Wong, A., "Achieving Supply Chain Management Excellence", *Total Quality Management & Business Excellence*, 2003, Vol.14, No.2, pp.151-159.