RETAIL SUPPLY CHAIN: A STUDY OF BUSINESS MODELS OF SELECT PLAYERS FROM INDIA AND DEVELOPED COUNTRIES

ABSTRACT

THESIS

SUBMITTED FOR THE AWARD OF THE DEGREE OF

Doctor of Philosophy

IN

BUSINESS ADMINISTRATION

BY

SALEEM HADI

Under the Supervision of
Dr. (Mrs.) Salma Ahmed
Associate Professor

DEPARTMENT OF BUSINESS ADMINISTRATION
FACULTY OF MANAGEMENT STUDIES AND RESEARCH
ALIGARH MUSLIM UNIVERSITY
ALIGARH (INDIA)

2012
Abstract

Introduction
Retailing is responsible for matching the individual demands of the consumer with quantities of supplies produced by huge range of manufacturers. Retailers keep changing their way of doing business to find out new ways for better serving their customers. They innovate in order to be able to sell goods and services at a competitive rate. Internationalization and consolidation of retailing has turned traditional retail industry upside down and fast and efficient operational models and new technologies constantly challenge retailers.

The rise in incomes at the global level has changed the shopping preferences of the consumers. The operating systems of today’s retailers are infused with more technology than ever. These modern tools and application have enabled the retailer to be efficient and have better insights into their operations. Top 200 retailers account for 30% of worldwide demand where the leader has been USA followed by the European Union.

The retail sector in India accounts for around 5% of the total market share and is expected to grow at double the rate of the Indian economy as a whole. The contributor to the growth of retailing has been the affluent middle class and urbanization, which has lead to densely packed cities and towns and for the reason retail giants are rolling out store after store in almost all A and B class cities in the country. The expansion of the retail industry has also opened vast employment opportunities for the youngsters in India. Other factors that have contributed to the Indian retail expansion have been favorable demographics, rising consumer incomes, real estate developments, emergence of new shopping malls. India is entering into the next stage of retail evolution where scalable models with India wide appeal are cropping everyday. The opportunities, across formats and categories are abundant, as the consumer in India has demonstrated its willingness for organized retailing segments.

Retailing in India is highly fragmented and unorganized, the Indian Retailer includes street vendors, restaurants, kiosks, street markets and vendors, which are classified as
traditional or unorganized retail outlets. The modern Indian consumer is seeking more value in terms of improved availability and quality, pleasant shopping environment, financing options, trial rooms for clothing products, return and exchange policies and competitive prices. The demanding nature of the modern Indian consumer has created an opportunity for organized, modern retail formats to emerge in recent years and grow at a fast pace. India is in the phase of the retail evolution where domestic customers become more demanding with their rising standard of living and changing lifestyles.

The Indian food and grocery sector is also witnessing a remarkable change in retailing patterns. Food retailing patterns are also fast changing, the practices where food items were sold in small road side grocer shops and mandis, haats and bazaars by vendors are being replaced by grocery selling through supermarket stores where consumers can inspect, select and pick up the products they like in a comfortable ambience and still pay a fair price for the product and the merchandise. Food retailing is heading to the status of an industry. The retail food industry is revolutionizing the shopping experience of Indian customers. Growing at the rate of 30%, the Indian food retail is going to be and no doubt is the major driving force for the retail industry. Food accounts for the largest share of consumer spending. Food and food products account for about 50% of the value of final private consumption. Food has the largest consumption in the Indian economy and will remain the single largest category.

Managing of supply chain efficiently is one way of achieving significant savings and increased customer satisfaction. Supply chain management is to consider only strategically important suppliers in the value chain. Retailers can only perform their role in supply chain with close interaction with other functions of supply chain. Retailers resort to supply chain management to counter the uncertainty and complexity of the marketplace and competitive situation to reduce inventory in the entire value chain. Efficient management of retailers supply chain supports the satisfaction of end-users requirements. Retailers operate at the point closest to customers therefore are in best position to answer the questions when, where and how customers want particular merchandise. SCM in retail industry is a challenge to implement and practice. This study is a comparison of supply chain practices of leading retailers from India and abroad; the purpose of this study is to point out the aspects of supply chain that leading Indian retailers should work upon and enhance to be more efficient and profitable.
Objectives

The problem statement has given way to the following research objectives

1. To study the supply chain models of retailers in developed countries
2. To identify the various important aspects of their supply chain practices.
3. To compare the supply chain practices of the selected international retailers with Indian retailers.
4. To identify factors that the Indian retailers could adopt to improve their performance.

Scope of Research

As retailing as an industry is very large, the study is focused only on grocery retail. Further, as the aim of the research endeavor is to compare retailing in developed countries with that of India, the researcher has identified three prominent international players and three Indian players. Wal-Mart from USA, Tesco from UK and Carrefour from France are the three international players while Big Bazaar, Reliance Fresh and Spencer’s are the players from the Indian market. The study therefore is limited to the supply chain operations of these players only. Further, survey has been conducted (information sought from) only in the NCR region.

Methodology

Research methodology revolves around the theme of research and depicts the actual process adopted for carrying out the study with the above mentioned objectives in mind. With these objectives in mind based on the literature reviewed a set of variables were identified.

Identification of Variables

On the basis of extensive review of research already done in the area of supply chain retail sector and study of the business models of major retailers of developed countries, specifically of Wal-Mart, Carrefour and Tesco helped the researcher identify factors, which were critical for the success. The variables identified as critical for successful operation and performance of retailer are
A. **Sourcing Strategy**: It refers to sourcing of goods from different markets to cater to the needs of all retail centers across different regions.

B. **Innovative Techniques**: These are supply chain management techniques like Quick response system (QRS), Efficient Consumer Response (ECR), Vendor Managed Inventory (VMI) and Collaborative Planning Forecasting Replenishment (CPFR), they help in better planning and fulfillment and are strategically important to success of a supply chain initiative.

C. **Virtual Store**: It is the web portal of any retailer to conduct business online; it can also be termed as online arm, web store or an e-commerce initiative.

D. **Broad non-food merchandise**: This category includes items of daily needs other than food and grocery including kitchenware, home ware, personal care, garments etc.

E. **Store Brands**: Store brands are products exclusively owned or licensed for exclusive use by business for distribution in their respective outlets.

F. **Supplier Relationship**: Good relationship with major suppliers is critical for better performance of supply chain as it leads to sharing of information on future plans and joint planning.

G. **Physical distribution strategies and Digitalization**: It relates to IT enabled services for fast and efficient performance of supply chain.

H. **RFID**: This technology leads to better supply chain visibility and brings with it better tracking, shrinkage reduction of goods.

I. **Investment in distribution and logistics infrastructure**: Investment in distribution and logistics infrastructure helps achieve supply chain efficiency, by providing timely dispatches and other benefits.

J. **Store Environment**: A sophisticated IT based store environment helps with tracking sale, analysis of buying patterns and providing better customer service to buyers to name a few.
K. **Customer Relationship Management (CRM):** CRM strategy helps with corporate planning, store portfolios segmentation, merchandizing, media activity by help gather information about customers buying patterns and preferences.

L. **Multiple Formats:** The format of a retailer is the overall appearance and feel that it presents to customers, primarily its look and layout, the sort of range it stocks and the approach taken to pricing. Retailers can adopt different formats on the basis of region and type of customers they are catering to.

**Hypothesis**

The list of hypothesis, which were tested for the study are

**Hypothesis related to benefits of sourcing strategy**

**Ho1.1:** There is no significant difference in the mean value of benefit in stock management accrued through sourcing strategy across different retailers.

**Ho1.2:** There is no significant difference in the mean value of ordering convenience accrued through sourcing strategy across different retailers.

**Ho1.3:** There is no significant difference in the mean value of benefit in discount price accrued through sourcing strategy across different retailers.

**Ho1.4:** There is no significant difference in the mean value of transport economy accrued through sourcing strategy across different retailers.

**Hypothesis related to awareness of innovative SCM techniques**

**Ho2.1:** There is no significant difference in the mean value of the awareness of Quick response system (QRS) across different retailers.

**Ho2.2:** There is no significant difference in the mean value of awareness concept of ECR across different retailers.

**Ho2.3:** There is no significant difference in the mean value of awareness of concept of VM1 across different retailers.

**Ho2.4:** There is no significant difference in the mean value of awareness of concept of CPFR across different retailers.
Hypothesis related to adoption of innovative SCM techniques

Ho3.1: There is no significant difference in the mean value of adoption of QRS technique across different retailers.

Ho3.2: There is no significant difference in the mean value of adoption of ECR technique across different retailers.

Ho3.3: There is no significant difference in the mean value of adoption of VM1 technique across different retailers.

Ho3.4: There is no significant difference in the mean value of adoption of CPFR technique across different retailers.

Hypothesis related to benefits of innovative SCM techniques

Ho4.1: There is no significant difference in the mean value of store replenishment benefit accrued through SCM techniques across different retailers.

Ho4.2: There is no significant difference in the mean value of benefit in demand planning accrued through SCM techniques across different retailers.

Ho4.3: There is no significant difference in the mean value benefit in of stocks out management accrued through SCM techniques across different retailers.

Ho4.4: There is no significant difference in the mean value of improved relationship with channel partners accrued through SCM techniques across different retailers.

Hypothesis related to benefits of adoption of digitalization strategies

Ho5.1: There is no significant difference in the mean value of benefit in product replenishment through adoption of digitalization strategy across different retailers.

Ho5.2: There is no significant difference in the mean value of benefit in stock keeping through digitalization strategy across different retailers.

Ho5.3: There is no significant difference in the mean value of benefit in Information sharing through digitalization strategy across different retailers.
Hypothesis related to benefits of CRM strategy

**Ho6.1:** There is no significant difference in the mean value of benefit of low price through CRM strategy across different retailers.

**Ho6.2:** There is no significant difference in the mean value of benefit in mass sale through CRM strategy across different retailers.

**Ho6.3:** There is no significant difference in the mean value of benefit of customer loyalty through CRM strategy across different retailers.

**Ho6.4:** There is no significant difference in the mean value of benefit in volume discount for suppliers through CRM strategy across different retailers.

**Ho6.5:** There is no significant difference in the mean value of benefit of data for corporate planning accrued through CRM strategy across different retailers.

**Ho6.6:** There is no significant difference in the mean value of benefit of store portfolio segmentation accrued through adoption of CRM strategy across different retailers.

**Ho6.7:** There is no significant difference in the mean value of benefit of merchandising accrued through CRM strategy across different retailers.

**Ho6.8:** There is no significant difference in the mean value of benefit in promotion and media activity accrued through adoption of CRM strategy across different retailers.

**Ho6.9:** There is no significant difference in the mean value of benefit of brand management accrued through adoption of CRM strategy across different retailers.

**Ho6.10:** There is no significant difference in the mean value of benefit of information to mail customers accrued through adoption of CRM strategy across different retailers.

Hypothesis related to benefits logistics strategy

**Ho7.1:** There is no significant difference in the mean value of benefit of timely dispatch accrued through Logistics strategy across different retailers.

**Ho7.2:** There is no significant difference in the mean value of benefit of low cost accrued through adoption of Logistics strategy across different retailers.

**Ho7.3:** There is no significant difference in the mean value of benefit of product variety dispatch accrued through adoption of Logistics strategy across different retailers.
Hypothesis related to benefits store brands

Ho8.1: There is no significant difference in the mean value of benefit of increased variety achieved through store brands across different retailers.

Ho8.2: There is no significant difference in the mean value of benefit of more customer traffic through store brands across different retailers.

Ho8.3: There is no significant difference in the mean value of benefit of increased loyalty through store brands across different retailers.

Ho8.4: There is no significant difference in the mean value of benefit of increased margin through store brands across different retailers.

Ho8.5: There is no significant difference in the mean value of benefit of data mining help through store brands across different retailers.

Ho8.6: There is no significant difference in the mean value of benefit of better relationship with suppliers through store brands across different retailers.

Ho8.7: There is no significant difference in the mean value of benefit of more choice to customers through store brands across different retailers.

Hypothesis related to benefits supplier relationship

Ho9.1: There is no significant difference in the mean value of benefit of future plan information sharing through supplier relationship across different retailers.

Ho9.2: There is no significant difference in the mean value of benefit of investment through supplier relationship across different retailers.

Ho9.3: There is no significant difference in the mean value of benefit of financial help through supplier relationship across different retailers.

Ho9.4: There is no significant difference in the mean value of benefit of training of supplier’s employees’ through supplier relationship across different retailers.

Ho9.5: There is no significant difference in the mean value benefit of joint decision-making through supplier relationship across different retailers.
Ho9.6: There is no significant difference in the mean value of benefit of use of brand name through supplier relationship across different retailers.

Ho9.7: There is no significant difference in the mean value of benefit of price discount through supplier relationship across different retailers.

Hypothesis related to benefits RFID

Ho10.1: There is no significant difference in the mean value of benefit of accelerated receipt of goods through RFID implementation.

Ho10.2: There is no significant difference in the mean value of benefit of reduced idle time through RFID implementation.

Ho10.3: There is no significant difference in the mean value of inventory management optimization through RFID implementation.

Ho10.4: There is no significant difference in the mean value of improved process flow through RFID implementation.

Ho10.5: There is no significant difference in the mean value of fewer shelving errors through RFID implementation.

Ho10.6: There is no significant difference in the mean value of shrinkage reduction through RFID implementation.

Ho10.7: There is no significant difference in the mean value of reduction of out of stocks through RFID implementation.

Ho10.8: There is no significant difference in the mean value of improved merchandise availability through RFID implementation.

Ho10.9: There is no significant difference in the mean value of space planning availability through RFID implementation.

Ho10.10: There is no significant difference in the mean value of effective promotion through RFID implementation.

Ho10.11: There is no significant difference in the mean value of faster turnaround through RFID implementation.
Hypothesis related to benefits IT applications

\textbf{Ho11.1:} There is no significant difference in the mean value of tracking products using IT applications

\textbf{Ho11.2:} There is no significant difference in the mean value of accelerated till + staff using IT applications

\textbf{Ho11.3:} There is no significant difference in the mean value of sales tracking using IT applications

\textbf{Ho11.4:} There is no significant difference in the mean value of reduced customer service time using IT applications

Hypothesis related to investment IT applications

\textbf{Ho12.1:} There is no significant difference in the mean value of investment on bar coding with reference to the annual turnover.

\textbf{Ho12.2:} There is no significant difference in the mean value of investment on extranet with reference to the annual turnover.

\textbf{Ho12.3:} There is no significant difference in the mean value of investment on EDI with reference to the annual turnover.

\textbf{Ho12.4:} There is no significant difference in the mean value of investment on automated storage and retrieval system with reference to the annual turnover.

\textbf{Ho12.5:} There is no significant difference in the mean value of investment on supply chain software with reference to the annual turnover.

\textbf{Ho12.6:} There is no significant difference in the mean value of investment on ERP software with reference to the annual turnover.

\textbf{Ho12.7:} There is no significant difference in the mean value of investment on computer hardware with reference to the annual turnover.

\textbf{Ho12.8:} There is no significant difference in the mean value of investment on LAN with reference to the annual turnover.

\textbf{Ho12.9:} There is no significant difference in the mean value of investment on office automation with reference to the annual turnover.
Research Design
The study was based on primary as well as secondary data wherein a questionnaire was used to collect data from the domestic players, while the websites, brochures and published literature were scanned for information pertaining to the foreign retailers.

Questionnaire Development
Keeping the research variables in mind a list of questions was formulated. Executives from the industry and academia reviewed the questionnaire for the purpose of content validity, which was done to conduct a preliminary analysis wherein the relevance of each question was analyzed and reviewed. Ten executives and academicians were selected randomly and approached personally by the researcher. Executives were from the retail industry in India and academicians were in the area of retail or (and) supply chain management. A few questions were deleted and the final questionnaire was developed. They were twenty-six questions in all of which fourteen were multiple-choice questions, and the remaining twelve used a 5-point likert scale to assess their performance on different parameters.

Questionnaire Administration
In total 27 outlets were surveyed which comprised of nine each from Big Bazaar, Reliance Fresh and Spencer’s. In these outlets a total of 297 questionnaires were distributed among managers and operational level staff that is each outlet was given 11 questionnaires each. A total of 180 were returned out of which 114 were found to be usable which have been considered for the study. The response rate was 63.33%, which is acceptable. A response rate of 25% is considered desirable for survey findings.

Sample Technique
The process of selection of sample can be said to be sequential (in stages). In the first stage the retailers were identified and selected, which was based on scale of operation. In the second stage nine retail outlets were selected purely based on the convenience of location. In each of these outlets 11 questionnaires were administered. The third stage consisted of selection of managers and staff personnel. Three managers and eight staff personnel were selected. The sampling technique used for their selection was purely judgmental.
Tools of Analysis

The researcher used primary as well as secondary data to collect information about the players. Primary data was used for the Indian players wherein a questionnaire has been used. This data has been analyzed using mean, standard deviation and one-way anova. The secondary data compiled has been subjected to qualitative analysis wherein firstly a comparison between the different Indian and foreign players have been undertaken on the basis of the variables identified. This is presented in the form of comparative cases. Further the grocery retail scenario of India has been analyzed using Pestle analysis (Political Economic Social Technological Environmental and Legislative Factors), Porter five forces model and a SWOT analysis (Strength Weakness Opportunities Threat) has been undertaken. Therefore both qualitative and quantitative techniques have been used to analyze the data collected.

Key Findings

Following is the summary of results of hypothesis testing.

Hypothesis related to benefits of sourcing strategy

There is no significant difference in the mean value stock management, ordering convenience, discount price and transport benefits accrued through sourcing strategy across different retailers - Supported

Hypothesis related to awareness of innovative SCM techniques

There is no significant difference in the mean value of the awareness of Quick response system (QRS), Efficient Consumer Response (ECR), Vendor Managed Inventory (VMI) and Collaborative Planning Forecasting Replenishment (CPFR) across different retailers - Supported

Hypothesis related to adoption of innovative SCM techniques

There is no significant difference in the mean value of adoption of QRS, ECR, VMI and CPFR technique across different retailers - Supported
Hypothesis related to benefits of innovative SCM techniques
There is no significant difference in the mean value of store replenishment, demand planning, stocks out management and improved relationship with channel partners benefit accrued through SCM techniques across different retailers - Supported

Hypothesis related to benefits of adoption of digitalization strategies
There is no significant difference in the mean value of product replenishment benefit through adoption of digitalization strategy across different retailers - Not Supported
There is no significant difference in the mean value of stock keeping and information sharing benefit through digitalization strategy across different retailers - Supported

Hypothesis related to benefits of CRM strategy
There is no significant difference in the mean value of low price, mass sale, customer loyalty, volume discount, data for corporate planning, store portfolio segmentation, merchandizing, promotion and media activity, brand management, information to mail customers, benefit accrued through CRM strategy across different retailers - Supported

Hypothesis on benefits logistics strategy
There is no significant difference in the mean value of timely dispatch, low cost, product variety dispatch benefit accrued through Logistics strategy across different retailers - Supported

Hypothesis related to benefits store brands
There is no significant difference in the mean value of benefit of increased variety achieved through store brands across different retailers - Not Supported
There is no significant difference in the mean value of more customer traffic, increased loyalty, increased margins, data mining, better relationship with suppliers and more choice to customers benefit through store brands across different retailers - Supported
Hypothesis related to benefits supplier relationship

There is no significant difference in the mean value of future plan information sharing, investment through supplier relationship, financial help and joint decision-making benefit through supplier relationship across different retailers - Supported

There is no significant difference in the mean value of training of supplier’s employees, use of brand name and price discount through supplier relationship benefit through supplier relationship across different retailers – Not Supported

Benefits RFID

There is no significant difference in the mean value of accelerated receipt of goods, reduced idle time, inventory management optimization, improved process flow, fewer shelving errors, shrinkage reductions, reductions of out of stocks, improved merchandise availability, space planning availability, effective promotion and faster turnaround benefit through RFID implementation - Supported

Hypothesis related to benefits IT applications

There is no significant difference in the mean value of tracking products, accelerated till and staff, sales tracking and reduced customer service time using IT applications - Supported

Investment IT applications

There is no significant difference in the mean value of investment on bar coding, extranet, investment on automated storage and retrieval system, supply chain software, ERP software, computer hardware, LAN and office automation with reference to the annual turnover - Supported

There is no significant difference in the mean value of investment on EDI with reference to the annual turnover – Not Supported
Summary

Organized retail in India is simultaneously a promising and challenging prospect. A retailer requires a high level of adaptation to succeed in the Indian retail sector. A retailer’s success and continuous growth in the Indian organized retail market can be attributed not to a single but to a number of factors. Indian retailers should learn from the experience of international retailers rather than reinvent the wheel themselves. It should adopt a mix of strategies, some of which may emulate the strategies of large retailers of the developed world while some others would be completely tailored to the Indian market. Retailers who can foresee the different stages of development, and understood the Indian consumer psyche, have an insight of the infrastructure bottlenecks that could greatly delay any returns or even results of investing in supply-chain platforms and thereby strengthen its supplier network and back-office operations would emerge a winner.