

ROLE OF SUPPLY CHAIN MANAGEMENT IN RETAIL SECTOR

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ABSTRACT

Indian industries due to globalization facing lot of competition, in order to protect the business interest, every industry is trying to improve their process it could make the cheaper product with better quality. For that purpose industries are trying to redefine, reorganize and reengineering their traditional processes. More emphasis is given on the effectiveness of the whole supply chain rather than single function of the supply chain. Supply chain management is complex process of different function; involves so many issues at different levels. And many organized retail stores adopted six sigma concepts to reduce the cost, defect, cycle time reduction and to increase the customer relationship management, market growth share, productivity and product and service management. The objective of present work is to find out the importance supply chain management in organized retail markets and impact of supply chain management on organized retail markets. And to find out the problems areas in supply chain management on organized retail store (Critical to customer, critical quality and voice of the customer and even in terms of mediators). In the organized retail market in India the role of supply chain is very important for the Indian customer demands at affordable prices a variety of product mix and it is ensure to the customers in all the various offering that company decides for its customer, be it cost, service, or the quickness in responding to ever changing taste of the customer. Presently, we are seeing that customers have a good knowledge and awareness about merchandise, they also know who is the manufacturer of these particulars and what is the basic objective of manufacturer towards customers. Today's customers are very intelligent, smart, talented and busy and they want all the things in their hands with comfort and with convenience. Retail sector always indicate that all merchandise will be available under one roof and in a hand of customers by providing time, place and possession utility to customers. So in this regard there is total responsibility of supply chain management to make it success. In the absence of it, none can assume the success and even growth of retail sector.

Keywords: Supply chain management, organized retail store, customer, quality and six sigma.

INTRODUCTION: The role of supply chain management in retail sector

Supply chain management is a topic of importance among the logistic researchers because it is consider with a competitive edge. Supply chain management deals with the management of materials, information and financial flows in a network consisting of suppliers, manufactures, distributes and customers.

From an analytical point of view a supply chain is simply a net work of material processing cells with the characteristics such as supply, transformation and demand. Supply chain management is management of a network of interconnected businesses involved in the ultimate provision of product and service packages required by end customer. Supply chain management spans all movement and storage of raw material work in process inventory, and finished goods from point of origin to point of consumption.

The success in this competitive and dynamic sector depends on achieving an efficient logistics and supply chain, which can be provided by professionals, as they combined the best systems and expertise to manage a ready flow of goods and services.

The retail boom promises to give an impetus to host of allied sectors and the logistics industry, as the back bone of the retail sector, stands to gain the maximum.

In India the logistics market is mainly thought to mean transportation. But the major elements of logistics cost for industries include transportation, warehousing etc., and other value added services such as packaging. The Logistics cost accounts of 13 percentage of GDP (Gross domestic product). The industry is currently on an upswing and is poised for a growth of 20 percentages in the coming years.

With extension of retail supply chain will take on an increasingly important role. With the end consumer becoming more demanding and time conscious, the need for just in time services is increasing. In retail where competition is intense and stakes are high, customer satisfaction is paramount.

India is witnessing changing life styles, increased incomes, the demographic variability's and vibrant democracy. Indian retailing is expanding and is expected to reach at US \$637 billions by 2015. Modern retail is soon capturing 22% share in total retail by 2011 with the expansion of 12 millions outlets and provision of creating 1.5 millions jobs in 2 to 3 years. The industry is playing vital role in the economic growth of the country. The concept of shopping is moving in and around hypermarkets, supermarkets, and specialty stores and in other formats.

Retail industry is one of the key upcoming sectors in India contributing major to employment generation. Retail in India is featured with street markets and convenience stores which accounts for 96% of retail business. Most of the stores are very small with an area of less than 50 sqcm. But the organized retail

Indian Middle Class	1989-95	By 2010
	< 10% of total population	Approx 40%

Source: NCAER

Organized retail which presently account for only 4-6 percent of the total market is likely to increase its share to over 30% by 2013. it offers huge potential for growth in coming years. India is becoming most favored retail destination in the world.

Generating employment for some 2.5 million people in various retail operations and over 10 million additional workforce in retail support activities including contract production and processing, supply chain and logistics, retail real estate development and management etc.;

the retail sector is growing a scorching pace of about 37 percent in 2007 and expected to grow by 42 per cent in 2008. With this enormous growth, the retail sector is also facing challenges in the fronts of escalating real estate cost, scarcity of skilled workforce and structured supply of merchandise.

The role of supply chain in Indian organized retail is very significant for on it depends the growth of this sector. The **Indian Supply Chain Council** have been formed to explore the challenges that a retailer faces and to find possible solutions for India.

The role of supply chain management in retail sector is self-centric. Means there us a mutual partnership between retailers and the manufactures. And this will indicate that they are loss free from the external hurdles and the response of that will give to growth to top and bottom management.

As we take the example of fresh products(vegetable and fruits) in the organized retail sector then definitely we find that is a less availability. This is so for the nature of supply chain is very fragmented. This shows the important role of supply chain in the organized retail sector.

In the organized retail market in India the role of supply chain is very important for the Indian customer demands at affordable prices a variety of product mix. It is the supply chain that ensures to the customer in all the various offerings that a company decide for its customers, be it cost, service, or the quickness in responding to ever changing tastes of the customer.

The infrastructure in India in terms of road, rail, and air links are not sufficient. And so warehousing plays a major role as an aspect of supply chain operations. To overcome these problems, the Indian retailer is trying to reduce trans portion costs and is investing in logistics through partnership or directly. The Indian organized retail sector is growing so the role of supply chain becomes all the more important. It should become all the more responsive and adaptive to customers demand. There is also need for the supply chain to be more cost efficient and collaborative to win the immense competition in this sector.

The role of supply chain in Indian organized retail has expanded over the years with the boom in this industry. The growth of the Indian retail industry to a large extent depends on supply chain, so efforts must be made by the Indian retailers to maintain it properly.

SIGNIFICANCE OF THE STUDY

The strategic significance of the supply chain is clearly understood by retailers and manufacturers, who recognize that the correct supply chain strategy presents a source of competitive advantage:

“We don’t have as much buying power as some of our competitors, therefore our supply chain must allow us to compete” Retailer.

“Logistics has moved very firmly from being seen as a necessary evil to something that can add enormous value when it’s working well” Retailer.

“Logistics is definitely about value-add now, but it wasn’t always the case” Manufacturer.

The report found that a company's financial performance and its position in the supply chain also has a bearing on organizational strategy, such that most evidence of customer focused behaviour and decision making is to be found within organizations that are performing well.

However, the reality is that truly focusing on end customer needs requires excellent forecasting or an extremely responsive supply chain. This report reveals a trend of manufacturers successfully working towards increasing product flow, partly as a result of the demand from their retail trade customers.

One of the most important challenge in organized retail in India is faced by poor supply chain and logistics management. The importance can be understood by the fact that the logistics management cost component in India is as high as 7% - 10% against the global average of 4% - 5% of the total retail price. Therefore, the margins in the retail sector can be improved by 3% to 5% by just improving the supply chain and logistics management.

The supply chain management is logistics aspect of a value delivery chain. It comprises all of the parties that participate in the retail logistics process: Manufacturers, wholesalers, Third Party Specialists like Shippers, Order Fulfilment House etc. and the Retailer. Here, logistics is the total process of planning, implementing and coordinating the physical movement of merchandise from manufacturer to retailer to customer in the most timely, effective and cost efficient manner possible. Logistics regards order processing and fulfilment, transportation, warehousing, customer service and inventory management as interdependent functions in the value delivery chain. It oversees inventory management decisions as items travel through a retail supply chain. If a logistics system works well, the retailer reduces stock outs, hold down inventories and improve customer service – all at the same time.

Logistics and supply chain enables an organized retailer to move or store products more effectively, efficient logistics management not only prevents needless movement of goods, vehicles transferring products back and forth; but also frees up storage space for more productive use.

Retail analysts say on-time order replenishments will become even more critical once the Wal-Mart/Bharati combine begins operations – the American retailer works almost entirely on cross-docking and is likely to demand higher service levels, including potential levies for delays in shipment.

The efficiency and effectiveness of supply chain and logistics management can also be understood by the fact that modern retail stores maintain lower inventories are kept; while in a modern retail store like hyper city its nine days and its under two weeks for Food Bazaar. Now, it is beneficial for both the manufacturer well as the retailer. If we go through the following food supply chain in India, we find that a lot can be improved by maintaining the supply chain and logistics.

OBJECTIVES OF RESEARCH

1. To understand the importance of logistics and supply chain management in organized retail markets.
2. To study on impact of logistics and supply chain management on organized retail market.

FOOD SUPPLY CHAIN IN INDIA

In India, about 60 percent of food quality is lost in the supply chain from the farm to the final consumer. Consumers actually end up paying approximately about 35 percent more than which they could be paying if the supply chain was improved, because of wastage as well as multiply margins in the current supply structure. The farmer in India gets around 30 percent of what the consumer pays at the retail store. Compare this with the situation obtaining in the USA, where farmers can receive up to 70 percent of the final retail price and wastage levels are as low as 4 to 6 percent. One can easily understand the benefits that could be generated from emulating those practices and tapping that expertise for the supply chain in India.

As supply chain Management involves procuring the right inputs (raw materials, components and capital equipments); converting them efficiently into finished products and dispatching them to the final destinations; there is a need to study as to how the company's suppliers obtain their inputs. The supply chain perspective can help the retailers identify superior suppliers and distributors and help them improve productivity, which ultimately brings down the customers costs. At the same time, Market logistics helps planning the infrastructure to meet demand, then implementing and controlling the physical flows of material and final goods from point of origin to points of use, to meet customer requirements at a profit.

Till now most retailers in India have invested majorly into the front end, but relatively little on the back end and supply chain. Even in countries like the USA, Germany and England, where organized retail is highly developed; supply chain efficiency is a major concern. The nature of retail sector in India is different from other countries around the world. The organized retail sector in India is highly fragmented and there are huge inefficiencies in the supply chain.

The most important part of retailing business is to find a balance between investing in front-end and back-end operations. The channel dynamics is going to change over next couple of years as the retailers start growing in size and their bargaining power is likely to increase. Probably that would bring some kind of mutual understanding between manufactures and retailers to develop strong supply chain network. In such a scenario, both the existing operators and new operators must put collaborative efforts to phase out inefficiencies in the supply chain network.

Now, let us try to find out what efforts are being taken up by the big retailers in India like Future Group with retail stores like Big Bazaar and Pantaloons, Reliance Retail and Wal-Mart & Bharti to improve the efficiency and effectiveness of supply chain and logistics. We will also try to find out the changed role of Agriculture Produce Marketing Cooperatives and third party sourcing firms.

Reliance Fresh

Reliance Retail is also going to open one store for every 3,000 families within a radius of 2 km across all locations by 2011. The company is competing directly with the large number of traditional local provision stores. Reliance Retail is either going to set up new stores in the identified areas or take over existing stores. The company has already done that in Mumbai and other cities.

Of the four million sq ft of retail space to be created under the "Reliance Fresh" brand (for groceries), million will e through acquisitions. The retailer is also moving into laundry, personal care and apparel product lines, in which it plants to launch private labels. Reliance is planning to roll out its specialty form stores this year, beginning with consumer durables, for which it has struck sourcing deals with companies in Hong Kong, the Chinese mainland and with Videocon in India.

To strengthen its links with farmers, the company is setting up **integrated agri-retail business centres**, which include three processing and distributing centres, 51 retail outlets for farmers and 75 rural business hubs, all with an investment of US \$445 million. Many companies, looking at the retail boom in food and grocery, are setting up ventures to help retailers source these goods.

Reliance Logistics Ltd part of Reliance Industries Ltd., currently handles Reliance Retail's logistics services.

Wal-Mart and Bharati

The success of Wal-Mart is well known all across the world. One of the major factors behind their success is the right implementation of supply and logistics management. Now the same supply chain and logistics management take a front seat here and that's why Wal-Mart is coming to India in a joint venture with Bharti Group. Here, Wal-Mart is going to manage the back end operation, while Bharti will manage the front end operation.

Wal-Mart has also started that it would replicate its global supply chain model in India, while taking into account the unique feature of the Indian market. They are also going to emphasize on local sourcing of goods. Besides sourcing locally, Wal-Mart, through its international operations is also in a position to source globally. The company is set to roll out its first set of stores by the first quarter of 2008, in cities that have a population of one million. Wal-Mart claims it will take 35% of the Indian retail market by 2015.

It is the sheer importance of the logistics management that Wal-Mart's fully-owned logistics arm Gazel has already confirmed its India foray and is going to look after the Wal-Mart and Bharti retail venture. They are closely study various logistics providers like Radhakrishnan Foods, before they finally closed on its India model. Again, Bharti Enterprises is directly negotiating with the rail authorities instead of negotiating with a logistics provider.

INDIA can position itself as a lead player in Asia, if the retail sector here attains the competitive strengths by responding to the changing markets, Mr Patrick Medley, Distribution Sector Leader, Asia Pacific, IBM Consulting, Singapore, said here today.

Addressing the conference on 'Winning with Intelligent Supply Chains' (WISC 2004), organised by the Federation of Indian Chambers of Commerce and Industry (FICCI), he spelled out the strategy for efficient management of supply chain. He said that by 2010 the supply chain must be focused and differentiated.

"In today's highly competitive environment, as companies are under intense pressure to reduce costs, expand into fresh markets and develop new products, every manufacturer's supply chain is expanding and becoming increasingly complex. Effectively managing

complexity can be a manufacturer's greatest asset," he said. Experts from the retail business affirmed that the current retail boom in India could only sustain its momentum if supply chain management is given the top priority by the retail players.

The supply chain has a key role to play in the expansion and profitability of many companies, but it has rarely been adapted to meet the new demands placed upon it, said Mr Medley. The critical differentiating factors that synchronise the entire global supply chain are collaborating with customers, rather than only with suppliers, he added.

STEPS IN THE RETAIL MERCHANDISING PROCESS

1. Develop the merchandise mix and establish the merchandise budget.
2. Build the logistic system for procuring the merchandise mix.
3. Price the merchandise offering.
4. Organize the customer support service and manage the personal selling effort.
5. Create the retailers advertising, sales incentive and publicity programs.

Retail merchandising also includes:

1. Planning Merchandise Variety
2. Controlling Merchandise Variety
3. .Planning Merchandise Assortment/Support
4. .Controlling Merchandise Assortment/Support

Merchandise Mix Strategies are:

1. Merchandise Variety (No. of product lines)
2. Merchandise Assortment (No. of product items)
3. Merchandise Support (No. of product units)

As seen in first step of merchandising process it requires management of Merchandise Budget which includes:

1. Planning And Controlling Retail Sales
2. Planning And Controlling Inventory Levels
3. Planning And Controlling Retail Reductions
4. Planning And Controlling Purchases
5. Planning And Controlling Profit Margins

LIMITATIONS

The following limitations may arise during the study:

1. Time constraint
2. Money constraint

3. The pace of technological changes.

RESEARCH METHODOLOGY

For this project one has to know each and every aspect of the concept thoroughly. And then for merchandise assortment planning one has to get updated with the latest trends and all factors which are continuously affecting these decisions. So acquiring the data regarding this I have gone through several sources like Books, Magazines, Journals and Web site.

In order to understand the merchandise assortment planning process, as per the objective stated, the various steps which are to be followed are given below:

1. Planning the research design.
2. Selecting the research method.
3. Selecting the sampling procedure.
4. Data collection.
5. Evaluating the data.
6. Preparing and presenting the research report.

1. Research Design

The research design will be Descriptive studies. Descriptive studies are well structured, they tend to be rigid and its approach cannot be changed every now and then. The objective of this kind of study is to answer the why, who, what, when and how of the subject under consideration.

I will be taking descriptive because my research includes understanding Merchandising Strategies adopted by various Retail Stores. I will be working on to know how Manager of Various Retail Stores develop a merchandise plan, what things do they consider while developing it and how do they modify the same as per customers preferences.

2. Research Method

After developing an appropriate research plan, it is important for the researcher to select a proper research method. For this research, the research methods chosen by the researcher are secondary data and survey methods.

Secondary data studies: This is concerned with the analysis of already existing data that is related to the research topic in question.

Surveys: This is a research technique, which is used to gather information from a sample of respondents by employing a questionnaire.

3. Sampling Procedure

Sampling is generally a part of the research design but is considered separately in the research process. Sampling is a process that uses a small number of items or a small portion of a population to draw conclusion regarding the whole population. For this research the sampling method chosen is simple random sampling and Convenient Sampling.

4. Data Collection

After preparing a suitable sample, the researcher collects the data from the units in this sample. As stated above that research method which will be used in the research comprises of surveys therefore data collected will be of primary in nature and partly secondary since secondary data will also be taken.

5. Evaluating and analysing the data

This step includes editing, coding, tabulation and processing of collected data. The Schedules are required to be edited during the field survey for necessary corrections. After the survey was complete they are required to be checked again for completeness, accuracy and uniformity. The data is then arranged in a particular fashion for better understanding.

Process Flow of Research Work

Design a Questionnaire



Getting Response



Data Entry



Data Cleaning and Analyzing



Findings and Recommendations

FINDINGS AFTER DATA COLLECTION AND DATA ANALYSIS

The question given in the annexure were orally asked to store managers, management etc. of various retail outlets across Agra. In order to get proper and true data regarding merchandise management practices in retail stores of Agra; care was taken that all different types of retail store formats are included as sample unit.

The various formats include:

1. Chain stores like More, Reliance Fresh, Lifestyle, Big bazaar etc.
2. Franchise Stores like Belmonte, Reebok etc.
3. Single stores owned by local Businessmen like Fusion Fashions, S-mart etc.
4. Unorganized Retail stores

RESPONSE TO QUESTIONNAIRE

Q.1. Tell me something unique about your outlet and brand and about your vision and mission?

This was a general question just to start the interview smoothly and also to know what positioning strategy the retail store managers are adopting and to know the Brand Identity of the retail stores.

In response to this Question the Managers told various things that they thought are unique in their retail outlet and which attracts the target customers towards their store instead of their competitors like:

1. Brand name
2. Store location
3. Stores presence in the city
4. Able to understand customer demands and their need patterns
5. Stores Exterior design
6. Promotion strategy
7. Merchandise Assortment
8. Depth of Products
9. Customer service
10. Aesthetics inside the store i.e. store ambience

Q.2. Which is your target market and what you doing to capture it?

This Question was to know the target market of various retail stores and the customer base they are focusing on. All retailers have their own target markets and their all efforts are focused on capturing as high market share as possible. They use various tools for the same like Pricing Strategy, Promotional strategy and more importantly merchandise assortment planning decisions.

Different stores have different target market segments and their basis of segmenting also differs like let's take an example:

Big Bazaar through the introduction of "SABSE SASTE DIN" focuses on the middle class and the lower class of the society, who is very conscious about the price and decide on the basis of the value the merchandise provides them.

Retailers like Blackberry, Levis and other brands they focus on the upper middle class and the upper class of the society whose needs fall in the category of Self-esteem and Self-actualization. This class do not care about the price they have to pay but they want to buy those merchandise which suits their status and is noticed by everyone.

Let us take another example of apparel retail stores which have different target segment to focus on which is shown in the table below

Target Segment	Retail Brands/ Stores
Formals	John Players, Peter England etc.
Casuals	Adidas, Reebok, Spykar, Lee, Levi's, Wrangler, Gas, Tommy Hilfiger etc.
All family apparel market	Sportking, Monte Carlo, Priknit, Cotton County, Koutons, Lee, Allen solly etc.
Children's market	Gini & Jony, Lilliput etc.

Q.3. Before taking decisions about your product varieties and range (Merchandise Assortment Planning), what factors you considered?

The variety and assortment of merchandise plays an important role in attracting the customers. There is a difference between variety and assortment of merchandise. Variety means number of different categories of merchandise within a store while assortment means the number of stock keeping units within a merchandise category. In short one can say variety means breadth and assortment means depth of merchandise. So before deciding the amount of merchandise to be purchased, its variety and its assortment the stores take various factors into consideration like:

1. Corporate philosophy of brand
2. Physical characteristics of the store i.e. size etc.
3. Degree to which merchandise complement each other
4. Financial Objectives
5. Customers preferences and demand
6. GMROI figures
7. Retail brands image and good will

Q.4. Do you make assortment plan for your merchandise?

As explained earlier assortment plan is an important feature of category management. Every retail store whether it be a single store, franchise store, chain stores etc., they all use category management as one of their strategy whereby they maintain stock keeping unit of each category but all of them do not utilize category management to the fullest i.e. they do not use each and every aspect of category management .

Store like single stores, which are owned by a fairly literate businessman, do not use assortment plan as a tool to plan their merchandise management because they do not know the formal way of making assortment plan as they do not have knowledge regarding the same but they use some layman techniques to organize each category through their experience from the market.

On the contrary big retail stores like Big-bazaar chain, More, Reliance fresh, Lifestyle etc. they take due care of preparing their assortment plan and maintaining it by updating and

changing it time to time so that they come to know merchandise belonging to which stock keeping unit should be ordered in advance so that there is no shortage in its supply similarly they can also decide on which merchandise should be ordered in less quantity as a result of drop in sales in that particular stock keeping unit, the reason may be change in the trend, fashion change etc.

Q.5. Is there any proper strategy you are adopting for these decisions i.e. Do you use standard tools like budget plan and open to buy for purchasing?

In case of franchise stores and chain stores, they have their own strategic plans for capturing market and company's management also helps these store owners in strategic planning. As all brands have their own vision and mission so mainly these Retail store owners are also adopting same strategies for them. While in case of single stores the owner takes all the purchasing decisions based on the inputs from the store manger regarding purchasing trends and preferences about the customer for previous month/s. But as all customers have their own specialties so these retailers also have to change their strategies according to their own localities and they make some modifications in the plan according to suit the local circumstances.

When asked about whether they use standard tools like Budget plan or open to buy the retailers gave different responses. In case of single stores owned by fairly literate businessman they told that some of them have no idea about such tools but then they were told that a budget plan contains items like:

1. Monthly sales percentage distribution to season
2. Monthly sales
3. Monthly Reductions percentage distribution of sales
4. Monthly reductions
5. Beginning of the month inventory to sales ratio
6. Beginning of the month inventory
7. End of month inventory &
8. Monthly additions to inventory

While Open to Buy system consists of calculating difference between actual and the planned sales and inventory. On hearing that what actually all this standard tools contain they told that they also make use of all this items but not in standard for as described by us thus we can say that this businessmen make use of such standard tool but in their own way.

In case of big retailers like lifestyle, Big-bazaar, More, S-Mart etc. they told that some of them use this tool while some of them have their own tools which they designed for their store managers to use and plan their merchandise. Thus we can say every retailer uses proper strategy while making purchase decisions regarding the merchandise to be offered by the store to the customers.

Q.6. Are all decisions related with your outlet's merchandise are independently taking by you or is there any interference or support by company's side also?

In case of Retail chain like Reliance Fresh, More, Spencer etc. they get huge support from the company in taking decisions regarding the merchandise to be offered to their consumers. Even in some retail chains like Reliance Fresh all decisions are taken by the company depending on the sales data of the store which is transferred from the store database to company database regularly but the store manager has the authority to suggest any recommendation if any, may be regarding some new merchandise to be offered or to increase the quantity of old merchandise being offered by the store. Mainly based on the sales data the company makes an estimate about the inventory required at the store and after consolidating inventory required by all the stores in a region, the inventory is dispatched to regional warehouse from where the inventory is arranged in groups to cater to particular retail stores and then the merchandise is finally unloaded at the retail store.

SUMMARY OF FINDINGS

This study was conducted only in Reliancefresh, Wal- Mart and Bharti. It has been observed that Reliance fresh strengthen its logistics and supply chain of products and services with their farmers (integrated Agri Retail Business centres) Wal-mart is entering into India through the help of Bharti group.

CONCLUSION

The role of supply chain in Indian organized retail has expanded over the years with the boom in this industry. The growth of the Indian retail industry to a large extent depends on supply chain, so efforts must be made by the Indian retailers to maintain it properly.

Therefore, with the generous use of Global and Local Experiences, Indian retailers are going to improve their bottom lines with efficient, management of Supply Chain and Logistics. At the same time, Indian Retailers like future Group with retail stores like Big Bazaar, Pantaloons and Reliance retail are also going to show the world as to how it can be managed in a more innovative and efficient manner.

REFERENCES

1. International retail marketing strategy, Dr. Ramkishen. Y, Jaico Publishing House, First Edition 2010.
2. Exploring the supply chain Theory & Practices, Upendra Kachru, Excel Books, First Edition 2009.
3. www.indianretail.com
4. www.bigbazaar.com
5. www.pantaloon.com
6. www.vishalmegamart.com
7. Johnson P. Supply chain Management: the past, the present and the future. Journal of Manufacturing engineer 1995; 213-217.

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