INTRODUCTION
The fashion industry has undergone considerable change over the years, with increasing global competition and the move towards a global supply chain impacting on lead times and supply chain management. The fashion retail buyer plays an important role in this process through supplier selection and product decision-making, and the role is changing from purely operational to much more strategic.

Retailing is tougher now than ever before. There is growing competition from new entrants to the marketplace. Consumers also want greater choice, with more product options being replaced more frequently, resulting in reduced product lifecycles. Also, Consumers want a more exciting shopping experience with innovative stores, imposing increased operating costs on the retailer. On top of this add shrinking margins and higher markdowns, and the future looks bleak for retailers.

SUPPLY CHAINS IN RETAIL
The supply chain in the textiles industry is complex. Often the supply chain is relatively long, with a number of parties involved. Consequently, careful management of the supply chain is required in order to reduce lead times and achieve quick response highlighting the need to use an approach, such as agility. The Institute of Operations Management Retail Special Interest Group recommends that retailers need to ensure that they find the right balance between price, inventory, agility, adaptiveness, innovation and cost cutting to maximise success in today’s competitive marketplace. New products should be tested in the market, and winners identified. Two-way collaboration with the supply chain needs integrating into sourcing processes, and forecasting needs to be a critical process that is reviewed monthly WITH the supply chain. The outcome for replenishment is rapid response, with winning products being identified and sales maximised, and unsuccessful products deleted with minimal markdowns and excess stock.

It is common practice for retailers to deal with manufacturers, with centralised buying and considerable negotiation on prices, quality and delivery schedules. In addition, in many chains there is an intermediary – often an import or export agency – acting as a significant figure within the chain. The addition of the intermediary has come about as a result of increasing globalisation within the industry. Globalisation of the textile and clothing supply chain is currently intensifying, with many companies either sourcing components from overseas, or moving manufacturing to countries with lower labour costs. In addition, the fashion industry is characterised by a number of factors, namely a short lifecycle, high volatility, low predictability, and high impulse purchase.

Managing relationships with customers and suppliers is a key issue in effective management of the supply chain. However, the textiles industry tends to be dominated at the end of the chain by large, powerful high-street retailers with multiple, often internationally located outlets. Further back down the chain, the manufacturing sector of the industry consists of large numbers of small companies with a limited amount of power. Although it may be argued that partnership agreements exist between these companies in the textiles and clothing industry, it is questionable whether these are actually partnerships with benefits for all parties, or whether these are a means by which the retail sector is able to exert power over the smaller suppliers in order to push down prices. With the intensification of globalisation and the quest to achieve greater profits through reduced purchase prices the industry has moved away from partnering between organisations.

A number of strategies have been employed in the textiles and clothing supply chain, in order to improve supply chain management, including quick response and accurate response. JIT (just-in-time) is also common in textiles and clothing and is the delivery of finished goods just in time to be sold throughout the supply chain. To counteract the threat of the increasing number of imports and levels of overseas sourcing, the UK industry needs to concentrate on quick response
methods such as flexible delivery through domestic sourcing, reduced levels of stock within the supply chain, and increased net margins (2).

The lean, agile and leagile approaches to supply all effectively sequence and manage the manufacturing process in order to reduce lead times. Key to this is improved customer order demand management and a reduction in wasteful activities. This is crucial because in all enterprises there is a finite amount of resource available. Consequently scheduling for shop floor control in a production environment has become focussed against wastage in manufacturing and supply. This is particularly relevant to the textiles and clothing industry, in response to increased competition and compounded with small businesses where the problem becomes more acute with less resource available. The challenge enterprises face is to either focus on speed and efficiency through the supply chain to replenish a pre-determined stockpile, or to produce exact quantities in response to servicing customer orders effectively. The research illustrates how companies in the sector manage to service the demands of speed and efficiency whilst responding with flexibility to demand fluctuations.

**OPERATIONS MANAGEMENT IN RETAIL**

In recent years there has been a shift towards low wage countries for the manufacture of consumer goods with products sourced from the Far East, and also from Italy, Portugal and Turkey. Companies are taking advantage of lower priced products from overseas in an attempt to improve competitiveness, and discounts can be between 15% and 35% for products sourced from Asia and Africa (10). Often this decision is made without consideration of the true costs associated with such a move (11). Long lead times mean that companies have to rely heavily on long-term forecasts, which may be unreliable. It is estimated that levels of merchandise sold at mark-down price has grown to in excess of 33%, and that one in three customers is unable to find the goods required in stock. It is estimated that errors of pre-season forecasts may be as high as 50%, and that in comparison forecasts based on observations of 20% of sales had errors as low as 8% (11).

Companies in the fashion industry are increasingly using time as a factor for enhancing competitiveness. In addition, reductions in lead time facilitate companies in addressing an increasing demand for variety. Development cycles are becoming shorter, transportation and delivery more efficient and merchandise is presented ‘floor ready’ on hangers and with tickets attached (3).

But errors in forecasting can result in lost sales and excess inventory. Products where demand can be accurately predicted should be differentiated from those where demand is difficult to determine, and forecasting and sourcing strategies should be applied accordingly (11). Consequently the role of the buying team is essential to a retailers’ success.

Abernathy (1) proposes a model for a lean management of the supply chain for the textiles and clothing industry (Figure 1). He argues that lean retailers require rapid replenishment of products, and shipments need to meet strict requirements in terms of the delivery times, order completeness and accuracy. Key to this is the use of bar codes, EDI and shipment marking.

The supply chain in the textiles industry is complex, with many different parties being involved. For example, many manufacturers sell products to agents, who then sell on to retailers, so often there is not a link directly between the manufacturer and the retailer. This use of third parties is prolific throughout the chain. Fashion and textiles is a volatile industry, and getting the right product in the right place at the right time can be difficult to achieve (6).

As a result relationships between organisations are an essential aspect of supply chain management as they facilitate transfer communication within an industry operating on a global basis. Within a textile and clothing supply chain with an intermediary, barriers to communication can be easily recognised, as there is a third party in the chain controlling information transfer. This has the effect that, rather than add value to the chain, the intermediary is adding cost. These costs can be found in terms of distance, culture, volatility, and can relate to both supply and demand (15).

![Figure 1: Lean retailing-apparel supplier relations](image-url)
THE RETAIL MARKETPLACE

Fast fashion has become an important factor within the UK clothing industry, and the objective of getting clothing to stores within the smallest lead time possible is of paramount importance to companies. This has resulted in an increasing number of ‘seasons’, and shipping times from suppliers needs to be taken into consideration at sourcing (12). Retailers are now moving as much of their sourcing away from the Far East, where shipping times can be as long as six weeks, to Eastern Europe, where shipping times can be as little as 2-3 days. However, fast fashion does not apply to the whole range in stores, and as much as 80% of goods may be core, basic continuity lines, with fast fashion accounting for up to 20% (12). Zara is an important example of a fast fashion retailer, with rapid stock turnaround and vertical integration creating greater control over product lifecycles.

The fashion retail market has become increasingly turbulent over the years. Grocery retailers are moving into apparel retail, selling branded goods at discounted prices by taking advantage of the grey market (14)(12)(13). This has resulted in the clothing retail market becoming split into a number of segments – luxury, high street, and supermarket/out-of-town discounter. Asda and Tesco are at the forefront of this move and are investing heavily. In 1999 Asda sales of George apparel saw an increase of 16% on the previous year. Retailers are beginning to develop new approaches in order to remain competitive against such moves by retailers. 2000 saw the introduction of the Per Una range by George Davis into Marks and Spencer stores worldwide. The use of designer ranges for high street stores is a growing trend with Debenhams, Marks and Spencer and New Look all taking advantage of consumer pre-occupation with designer brands. The entrance of supermarkets into the clothing market has increased competition and redefined how customers shop for clothing, with time-starved customers able to purchase cheap fashionable clothing as part of the weekly shop, rather than visiting the high street.

THE FUTURE CHALLENGE

The key to a successful future for retailing is to optimise the business plan, optimise the total value chain cost, and to build trust and understanding in the supply chain through the sharing of risk, and increasing the benefits for all through improved communication. The Institute of Operations Management Retail Special Interest Group has brought together a number of practitioners, consultants and academics to share and develop the benefits that are derived from adopting a strategic response to this exciting operations management challenge.

The contribution that can be made from the application of operations management tools and techniques is considerable. The process of moving product in response to actual or perceived customer demand is well defined in the manufacturing context. The challenge is to transfer the underlying principles to the retail context that is characterised by volatile demand patterns, short life cycles, cost versus replenishment times issues and service operations management influences on a global scale. The whole retail process is driven by customer service, normally seen as stock availability in store that is linked to brand or category management focussed not just on customer satisfaction of the sales transaction but more importantly on future customer retention. Operations management is the vehicle to consistently and reliably deliver these requirements to the end customer, the consumer to persuade them to return to the retail outlet for their subsequent purchase. This is a fragile choice that is vulnerable to marketplace changes and pressures where only those recognising the large contribution made by operations management will prosper.

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**About the authors**

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