Course: Logistics Management

Theme: LOGISTICS AND CUSTOMER VALUE

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LOGISTICS AND CUSTOMER VALUE

The Plan:

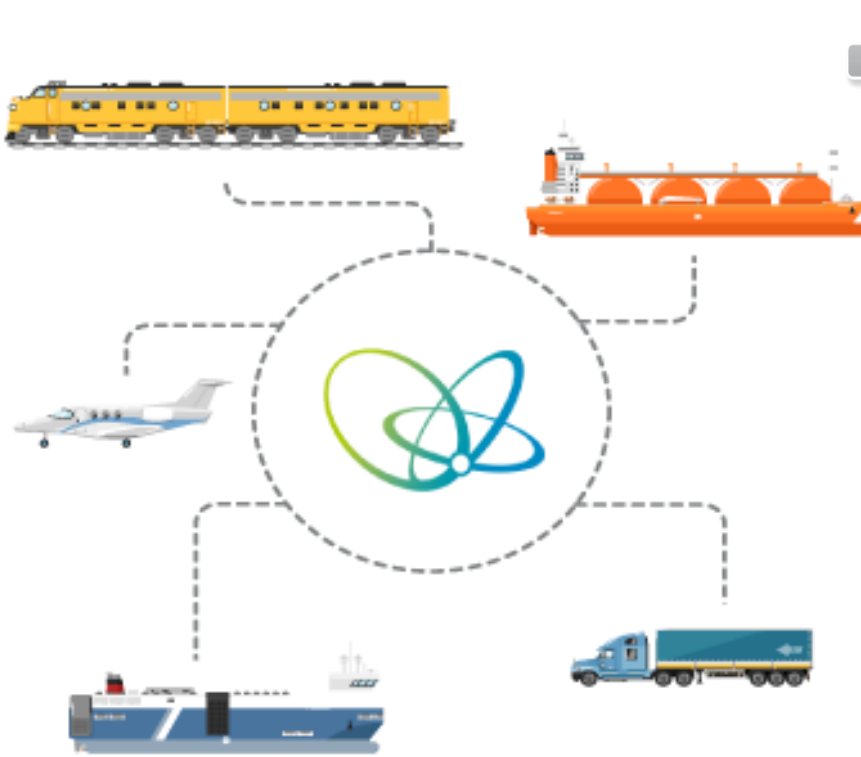
- **The marketing and logistics interface**
- **Delivering customer value**
- **What is customer service?**
- **The impact of out-of-stock**
- **Customer service and customer retention**
- **Market-driven supply chains**
- **Defining customer service objectives**
- **Setting customer service priorities**
- **Setting service standards**

Earlier in Chapter 1 the mission of logistics management was defined simply in terms of providing the means whereby customers' service requirements are met at lowest cost. In other words the ultimate purpose of any logistics system is to satisfy customers. It is a simple idea that is not always easy to recognize if you are a manager involved in activities such as production scheduling or inventory control which may seem to be some distance away from the marketplace. The fact is of course that everybody in the organization has a stake in customer service. Indeed many successful companies have started to examine their internal service standards in order that everyone who works in the business understands that they must service someone – if they don't, why are they on the payroll? The objective should be to establish a chain of customers that links people at all levels in the organization directly or indirectly to the marketplace.1 Xerox is a company that has worked hard to implement the idea of the internal customer. They have even extended the idea to the point of linking bonuses to an index of customer satisfaction. In organizations like Xerox, managing the customer service chain through the business and onwards is the central concern of logistics management.

The marketing and logistics interface

Even though the textbooks describe marketing as the management of the 'Four Ps'– product, price, promotion and place – it is probably true to say that, in practice, most of the emphasis has always been placed on the first three. 'Place', which might better be described in the words of the old cliché, 'the right product in the right place at the right time', was rarely considered part of mainstream marketing. There are signs that this view is rapidly changing, however, as the power of customer service as a potential means of differentiation is increasingly recognized. In more and more markets the power of the brand has declined and customers are more willing to accept substitutes; even technology differences between products have been reduced so that it is harder to maintain a competitive edge through the product itself. In situations like this it is customer service that can provide the distinctive difference between one company's offer and that of its competitors. Two factors have perhaps contributed more than anything else to the growing importance of customer service as a competitive weapon. One is the continual increase in customer expectations; in almost every market the customer is now more demanding, more 'sophisticated' than he or she was, say, 30 years ago. Likewise, in industrial purchasing situations we find that buyers expect higher levels of service from vendors, particularly as more companies convert to just in time logistics systems.

The second factor is the slow but inexorable transition towards ‘commodity’ type markets. By this is meant that increasingly the power of the ‘brand’ is diminishing as the technologies of competing products converge, thus making product differences difficult to perceive – at least to the average buyer. Take, for example, the current state of the personal computer market. There are many competing models which in reality are substitutable as far as most would-be purchasers are concerned.



Faced with a situation such as this the customer may be influenced by price or by 'image' perceptions but overriding these aspects may well be 'availability'– in other words, is the product in stock, can I have it now? Since availability is clearly an aspect of customer service, we are in effect saying that the power of customer service is paramount in a situation such as this. This trend towards the *service-sensitive customer is as apparent in industrial markets as it is in consumer* markets. Hence companies supplying the car industry, for example, must be capable of providing just-in-time deliveries direct to the assembly line; similarly a food manufacturer supplying a large supermarket chain must have an equivalent logistics capability, enabling it to keep the retail shelf filled whilst minimizing the amount of inventory in the system. The evidence from across a range of markets suggests that the critical determinant of whether orders are won or lost, and hence the basis for becoming a preferred supplier, is customer service. Time has become a far more critical element in the competitive process. Customers in every market want ever shorter lead times; product availability will overcome brand or supplier loyalty – meaning that if the customer's preferred brand is not available and a substitute is, then the likelihood is a lost sale.

Delivering customer value

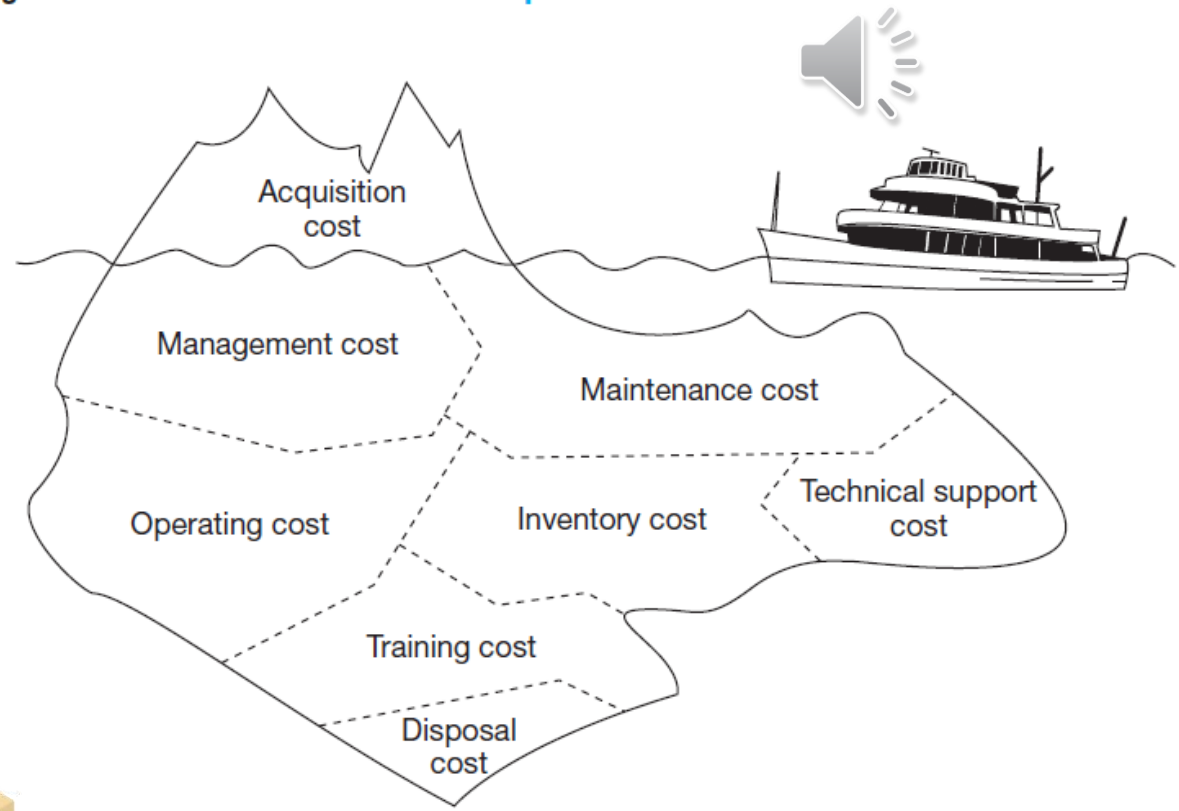
Ultimately the success or failure of any business will be determined by the level of customer value that it delivers in its chosen markets. Customer value can be defined quite simply as the difference between the perceived benefits that flow from a purchase or a relationship and the total costs incurred. Another way of expressing the idea is:

$$\text{Customer value} = \frac{\text{Perceptions of benefits}}{\text{Total cost of ownership}}$$

'Total cost of ownership' rather than 'price' is used here because in most transactions there will be costs other than the purchase price involved. For example, inventory carrying costs, maintenance costs, running costs, disposal costs and so on. In business-to-business markets particularly, as buyers become increasingly sophisticated, the total costs of ownership can be a critical element in the purchase decision. 'Life-cycle costs', as they are referred to in the military and defense industries, have long been a critical issue in procurement decisions in those markets.

Figure 2.1 shows the 'iceberg' effect of total costs of ownership where the immediate purchase price is the only aspect of cost that is visible, whereas below the surface of the water are all the costs that will arise as a result of the purchase decisions.

Figure 2.1 The total cost of ownership



In the same way that the total cost of ownership is greater than the initial purchase price so too the benefits that are perceived to flow from the purchase or the relationship will often be greater than the tangible product features or functionality. For example, there may be little difference between two competitive products in terms of technical performance, but one may be superior to the other in terms of the customer support that is provided.

One way to define 'competitive advantage' is simply that the successful companies will generally be those that deliver more customer value than their competitors. In other words, their ratio of benefits to costs is superior to other players in that market or segment. Logistics management is almost unique in its ability to impact both the numerator and the denominator of the customer value ratio. This point becomes clearer if we expand the ratio as follows:

$$\text{Customer value} = \frac{\text{Quality} \times \text{Service}}{\text{Cost} \times \text{Time}}$$

Source: Johansson, H.J., McHugh, P., Pendlebury, A.J. and Wheeler, W.A., *Business Process Reengineering*, John Wiley & Sons, 1993.

Each of the four constituent elements can briefly be defined as follows:

Quality: The functionality, performance and technical specification of the offer.

Service: The availability, support and commitment provided to the customer.

Cost: The customer's transaction costs including price and life cycle costs.

Time: The time taken to respond to customer requirements, e.g. delivery lead times.

Each of these four elements requires a continuous programmed of improvement, innovation and investment to ensure continued competitive advantage. One company that has built a global leadership position in its markets is Caterpillar, marketing machines and diesel engines for the construction and mining industries. Caterpillar has for many years focused on developing not just its manufacturing capabilities and innovative products but also its customer support and responsiveness. Underpinning these initiatives has been a continuing emphasis on creating superior logistics and supply chain management capabilities. Caterpillar has developed a world-class reputation for customer support, in particular its guarantee to provide 48-hour availability of parts no matter how remote the location. In the industries where Caterpillar's equipment is used, the cost of 'down-time' can be significant, hence the importance of responsive service. Through close partnership with its worldwide network of dealers and distributors and through advanced inventory and information management systems, Caterpillar offers levels of customer support – and thus customer value – that few companies in any industry can match.

What is customer service?

It has been suggested that the role of customer service is to provide 'time and place utility' in the transfer of goods and services between buyer and seller. Put another way, there is no value in the product or service until it is in the hands of the customer or consumer. It follows that making the product or service 'available' is what, in essence, the distribution function of the business is all about. 'Availability' is in itself a complex concept, impacted upon by a galaxy of factors which together constitute customer service. These factors might include delivery frequency and reliability, stock levels and order cycle time, for example. Indeed it could be said that ultimately customer service is determined by the interaction of all those factors that affect the process of making products and services available to the buyer. In practice, we see that many companies have varying views of customer service. LaLonde and Zinszer2 in a major study of customer service practices suggested that customer service could be examined under three headings:

1 .Pre-transaction elements
2 .Transaction elements
3 .Post-transaction elements

The pre-transaction elements of customer service relate to corporate policies or programmers, e.g. written statements of service policy, adequacy of organizational structure and system flexibility. The transaction elements are those customer service variables directly involved in performing the physical distribution function, e.g. product and delivery reliability. The post-transaction elements of customer service are generally supportive of the product while in use, for instance, product warranty, parts and repair service, procedures for customer complaints and product replacement. Table 2.1 indicates some of the many elements of customer service under these three headings.

Table 2.1 The components of customer service

Pre-transaction elements
For example: • *Written customer service policy* (Is it communicated internally and externally? Is it understood? Is it specific and quantified where possible?) • *Accessibility* (Are we easy to contact/do business with? Is there a single point of contact?) • *Organisation structure* (Is there a customer service management structure in place? What level of control do they have over their service process?) • *System flexibility* (Can we adapt our service delivery systems to meet particular customer needs?)

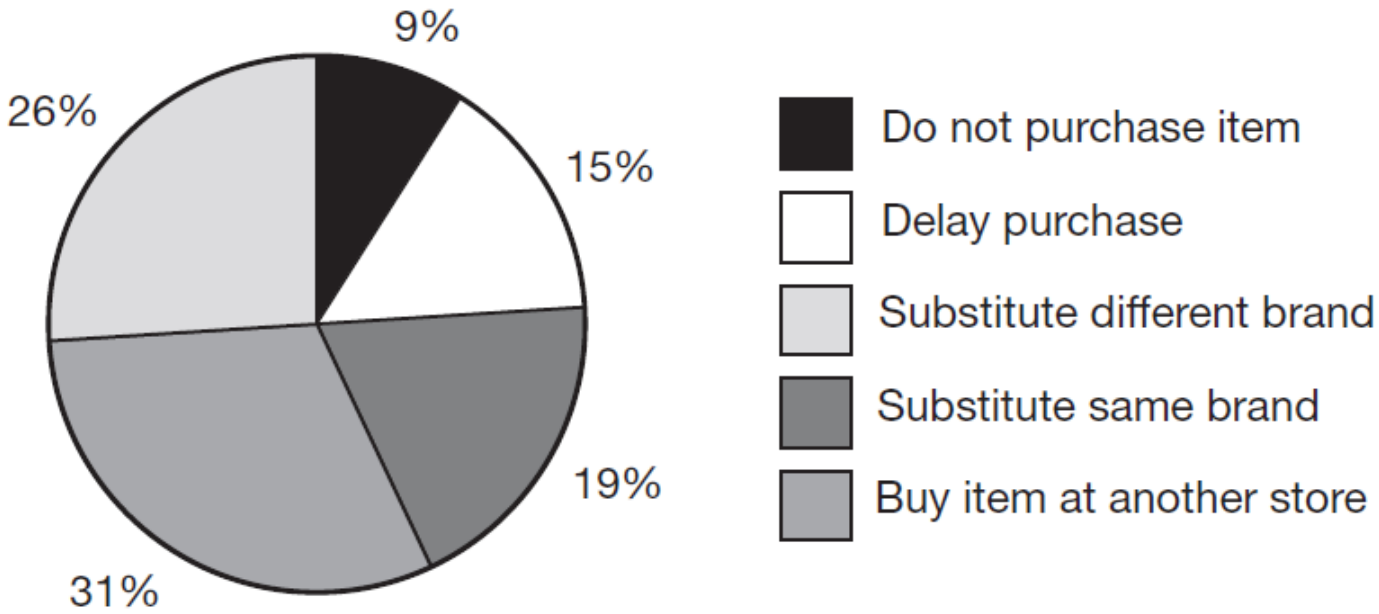
Table 2.1 Continued

Transaction elements
For example: • *Order cycle time* (What is the elapsed time from order to delivery? What is the reliability/variation?) • *Inventory availability* (What percentage of demand for each item can be met from stock?) • *Order fill rate* (What proportion of orders are completely filled within the stated lead time?) • *Order status information* (How long does it take us to respond to a query with the required information? Do we inform the customer of problems or do they contact us?)
Post-transaction elements
For example: • *Availability of spares* (What are the in-stock levels of service parts?) • *Call-out time* (How long does it take for the engineer to arrive and what is the 'first call fix rate'?) • *Product tracing/warranty* (Can we identify the location of individual products once purchased? Can we maintain/extend the warranty to customers' expected levels?) • *Customer complaints, claims, etc.* (How promptly do we deal with complaints and returns? Do we measure customer satisfaction with our response?)

It is because of the multivariate nature of customer service and because of the widely differing requirements of specific markets that it is essential for any business to have a clearly identified policy towards customer service.

The impact of out-of-stock

Figure 2.2 Shopper behaviour when faced with a stock-out



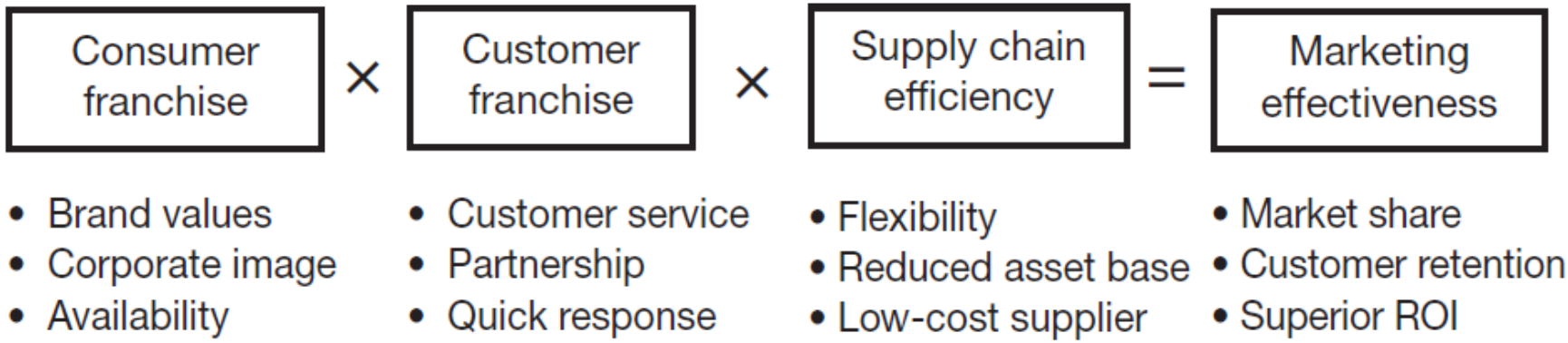
Source: Corsten, D. and Gruen, T., 'Stock-outs cause walkouts', *Harvard Business Review*, May 2004

The traditional aspects of marketing

- product development
- promotional activities
- price competition

Low-cost strategies may lead to *efficient logistics but* not to *effective logistics*. *More often than not today the order winning criteria are* those elements of the offer that have a clearly identifiable positive impact upon the customers' own value-creating processes.

Figure 2.3 The impact of logistics and customer service on marketing

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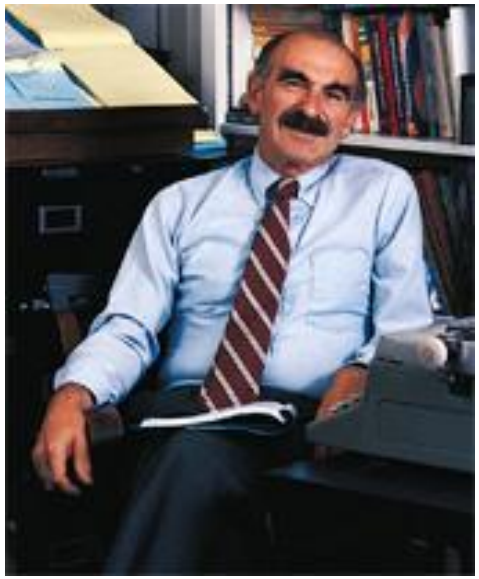
Customer service and customer retention

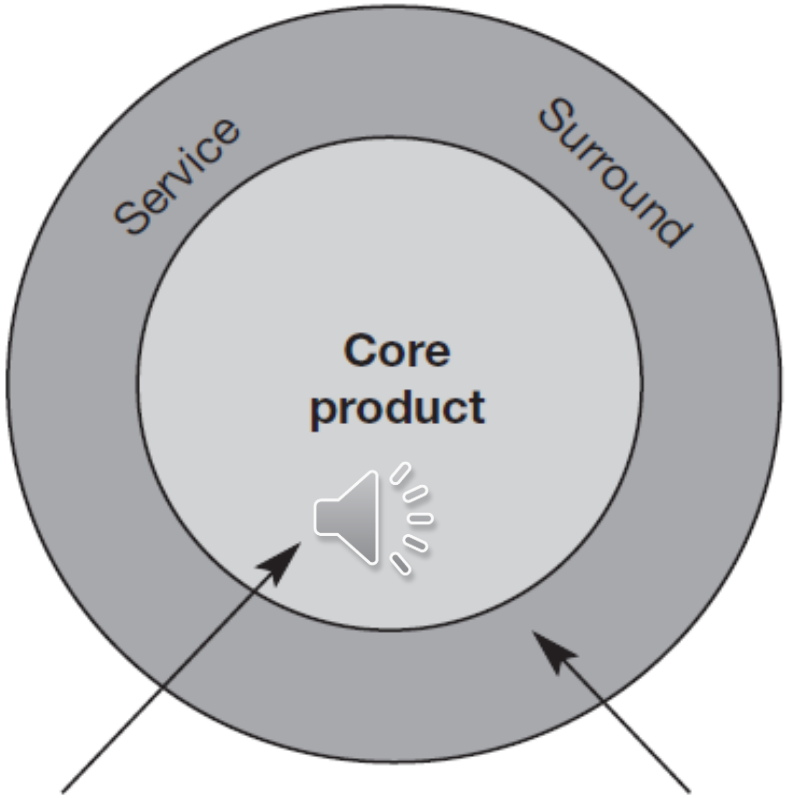


Theodore Levitt

… people don't buy products, they buy benefits

Rolls-Royce aero engines

Figure 2.4 Using service to augment the core product



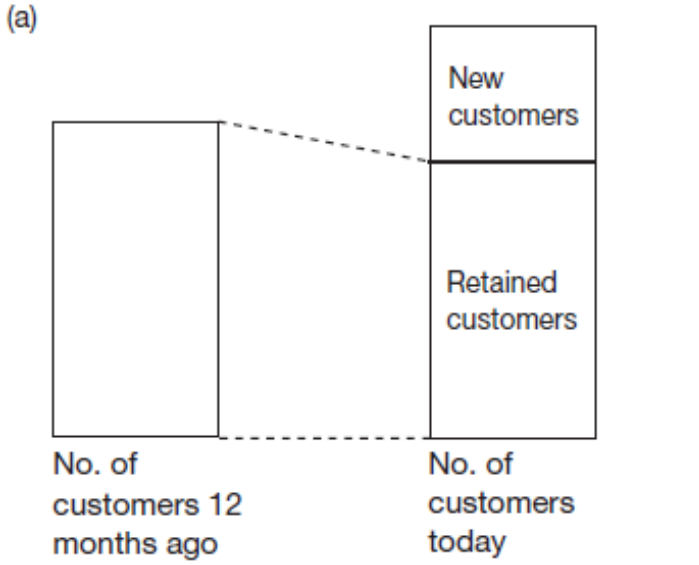
- Quality
- Product features
- Technology
- Durability, etc.

- Delivery lead time and flexibility
- Delivery reliability and consistency
- Order fill
- Ease of doing business
- After-sales support, etc.

Power by the hour

Lifetime value = Average transaction value × Yearly frequency of purchase × Customer ‘life expectancy’

Figure 2.5 Customer retention indicators



Market-driven supply chains

low-cost producer

customer-centric

factory outwards

Managing demand chains is … fundamentally different to managing supply chains. It requires turning the supply chain on its head, and taking the end user as the organization's point of departure and not its final destination.

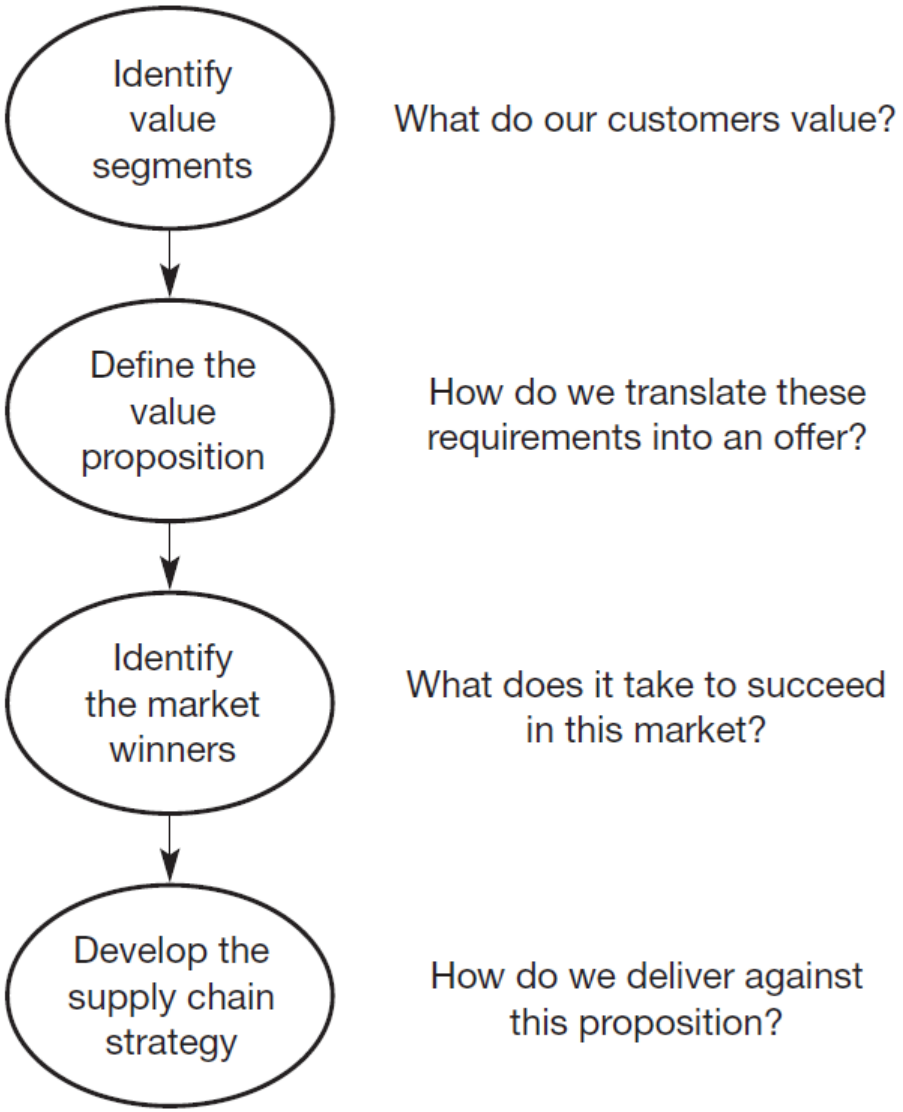
SOURCE: S. BAKER

ZARA: linking supply chain processes to the value proposition

Zara is one of world's most successful clothing manufacturers and retailers. They have achieved this leadership position through creating a value proposition around the idea of 'Fast Fashion'. Almost uniquely they have developed supply chain processes that enable them to capture ideas and trends in the apparel market and to translate them into products in amazingly short lead times. Zara's target time to take an idea from design to store is between three and four weeks.

To achieve this quick response capability Zara have developed an agile network of closely integrated company-owned and independent manufacturing facilities that have the flexibility to produce in small batches at short notice. Whilst this is not the cheapest way to make a garment, it ensures that they achieve their value proposition.

Figure 2.6 Linking customer value to supply chain strategy



Identifying customers' service needs

- Segments
- Service segments
- Stock availability
- On -time delivery
- Hard

The approach to service segmentation suggested here follows a three-step process:

1 Identify the key components of customer service as seen by customers themselves.

2 Establish the relative importance of those service components to customers.

3 Identify ‘clusters’ of customers according to similarity of service preferences.

Defining customer service objectives

supply chain management and logistics

the level and quality of service

service excellence

cost-effective way

perfect order

The whole purpose of supply chain management and logistics is to provide customers with the level and quality of service that they require and to do so at less cost to the total supply chain.

One frequently encountered measure of the perfect order is 'on-time, in-full' (OTIF). An extension of this is on-time, in-full and error-free. This latter element relates to documentation, labelling and damage to the product or its packaging. To calculate the actual service level using the perfect order concept requires performance on each element to be monitored and then the percentage achievement on each element to be multiplied together.

For example, if the actual performance across all orders for the last 12 months was as follows:

On-time	:	**90%**
In-full	:	**80%**
Error-free	:	**70%**

the actual perfect order achievement would be:

$$90\% \times 80\% \times 70\% = 50.4\%$$

In other words the likelihood that a perfect order was achieved during the period under review was only 50.4 per cent!

Figure 2.7 The costs of service

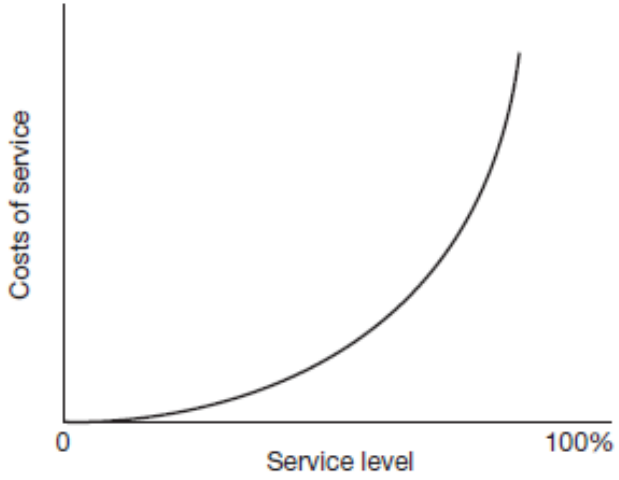


Figure 2.8 Probability of level of sales being within given limits

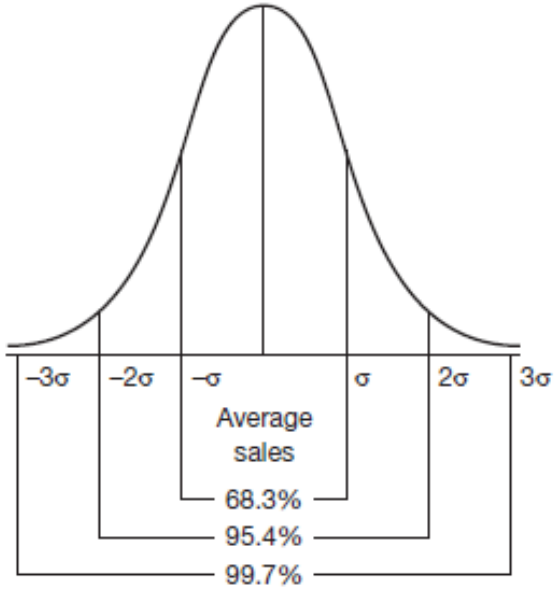
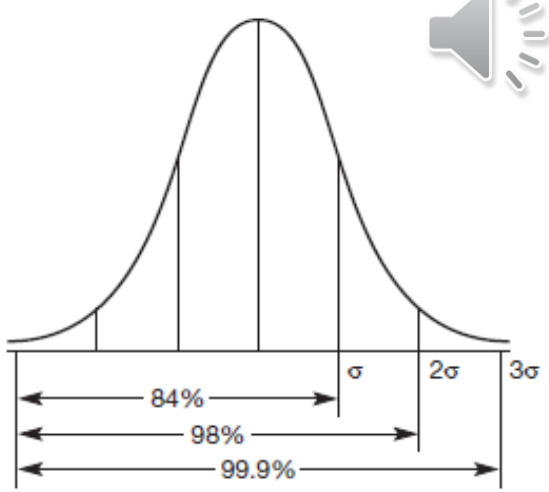


Figure 2.9 Service levels and the normal distribution



What this highlights is that, as the desired service level rises, it takes a disproportionate investment in inventory to achieve small incremental improvements in availability.

The table below illustrates this effect:

Inventory level	*Service level*
$\bar{x}$	50%
$\bar{x} + \sigma$	84%
$\bar{x} + 2\sigma$	98%
$\bar{x} + 3\sigma$	99.9%

- If inventory equivalent to average expected daily demand ($\bar{x}$) is held then the service level would be 50 per cent.
- If safety stock equivalent to one standard deviation of demand (σ) is held then the service level would be 84 per cent, etc.

Setting service standards

However, for the moment we can indicate some of the key areas where standards are essential:

- Order cycle time
- Stock availability
- Order-size constraints
- Ordering convenience
- Frequency of delivery
- Delivery reliability
- Documentation quality
- Claims procedure
- Order completeness
- Technical support
- Order status information
- Let us examine each of these in turn.

Pre-transaction

- Stock availability
- Target delivery dates
- Response times to queries

Transaction

- Order fill rate
- On-time delivery
- Back orders by age
- Shipment delays
- Product substitutions

Post-transaction

First call fix rate

- Customer complaints
- Returns/claims
- Invoice errors
- Service parts availability

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Thank you for your attention!