



**SWP 58/89 SERVICE OPERATIONS MANAGEMENT STRATEGY -
MATCHING SERVICE PRODUCTION & DELIVERY
SYSTEMS TO CUSTOMER EXPECTATIONS**

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CUSTOMER EXPECTATIONS

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In times of change for service organisations it becomes very important to recognise the influence of service operations strategy on the performance of the service production and delivery system. Many service organisations have failed to realise the fundamental factors which determine the ability of the operations management to produce and deliver a service package which matches the expectations of customers. Example range across sectors from travel and dissatisfied rail and airline passengers, tourism and frustrated package holiday makers, hotels and disgruntled guests, retailing with annoyed bank and shop customers, to health and legal services with aggravated patients and clients. So what goes wrong? Is it that all service organisations are managed by uncaring, inconsiderate, and incompetent managers whose main aim is to antagonise the customers? At times as a customer it may appear so when we encounter many organisations as customers.

The reasons for poor customer service performance may be more than the organisations paying only lip service to customer service. They may be due to a lack of understanding to the external factors which influence the operations management task. Service operations managers whether they are hotel managers, hospital administrators or, after sales managers need to recognise these external factors. Also they must understand the sets of information which define their task if they are to make a satisfactory showing of running their operations to meet financial and customer service objectives. These aspects go beyond the areas which are normally covered by services strategy.

Service management strategy has been dealt with by a series of writers (see Normann 1984, Sasser et al 1978, Lovelock 1984, Heskett 1986, Johnston 1988) who have linked the service concept to the development of the service delivery system and have stressed the need to match customer expectations with customer perceptions. Also the need to set standards for customer service is recognised as being of great importance and there have been suggestions in these writings for frameworks and models for working through this process. The present paper aims to develop and to refine some of these approaches to give more of a focus on the operations management area rather than at the business level.

UNDERSTANDING THE EXTERNAL ENVIRONMENT

There have been a number of models available for understanding the place of a business within its sector. Porter (1980 and 1985) proposed a consideration of five forces influencing a business namely, its competitors, customers, and suppliers, possible new entrants, and substitutes. This model has gained wide acceptance along with Porter's business strategies of cost leadership, differentiation, and focus. Additionally and more recently a growing number of writers have stressed the importance of culture in the determination of a successful strategy (Peters and Waterman 1982, Kerr et al 1986, Crosby 1979).

Clearly a detailed understanding of the external environment is of vital importance in the formulation of a successful corporate and marketing strategy for a service organisation. It allows the determination of the service concept of answers to the question "who are the customers and what are their needs?", and the evolution of a strategic direction in terms of markets and financial objectives. However this information needs to be reinterpreted for the purpose of defining the service operations management task so that there is less risk of misunderstanding on the part of either service operations people or others within the organisation or the customers.

DEFINING THE SERVICE OPERATIONS TASK

The definition of the service operations task involves setting the boundaries for a numbers of parameters which then allows the service operations management to produce a service production and delivery system which can match the customer expectations. These parameters fall into five categories, which are, demand dimensions, customer service dimensions, mission and culture, financial objectives, and future developments.

1. Demand Dimensions

There are three dimensions relating to demand which must be understood by the operations management namely, volume of demand, variety of services to be offered, and variation in the nature and volume of demand over time (Armistead et al 1988).

Volume

The volume of demand influences possibilities of economies of scale, specialisation, increased learning which effect resource productivity and quality of customer service.

Variety of Services Offered

The management of variety is one which presents particular difficulties to service operations management because the nature of services more often than not results in a service package which is comprised of a number of service products albeit with a central core service. Additionally the nature of the service contact results in the customer expectation for each individual of itself increasing the level of variety in the service. Statements as to whether the service package is seen as being customised or standardised (Maister) are of help in working towards an operational understanding of the consequences of variety. The results of high variety are to reduce the opportunity for economies of scale, of specialisation, and, of learning.

Variation in the Volume and Nature of Demand with Time.

Variation over time in the volume and the nature of the services provided requires a flexible operation. Flexibility - the ability to change the way in which the service production and delivery system is operating - implies some form of systems redundancy. This has implications for coping with an increase in the variety of the services offered because a changing nature of the demand and of resource productivity depending of the level of predictability.

2. The 'Customer Catching' and 'Competitive Status' Criteria of the Customer Service Dimensions.

Customer service dimensions for all service operations fall into six features divided into two groups. 'Firm' when the dimensions can be essentially quantified and 'soft' when a more qualified approach is required to describe the dimensions (Armistead to be published 1989). The dimensions which comprise the 'firm' and 'soft' elements are:

Firm Dimensions

- * Framework of time includes availability of the service package, responsiveness to the customer, and waiting time.
- * Fault freeness sets levels for the service package including both physical items and information and advice.
- * Flexibility encompasses the ability to recover from mistakes and to customise the service or to add additional services.

Soft Dimensions

- * Style relates to the way the service organisation treats customers, the attitudes of service staff, accessibility of staff and manager, and the ambience of the service environment.
- * Steering describes the degree to which customers feel in control of their own destiny in the service.
- * Safety has to do with trust, security, and confidentiality.

The levels of the customer service dimensions are linked in many cases to price of the service and the perceived value.

All service operations need to take account of some or all of the customer service dimensions in these groupings. However the relative importance of each will vary according to the type of service, the position of the service organisation in its market, and the strategic direction. Service operations management require two sets of information akin to the 'order winning' and 'order qualifying' criteria for manufacturing operations (Hill 1985). These are 'customer catching criteria' and 'competitive status criteria'.

- * Customer catching criteria are those aspects of customers service and their level of delivery which cause a customer or client to patronise one service organisation rather than another.
- * Competitive status criteria are those aspects of customers services and their levels which must be present for customers or clients to even consider the service organisation as a provider of the service.

3. Culture

The culture of the service organisation is increasingly seen to be important in determining the formulation of the service concept and the mission statement for many service organisations. The nature of both the concept and the culture directly affect the way in which the operations management task is described and the service production and delivery system designed and operated.

4. Financial Constraints and Objectives

Operations management requires knowledge of the financial factors to incorporate into the definition of the service operations management task as they influence choices which are available for the service production and delivery system and set other performance criteria for the running of the service organisation.

5. Future Changes

Any information which helps the operations management to understand changes which may be necessary in the future allow for an evolving service production and delivery system which can perhaps best survive and remain competitive over a period of time.

THE SERVICE PRODUCTION AND DELIVERY SYSTEM - THE CHOICES

The service production and delivery system is the means of achieving the objectives of the service operations task. As with any production system it is the way in which inputs to the production system are converted into the service in a planned and controlled manner. It is essential that the choices which can be made about the inputs into the design of the service production and delivery system relate to the needs of the operations management task otherwise there is a high risk of the operation failing to meet either internal resource productivity requirements and external customer service expectations.

There are a range of factors about which choices must be made when deciding on the most appropriate service production and delivery system. These factors derived to some extent from the external environment through the business strategy filter are:

- * The Conversion Process
- * Flexibility Dimensions
- * Type of Production and Delivery System
- * People Skills
- * Performance Standards

The Conversion Process

The conversion process refers to the basic categorisation of the nature of the service which is embodied in the service operations management task. There are four main categories namely, manufacture, supply, transport, and service contact (Killeya and Armistead 1984).

- * Manufacture refers to manufacture of goods in a traditional manner and also manufacturer on paper or on a computer of information packages.
- * Supply refers to the management of materials, of information, and of customers.
- * Transport involves moving people, goods, or information in the moving process.
- * Service contact is the interaction between the customer and client and may be to differing degrees of involvement following the 'high' to 'low' contact concept (Chase 1978).

The service package for a particular service requires a combination of these basic elements for its definition and the result sets the elements of the service operations task which the service production and delivery system must achieve.

Flexibility Dimensions

The strategy filter gives the definition of the service and operations task statements on the volume of demand, variety of service, and variation in the nature and level of demand. These require a further refinement at this stage in the process to give

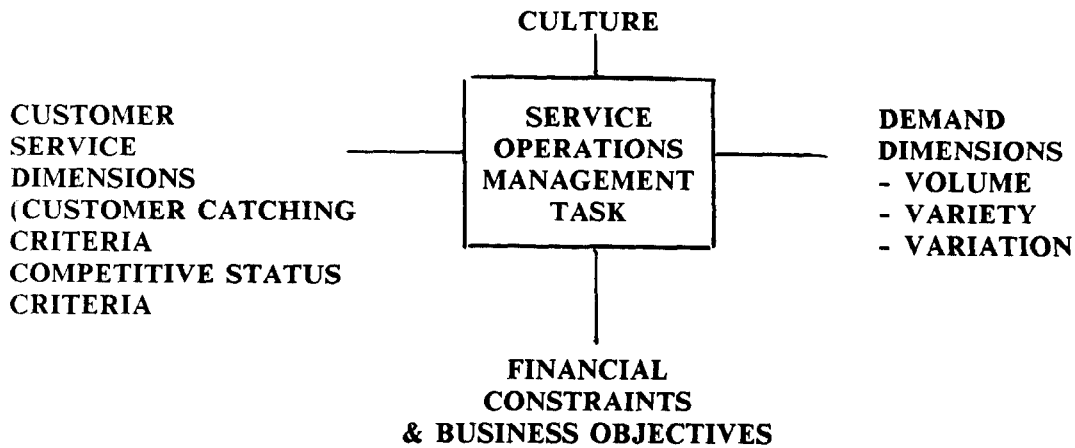
SERVICE OPERATIONS MANAGEMENT STRATEGY

COMPETITORS

SERVICE
CONCEPT

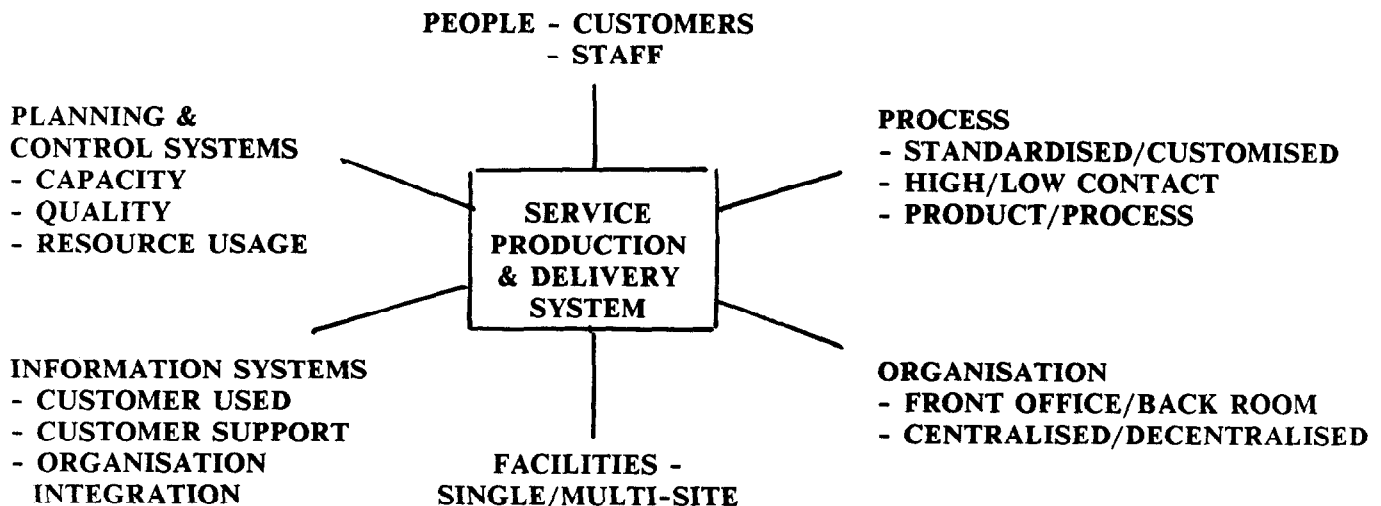
EXTERNAL
ENVIRONMENTAL
FACTORS

BUSINESS STRATEGY FILTER



CONVERSION PROCESS	TYPES PRODUCTION DELIVERY	PEOPLE SKILLS	TECHNOLOGY	FLEXIBILITY DIMENSIONS
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SERVICE OPERATION DESIGN FILTER



further information on the flexibility dimensions (Slack 1987) of which the most important would seem to be:

- * Volume flexibility - include here the effect on capacity strategies i.e. chase or level
- * Variety flexibility - The ability to change the mix of service packages
- * Service Package - flexibility - the ability to introduce new service packages.

The dimension of flexibility may be capable of quantitative description although in many instances they are more of a guide which aid decision making about the service production and delivery system.

Type of Production and Delivery System

The choice for type of production and delivery system in services include those processes which are essentially focussed on the ability to respond to the needs of individual customers and those which are designed to deliver a standard service (Johnston and Morris 1987). Each main type makes different demands on the service personnel and the productivity of the resources and produces a different affect on the customers.

Other choices for the production and delivery system relate to the degree to which the service is delivered by equipment or through people.

The layout of service facilities offers choices which in the extreme are polarised as being product or process based (Armistead in Voss et al 1985). In the process based layout model all customers do not necessarily visit all parts of the service facility in the course of receiving the service whereas in a product based layout all of the customers need to visit all parts to complete the service package.

Included in choices of the service production and delivery system are aspects of location of the facilities characterised by the extremes of single site or multi-sites.

Technology

Technology can assist in the service production and delivery by either replacing people or by enhancing the standards of the service package or by allowing the continuing introduction of new service packages. In many instances in service organisations technology consists of information technology which allows the rapid processing of data either to produce part of the service package (for example in ticketing and cash dispensing) or to provide information to the service personnel (as in many advice giving services).

People Skills - Customers and Service Staff

Both customers and service personnel need specific skills to play their part in the production and delivery process. The level of skills will in part be driven by the type of production and delivery system but the process must be iterative as the choice of system may be governed by the availability of skill levels or the need to include training for both staff and new customers in particular.

The choices which relate to people skills may be constrained by the nature of the service package, the customerisation to standardisation content which is intended, and the performance levels which are demanded for the customer service and resource productivity.

Performance Standards - Quality and Resource Productivity

Performance standards must relate to the customer service dimension and the financial objectives identified in the strategy filter. It is necessary to establish the standard of performance for each of the customer service dimensions either with qualitative expressions for firm dimension and qualitative descriptions for the soft dimensions; these are effectively the quality standards for the service package(s).

The performance standards for customer service should be grouped to reflect the relative importance of the customer catching criteria and the competitive status criteria, so providing the focus for achieving the business objectives.

Similarly there need to be established performance standards which relate to resource productivity which will drive the attainment of the financial objectives for the service operations management.

Performance standards for quality and productivity are not always clearly differentiated. This may not matter but what is important is for the operations management to recognise the effect of concentrating on the improvement of one particular measure on customer service and resource productivity.

THE SERVICE PRODUCTION AND DELIVERY SYSTEM - BRINGING IT TOGETHER

The evolution of the service delivery system to deliver a specific service package for a service concept results in a system which can be characterised in a detailed description in terms of

- * The organisation
- * The process
- * The people
- * The facilities
- * The information systems
- * The planning and control systems

* The Organisation

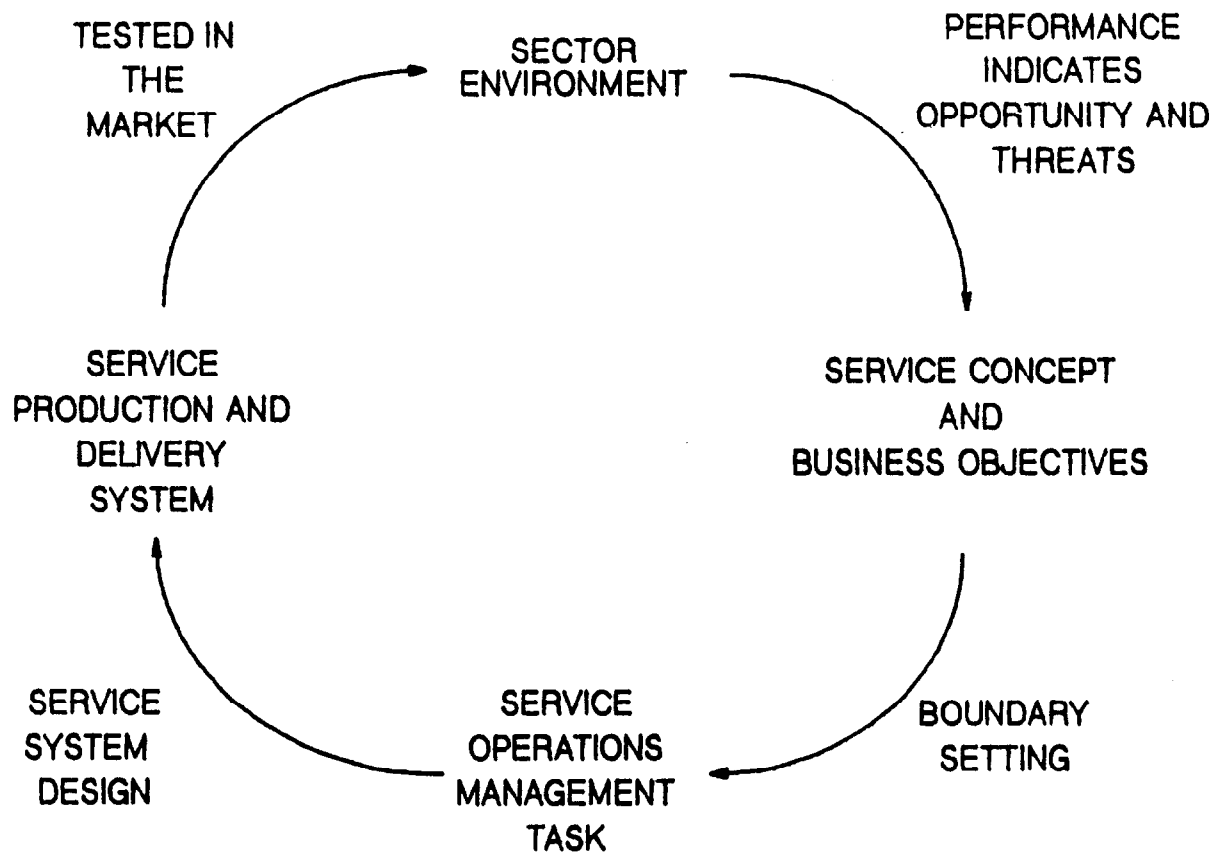
Organisation relates here to both the elements of business control being centralised or de-centralised and to the specific division of service production and delivery systems into a front office and back room component. The front office being characterised by an involvement with customers and the back room excluding direct contact.

* The Process

The process description details the flow of the service production and delivery identifying at each stage what is being done, the level of contact (high to low) with customers and the capacity requirement at each stage over time. The type of process which is used for front office parts needs to emphasise the customer processing skills while the back room activities need to perform an effective support activity and to provide an opportunity to emphasise resource productivity.

* The People

The people element describes the skills and cultural assimilation required of the service people at each stage in the service production and delivery process, the numbers required over time, and the level of skill or familiarity which the customers have with the process in those stages where customers are involved.



SERVICE OPERATIONS MANAGEMENT STRATEGY CYCLE

FIGURE 2

* The Facilities

The facilities will be dictated by the nature of the service itself as to whether the facilities need to be located near to customers or whether economies of scale can be gained from either single site or a restricted number of sites. There may be opportunity for separation of the back room activities to gain economies of scale as in central warehouses in retail distribution while still retaining the closeness to customers of the front office parts - here represented by the stores.

* Planning and Control Systems

Planning and control systems for service operations management include those which deal with the planning and control of work flows and the provision of capacity resource to meet the standards of performance. Activities include the scheduling of service people, booking and reservation systems to control the flow of customers, scheduling and controlling the flow of materials, and the systems to measure and compare performance against standards.

* Information Systems

The importance of information systems in the support of the delivery of customer service and the attainment of improved resource productivity warrants a separate description away from the process description. The information systems also provide the integration of the operations area into the rest of the organisation.

OPERATIONAL FACTORS IN RUNNING THE SERVICE PRODUCTION AND DELIVERY SYSTEM

Success for the service operations management of implementing the service operations strategy is realised by meeting a combination of customer service criteria and resource productivity criteria. The attainment of specific objectives in each allows a monitoring performance and an iterative process for refining the service operations strategy or radically changing it in line with the shifting demands of the external environment. The development of a service production and delivery system is not fixed for all time. There needs to be an ongoing appraisal of the service operation management strategy by testing the results and performance of the current system against the market Figure 2.

A CASE EXAMPLE

The application of the development of the service operations management strategy is best illustrated by way of an example. It is perhaps easier to begin with an example of a simple service operation which reinforces the stages in the development and implementation of the service operations management strategy in a way which supports the business objectives and results in a successful service business from the standpoint of the main interested parties, i.e., external stake holders, management, staff and customers.

The Chicago Pizza Pie Factory (Voss et al 1985) is a restaurant which was established in central London in the late 1979s by an American, Bob Paton, to sell pizzas in an atmosphere which created the ambience of Chicago. The Restaurant was one of the first theme restaurants which are now common but was at the time a novelty with few direct competitors in London. The customers were in the main young people,

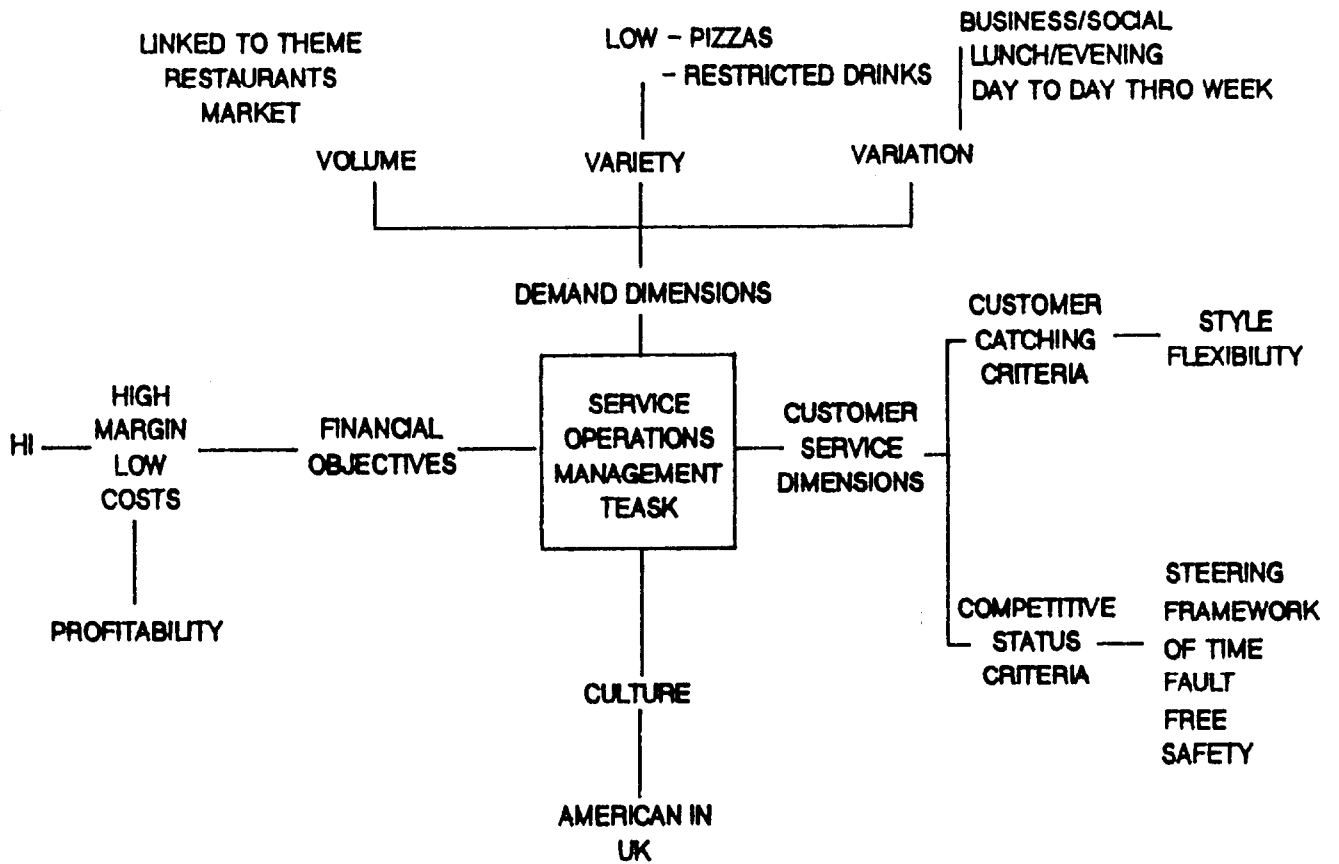


FIGURE 3

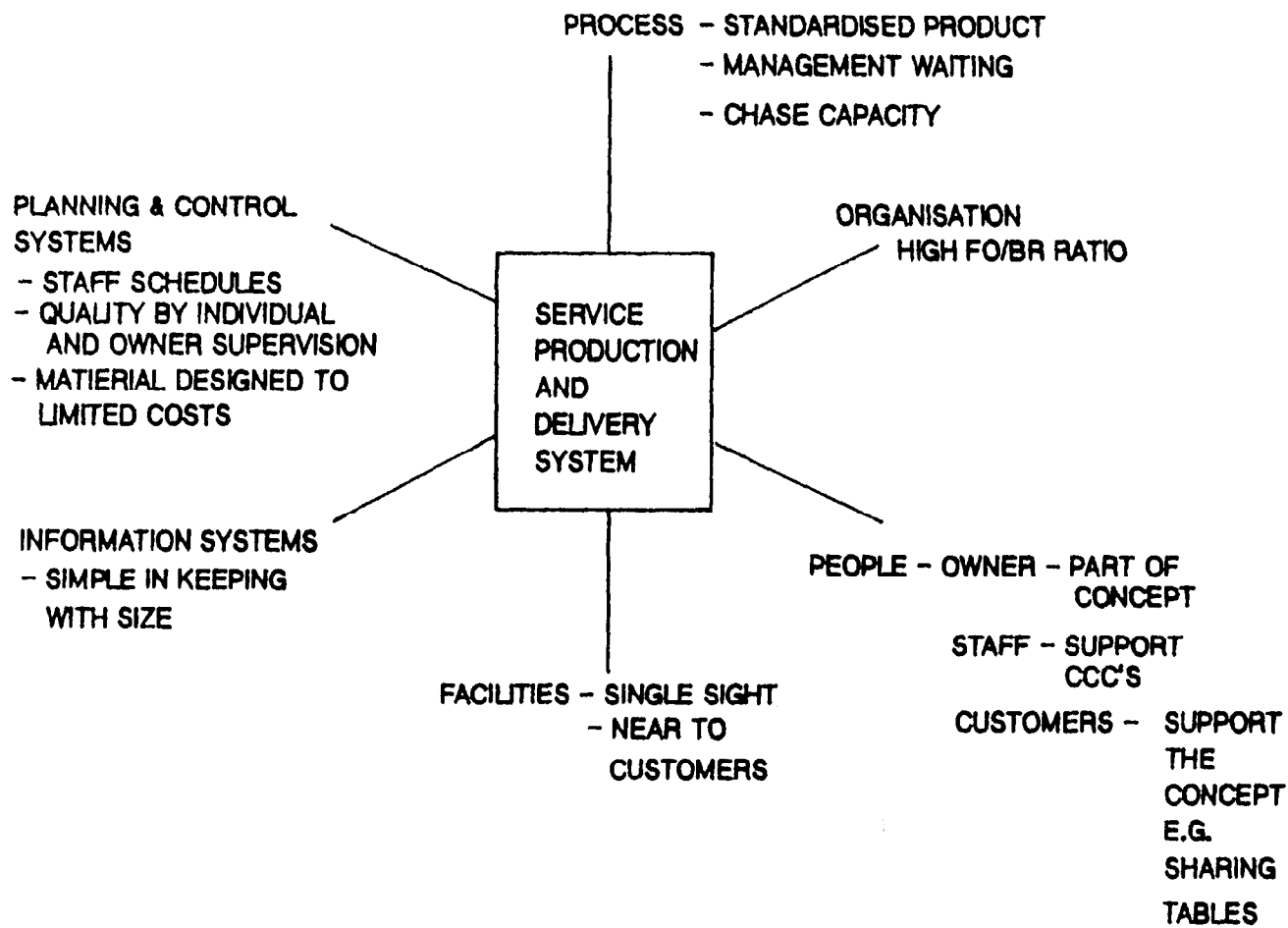


FIGURE 4

although the restaurant established a regular lunchtime trade of business people. The restaurant could be judged to be successful when assessed by high profitability resulting from the ability to charge higher margins while maintaining low costs, turnover per unit of the area, turnover per table, and by customer satisfaction. The reasons for the success lay in the development of a service operations management strategy which matched the demands of the business while supporting the service concept.

A summary of the service operations management task is shown in Figure 3. The main features are as follows:

The demand dimensions show the volume of demand being linked to the emerging theme restaurant market which was growing and so more than sufficient at times to match available capacity, variety of services were restricted by a focussed menu of food and drinks, and variation in demand was fairly predictable for lunch time and evening trade through the week from Monday to Saturday.

The customer service considerations showed that the customer catching criteria were associated with the style and flexibility dimensions with the other dimensions being competitive status criteria. Also price was not a prime factor for the customers. The style dimensions focussed on the novelty aspects and the ambience and attitudes of the service staff reinforced by the physical presence of the owner.

The culture of the establishment was American and was driven by the charismatic personality of the owner.

The financial objectives were to achieve higher margins than were normal for restaurants of that type in London at that time, while keeping costs low.

The service production and delivery system (Figure 4) which was evolved was essentially a standardised product based process which managed the customers in a way which enabled the operation to chase demand and to maintain high asset utilisation by managing queues to stop people from leaving, encouraging people to share tables, and prompting people to leave once they had finished eating.

The organisation was of course simple, but very centralised with control firmly with the owner. The front office to back room ratio was high which maximises the asset use and also capitalised on the service contact strengths of the service staff.

The people concerned were the owner who was central and part of the service concept and the service package. The service staff were recruited to maintain the ambience and friendliness of the service concept and were rewarded by tips from the customers (there was less satisfaction from the back room kitchen staff who complained of low wages but did not interfere with the delivery of the food). The customers reinforced the concept of friendliness and atmosphere by sharing tables, treating queueing as a positive part of the service experience.

The facilities were a single site which while not being well placed for passing trade was adequate once the restaurant had built up a repeat trade and was known through word of mouth and free press publicity.

The planning and control systems were simple and devoted towards staff scheduling to chase demand, control of material usage to minimise costs through a limited range of food offered, and a control of quality through the standards of the owner and his example and supervision. Information systems did not use any technology and were kept simple in keeping with the size of the business.

The operational focus of the Chicago Pizza Pie Factory in this stage of development was such that the service operations strategy which was evolved matched the customer catching criteria while maintaining the competitive status criteria of the customer service dimensions and meeting the business objectives. The implementation and operational control of quality and resource productivity depended on the drive of the owner.

A simple system such as the CPPF, illustrates the importance of attention to all parts of the strategy development and the design of the service production and delivery system. The same principles apply to more complex service packages.

However, it is easy to find examples where the strategy does not lead to the operation of a service production and delivery system which meets the necessary customer service dimensions. Often failure can result after a period of time when there are changes in the external environment resulting in changes in the customer catching criteria or the demand dimensions and when the operations management strategy is not altered to take account of the external changes because either the significance of the changes are not appreciated or the time to respond is long. The delay may be due to the need to drastically alter the production and delivery system requiring financial investment and the retraining of existing staff and/or the recruitment of new staff.

Indeed the next move of the CPPF shows some of the pitfalls. The opening of a restaurant in Bath was not a success. The customers were different so the same customer catching criteria did not apply. The staff recruited did not present the same American style and the owner was not intimately involved and so the restaurant no longer had this presence as part of the concept in the same central way as in London. Subsequently the concept has been adapted to open a chain of restaurants in other UK and European cities which now operate in a market which has many theme restaurants and consequently again the factors from the strategy filter have changed.

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