A model for strategic repositioning of service processes

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Introduction

Service industries – and service operations of manufacturing companies – are restructuring their delivery systems. Self-services are replacing many of the traditional channels dominated by corporate sales and service personnel. New types of channels for delivering financial, logistics and other services are being created at an ever faster pace. This restructuring, driven by deregulation in many fields of business and intensifying global competition, is forcing companies to re-evaluate their current customer service strategies. Automation is the way to cut costs and to provide quick response for the large self-service markets while specialization allows organizations to focus on the needs of small custom-service segments. Few companies can achieve both economies of scale and scope in a competitive way. The quality management movement has emphasized the conformance of the technical specifications of service while also enhancing the support of customer relationships. Last, but certainly not the least, the application of new information technology has created opportunities to re-engineer the service processes in innovative ways. No wonder that executives and field personnel alike are feeling the whims of the customers and wondering if the repositioning of their service processes is guided by the fads of the marketplace and imitation strategy rather than an innovative and deliberate choice of new delivery channels and technologies.

While there are numerous frameworks for classifying different services and differentiating services from production processes, we have identified four major questions critical for evaluating potential repositioning strategies. First, is the object of analysis the whole service process or just the internal operation of a service facility? Second, is the service defined on the basis of the technical properties of the delivery channel, or the needs of the customer? If no logical distinction has been made, it may be difficult to conceptualize changing the type of service, replacing a facility or bypassing some members of the delivery channel altogether. Third, is the impact of technological progress on services and channels described properly to facilitate the restructuring of information infrastructure and to explain the surge of self-services? Fourth, is there a normative theory of service processes guiding the search for the most efficient channels? A comprehensive theory is important since services as a research area constitute a residual of many fields, such as operations, marketing, finance, economics, and strategy, leading often to
superficial classifications and distinctions between production and service processes.

In this article we describe a normative model, called service process analysis (SPA), in which the concept of service provided is distinguished from the specification of the service channel, such as market networks, service personnel and other intermediaries. In SPA, efficient matching of services and channels is determined on the basis of the trade-off between production costs and transaction costs involved. The aim is to synthesize the different aspects of service processes in order to explain and predict the impacts of organizational and technological development on individual services and service firms, as well as on industrial organization and network infrastructures. The SPA model facilitates a graphical representation of service positioning, as well as appraisal of different repositioning strategies, much in the same way as manufacturing facilities can be compared in the product-process matrix by Hayes and Wheelwright (1984).

This article is organized as follows. We first present some requirements and approaches to modelling manufacturing and service processes. Next, we introduce the model of service process analysis, explain its structure and specify different types of efficient service processes. In the following section, some well-known frameworks for service analysis and measurement are presented and compared with the new SPA model. The applications of the SPA model are illustrated with comprehensive examples from banking, logistics and insurance services. Finally, we discuss the implications to repositioning of services and conclude with suggestions for future research.

Models of manufacturing and service processes
Service as a concept refers to a wide variety of processes and exchanges. In contrast to tangible products, a service is not a distinct output of a separate production, distribution, or consumption process. Rather these activities constitute an integrated process in which the customer enters into a relationship with the service firm and some intermediaries. Information plays a prominent role in the delivery, co-ordination and quality assurance of services. The attributes commonly used to characterize services, such as intangible, non-storable, customer-specific nature, overlapping of production and consumption, and sensitivity to relationship and reputation, reflect the integrated nature (see Sasser et al., 1983; Voss et al., 1985). To be sure, these attributes make it possible to distinguish services from production activities. But for comparing different services, or for determining the most efficient delivery channel, a more comprehensive model of services and service channels is needed.

A model of service delivery requires joint specifications of production, consumption, and distribution activities. A genuine service is a multilateral and open-ended process, as opposite to production which is a closed process with unilateral control and storable inputs and outputs of materials and information. For example, the product-process matrix by Hayes and Wheelwright (1979 and
1984) has long been recognized as a powerful and frequently used model of manufacturing processes. A business unit or a product line can be placed in a particular position in this matrix. At one extreme there are project activities defined as highly customized, one-off, large-scale and complex activities, such as civil engineering contracts or aerospace programmes. At the other extreme, continuous processing refers to the processing of a basic material, such as petrochemicals, through an automated plant. Between these extremes lie jobbing, batch and line processes. The position is further determined by the stage of product life cycle and the stage of process life cycle. As a business matures, it will move gradually towards commodity products and continuous line production. This approach has been further developed by Schmenner (1986, 1993), Noori (1990, 1991), and Noori and Radford (1990).

It has been widely recognized that in the service sector a powerful analytical tool similar to the product-process matrix is missing. There have been several attempts to develop methods of analysis and classification but they have failed to gain wide acceptance. Silvestro et al. (1992), who have carried out an extensive review of literature in service analysis, echo Schmenner (1986) in stating that “many services still view themselves as unique, and consequently do not promote service operations management techniques with the same vigour as does the manufacturing sector”.

Why is this the case? First, the interorganizational nature of service processes obscures any straightforward application of concepts similar to the product-process matrix. The measurement of volume and variety of services is less concrete than in the case of product mix, and instead the output is often estimated on the basis of the number of customers served. For example, Silvestro et al. (1992) propose the number of customers processed by an individual service unit per day as the measure of service activity. Also, the identification of the type of service process and its capacity is complicated by the lack of inventories and batch sizing strategies. The analogy of mass production is especially difficult to carry over to service processes as there are distributed networks delivering mass services. A global service company may use largely the same processes as a small local one, except it will be managing a larger number of service sites (Enderwick, 1991).

Second, previous studies developing service typologies and classifications, including Sasser et al. (1983), Chase (1978, 1981), Maister and Lovelock (1982), Haywood-Farmer (1988), Haynes (1990), Silvestro et al. (1992), and Schmenner (1993), appear to have run into problems in finding operational measurements and normative bases for assessing the efficiency of services. In our view, they focus on analysing separate service facilities instead of the whole service process. The description of the service process is thereby limited to the in-store and in-office activities and equipment instead of counting for the entire channel structure including also the different organizations and supporting information systems.

Third, perhaps the most profound obstacle to the establishment of a model of service processes is the diverse domain of reference theories. The relevant
contributions include marketing with a long tradition of delivery channels research, operations management with an emphasis on efficient production of goods, management policy and competitive impact of systems, and transaction cost economics which studies the efficiency of inter-organizational processes (Mäkelin and Vepsäläinen, 1989). The specific models and frameworks can be classified into two categories:

(1) Behavioural and decision models. Constructive models of the service relationships can be defined in terms of selling, production, and buying behaviour (Ives and Learmonth, 1984; Mäkelin and Vepsäläinen, 1989; Moriarty, 1983). The processes may constitute the overall value chain, physical plant, a part of distribution channel, or customer contacts. Value chain models (Porter, 1984) have been popular in strategic planning and in the analysis of information systems. Distribution channels have been studied in marketing (see Kotler, 1980) and in operations management (see Hayes and Wheelwright, 1984; Shapiro and Heskett, 1985) with an emphasis on distribution of tangible goods. Customer contact processes have been described in marketing and information systems literature (Ives and Learmonth, 1984; Jackson, 1985). Most process models are descriptive and the applications are for specific organizations without much of a general theory or normative results.

The decision models of supply chain and buying behaviour can be classified according to the simplicity and normative emphasis as follows (Moriarty, 1983): task-oriented models (e.g. minimal price, rational buyer, or source loyalty models); non-task-oriented models (perceived risk, diffusion of innovation, signalling, learning, and reputation models); and decision process models. The models are often linked to the familiar models of production, inventory, and distribution decisions (see Fitzsimmons and Sullivan, 1982).

(2) Transaction allocation models. Models of transactions and governance structures have been used in the analysis of efficiency of production and exchange processes. The general results of the transaction cost theory (Williamson, 1985) integrate many aspects of contracting problems (make or buy; employment relationships; production and distribution costs; structure of distribution channel; and type of enforcement authority) which have previously been studied separately. Some normative implications have been verified empirically but the transaction costs have been measured only indirectly (Anderson, 1985; Camerer and Vepsäläinen, 1988).

For a model of service processes to be useful in assessing different repositioning strategies, it is most important to specify the service channels, or the alternative ways services are delivered to customers. Efficient matching of service delivery channel and type of service package has been introduced in the model of service

A model for service process analysis
The service process analysis (SPA) model introduced here builds on and extends the model of service channel strategies by Vepsäläinen and Apte (1987), Mäkelin and Vepsäläinen (1989), Vepsäläinen (1991) and Apte and Vepsäläinen (1993). The main principles behind the model are presented in the next section, followed by a detailed description of the classifications and matching of services and channels.

The main principles of service process analysis
In analysing service processes, two questions have to be answered:

1. How should organizations and services be presented systematically to allow comparisons of different service processes even across industries and to illustrate new solutions not yet observed in any industry?
2. What is an appropriate criterion of efficiency for matching services and channels that helps in selecting the best combinations for a company and in predicting industry-wide sustainable solutions?

The aim of the service process analysis matrix (Figure 1) is to evaluate the efficiency of matching the type of service being offered with alternative types of delivery channels. Hence the division of services includes two separate tasks: the analysis of service transactions or packages provided, and the analysis of delivery channels established for delivering the service. The axes of the SPA matrix represent the type of service and type of channel.

Type of service
Services have been described in most studies in terms of frequency and timeliness of transactions, uncertainty, degree of customization, information complexity and types of resources used (see for example Silvestro et al., 1992 for a review). These measures characterize a service contract also in transaction cost economics (Williamson, 1985). On the basis of complexity and contingencies involved, we suggest the following categorization of service mix from simple to complex:

- Mass transactions.
- Standard contracts.
- Customized delivery.
- Contingent relationship.

Mass transactions are simple services with few options and little customization of the terms of delivery. They are routine tasks carried out according to market rules and at market price. Examples include transferring money, withdrawing cash or interacting with databases.
Standard contracts are services that may involve rather complex specifications but are not extensively adapted to an individual customer. There is a standard contract that specifies the options and application to the customer. Examples include bank loans and individual lines of insurance services.

Customized delivery deals with services tailored to individual customers involving some uncertainty and contingencies. In addition to being more flexible than standard contracts, a customized delivery requires more confidential management of relationships as both the provider and customer may consider a number of options in drawing up the service contract. Examples include investment advising and corporate risk management.

Contingent relationships involve complex problems, several interrelated activities and intensive communication. This type of service is described by risk sharing requiring close relationships. Examples include project management and long-term systems development.

It should be emphasized that the type of service refers primarily to the purpose or output of the service process as perceived by the customer. Therefore, it should not be confused with the complexity of the internal procedures involved in providing the service. For example, if a simple service requires many steps or
review by supervisors, it may just indicate that the channel within the providing company is too long, not that the bureaucratic process necessarily improves the customization of services.

**Type of channel**

A service process is carried out within a delivery channel that consists of some organizations and the interconnections among them. The channel may include front-line employees and staff members of the service providing firm along with outside agents and layers of other intermediary organizations needed to reach the customer. These channel organizations are supported by various information systems and networks, such as customer-operated machines, integrated branch office networks and decision support systems (see Apte and Vepsäläinen, 1993 and Vepsäläinen, 1991 for examples). In service process analysis, it is important to see the customer as a part of the channel and to re-examine the justification of current organizational boundaries.

Several different types of channels may be used to deliver the same type of service and one service may be provided through several channels as illustrated in Figure 2. In banking, a private customer can accomplish a simple money transfer through service personnel over the counter (channel type a), by automated teller machine (ATM) using self-service (channel type b) or by using a personal computer connection directly to the bank. The outcome of the service in each case is the same, but the service process is different because a different channel is used. In more complex services the channel may include an agent (channel type c).

In Williamson's (1985) terms, the channel is a governance structure which, in general, ranges from a spot market to an internal mechanism, or a hierarchy. We use a similar abstract classification of channel organizations that is based on the length of the channel, i.e. the number of different units and interorganizational linkages constituting the channel. The following four types of channel organizations can be defined:
Market network provides direct customer access to market resources with minimal intermediation, making it the shortest of channels. The market network is based on self-service of customers, e.g. the use of ATMs or direct ordering systems.

Service personnel, such as salespeople in a store, clerks in branch offices or field maintenance personnel. This is a short channel based on personal interaction provided by one organization. The service personnel work for one firm. The channel is longer if there are managers or supporting staff members involved in the service process.

Agent/alliance channel includes experts, third party representatives and independent agents that are fairly close to the customer acting as middlemen or mediators in the service channel. Sometimes even the expert units within the corporation may assume this role. In this type of channel the relationship between the channel members is based on trust as well as formal contracts.

Internal hierarchy means that the service is procured within the organization needing it. Internal hierarchy is considered a long channel from the point of view of the potential service providers since there is no real customer but instead an employment relationship. The channel is intra-company, the relationship between the channel members is very close and the process is owned by the organization.

These four types of channels may be seen as points along a continuum representing the length of the channel that also determines its costs per service transaction. Internal organization usually represents an expensive and long channel since outside providers are kept away from delivering any service. Alliances or co-operatives among the service providers, agents and/or customers represent long channels as well, and the fees of the professionals add to the costs. Short channels, either with service personnel or self-service, are the cheapest in terms of variable costs, but may involve considerable fixed costs and investment in real estate and systems that link customers and other organizations.

Efficient or generic service processes
In determining an efficient match of channels and services, the SPA model uses a representation similar to the product-process matrix by Hayes and Wheelwright (1984) in matching the services and channels. In the SPA matrix (Figure 1), the size and form of the bubbles indicate the variety or range of service offerings and channels used within a given service process.

Efficient processes in the matrix are located along the diagonal. This preference for diagonal positions arises from the consideration of economic
efficiency along the arguments of transaction cost economics (Williamson, 1985). According to this view, economic transactions should be arranged so as to minimize the sum of production costs and transaction costs.

Production costs focus on internal operations and the costs associated with them. These include production costs and related investments in technology as well as the co-ordination costs inside the company which depend on the organizational structure.

Transaction costs are caused by the establishment and maintenance of external customer relationships and the related co-ordination activities. These include negotiation costs, search costs, and costs of incentive contracts and the risks involved. These costs depend predominantly on the uncertainties and monitoring problems present in the marketplace.

Companies close to the “efficient diagonal” provide more efficient service than those far from it. The diagonal matches form the best service processes by combining a service with the type of channel that best suits the needs of the customers. In practice, we would expect the efficient service processes to be common within the competitive segments and market areas.

The non-diagonal corner areas of the SPA matrix are inefficient and often void of services. For example, the use of a market network in providing customized services gives rise to high transaction costs and problems in sharing the responsibilities due to uncertainty and risks of errors. It is difficult to control the quality of services produced by an outside market network without giving away vital information and know-how. Also the investments in customized channel systems would add to the risks. On the other hand, to use an internal organization prone to paper work and bureaucratic routines to provide mass services means excessive costs of producing the service.

We have identified four efficient, or generic, service processes along the diagonal of the SPA matrix (see Figure 1):

(1) Fast routine processes.
(2) Flexible integrated processes.
(3) Focused processes.
(4) Adaptive processes.

Fast routine processes are a combination of mass transaction service and market network channel. A routine process means self-service via forms, terminal connections or phone calls. Its main advantages are low cost and availability. These are usually simple services requiring a field distribution system. Fast routine processes include, e.g. catalogue style purchasing of standard components, or purchasing of transport services from an electronic exchange.

Flexible integrated processes represent standard service contracts provided by service personnel. The service is standardized by defining several options for the customer to choose from. The options of service, or modules of process,
are pre-determined by the definition of service, such as the conditions of a loan or the fine print in an insurance contract.

Focused processes combine customized delivery and agent or alliance channel. They provide a degree of expertise and customization according to individual customer needs. Alliances are increasingly common in customized processes, and often support or replace independent agents.

Adaptive processes require confidential communication and flexible access to a customer's resource base. Contingent relationships deal with complex problems with a need to adapt to changing customer requirements and often call for modification of other service processes. Typically, R&D activities and project management belong to this category.

The generic processes are the most typical ones in many industries but there are also intermediary services and combinations of the generic ones that are efficient as the following examples will show. Some companies have been able to stay away from the diagonal due to regulation or monopoly power. In normal competitive situations, however, companies off the diagonal are compelled to change their strategies. The SPA model facilitates the analysis of strategic repositioning of services, such as replacing the service provided by a new type of service, resegmentation of a “full service” into several, perhaps specialized, services, or establishing a new channel. Advances in data networks have created several new types of channels providing services discussed mainly in the information systems literature.

Comparisons with previous models of services
Several production and operations authors have developed service typologies and service positioning schemes. We find the service classification model by Silvestro et al. (1992) and the service process matrix by Schmenner (1993) best in capturing the essential features of service processes for classification, measurement and strategic repositioning.

The service classification model
The service classification model by Silvestro et al. (1992) proposes the number of customers processed by an individual service unit per day as an appropriate measure of the volume of service activity. They used data from case studies of 11 service organizations to rank the companies by the volume of customers processed per day in a typical unit on an ordinal scale. At the low volume end (number 1) there are the management consultancy and field engineering services with the number of daily customers measured in tens, whereas at the high end (number 11) the transport company and transport terminus processed thousands of customers per unit. The organizations were ranked as follows:

(1) Management consultancy.
(2) Field engineering service.
(3) Bank – corporate accounts.
(4) Hotel.
(5) Home electronics rental.
(6) Domestic appliance retail.
(7) Confectionery, tobacco, news retailer.
(8) Bank – personal accounts.
(9) Distribution customer enquiries service.
(10) Transport company.
(11) Transport terminus.

They claim that this measure can be used as a mechanism for integrating the disparate service classifications in the literature into a single service process model. Their claim is supported by a classification of the services along six other dimensions: people versus equipment focus, length of contact time, degree of customization, level of employee discretion, value added in front office versus back office, and process versus product focus. The data from case companies were then used to classify the organizations along each dimension. In measurement, a Delphi-type approach was used to classify each service on a three-level scale, such as high, medium or low.

When compared with the volume ranking (from low to high), the following trends can be observed with respect to the other dimensions:

- Focus moves from people orientation to equipment orientation.
- Length of contact time moves from high to low.
- Degree of customization moves from high to low.
- Level of employee discretion moves from high to low.
- Value added moves from front office to back office.
- Focus moves from process orientation to product orientation.

Based on these observations, and the inverse correlation with the volume, services were grouped into three clusters which they call professional services, service shop and mass services (see Figure 3). In general, professional services score high on customer contact time, customization and employee discretion, and are focused on people and processes.

As with the production process model, the three categories may overlap, i.e. some companies may be hybrids sharing the characteristics of more than one type. In the sample used, the corporate bank shares some features of a professional service (customization, discretion and people focus) and some of a service shop (contact time, front-/back-office mix, process/product mix). It can be seen in Figure 3 that most of the services appear in the order of customer volume with the exception of service number 7 (confectionery, tobacco and news retailer) which is classified as mass service and appears in ninth place.
As demonstrated by the anomalies above, the daily volume or number of customers may provide too inexact a division for many purposes. Silvestro et al. (1992, pp. 66, emphasis original) state that:

Moreover, in service operations, significant volume increases can be made, and frequently are made, without any change in the service process, as would be expected in manufacturing (indeed this is precisely what the production process model shows). Service organizations may significantly increase the volume of operations by reproducing service operations, for example, using multisite strategies without requiring a change in the process of provision.

Thus one can question the use of customer volume as the main indicator of service type and look for other attributes for characterizing services, such as those used in the SPA model.

Figure 4 presents an analysis of the examples given by Silvestro et al. (1992) using the SPA model. The positions of different services are dictated by their type of service and the channel by which they are delivered to user. The positioning of services is based on qualitative scales developed in case studies. As seen in Figure 4, the SPA matrix represents the variety of different services rather well. The channels employed by the sample, however, seem to be rather similar with the exception of the professional services, management consultancy, field engineering and banking in corporate accounts. At this end of the service spectrum, the number of daily customers may be a fairly good descriptive factor of service type. For the rest of the services, however, other characteristics of the service and channel may offer a better starting point for the analysis of efficiency and repositioning. Our model includes the type of service personnel and the supporting information systems as classification.
variables. As a result, the services 4 to 11 are not positioned in the SPA matrix according to the daily volume. Furthermore, we will show examples of redesign of these types of personnel channels using information networks that clearly reposition the services in the SPA matrix. The analysis of a service offered through a market network, such as ATMs, would have revealed the ambiguity of the unit volume measure in the study by Silvestro et al. (1992).

The empirical analysis of the service classification model captures several aspects of services. It may be criticized, however, on two accounts relating to the network of service processes. First, the classification focuses on internal operations of service facilities instead of the service processes extending from suppliers to customers. There is no distinction between processes providing the same type of service through several alternative channels (as is shown in Figure 2), including or excluding the facility observed. The delivery channel, then, may consist of field offices and shops, outside agents, alliances, self-service stations and market networks.

Second, there may be different types of services provided through processes sharing the same facility. In this case, the measure based on customer volume is ambiguous unless the complexity of services is carefully factored into the
measure. Both of these difficulties can be dealt with by defining the service processes on the basis of customer needs as well as the operations of the provider.

The service process matrix

The consistency between the service concept and service delivery system is considered in the service process matrix by Schmenner (1986, 1993). His model is derived from the product-process matrix (Hayes and Wheelwright, 1984) by substituting the degree of interaction and customization for product mix and labour intensity for process pattern. The resulting two-by-two matrix (Figure 5) has four categories - service factory, service shop, mass service and professional service - to imply the strategic positions and changes in service operations. These categories are used also by Maister and Lovelock (1982), and other similar classifications can be found in the literature. Notice that in Figure 5 the axes of the service process matrix have been reversed to facilitate easier comparison with the SPA matrix.

![Figure 5](image-url)

**Figure 5.** Changes and trends of selected service operations represented in the service process matrix

*Source: Adapted from Schmenner (1993)*
There are several service operations illustrated in the service process matrix including banking, retailing, law firms, restaurants, hospitals, trucking and airlines, along with some observed trends of repositioning within industries. The two main arguments concerning the development of services are strikingly similar to those concerning manufacturing companies (Hayes and Wheelwright, 1984). First, the services are gravitating towards the diagonal of professional services and service factories, away from service shops and mass services. Second, the efficient services are moving down the diagonal towards service factories. While Schmenner (1993) discusses several types of changes in services, the direction of development represented in the service process matrix is exclusively towards the diagonal and down to service factory type operations. The validity of his arguments is difficult to follow because there is no theoretical explanation of the economic or technological drivers of the processes. Even with these shortcomings in explaining and classifying service processes, however, the matrix may be a useful management tool in analysis of repositioning strategies.

The same sample of service operations as in Figure 5 is represented in the SPA matrix in Figure 6. The assumptions and trends apparent in SPA are compared with those of Schmenner’s and some examples are extrapolated further to anticipate, for example, the automated service processes.

Traditional full range restaurants are shown in Figure 5 to provide more customized service than fast-food restaurants, but the channel is also shorter and less labour intensive as shown in Figure 6. Similarly, Schmenner assumes that for-profit hospitals have a narrow range of services and specialize in routine medical cases, but also that they have higher labour intensity. Wouldn’t one rather assume higher productivity? A retail store is the traditional sales outlet that is being replaced by warehouse and catalogue stores offering less service (and lower labour costs) and boutiques offering more interaction and a larger range of goods.

Airlines seem to follow the direction to service factories by offering no-frills services. However, we argue that at the other end of the spectrum, new service offerings are appearing as well, such as luxury airlines and gourmet restaurants (mentioned also by Schmenner, 1993) and included in the SPA matrix in Figure 6. These professional services may be internal to the companies or outsourced from suppliers. Health maintenance organizations (HMOs) are substitutes for private hospitals and family doctors, and catering services replace corporate cafeterias. Corporate jets may be replaced by services of local aviation companies. The cost efficiency of “service factories” comes increasingly from a distributed mode of operation. Telemarketing and pizza delivery services provide fast response for a large geographical area. TV shopping and ordering by telephone or by computer rely on the market network as a delivery channel. Similar development trends are shown in detail in our other examples on banking and logistics services (see Figures 7 to 9).
We find many of Schmenner's arguments sound while some issues are difficult to agree with. The gravitation of services towards the diagonal seems plausible, since it takes people to adapt the service and to interact with customers (in professional services) whereas the standard services may be delivered through automated channels (in service factories). However, we find it difficult to believe that many major businesses such as retailing, hospitals, restaurants and banking would be as backward or low performers as indicated in Figure 5. It may be that these established businesses offer a mix of services some of which can be automated (such as teleshopping) and some which may involve more personnel in the future (such as specialty boutiques). By and large, however, these services have been subject to competition and hence cannot be far from the efficient diagonal. It is also hard to perceive the operational changes making services more customized (or less interactive) without changing the labor intensity (as indicated in Figure 5). It may be that these established businesses offer a mix of services which Schmenner assumes the control of internal operations, not the fulfillment of customer needs, as the measure of efficiency.
The observed trend of services moving down the diagonal may be true for some services that aim at cost efficiency and standardization. It also means a reduction of customer contact time out of total service time and automation of back-office routines. We can see how this argument supports the segmentation of the “full services” prevailing in many industries into specialized business units. However, there appears to be a counterbalancing trend of offering more customized services up the diagonal as will be shown in later examples. These emerging professional services consist of labour-intensive operations focusing on more complex customer needs with high interaction and customization.

Furthermore, while the service process matrix does not limit the analysis entirely to the service producing facility, the focus is still on the service operations as seen from the provider’s viewpoint. The needs and effort of customers are not taken into account in estimating the degree of customization and interaction of service or the labour intensity of the channel, both of which can be explained by a common feature, the complexity of service. Hence the concepts and measures of service and delivery channel are not fully separated from one another.

Illustration of trends in service industries
In this section we illustrate some examples of service processes and apparent trends of development with the SPA model in the following cases:

- The differentiation of banking services.
- The changes of logistics and transportation services with the emerging network structures.
- The difficulties of changing strategic position in insurance services.

In the bank services example, automated services replace earlier service-shop type operations, as illustrated in Figure 7. In the traditional mode of banking, both corporate and private services were provided to customers by service personnel within the branch office network. Recently the services have been divided into separate channels, as competition has forced banks to provide customized professional services, such as investment counselling and corporate banking through private or captive agencies. New technology, such as ATMs and home banking with computer connections, has facilitated more efficient ways to provide mass services as well as a larger service palette to companies with terminal connections to banks. These examples show that the full mix of basic services provided through the universal channel is being replaced with a mix of different channels providing differentiated services building on the low cost or focus strategies.

As in the case of banking services, the channels of logistics and transportation services are changing and diverging into several smaller segments (Figure 8). The multiple services provided earlier by transport and trucking companies have been broken down into several specialized services to attain lower costs (cut-rate trucking) or to offer value-added services (warehousing,
packaging, etc.) through third party arrangements and alliances. Information technology has enabled new channels such as transportation databanks and real-time tracking of cargoes enabling customers to monitor their deliveries using data networks. At the other end of the spectrum, the management of customer relationships is the driving force of development. Contract logistics services with third parties, shared facilities, outsourcing and alliances provide a wide service mix from JIT deliveries and distribution to full-scale services replacing the company-run order processing and warehousing functions.

In insurance services, the traditional direct writer, sales representatives and agency company services are facing competition from more specialized and efficient providers. Figure 9 illustrates the changes in existing channels. Direct sales and telemarketing are feasible and cost efficient in standard lines such as home and car insurance, while simple travel insurance, for example, can be provided by self-service in insurance kiosks.

The services requiring close relationships with customers and professional know-how belong to corporate insurance typically provided through brokers, specialized risk management consultants and captive insurance providers. The potential of using repositioning strategies by different companies is analysed in
Figure 9. Flexible strategies are those converting agency-based channels into direct sales and telemarketing for standardized products, or into specialized consultancies for risk management. The repositioning is more difficult, and often impossible as a result of employee resistance, when supporting or replacing the traditional channel, the branch office network, with telemarketing or outside brokers and agents.

Hence the previously formidable competitive weapon, the branch office network, may become an organizational burden. It used to reach the largest share of customers, but now the loyal clerks are slowing down the full adoption of the emerging telecommunications networks as well as independent brokers.

Discussion and conclusions
We have discussed a theoretical framework, called service process analysis (SPA), for defining different service types and delivery channels. The main idea in SPA is to find an efficient matching of services and channels based on the trade-off between production costs and transaction costs involved. The proposed normative model of service processes has been compared with some well-known frameworks and measurement schemes in terms of the evaluation
of potential repositioning strategies and emerging trends in service industries.

To recapitulate, the advantages of the SPA model are:

- The object of analysis is a service process instead of a facility, thereby addressing also the inter-organizational restructuring of services.
- The analysis recognizes the roles of different organizations and parties within the service channel, thereby facilitating the analysis of make or buy decisions.
- The impact of technological change on service channels is explicitly accounted for, especially in terms of the new information systems and network infrastructures.
- The normative SPA model allows for an explanation of the changes of not only the positioning of individual services but also the restructuring of services within an industry and reallocation between industries.

Since these are the features which in the previous frameworks have been neglected, we will discuss each of them in some detail.
First, there has been a facility bias in service analyses. The focus has been on a representative facility – and thus on internal production of services – rather than on the entire service process. This is evident from the terminology and applications of the frameworks by Silvestro et al. (1992) and Schmenner (1993), as well as in other models. A service-production facility is naturally more tangible and its activities easier to measure than those of the entire service process including customers and middlemen, but important strategic aspects may be overlooked.

Second, there is a technical bias in describing delivery channels. Indicators such as equipment versus people focus, labour intensity, front office versus back office are used for classification. In SPA, the description of channels includes organizational roles of field personnel, agents, external experts, third parties and a customer’s own personnel, thereby facilitating overall comparisons of organizational structures and the evaluation of make or buy decisions. Since the development and dissolution of an organization takes time, the SPA model can be useful in diagnosing the situations in which a powerful delivery channel (branch office network, for example) turns out to become a strategic burden due to the adoption of networks in marketing. The changing organizational arrangements in banking have been discussed by Steiner and Texeira (1990) and in logistics by Cooper et al. (1991).

It is the clear logical distinction between the service delivered and the channel used in SPA that helps avoid the bias for facility and technical bias. More generally, most frameworks confound the description of service and channel in a way that restricts the considerations of changing the type of service or replacing a certain type of facility or bypassing some members of the delivery channel altogether. But changing the service or the channel, or both, is the very essence of a repositioning strategy. Excellent examples are provided in banking by the NOW-accounts (negotiable order of withdrawal) for cash management and in health care by the HMOs (health maintenance organizations). The confounding of the descriptions of service and channel obscures these kinds of opportunities that stand out clearly in an analytically sound tool, such as the SPA matrix.

Another problem resulting from the technical and facility biases becomes apparent in the aggregation of service process analyses. The previous frameworks depict individual service firms using their own personnel, whereas the SPA model applies as well in the case of several organizations supported by various network infrastructures providing a mix of services. Hence the broad industry-level trends can be related to the repositioning strategies of individual companies and service lines.

Third, the impact of technological change on services and channels has been given insufficient attention in previous frameworks. New information technology and networking applications enable direct links and self-services to be substituted for service personnel and branch offices (Ives and Learmonth, 1984; Malone, et al. 1987). The SPA model can be extended to detailed analysis of
different information systems supporting the different distribution channels (see Apte and Vepsäläinen, 1993; Ciborra, 1993; Mäkelin and Vepsäläinen, 1989).

Fourth, the efficiency of different repositioning strategies has not been explained by normative theories of service processes in the previous frameworks. The question of finding the most efficient channel for a given service concept is not addressed in the literature beyond the empirical trends observed in the marketplace. This positive approach is a feeble guide for a repositioning strategy since it leads, at best, to imitation overlooking any new opportunities or threats caused by deregulation, global competition and new information technology. The SPA model is based on the trade-off between production costs and transaction costs as prescribed by transaction cost economics (Williamson, 1985). The normative approach allows the prediction of industry-level trends and emerging equilibria as demonstrated by the segmentation of services in the examples above and it also offers a reliable guide for the repositioning strategies of individual companies.

Future studies will be directed into further empirical validation of the model using well-defined measurement schemes. The emerging patterns of service development will be explored following the indications of the industrial examples above and those of earlier studies (Ciborra, 1993; Mäkelin and Vepsäläinen, 1989; Tinnilä, 1992). Joint analysis of service and manufacturing processes to facilitate a methodology for business process re-engineering has received increasing attention during the last few years (see Davenport and Short, 1990; Hammer, 1990; Jahnukainen and Vepsäläinen, 1992; Kela, 1993) and this line of inquiry will be pursued further. The challenge is to provide a theory for the business process redesign now popular among information systems developers as well as strategic planners (Stalk et al., 1992). One major area of application for the SPA model is the outsourcing of services and the building of partnerships and alliances that foster the networking of industrial economies.

References and further reading


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