Management of Innovation in Services

JON SUNDBO

The article discusses two issues. The first is whether service firms innovate at all; the second is how they organise the innovation activities. The basis for the analysis is a series of case studies in Danish service firms. The first issue is discussed theoretically. Of the several paradigms within traditional innovation theory, the strategic innovation paradigm is the most adequate to explain service innovations. Organisational learning must be separated from innovation whereby the latter means a jump in turnover and profit while the first means a lower and continuous growth. The empirical analysis demonstrates that the service firms innovate. The second issue is analysed empirically. Different ways of organising the innovation activities are set placed a taxonomy. It is concluded that the service firms rarely have R&D departments and innovation generally is an unsystematic search-and-learn process.

INTRODUCTION

The way in which the innovation process is organised and managed in service firms is a new topic in innovation theory. This article presents a theory of this phenomenon. In order to do so, two questions must be answered. First, do service firms innovate at all, and, secondly, if they do, how do they manage and organise the innovation process?

The first question is dealt with on a theoretical basis in the second section. A brief conclusion of empirical case studies will also be included. The following section answers the second question on the basis of empirical research.

THEORETICAL ASPECTS: WHAT IS INNOVATION IN SERVICE FIRMS?

Innovation has been studied in manufacturing industries, and it is on this basis that theories of innovation have been developed. Manufacturing industries produce goods, while service industries produce non-material

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The answer depends on the theoretical view one takes, and in particular the answer to the question: how should the innovation concept be defined when studying services?

I shall answer these questions in this section. First, by analysing what the literature on innovation in services says about the issue. Secondly, I shall discuss how the innovation concept could be interpreted in relation to services.

**How Is Innovation in the Services Defined in the Literature?**

The literature on innovation in services is sparse, and it does not discuss the problem fundamentally; it presupposes that service firms do innovate [Normann, 1991; Crozier, Normann and Tardy, 1982] or even that service firms have R&D activities [Barcet, Bonamy, Mayere, 1987; Gadrey et al., 1993]. Even though some literature presents the empirical results of innovation activities in service firms [e.g., Näslund, 1986; Tremblay, 1990a,b; Barcet, Bonamy and Mayere, 1987; Gadrey et al., 1993] it does not discuss the reasonableness of presupposing that innovation is happening in service firms. Nor does it discuss whether innovations in the services can be understood in terms of the innovation theories developed for the manufacturing sector. This leads to some ambiguities such as when Gadrey et al. [1993] use the term R&D as being synonymous with innovation.

Although the literature does not offer a thorough discussion of innovation in service firms, it can nevertheless be deduced that innovations are taking place. Miles et al. [1994] argue that this is so in knowledge-intensive business services. Further examples are provided in Miles [1993]. In some fields, particularly in information technology based services, the service firms are leading innovators. Although many of Miles’s examples are technological innovations, he also asserts that they in the services are often combined with organisational innovations.

In 1993 an investigation of innovation in service firms was undertaken in France as part of a project for the Ministry of Education and Research [Gadrey et al., 1993, 1994]. It included the banking, insurance, electronic information services and management consultancy industries and concluded that innovation was taking place in all of them. It was found that innovation activities were spread out throughout each organisation. The innovation process was generally unsystematic, but there was an increasing tendency to systematise and manage it. Some service firms had special innovation departments, but it was only in electronic information services that they had the character of R&D departments and were connected to science. In management consultancy, the innovation process was a collective one.
among the professionals. Gadrey et al. emphasise the service-goods continuum, which means that it is often impossible to perceive boundaries between intangible services and physical products. That is most clear in electronic information services.

Gadrey et al. also stress the close relation to customers that characterises services firms ['the service encounter'; cf. Czepiel et al., 1985]. This is an advantage of service firms that manufacturing firms can learn from. However, the service firms were not very efficient in establishing and using external networks, nor in involving customers in the innovation process. Only electronic information services had extensive and efficient external networks. Gadrey et al. conclude that it is not necessary to develop a new, specific innovation theory for services – the innovation concept and the innovation theories from manufacturing studies may be applied to services. However, they propose that the concept should be extended so that innovation and R&D could also include the development of a new service idea or concept.

Reidenbach and Moak [1986] and Reidenbach and Grubs [1987] have investigated innovation in American banks. They conclude that the banks made innovations, but were lagging behind manufacturing industries and, to a certain degree, behind other service sectors. The banks were not aware of innovations as a development factor and did not organise innovation activities in a systematic way. Those that were aware of innovation performed better than other banks which did not.

Näslund [1986] has compared financial innovations with those in manufacturing. He found that banks innovate, but under different conditions than manufacturing firms. Bank innovations are much easier to imitate than those in manufacturing because they are simple to construct. Manufacturing innovations often have a complex technological form that is difficult to imitate. In my project several respondents suggested this fact as a reason for the low number of innovations in banks. A bank that innovates will not receive much of the profit from the process because competitors quickly imitate the new product. As Näslund points out, a patent system such as that in manufacturing does not exist in services.

However, this argument is only valid for non-technological innovations and perhaps only for product innovations (since process and organisational innovations are more difficult to imitate and more difficult or, indeed, impossible to patent). Barras [1986, 1990] has concluded from his research into the banking industry that innovations have become increasingly technological. In the 1970s and the early 80s process innovations became technological; later this happened with product innovations such as self service systems [cf. Huete and Roth, 1988; Sundbo, 1991]. Fincham et al. [1995] also emphasise that information technology development in the
financial services sector becomes increasingly important and a part of the firm’s strategy. Some of the respondents in my interviews argued that banks put innovations in a technological form (as an insurance product is administered by means of EDP) because they then are less easily imitated by competitors. Thus the innovation process in services could become increasingly similar to that in manufacturing.

Voss et al. [1992] discuss models of the innovation process in the services. They stress the fact that service innovations are rapidly implemented and copied. Thus the ability to have a continual innovation process is crucial to the service firm. Scarbrough and Lannon [1989] argue that innovations in services are rarely discretionary processes. New elements or combinations of elements are part of a general, continuous development, often guided by the firm’s strategy. Both these analyses point to innovation in services being less radical and more integrated than in other development processes, e.g., the strategy process. These points provide the basis for discussion below.

Traditional Theories of Innovation
What do the traditional theories of innovation developed on the basis of studies of manufacturing industry have to say about this question?

These theories provide different interpretations. They agree that innovation is a radical act which is the introduction of a new element or a new combination of old elements [cf. Schumpeter, 1934]. This element produces a large growth in turnover and profit for the firm. However, the theories have emphasised different determinants of the innovation act and thus they present different interpretations of what innovation is: an innovation may be determined by scientific research resulting in new technology, by individual entrepreneurship, or by a strategic decision and further development of the innovation throughout the entire company. These three causal patterns have been the basis for the development of three fundamentally different theories of innovation in manufacturing [Sundbo, 1992a,b, 1995]. They may be interpreted as different paradigms since they have different answers to the fundamental riddle: how do innovations evolve? [cf. Kuhn, 1970]. Each paradigm also has a specific model of the management and organisation of the innovation process.

In this section I discuss these different theoretical approaches and the extent to which I have found each adequate in explaining and understanding innovation in service firms.

The first paradigm emphasises technological development as the core innovation process [e.g., Dosi et al., 1988]. It may be called the technology–economic paradigm. Typically, the innovation process is organised in an R&D department which has a scientific outlook. However,
in recent research it has been observed that the process may be organised in *ad hoc* project groups, or innovations may be developed as part of a more chaotic process. External networks and customers are also involved in the innovation process.

The entrepreneur paradigm emphasises the entrepreneurial act as the core innovation process [e.g., Kent, Sexton and Vesper, 1982]. However, in recent theory, this does not necessarily mean the establishment of new firms. Entrepreneurship within existing organisations – intrapreneurship – exists [Kanter, 1983; Pinchot, 1985], and there is even group entrepreneurship within existing organisations [Stewart, 1989]. Whether entrepreneurship or intrapreneurship, this kind of innovation process is not easily manageable or not manageable at all.

Neither of these classic theories or paradigms is the more adequate in explaining innovation in service firms, given the results of my research. The most adequate theory is the third, which is not as yet a coherent paradigm, but exists as a contour of a paradigm within the most recent innovation research. It came from marketing [Kotler, 1983]; later it was developed in theories on strategically determined innovations [Teece, 1987; Kanter, 1989; Nyström, 1979, 1990; Porter, 1990; Rumelt, Schendel and Teece, 1994; Sundbo, 1995]. Thus I shall call it the strategic innovation paradigm as it emphasises the firm’s strategy as the core innovation determinant. Innovations are largely market-driven and are formulated within the framework of a strategy. All innovations must be kept within the strategy to prevent the firm’s activities from becoming uncontrolled. The top managers of the firm control the innovation process, but ideas for innovations come from all parts of the organisation and from the external network of the firm.

The two other paradigms are special cases. The entrepreneurship paradigm is most adequate for understanding the establishment of new firms, even in the service industries. However, most innovations are developed within existing firms. Thus founding a firm is – in relation to innovation – the exception rather than the rule. The technology-economic paradigm may be the most adequate in explaining technological innovations. However, they are rare in services, which are characterised by non-technological products. Some technological innovations are taking place within services, such as process innovations. Many of those may be explained more adequately by the strategic paradigm than by the technology-economic paradigm. They are often developed from within a service-professional way of thinking or a service-professional trajectory, and not from within a technology trajectory [cf. Dosi, 1982]. Technology is only the medium for a new service (as when a new form of insurance is stored on informatics).
Innovation and Organisational Learning

The topic we are dealing with here is the evolution of firms, which may be explained as the steady evolution of innovations. Innovations have been defined in terms of radical acts. However, an innovation does not need to be extremely radical. Innovation theory has introduced the division between incremental and radical innovations [Abernathy and Utterback, 1978]. Thus innovation comes close to the phenomenon of organisational learning. Both are processes that develop the firm, that is, make it grow in terms of turnover, number of employees, or profit, and which improve its potential for meeting future market situations. The risk of confusion is particularly large when we are dealing with the strategic innovation theory and with services. Here the organisational form of the innovation process is broad, involving many people and departments in the organisation, and the development process is complex.

Further, service management theory [Normann, 1991; Eiglier and Langeard, 1988; DeBandt and Gadrey, 1994] emphasises serving the individual customer [Sundbo 1994a]. Thus the logic within this theoretical framework is that the front worker in the service firm may create a new, specific solution to a customer’s problem which might not be repeated. Cowell [1986] concludes that in services there is a tendency to small, scattered changes instead of proper innovations. Easingwood [1986] states that the number of small changes that can be developed into real innovations depends on the degree of standardisation and technology involved. The more standardisation and the more technology, the more real innovation. This also means that it is more difficult to involve the customers in the innovation process.

The development of service business could generally be considered as a process with a series of small changes in individual situations with single customers involved. This could be called organisational change or learning. Recent theories have developed this point of view into evolutionary models of the firm which are based on the fact that the firm can learn to handle this variety of individual change. Together, these small changes will cause the firm to grow in terms of volume and returns [Nelson and Winter, 1982; Argyris and Schon, 1978]. Theories of the learning firm [e.g., Senge, 1990] have been introduced to understand the complex processes of change in enterprises.

We might ask whether our understanding of changes in the firm has replaced the Schumpeterian model of radical, abrupt changes with a model of continual learning as developed within the organisational development and learning literature [Argyris and Schon, 1978; Senge, 1990]. In fact, both learning and innovation are empirically occurring, even in service firms.
Thus it is fruitful to consider innovation and organisational learning as two separate phenomena and interpret them from within two different theories.

However, the act of innovation can be improved by learning how to organise the innovation process ('deutero learning', as Argyris and Schon [1978] define it). That does not transform innovations into small individual acts. An innovation is a large-scale activity which is reproduced. Either the innovation (e.g., a new product) is made in many copies, or many people follow the same new pattern of activity. This is the case when a process or an organisational innovation is implemented (e.g., the innovation of customer orientation where all employees are taught to 'put the customer at the centre'). Thus each innovation is widely diffused and has a comprehensive effect on the market or the organisation, even incremental innovations. Compared with this, the single learning act has a limited distribution and effect. Furthermore, an innovation must be new – either a completely new element or a new combination of old elements – while the act of learning does not need to be new. The act of learning can be repeated (a large-scale activity) and it can be new, but if it is both new and repeated, it is an innovation.

Both innovation and organisational learning are evolutionary phenomena of the firm. The difference may be expressed graphically as in Figure 1.

**FIGURE 1**

![Graph showing the difference between organizational learning and innovation over time.](image)

The general evolutionary process of an industry or a firm is illustrated in Figure 1. The learning process is a smooth continuous development; meanwhile the accumulated innovation process jumps when innovations are introduced. Thus innovations — in relation to organisational learning — create jumps in evolution.

However, when we talk about incremental innovations, they produce
only small jumps. Thus they come close to a more general learning process without being identified with it. It may be placed on a scale, as in Figure 2.

**FIGURE 2**

<table>
<thead>
<tr>
<th>Radical innovations</th>
<th>Large incremental innovations</th>
<th>Small incremental innovations</th>
<th>General acts of learning</th>
<th>Individual acts of learning</th>
</tr>
</thead>
</table>

The left end of the scale in Figure 2 is innovation in which one radical act creates a large, sudden change in turnover or profit, while at the right end is organisational learning with many small acts creating small changes that together may change the turnover or profit. The learning process could be individual, which means that only a few individuals in the organisation have the same experience. General learning could be the case when the entire organisation, or most of it, learns the same. The third quartile of the scale (from the left – the hatched area) is a problem since incremental innovation and organisational learning may merge together here. This is clear from some new literature on innovation and organisational change [e.g., Kanter, 1983, 1989], where incremental innovation processes are described as so complex and diffuse that they may be difficult to distinguish from organisational learning processes.

In such cases the objective phenomena are the same. Particular strategic innovations – which must be interpreted on the basis of strategic innovation theory – often belong to this part of the scale. Innovation and organisational learning are therefore only two different theoretical perspectives which may be applied to the same phenomenon. Increasingly, more phenomena fall into this category, particularly in the service industries. This creates a theoretical problem. Which perspective should we use? I have analysed development in service firms from the innovation perspective.

This demands that the reproducible object can be specified; and this means that in the case of service industries that the service product, the service production or the delivery process must be standardised. This may seem contrary to the dogmas of the service management model which has been dominant in the last decade. It does not seem to fit with the focus on the individual customer and his problems, and the service encounter [Normann, 1991; deBandt and Gadrey, 1994]. However, standardisation is a general tendency in service industries [Erhvervsfremmestyrelsen, 1994; Sundbo, 1994a] because the service firms are forced to control the production process to reduce the costs. It is easier to control the costs of an
innovation process than of an organisational learning process because the latter is much more complex. However, the service management approach with individual customer orientation has not been abandoned by the firms. The development is towards modulization [Sundbo, 1994a]: standard elements (which can be invented) are combined for, or by, the individual customer and individuality is emphasised in marketing and sales functions (for instance, by adding peripheral services). The tendency has been referred to elsewhere in the literature [e.g., as packing—Lhuillery, 1993, bundling—Normann et al., 1989, industrialization—Miles, 1993, and mass customization—Pine, 1993]. I also observed this tendency in my investigation of Danish service firms.

Thus the conclusion of the theoretical discussion is that service firms may have innovation processes as well as organisational learning processes. Here I treat the first.

The Service Firms Studied Did Innovate

Finally, I shall treat the issue empirically by presenting results on innovation in service firms that I have studied.

Innovation was defined as a jump factor: A radical act which was reproduced. The innovation should be identifiable to actors in the service industry concerned.

The empirical study found that innovations could be identified, and all the service firms studied had innovated to a greater or lesser extent.

RESULTS CONCERNING THE ORGANISATION AND MANAGEMENT OF INNOVATION IN SERVICE FIRMS

Here I shall treat the second issue mentioned in the introduction by presenting results from the study I was engaged in [Sundbo, 1991, 1992a,b, 1994a,b, 1995] supplemented with results from the literature.

**Method and Data**

The study was a multiple case study and included ten financial services companies, including five banks, two insurance companies, two payment-transmission companies and one investment advisory firm; four management consultancy firms; six enterprises within the tourist industry and one company within manual services (catering). A total of 21 cases. The cases were all from Denmark and the data were collected from 1990 and 1991 with supplements from 1992 and 1993.

Two types of datum have been collected. One type was information concerning the most important innovation in the financial services industries in the 1980s. Postal questionnaires were sent to a sample of
centrally-placed persons in the industry. They were supplemented by interviews. Information on the 84 most important innovations were collected.

Another type of datum is the in-depth interview in the companies. The most comprehensive case studies were done in insurance and payment-transmission companies. A total of 86 interviews were made. Further, documentary material from the case firms was included. The data were supplemented with interviews and documents from an earlier project on strategies, innovation and technological development in banks [Sundbo, 1991] and with data from a general investigation of the Danish service sector in 1994 [Erhvervsfremmestyrelsen, 1993, 1994].

**Different Organisations**

The case firms in my study were of different kinds and sizes and had different ways of managing and organising innovation activities. Thus a taxonomy was established to structure the differences [cf. Sundbo, 1992a]. This was done exclusively on the basis of the empirical data. Earlier Barcet, Bonamy and Mayere [1987] had established a taxonomy on the same basis. The taxonomy used here is similar to that of Barcet *et al.*, but is partly different due to the type of innovation organisation represented in the two studies.

The criterion for the classification in the taxonomy system was the way in which the firms managed and organised their innovation activities (Table 1). The categories in the taxonomy will be presented here and the different ways of managing and organising the innovation process will be elaborated on below.

**Table 1**

<table>
<thead>
<tr>
<th>Types of organisation</th>
<th>Variants</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Top Strategical organisations</td>
<td>A.a. Top Intrapreneurs</td>
</tr>
<tr>
<td>Large organisations run by strategic management</td>
<td>The top-manager is a corporate entrepreneur</td>
</tr>
<tr>
<td>B. Network organisations</td>
<td></td>
</tr>
<tr>
<td>Particular firms with the purpose of encouraging innovations for, or in, other firms, participating in the network</td>
<td></td>
</tr>
<tr>
<td>C. Professional organisations</td>
<td>C.a. Collective professionals</td>
</tr>
<tr>
<td>Firms staffed with professionals</td>
<td>The firm is a partnership or all professionals have leadership competence, e.g., to innovate</td>
</tr>
<tr>
<td></td>
<td>C.b. Entrepreneurs</td>
</tr>
<tr>
<td></td>
<td>Classical entrepreneurship: one professional individual establishes a new firm</td>
</tr>
</tbody>
</table>
The difference between this taxonomy and that of Barcet et al. is that they did not find any network-organisations. They found a few service firms with R&D departments, which I did not.

The 21 case firms are described below in relation to size, industry and innovation organisation (see Table 2).

### TABLE 2
THE CASE FIRMS

<table>
<thead>
<tr>
<th>A. Top-strategical organisations</th>
<th>A.a Top-intrapreneurs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank, 6,000 employees</td>
<td>Insurance company, 2,600 employees</td>
</tr>
<tr>
<td>Bank, 4,500 employees</td>
<td>Tourist company (integrated in an airline company, 18,000 employees)</td>
</tr>
<tr>
<td>Bank, 4,500 employees</td>
<td></td>
</tr>
<tr>
<td>Bank, 3,000 employees</td>
<td></td>
</tr>
<tr>
<td>Bank, 200 employees</td>
<td></td>
</tr>
<tr>
<td>Insurance company, 2,900 employees</td>
<td></td>
</tr>
<tr>
<td>Payment transmission company, 850 employees</td>
<td></td>
</tr>
<tr>
<td>Payment transmission company, 2,500 employees</td>
<td></td>
</tr>
<tr>
<td>Tourist company, 50 employees</td>
<td></td>
</tr>
<tr>
<td>Tourist company (part of a railway company), 300 employees</td>
<td></td>
</tr>
<tr>
<td>Manual service firm (catering), 300 employees</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Network organizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tourist firm, 2 employees</td>
</tr>
<tr>
<td>Tourist firm, 3 employees</td>
</tr>
<tr>
<td>Tourist firm, 5 employees</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C. Professional organizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.a. Collective professionals</td>
</tr>
<tr>
<td>Consultancy firm, 400 employees</td>
</tr>
<tr>
<td>Consultancy firm, 200 employees</td>
</tr>
<tr>
<td>Consultancy firm, 30 employees</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C.b. Entrepreneurs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultancy firm, 6 employees</td>
</tr>
<tr>
<td>Financial advisory firm, 3 employees</td>
</tr>
</tbody>
</table>

### The A-type: Top Strategical Organisations

These firms are large or medium-sized service firms within mass producing services. Examples include: consumer services, manual services or different types of mass produced business service. They have a structured, hierarchical organisation although this can have many variations including organic forms [Burns and Stalker, 1961] and chaos forms [Stacey, 1993]. Normally these firms have a goal for their activities in the form of a more or less explicit strategy. The management decides on the strategy and ensures that the strategy is either followed or changed.

In my study this type was primarily represented by financial services firms, some tourist firms (holiday organisers) and the catering firm.
Innovation in service firms is a strategically determined process. The innovations were primarily determined by the strategic situation of the firm. That means that the market situation was the point of departure for the innovation process. In the literature on innovation it is also widely argued that the consideration of customers, competitors and market possibilities is usually the point of departure for innovation processes. It is also the most important success factor for innovation activities [Näslund, 1986; Scarbrough and Lannon, 1989; Brentani, 1989; Morgan and Sturdy, 1993; Laing, 1993; Jallat, 1993, 1994].

In the firms studied the market situation was interpreted through the strategy of the firm. Next the internal resources (including innovative resources) of the firms were analysed and defined as a part of the strategy process [cf. the resource based theory of the firm, Teece, 1992; Wernerfelt, 1984; Grant, 1991]. Thus the strategy set the framework within which the innovations should be developed. The top managers of the service firms had, in all cases that I investigated, the task of ensuring that innovations were kept inside the framework of the strategy.

Strategy can also work as an inspiration for innovation because it tells the employees what the customers want and what the firm’s particular resources are. The firms in my study used the strategy as a framework for procuring innovations, but not all of them were good at this.

The top managers were guiding the innovation process by making decisions about whether to implement a specific innovation idea or not. However, they were neither the innovators nor the driving force in the innovation process – except in rare situations where they acted as intrapreneurs. Generally, they were dependent on other members of the organisation – intrapreneurs (other managers, employees or groups) – to initiate and execute the innovation process. Earlier it was often intrapreneurs who struggled to realise their own ideas, but increasingly innovation has become a more collective process in the service firms. Intrapreneurship has been transmitted into a set of organisational roles [cf. Sundbo, 1992a].

Strategic management and intrapreneurship leads to a dual organisation structure. The typical way of organising innovation activities in the top-strategical service firms was to combine strategic management with broad intrapreneurship [or empowerment as Kanter, 1983 calls it]. The innovative organisation may be characterized as a dual organisation (an approach inspired by Giddens’s [1984, 1987] principle of structuration): there is a management system of the service firm and there is an informal social interaction system among the employees. These two systems interact. The informal interaction system produces ideas and intrapreneurship, and is
necessary for the management system. However, the management system makes decisions to ensure that all the innovations are inside the strategy framework. The management system should also induce innovations and inspire the employees. Intrapreneurship in the classic sense (where an individual is responsible for the whole innovation process) is possible and was reported in the interviews, but it was rare. Generally, employees can present ideas, but then the organisation takes over and develops them.

**Internal organisation of innovation.** Four of the top-strategical service firms in my study had an innovation department. However, they were not R&D departments that made research and developed ideas themselves. The departments induced ideas throughout the organisation and collected them. They were all staff departments, which also functioned as the controllers of strategy and of whether the innovative ideas were developed within the framework of the strategy. The top managers were involved in these decisions. Generally, the innovation process in service firms happened in a way that may be described in the following model which can be divided into four phases:

- **Idea generating:** ideas come from one or several individuals somewhere in the organisation. They get the ideas fortuitously, e.g., from a newspaper, another service firm or a customer. Thus individual intrapreneurship plays a role in the first part of the innovation process, but only then.

- **Transformation into an innovation project:** the intrapreneur must convince some powerful person or persons in the organisation of the value of the idea and if that succeeds, the idea is 'matured'. Then the top management decides whether to proceed with the idea.

- **Development:** if it is decided to proceed, a project group is established to develop the idea further into a prototype [cf. Näslund, 1986], including investigation of the market possibilities. It is a crucial criterion that the innovation can be sold on the market, or provide the firm with another type of market advantages. If it is a product or market innovation, the prototype is normally tested on a group of customers.

- **Implementation:** then the top management decides whether to implement the innovation either as a commercial product or an organisational change or whatever. The implementation of the innovation is carried out in a relevant department (e.g., a production department or the organisation and personnel department).

This does not mean that innovation is a smooth, rational, linear process. It has been demonstrated that this is as rare in the services industries [Voss
et al., 1992; Gadrey et al., 1993] as in manufacturing [van den Ven et al., 1989]. The organisation and management of the innovation process is in practice often complex and rather chaotic. The innovation processes in the financial services firms that were studied were organised in different ways and they often gained a life of their own which broke all planned organisational patterns [cf. Scarbrough and Lannon, 1989]. The first idea-generating phase cannot be planned so easily, it is a creative process. Ideas cannot be generated on command. The transformation and development phases are those that can be managed most rationally. An attempt might be made to implement the final phase following rationally laid out plans, but these are also often disturbed by different factors.

However, this does not mean that the innovation process cannot be subject to some planning and management. It can and it should be. This means that the management cannot plan the outcome of the process, but it can increase the odds of a successful one by organising and managing the process properly.

External networks and involvement of the customers. In manufacturing, firms have external networks and the relations to the customers proved to be of great importance to innovative activities [e.g., von Hippel, 1988; Lundvall, 1988]. Customer involvement should be even more important in service industries according to theory [Normann, 1991; Eiglier and Langeard, 1988]. Some research also suggests that customer involvement is important in service innovations [Jallat, Pras and Dussart, 1992, based on studies of life insurance, retail credit card companies, restaurants, and hotels, Brentani, 1989] while other research indicates that customers are not much involved [Brentani, 1993; Gadrey et al., 1993]. The results of my study show that the external networks – also those involving the customers – in the top strategical service firms were relatively weak [Sundbo, 1994b] and of limited importance to the innovation process of the firms. This was the case in financial services firms. It was also the case in tourist companies; meanwhile the catering firm attempted to involve the customers, but not other actors, in the innovation process. For example, the public research system played only a very small role in the studied firms. The service firms got the ideas fortuitously, as mentioned. However, informal contacts with colleagues in other firms have been found to be the most important network for the diffusion of new ideas [Berg and Näslund, 1988].

The relatively weak engagement of the firms in external innovative activities was caused partly by the problem of imitation which is this: it is easy for competitors to imitate service products in a very short space of time – much easier than when it concerns physical goods. Thus the service firm risks not getting any advantage from its innovation investments. In
interviews some respondents mentioned the imitation problem as a reason for giving the service products a technological form: it is more difficult and takes a longer time to imitate a technology than to imitate a non-technological service product.

Customers, who should be a core source for new ideas, also played this role in the service firms in my study, but to a lesser degree than one would expect. Often customers provided the inspiration for new ideas, but it was employees or managers in the firm that develop them. Customers were not systematically involved until the testing of the prototype.

The *A.a variant of the top strategical organisations: top intrapreneurs*. One of the insurance companies and one of the tourist companies had a top manager who was an intrapreneur and had many new ideas which he tried to implement. However, the innovation process in these two firms were not organised differently from those in the other top strategical organisations. None of these two companies had an innovation department. This could be explained by the fact that the top intrapreneur wanted to be the centre for the communication of new ideas, which is the function that the innovation departments fulfils.

The top managers did not force their own ideas through without any thought for the rest of the organisation. The ideas had to be tested and developed through the same phase procedure as described above, which tests the realism of the idea at each step. Thus even these top intrapreneurs realised that they needed to involve a larger part of the organisation in the decision and development process and to sort out the bad ideas that the intrapreneurs also get.

The top intrapreneur also needs to sort out his own ideas so that they are kept within the frames of the strategy. He has formulated the strategy himself and it would be unfitting if he did not respect the limits of the strategy. However, in this case, it was easier for the top intrapreneur to have other people in the organisation listening to him when he introduced a new idea, because of his charisma: the intrapreneur inspired other intrapreneurs to get ideas and try to implement them.

The *B-type: the Network Organisations*

In the tourist industry there were three organisations that were created as network organisations so that they could innovate. They were organised as a kind of association where small tourist enterprises within a geographical area (a county or an island) were members. The background for establishing the organisations was that the small tourist enterprises did not innovate very much. The network organisations had the tasks of marketing the members’ products and developing new ones.
The innovations could either be commercialised by a network member or by a new enterprise that was established for that purpose. The networks were looking for a professional entrepreneur and wanted to hire a manager from outside who would play this role.

The idea to form these network organisations is admirable. It is based on the most modern results and principles from innovation theory: Networks, involvement of customers, supporting local entrepreneurship, spreading knowledge, a marketing and strategic orientation, and a focus on innovation projects of different kinds. But it did not work. Two of the network organisations failed after a couple of years. This was because of two problems: first the intrapreneur problem. The managers they found were not innovative enough. They emphasised marketing more than innovation because that was safer and they were competent in that. Experience suggests that you cannot go to the market and buy a professional entrepreneur in the same way that you can hire labour. Second the entrepreneur problem. The members of the network were too conservative. They were mostly not interested in innovation, growth or development, but in having a stable family business of an appropriate size. Further, they were sceptical as regards the managers because they came from outside the area. The third network firm was stronger in entrepreneurship, but had a weak membership network and it had difficulties in implementing its projects. Thus that did not work either.

The C-type: Professional Organisations

This type was found in management consultancy firms and a financial advisory firm.

The C.a.variant: collective professionals. This type, which in my sample was represented by management consultancy firms, is characterised by the most important production personnel who are highly educated professionals. The type is characteristic of many business services such as consultancy, accountancy and architects firms. These may have a top manager, but the professionals are very independent when compared with most employees. Often there is collective leadership and collective ownership.

In the professional firms represented in the sample innovation was a collective task for all the professionals who were all expected to present new ideas and to develop them into commercial projects. This ability was supposed to be a part of their education. The role of being a professional implied being an intrapreneur. However, it was a disciplined intrapreneurship. Generally, the profession set up a framework – some trajectories for the thoughts, which limited the fantasy and the wildness of the intrapreneurship.
It was collective or team intrapreneurship. Several professionals were involved in each innovation, either as part of the team or as discussants.

Thus there is more free intrapreneurship in professional firms than in the large top strategical organisations due to the entrepreneurial culture of the professionals. This culture also makes it difficult for a manager to guide the innovation process [cf. Katz, 1988; Cahill, 1993].

This is the traditional picture of a professional firm. However, some changes have taken place. The respondents reported a general tendency towards modularisation of the professional services [cf. Sundbo, 1994a]. If not the products, then at least the methods, project organisation and other elements of the production process were standardised. This development was caused by the increased price competition on the market. The standard elements were combined individually to suit the individual customer and were combined with an individual delivery system modifying the elements. It was also a characteristic that these consultancy firms became more strategic. They went from a 'craftsman' stage where they gave advice on everything to a market and product segmentation stage. The demand for quality became so high that it became necessary to focus on some consultancy areas and develop more professional and qualified services within them. This also implied that the management organised and guided the innovation process to a greater extent. Thus the innovation management and organisation system became more similar to that in the large top strategical organisations.

The evidence for this tendency in Danish firms has been supported in a larger investigation from the Ministry for Industry in 1994 [Erhvervsfremmestyrelsen, 1994]. However, other investigations in the UK have come to different conclusions. Namely that the professionals emphasise the expertise which they develop in close relation with their customers [Wood, 1992, 1993]. This suggests a development along the 'craftsman' trajectory. In this interpretative framework, there will be more learning than innovation as these concepts have been defined here.

The C.b. variant: entrepreneurs. Two of the firms included in the sample had classic entrepreneurs who had established their own firm. Only entrepreneurial professionals were represented in my study, but the establishment of firms in manual services such as retailing, hairdressing and repairing is also normal. Firm creation within these industries is not connected to innovation to the same degree as it is in professional services. However, the reason for including some professional entrepreneurs among the cases was not to investigate the degree of entrepreneurship in different industries, but to make a comparison with the other organisational types in the study concerning how innovations are developed.

The entrepreneurs had both established their firms on the basis of an
innovative idea. They did it as described in the manufacturing entrepreneurship literature [e.g., Kent, Sexton and Vesper, 1982]: They had an idea and implemented it as a business project. As professionals they were flexible, creative and emphasised the problem of the single customer. However, these characteristics from the service management model were not the basis of their success. That was the innovations which were specific product innovations that they could sell to many customers (e.g., a new PC-based investment management system). Thus they were not very different from the classic manufacturing entrepreneur type.

One of the entrepreneurs’ enterprise had grown and more professionals were employed, which started a transformation process of developing the enterprise into a more collective professional type. A professional entrepreneur cannot exclude the professionals employed from participating in the innovation process and becoming intrapreneurs. Furthermore, the tendency to modularisation and the managing of innovation processes more could be observed in that enterprise.

Technology and R&D. Technological innovations and scientifically based R&D, which are central in manufacturing and in the technology-economic paradigm of innovation theory, were of less importance in service firms. This statement is valid for all the types of firm in all the service industries. There is no doubt that technology is important to innovation in service firms [cf. Miles, 1993]. Information technology was introduced into service firms in the late 1950s and the 1960s. That means that some technological innovations have been developed, either by service firms or by technology suppliers, and introduced into service firms. This has particularly been the case in financial services and, of course, in the software industry. Much of the literature on innovation in banks deals with technological innovations [Barras, 1986, 1990; Scarbrough and Lannon, 1989; Dover, 1987; Glaser, 1988; Keith and Grody, 1988]. However, technological innovation is not as important in banks as in manufacturing since more of the innovations in banks are non-technological.

Results from the study show that it was only process innovations that were mostly technological (e.g., a new payment-transmission system or a new hotel or travel booking system). Some innovations were non-technological (e.g., a new kind of deposit), but were dependent on technology because the innovation must be put on a technological form (otherwise the new form of deposit could not be administered economically). Only the payment-transmission companies had a preponderance of technological product innovations. They may be thought of as software and hardware producers (e.g., credit cards) as much as financial services firms, so this is an extreme situation within services.
Innovations have increasingly been product innovations instead of process innovations as they were in the early 1980s, and thus they are becoming decreasingly technological. This may change in the future if the self-service system is developed further. Self-service has been predicted to be a large growth area, for example in banks, but also in other service areas (e.g., electronic information services) [Sundbo, 1991]. However, there has been a decline in the growth rate of self-service products in Danish banks in the 1990s.

The change from process to product innovations has implied that the electronic data departments of the Danish service firms and the technology suppliers studied had become more inferior in the innovation process in the late 1980s than it was in the 1970s and early 1980s.

As mentioned, service firms rarely have R&D departments unlike manufacturing companies. Neither in the form of EDP-technology departments nor as scientific development departments within non-technological fields (which could be, for example, service firm, science or general economy). This was one of the findings of my study (where none of the case firms had an R&D department). It has also been reported in other studies [Berg and Näslund, 1988; Martin and Horne, 1993]. Some French studies of service industries discuss R&D activities [Barcet et al., 1987; Gadrey et al., 1993]. However, as already mentioned, the term R&D cannot, in these studies, be distinguished from innovation. It has not been demonstrated that service firms generally have proper R&D departments except in a few cases in large service firms. Service firms innovate on the basis of quick ideas, not from scientific results, and they develop the innovations in ad hoc organisations, not in permanent R&D departments. The only reported exception to this is electronic information services [Weinstein et al., 1993].

Thus theoretical models of R&D organisation are of little relevance to service firms. Service innovations might be more scientifically based in the future, which will demand new theoretical models of the innovation process. However, there was no sign of that in the cases I studied.

The Innovation Process as a Learning Process

The innovation process in service firms is a search-and-learning process in all the types of firm studied. There is some systematic organisation of the process, particularly in the top strategical type, but much of it is a trial and error or search process. There are no models or methods that can be learned from books, courses or consultants since management of innovation in services is an undeveloped field. My study shows that many firms tried to learn from their own experiences, but not always in an systematically or very efficiently. This is also the conclusion of the French investigation of
the organisation and management of innovation in service [Gadrey et al., 1993, 1994].

However, the process still concerns innovation, not the diffuse organisational learning as defined earlier.

CONCLUSION: HOW WELL DO SERVICE FIRMS MANAGE THEIR INNOVATION PROCESS?

The Innovation Concept Is Applicable to Services
Innovation takes place in service firms although it may empirically be difficult to distinguish it from organisational learning. However, innovation and organisational learning must theoretically be treated as two different phenomena.

The Strategic Innovation Theory Is Most Adequate
Innovation theories developed from studies of the manufacturing sector are also applicable to services. Based on my studies of the Danish service firms and from results in literature I conclude that the strategic innovation theory is generally the most adequate one to explain the innovation process in service firms [Sundbo, 1995].

However, a small number of the innovations must be explained from entrepreneur theory since they were invented and realised by single persons – entrepreneurs and intrapreneurs. A small number of the innovations must also be explained from the technology-economic innovation theory since they were developed within a technological trajectory. This number may grow in the future.

The Management of Innovation Activities
Concerning the management and organisation of the innovation process in the service firms the following can be concluded:

There are different types of innovation organisation. The type which has been mostly emphasised in my project has been the large or medium-sized firms called top strategic organisations. They are characterised by:

• innovation being a strategic task; the strategy sets the framework inside which the innovations should be developed. It also functions as an inspiration for innovations, but not as much as it could. The top management guides the innovations process;

• many individuals and departments of the organisation are involved in the innovation processes, which thus is a broad organisational process;

• the structure of the innovation organisation may be characterised as dual
([cf. Giddens's [1984,1987] principle of structuration). An informal interaction system among the employees produces intrapreneurship, but this process is guided by the management system;

- the innovation process follows a model with the following phases: 1. Idea generating, 2. Transformation into an innovation project, 3. Development, 4. Implementation. Intrapreneurs are mostly active in the idea-generating phase. Later on the innovation process is more organised, normally by establishing project groups. The implementation often takes place in one department. However, the innovation process is rarely smooth and linear but complex and unpredictable;

- there is a tendency to modularisation, which means development of standard elements that can be combined by the single customer [cf. Sundbo 1994a]. This is a presupposition for the innovation process since the innovation should be reproducible. In other cases we have an organisational learning process;

- in some firms the top manager plays the role of a top intrapreneur. These firms do not have a different management and organisation of the innovation process except that the top intrapreneur produces most of the ideas.

*Network firms* were represented by an example of an association of tourist firms. They had the function of making innovations on the behalf of the member firms. They did not function very well because of the resistance towards innovation in the firms and because it is difficult to hire a professional entrepreneur on the labour market.

*Professional firms* have a collective innovation process. The professionals are expected to practice collective intrapreneurship and develop innovations within disciplined professional trajectories. I found that in some respects the professional firms are developing in the direction of the top strategical type in their innovation activities. However, the opposite results are also referred to in the literature.

*Classic entrepreneurship* in the form of firm creation can be found in services. This process does not differ from the corresponding one in manufacturing.

Some innovations in services are technological in the way that they are developed within a technological trajectory [cf. Dosi, 1982], but most are not. They are either non-technological or are developed within a service professional trajectory and the technology is only a means for, or a carrier of, the service innovation.
The service firms rarely have R&D departments. Sometimes the top strategic type has an innovation department. This is not based on scientific development as an R&D department but on its function of generating and collecting ideas and sorting them according to the strategy.

The innovation process is generally an unsystematic search-and-learning process. However, innovation is still different from organisational learning.

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