

Innovation in small and medium-sized firms in the security service industry

A case study of how security service companies can avoid the service squeeze by means of innovation and service development

Langergaard, Luise Li; Møller, Jørn Kjølseth; Hansen, Anne Vorre

Published in:

Danish Journal of Management and Business

Publication date:

2014

Document Version

Publisher's PDF, also known as Version of record

Citation for published version (APA):

Langergaard, L. L., Møller, J. K., & Hansen, A. V. (2014). Innovation in small and medium-sized firms in the security service industry: A case study of how security service companies can avoid the service squeeze by means of innovation and service development. *Danish Journal of Management and Business*, 78(1).

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain.
- You may freely distribute the URL identifying the publication in the public portal.

Take down policy

If you believe that this document breaches copyright please contact rucforsk@ruc.dk providing details, and we will remove access to the work immediately and investigate your claim.

Innovation in small and medium-sized companies in the security service industry

A case study of how security service companies can avoid the service squeeze by means of innovation and service development

Luise Li Langergaard, Jørn Kjølsest Møller and Anne Vorre Hansen¹

Abstract

This article is a study of innovation in the security sector based on an analysis of three Danish security companies. It uncovers the logics and dynamics of innovation in the security business, which is part of the operational service sector. Operational service companies are forced to choose between two major development paths: either to standardise in order to lower costs and become more competitive or to differentiate and even customise to avoid competition from other service companies. Due to strong competition on prices there is only small surplus to invest in innovation and developmental activities. In order to overcome this general 'service squeeze' and break with a mature market, security companies use different strategies for innovation. These strategies depend on the ability of the individual security companies to activate the innovative resources among employees in order to move the business activities further up in the market hierarchy of security services by offering more complex and knowledge-intensive solutions to the customers, thereby reducing price competition and increasing the profits of the business activity in the same way as known from other industries such as manufacturing.

Introduction

The operational services of the security business are part of the labour intensive and low-tech part of the service industry. Operational services are distinguished from other parts of the service sector such as business consultancy, trade, transport, and information technology, which are all knowledge-intensive services (DI Service, 2009). It includes five branches of services, namely cleaning services, temp services, laundry services, catering and security services (DI Service, 2011a). As innovation research primarily has studied innovation in manufacturing and knowledge-intensive services (Toivonen et al, 2008; den Hertog, 2008), we know very little about the strategies and logics of how innovation takes place in operational services.

In this article we will answer the following questions: *What are the logics and dynamics of innovation in Danish security companies? How can these patterns in general be applied to innovation in operational services?*

Operational services are important for the overall economy with an annual revenue of 4.88 billion euro in 2010 and an annual increase of 8% since 2003 compared to an average increase of 3% in all business sectors. In 2010, operational services employed around 130,000 people (DI Service, 2011a). With regard to the specific services of security and cleaning these are also important as assistant services to other companies as well as to the welfare functions of society. Thus operational services are crucial to deal with in relation to important societal challenges such as risk and security issues, but as to how these services will be able to meet these challenges and fulfil their tasks in the future we do not have any clear idea. Operational services are furthermore interesting to study because they challenge some of the broader assumptions of service innovation theory.

The article is based on a case study of three companies in the security business. Through these cases we study how innovation takes place, and elucidate the drivers and barriers to innovation in this context. The question is how operational services innovate and deal with the specific challenges that they face in the market. We shall attempt to structure our case study in accordance with a few general and – you may add – generic strategies for the competitiveness and the development of security business in the security service industry and thereby elucidate the inner logic of the chosen security companies.

Firstly, we give a brief introduction to innovation research and the limited attention given to operational services. Secondly, we give a short description of the security market. Thirdly, we present our methodology and the case companies chosen for the analyses. Thereafter, the analysis shows that the companies choose different strategies and logics for dealing with the conditions that they all face. Lastly, we discuss the implication of our results for innovation theory and the future security service market and industry.

Innovation research and operational services

What are the main explanatory variables that determine the innovative capacity and behavior of companies? How can we understand the innovation processes in service companies and how do they differ from innovation in manufacturing?

These questions have received considerable attention in innovation research. In fact, the question of innovation drivers and barriers is the predominant research interest of innovation research today; as innovation is considered to be pivotal for the competitiveness and efficiency of companies (see Fagerberg, 2007; Tidd, Bessant and Pavitt, 2001). The link between the economic performance of businesses and their innovative capability makes innovation a central concern for management (Tidd, Bessant and Pavitt, 2001).

Ever since Schumpeter's *Theory on Economic Development* from 1932 we find a vast amount of studies in innovation processes and drivers. In the early work of Schumpeter the individual entrepreneur was considered the driving force of innovation. Later, he moved the locus of innovation to large companies and the teams in their R&D departments (Schumpeter, 2008a; Schumpeter, 2008b). This distinction has led innovation scholars today to distinguish between Schumpeter mark I and Schumpeter mark II industries. Mark I industries are characterised by low technological entry barriers and a high competition level. In these industries new entrepreneurial companies are the major innovators. Mark II industries on the other hand are characterised by economies of scale raising the entry barriers, favouring large established companies using their accumulated knowledge, resources and competences to move to the forefront of the innovation process (Becheikh et al, 2006:657). Both approaches consider innovation to be supply-driven in the sense that the supplier, whether individual entrepreneurs or large companies, initiates the innovations. The assumption is that the demand side will adjust to the supply side (Lundvall, 2006:8).

The definition of innovation used in this article is the OECD and EU definitions of innovation building on Schumpeter:

»Innovation is the implementation of a new or considerably improved product (product or service), process, marketing method or a considerable organisational change. Innovations are the result of deliberate plans and activities aimed at improving the company's product, processes, sales and marketing or organisation. Innovation can be based on new knowledge and technology but can also be a combination of, or new applications of, existing knowledge and technologies« (Rådet for Teknologi og Innovation, 2008:8, authors' translation).

The field of innovation research has broadened considerably since the time of Schumpeter and innovation is now also studied in relation to services, both public and private (Gallouj and Savona, 2010:27-29; Miles, 2005:435). Service innovation researchers discuss how service innovation is different from innovation in manufacturing. This question is relevant for relating our conclusions on innovation processes in operational services to the broader theoretical field of innovation. Some service innovation approaches borrow from manufacturing, and are labelled 'assimilation' approaches (Gallouj and Savona, 2010:27) or 'technologist' approaches, indicating that they see innovation in services as driven mainly by external, non-endogenous adoption of technologies from outside the service sector (Howells, 2010:69, see also Gallouj and Djellal, 2010).

Some contributions focus on the specificity of service products and sectors, and have included also non-technological aspects of service innovation (Gallouj and Savona, 2010:27). These approaches are often labelled either 'demarcation' (Gallouj and Savona, 2010) or 'service-oriented' approaches (Gallouj and Weinstein, 1997:538). Service-oriented approaches tend to focus closely on the role of the customer and see each service as individually created in the encounter with the

customer, and in this sense as non-standardised (de Jong et al, 2003; Gallouj and Weinstein, 1997:541; Gaco and Rubalcaba, 2007; Sundbo, 1999:38; Sundbo, 1998:8-10) Customers are considered an important source of innovation in both service and product innovation (Madsen, 1998: Hipp, 2010:324), which is expressed with terms like user-driven innovation (e.g. Lundvall, 1985; von Hippel, 2005; Henkel and von Hippel, 2005). The central competences in dealing with ideas emerging in the customer encounter are service mindedness and flexibility (Sundbo and Illeris, 2000). We shall study the role of these competences in specific security service companies.

Some, however, also report on strategies in services that are to increase productivity and performance through rationalisation. These strategies are said to be at work everywhere, whether in knowledge-intensive services and in operational services. Sometimes these strategies are 'industrial' in nature and at other times they take on a professional form, such as development of toolboxes and methods, standardisation of services and service offerings (Gallouj and Djellal, 2010:3). Standardization means that the working procedures are regular and that there are only minor individual variations in the services (Sundbo, 1999:7). Industrial strategies of standardization is then one way that operational services deal with the pressure from price competition and production costs in terms of labour costs.

Operational services

Studies of innovation in operational services are very rare. Service innovation theory has focused on knowledge intensive parts of the service sector, such as banking, insurance, electronic information services and business consultancy services (Sundbo, 1997; Toivonen et al, 2008; den Hertog, 2008). Service innovation research has mainly taken an interest in services that are considered to have high rates of innovation (Sundbo, 2000), and operational services are generally considered to be among the traditional service businesses which have a low rate of innovation (De Jong and Vermeulen, 2003; Djellal, 2002). In the few studies of operational services, we find studies of cleaning services (Djellal, 2002; Sundbo, 1995; Sundbo and Illeris, 2000; Pade, 1991). Beside these, we find studies in elderly care, often in relation to a renewed interest in public sector innovation (e.g. Fuglsang, 2006, 2008; Godø et al, 2005). Lastly, a study has been conducted in small Danish craftsman companies (Danish Technological Institute, 2012).

In Djellal's study (2002), a central point is that the cleaning industry is currently undergoing major changes in scope, complexity, and increasing use of information technology. He argues that we therefore should change our view on cleaning as a non-innovative industry and as a low-technological industry (Djellal, 2002). However, the question is whether we can only consider operational services as innovative when they show similarities to knowledge-intensive or technically advanced services? Both Pade (1991) and Sundbo (1995) demonstrate a great innovative power of the cleaning company International Service Systems A/S (ISS).

Other studies in operational services such as transport, cleaning, elderly care, hospitals and social services have tended to demonstrate the importance of the non-technological aspects of service innovation (Gallouj and Djellal, 2010:39). Lately, it has been shown that innovation in operational services often takes place in close relation to the customers and is initiated at all levels of the value chain, and thus rarely in research and development departments (DI Service, 2011a).

However, we still lack knowledge of the innovation processes and drivers in operational services such as the SMEs of the security service industry. As some innovation does take place in operational services, and a deeper understanding of the drivers of innovation in these services may form a basis for increased competitiveness of these industries, there are good reasons to study this issue further. Our study shows that both the technological and the non-technological aspects of innovation are important in security services. In some sense, we may even be better able to understand innovation processes in operational services by looking towards the relatively more extensive general innovation literature (cf. Miles and Boden, 2000:1; Sundbo, 1997:432-3).

The Danish security market

The service companies in operational services often operate on Business-to-Business or Business-to-Government markets (DI Service, 2011a). Services provided by operational service companies are often 'support services', meaning that they assist the business of the customers but have limited strategic importance to the core business of the customers (Langergaard, 2011).

As only few material investments are needed, it is quite easy to start a security business. This also contributes to a market situation with many suppliers on the market and high competition on price. Security companies find themselves in what Sundbo and Illeris termed the 'service squeeze' in their analysis of the cleaning company ISS (2000). Companies are squeezed between two development tendencies; one is to standardise in order to lower the costs, the other is to differentiate, or customise, the services with the risk of increasing costs. As these services operate in mature markets with many suppliers and strong competition on price, they do not generate much profit to invest in developmental activities. This has meant that innovation activities in these services have been limited (Sundbo, 1999; Sundbo and Illeris, 2000). That is also the situation for security service companies. Many of the new companies go bankrupt and the companies that survive on the security service market are often not very concerned with growth. They wish to get well-established and to get a group of regular customers rather than to grow and increase their number of employees.

The security business is composed of a large number of small and medium-sized enterprises and a few large actors on the market. Few of the service companies have R&D departments or any systematically organised innovation activities (DI Services, 2011a; SOS-project). This corresponds well with research insights that say that innovation in services as well as in small and medium-sized enterprises

(SMEs) is often ad hoc rather than systematic (Toivonen, 2010; de Jong and Vermeulen, 2003; Gallouj and Weinstein, 1997). Innovation in small and medium-sized enterprises is often integrated into the daily activities of the companies and in the encounters with customers, rather than in systematic development projects (Forsman, 2011; de Jong and Marsili, 2006; Gottfridsson, 2001). This means that service development depends highly on the daily practices and on the competences of the employees carrying out these practices.

The question of competences is interesting because often employees in these services do not have extensive educational backgrounds. 49% of the employees in security services are unskilled workers, 26% skilled workers, and 2% are high school graduates (DI Service 2011b). The formal requirement to become a security guard is a three-week AMU-course (labour market skills upgrading course), and these jobs are often considered to be low-prestige jobs. However, we shall demonstrate that the employees may have other competences that are pivotal to the companies and to service innovation.

Methodology

The case studies included in this article are part of a broader research project called the SOS-project (Service-Optimisation in the Security Business) carried out by the Danish Institute of Fire and Security Technology in collaboration with The Alexandra Institute. We have used the case study method to understand how small and medium-sized security service companies cope with the service squeeze in the security service industry. The cases were chosen on the basis of several criteria: Firstly, we wanted to examine small and medium-sized companies representing some characteristic features of the security service business, i.e. cases which have a strategic importance for answering our research question. Secondly, the selected security service companies must work explicitly to change its approach to service innovation and the development of the skills of the employees (focus on their 'resource base'). Thirdly, it should also be in a situation where it was forced to address customer needs ('market orientation'). Fourthly, it should mainly depend on building its own resources rather than needing to acquire resources from external partners. Lastly, each of the selected companies represents different uses of information technology in their core service business. In these regards, we see the selected companies as *critical* cases (Flyvbjerg 2009:18) that can reveal important and strategic information about the security service industry and dominating business strategies and logics in the industry as such. Three companies were selected: DVAS (Danish Security and Alarm Service), HH Vagt and Furesø Servicevagt.

The applied methodology is of a *qualitative* (Wedel, 1991) nature. A qualitative approach seems appropriate because training in the security service industry is based upon apprenticeship and the work of guards often relies on tacit knowledge. What is more, the owner and managers do not often share knowledge since they have a strong focus on competition. Therefore, in-depth interviews based on trust and on-going relations have proved useful in obtaining more than just statis-

tical knowledge about the industry. The interviews were conducted on the basis of semi-structured interview guides (Kvale, 2007).

Although our study has first and foremost been case-based, the aim of the study is also to generalise the findings to the overall business in the industry of operational services. The process has thus to a large extent been iterative to continuously validate the findings in relation to both the security service industry and other operational service companies.

As part of the general userstudies of the security service companies in the SOS-project, case studies have been carried out with frequent intervals during 2011 and 2012 and the different activities of the case study can be summarised in the following:

Facts about the case study

- Approximately twenty in-depth interviews with employees and managers in the operational service sector – all based on semi-structured interview guides.
- Observation studies at our case companies – reported in a reporting template.
- A validation of innovation capabilities and challenges among more than 70 SMEs in the operational service industry based on reports addressing these questions.
- More than ten presentations for – and discussions with – relevant actors in the security industry.
- Ten workshops with participants from the project and from our case companies.
- Nine in-depth interviews with experts on service innovation among SMEs in Denmark presented in the publication »From knowledge to value«.

We are fully aware of the limitations of this study of the security service industry in Denmark, both with regard to the number of cases and to the limited period in which the development of the industry has been studied. It is also a limitation that it only represents a study of the Danish experiences.

Selected companies and their business

The cases DVAS and HH Vagt represent private and medium-sized players in the security business, and among their service offerings we mainly focus on alarm and patrol services.

DVAS has existed since 1993 and has a good reputation in the security industry. The company is concerned with continuous training of its employees and has collaborated with several large companies in both the private and the public sector. It has for several years worked with quality management, and it was the first security guard company in Denmark to get an ISO 9001 certificate. »*What we sell is credibility*«, says the manager of DVAS.

HH Vagt has existed since 1995 and its 'activity system' (figure 2, page 19) contains three divisions with different locations. The company has its own 24-hour-manned station of operation where all alarm responses are turned over to the guard. HH Vagt is very concerned with how technology may support and develop its business. In 2011, the company started collaboration with a Swedish company, Blue-Mobile System, which has developed the system GuardTools®, designed as a customised IT-based solution to support and document the operational core activities of HH Vagt. *»We are the only company that has statistics of calls and incidents«*, says the owner of HH Vagt.

Furesø Servicevagt is a public company with a different business model from the other two companies. In its current structure, the operation of Furesø Vagt in the municipality of Furesø goes back two years. The daily leader of the company is the principal organiser behind the whole business concept, and the development of the service guard operation is supported to some extent by responsive managers in the municipality of Furesø.

The innovation strategies of the companies

The three security service companies represent each different strategies (»quality«, »technological development«, »price«) in the development of business systems and service in the security industry, which at the same time are typical for the industry as a whole. We will argue that DVAS mainly is focusing on quality, HH Guard on technological development, and Furesø Vagtservice on *»the best service at the lowest cost«*, i.e. price, expressed by the leader of the company. Even though all three cases have elements of all the mentioned competitive strategies, the emphasis is different in each of the three cases. The companies do 'think' in development and innovation, but for companies in the security service industry in general there also tends to be a lack of systematically accumulated knowledge, a strong focus on price competition, and very little focus on growth and development. We have also seen that the dominant way to initiate and drive innovation in these companies is primarily by entrepreneurial initiatives of strong managers and owners.

Regarding what kind of value they provide to their customers (their Value Proposition), the companies have expressed rather different emphasis in their development efforts and the competitive dimensions of their business model. Progress is driven by the companies themselves and seldom by needs articulated by their customers. Customers are first of all focused on low prices.

In general, the companies are divided by their different approach to service development, technology and customers, more than by the size of the business. Companies who have less focus on development are often more focused on day-to-day operations, but in general decision-making processes are often characterised by the fact that there is a short road from 'thought to action', as the owners and managers alone make both the overall strategic decisions and execute them in the day-to-day business practice.

Competences

Among the managers in the security service industry, there are no or few specific expectations regarding the skills of their employees. Companies are often hierarchical in their organisational structure and developmental thinking, so new employees are just hired in and it leads to only minor process optimisation in the day-to-day practice of the companies. If they have got any horizontal organisational culture, the opinion is that anyone can operate in most of the different working roles in the company. When recruiting new employees, the focus is on stability and maturity among the applicants rather than on innovative skills that can be used in developing the service offerings of the security business. In some instances, the customers are highly present in the day-to-day work of the security guards and the guards therefore often become a kind of representative of the customer's needs with respect to others outside the customer's property. In this respect, the security services are in a way like the unique service processes presented by the service oriented view (e.g. Gustafsson & Johnson, 2003:6) in the sense that when the customer's specific property is inspected, the guard offers service individually to meet the specific needs of the particular customer. On the other hand, the customer is rarely physically present when the actual service is provided, and the variety of the guard services is in fact often very limited. Consequently, ideas emerging from the daily work of the security guards very often regard minor optimisation of the guards' own work processes, thus representing only incremental process innovation rather than more radical service innovations or developments. In this sense, security guard services show similarities to innovation in manufacturing, in particular when the mature market conditions force them to optimise processes in order to be competitive on prices. The major challenge lies in turning this process optimisation into a general customer care, so that the customers will have an incentive to pay a higher price for the better services. Common to all the medium-sized security service businesses in the present case study is that they are characterised by flexibility and adaptability in relation to their customers, while the big players in the security market often have a much more standardised approach to their service offerings. It gives the companies in the case study other conditions for thinking service innovation and development and, in general, they are all more focused on technology, quality and price as competitive advantages with respect to their competitors.

In general, it seems that the security service companies in the case study see a greater potential in differentiating their service offerings on different dimensions with respect to the demands on the market and thus overcoming »the service squeeze« than many other companies in operational service industries. But this still poses the challenge of making the customers willing to pay for quality in a market more focused on low prices and a lack of knowledge about the high quality of the security services being offered.

Technology

Even though the market conditions as well as the guard services, i.e. the daily inspection, are more or less similar across the companies the cases differ in ac-

cordance with the company's use of technology in e.g. reporting. At HH Vagt, the use of PDAs has made reporting via PCs or written reports redundant as all data are put into PDAs at the customer's location in the event of unusual events, while other companies still use written reports. The company has thereby managed to create useful documentation of the services offered and thus the technology helps the security guard while he is doing his daily security service, and it also makes the guard service more transparent to the customer. HH Vagt has at the same time developed a business model where customers pay for the Blue Mobile system themselves because the customer has experienced it gives them added value. In this way, HH Vagt has been innovative in their service offerings by exploiting new technological opportunities and bringing the customers closer to the company by ensuring transparency in their guard services.

Quality

Many of the companies experience that it is difficult to make the quality of the services visible to the customers. DVAS and HH Vagt therefore describe their main challenges as making it clear to the customers that the security services they offer are better than those of their competitors. So they need to be better at documenting 'good guard service' and at making the customers more aware of the advantage of high quality guard services and to demand something else than just the cheapest possible services. Quality is a dimension that all three companies in the case study emphasise. In particular, DVAS has explicitly defined quality as being: that DVAS delivers what the customers expect and that there is a very short running-in period. The company has also trained its staff to execute the service to let the customers experience a high level of motivation and ability to deliver the guard service to the customer's satisfaction getting them the service they are paying for:

»Some customers emphasise that it feels good to have a guard – they want regular guards and they want happy employees from the guard company«, says the manager of DVAS.

The task is therefore organised around the same steady routines which makes it possible to deliver the same services again and again. For example, DVAS shows the schedule to the customers to let them know which security guards are coming and when. *»Our people are our product – and if they get better, the product gets better«,* stresses the manager of DVAS. Although DVAS has a keen eye on the skills of the employee, its focus on competences is only in relation to the day-to-day operation and not the overall development of new services.

To Furesø Vagtservice, it is pivotal to make the guard service visible, as a part of the organisation and services of the municipality of Farum. To meet this demand, the service guards of the company walk around in the centre of Farum town in the day time from 5 to 9 pm, when the citizens are on their way home from work. Furesø Vagtservice also finds it important that the guards in the day time wear yellow clothing with luminescent stripes so that the citizens will come to think

of: »*The guy in yellow, he takes care of us*«. This may be seen as a solution to the challenge of documenting good guard service.

Price

The general idea and the criteria for success in Furesø Vagt are to deliver the services to the citizens as efficiently and cheaply as possible. This in fact represents a kind of standardisation as the company attempts to produce the services as cheaply as possible and takes an inside-out perspective (figure 2, page 19) by taking their own service offerings as the starting point. However, the standardisation in such a medium-sized company differs from the larger companies in the security service market who produce services on a much larger scale. But to some extent, Furesø Vagt also relies on differentiation/specialisation, as it offers a range of related services. Thus, the company has expanded its guard services by bundling its services together with janitor work, fire fighter tasks and is working closely with the local job centre to take people in for job activation as part of their security services. Thus, it is to some extent the client, i.e. the municipality as a customer, that through their demand for security services define what the services can contain, i.e. a kind of customisation. Its service development is thus to a great extent initiated through co-creation with the users, as services are incrementally adjusted to the needs of the municipality. The competitive dimensions of the company are thus to a large extent a kind of delivering 'soft values' to the customer.

Similarities between operational services and manufacturing

We have argued that experiences and practices for managing innovation and product development in manufacturing are also applicable to the development of services in the security service industry. Nevertheless, it is critical to match the specific configuration of management and organisation of security services to the technology and market environment of the security service industry (Tidd and Bessant, 2009).

Security services are in the same way as consumer goods in manufacturing often standardised to become cheaper, and information technology plays an increasing role in the delivery of the services too. Most of the service innovations are also incremental in their nature because they come about through the daily interaction between employees and the customers. Only rarely do security service companies develop services that represent a radical innovation creating new or reshaping known markets, although information technology changes working methods and the way the daily working tasks of the security guards are organised.

The critical dimensions segmenting security services include the degree of labour-intensity of the operations, the level of competences and skills of the employees, and the kind of interaction with customers (Berry et al, 1986). Thus, service delivery is often improved by either an increased customer focus (market orientation) in the service organisation, a more efficient use of internal resources (resource base orientation) and through knowledge sharing and integrated innovation based on an extended use of information technology (Tidd and Hull, 2006).

The different competitive forces and strategies for service development are systematised and combined in the following Figure 1:

Figure 1: Business Strategies in Security Service Companies (examples of security business from the case study)

Competitive forces (dimensions)	Strategies for service development		
	»Standardise«	»Differentiate«	»Customize«
Price	Furesø Vagtservice	DVAS	HH Vagt
Quality			
Competences			
Technology			

Source: The authors

In general, the three companies in our study work in a market where they face the same challenges, but they make different strategic choices vis-à-vis the selected competitive forces, thereby expanding the scope of their business opportunities.

Some of the drivers of service innovations in the security service business are related to: Scalable business models (i.e. service offerings can be multiplied if necessary), comprehensive customer experience management, investments in employee skills and performance, continuous operational innovations, differentiation and segmentation of service offerings (even branding), the existence of an innovative champion (i.e. an entrepreneur or innovator), a superior customer benefit (value proposition), affordability (i.e. relative low costs) and also continuous strategic service innovations (new business strategies).

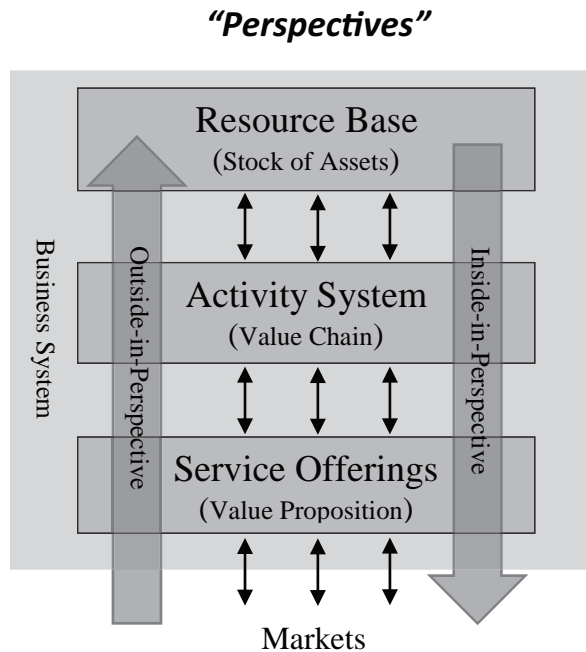
The employees must therefore be seen as a vital part of the ‘resource base’ of a security service company and together with the ‘activity system’ (the value chain) of the business unit and the ‘service offerings’ (the value proposition), these represent the Business System of the entire security service company.

In principle, there are two different perspectives on shaping the business system of a company; either an ‘Outside-in-perspective’ or an ‘Inside-out-perspective’ (De Wit and Meyer, 2005) as shown in Figure 2.

From an *Outside-in-perspective*, a security service company must take its environment as the starting point, when determining its business strategy. Therefore, they are externally oriented, flexible and market-driven. The market is thus leading and resources (e.g. competences of the employees) are following. This has until now been the dominating perspective of many small and medium-sized security service companies.

On the other hand, from an *Inside-out-perspective*, a security service company first tries to build on its unique competences (e.g. by »standardising« its service offerings) and then attempt to find or create a suitable market for its services. That may be the future direction of a security service business more focused on innovation in its activities and offerings.

Figure 2: Shaping the business system in a security service company



Source: De Wit and Meyer (2005)

The challenges of this business system regarding the price pressure, the need for documentation of good service, and the lack of systematic innovation activities are consistent with those of other parts of the operational service industry described in e.g. the study of the ISS case (Sundbo and Illeris, 2000). The strategic response for ISS as a large company has been a combination of ‘standardisation’, ‘specialisation’ and ‘internationalisation’ (Sundbo, 1999). But, for the security service companies operating in close relationship with the customers they, contrary to ISS, often have a better chance to act more flexibly regarding customer’s needs by trying to customise their service offerings and change the number of services offered, if the customer demands it.

What are the future perspectives?

When comparing the three cases we have studied with a typology (Sundbo, 2010) of different types of *organisations* (simple, traditional, formalised and project organised) and related *innovators* (diffuse responsibility, owners as entrepreneurs, team of employees and specialised development units), it becomes evident that because innovators have to act in more or less a traditional and operational organisational culture, the security service companies often have to rely on their owner or managers as the innovator.

In order to achieve effectiveness in the developing of their service business, the companies have to, we will argue, be thinking more strategically but also to be organised such as to better develop and exploit the competences of their employees,

i.e. draw much more on group dynamics in the team of employees and the organisation as a whole, and not rely solely on the existence of an owner or manager as the innovator.

Competences such as 'Service Mindedness', 'Cooperativeness', 'Independence' and 'Flexibility' have been identified as key competences of employees in the cleaning industry (Sundbo and Illeris, 2000). In our study, owners and managers have mentioned the lack of a more specialised knowledge into the different tasks of security guards, collaborative capabilities, communicative skills, and a thorough understanding of the whole security service system with its different players and alarm systems.

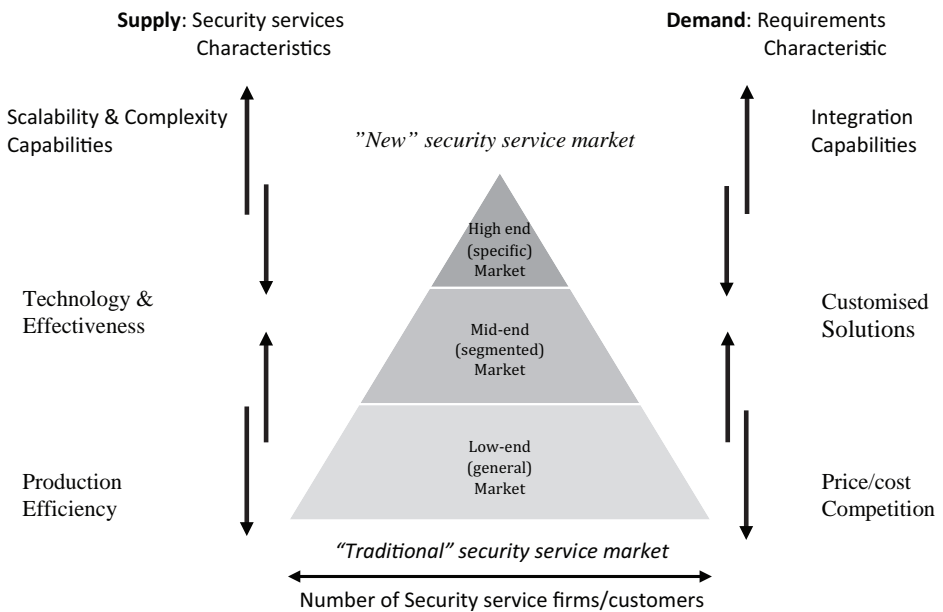
However, the fact that many of the employees in the industry are young men who, despite short formal education, often have a great understanding of complex systems and in their daily life are heavy users of new media and IT platforms gives the security service companies the opportunity to exploit these competences better in their security business in the future. As a young guard states: *«New roads and neighbourhoods may be difficult to find on the GPS and this is where the iPhone comes into the picture – it is worth its weight in gold because it can find anything!»* And it also supports a picture of a group of young employees who are accustomed to think independently and are able to communicate efficiently about problem solving in their daily work. *»A key word for us as a company is communication, because if we don't communicate it just doesn't work. You must be open and have the guts to make contact with people. And it is the same with your colleagues that you have to let them know what help you need, because if you don't, the one on guard cannot know – and he also drives around and is busy»,* the young guard from the medium-sized company adds as a further comment.

These young employees thus represent a dynamic capability (Teece, 2010) that, when organised and skilled in a systematic manner, can play a vital role as innovators in the future innovation strategies and development of many small and medium-sized security service companies.

We believe this will be supportive for the efforts to create a more structured and systematic innovative process in the future, exploiting the different forms of organising the innovative efforts of the security service business better. The implication is the development of a much more differentiated and complex security market and industry as shown in the Figure 3 below.

The market for security services will be characterised by an increasing differentiation between a 'low-end' (traditional security service companies), a 'mid-end' (a segmented market targeting selected groups of customers such as industrial companies or municipalities), and a 'high-end' (highly specialised and sophisticated security tasks and services) market.

Figure 3: The security service market: Structures and Dynamics



Source: ECORYS and the authors.

The security service companies move up in the market hierarchy by meeting the customer’s needs for more specialised services (customisation). It allows them to differentiate themselves from other companies and thus to avoid some of the price competition in the traditional low-end security market. This ‘mid-end’ market is not stable, as selected market segments or companies evolve to become part of the ‘high-end’ market with new conditions. The risk is also to ‘sink’ down and become part of the ‘low-end’ market again with increased price competition and squeezed profits.

Lastly the ‘high-end’ market is characterised by a demand for complex and scalable solutions that require integration of different skills (e.g. technologies) and solutions at a system level. These very specific and dedicated security solutions are typically demanded by large public and private organisations.

In general, the higher the providers of security services climb in the market hierarchy (inside the triangle), the greater is the opportunity for profits and protection of their own security concepts against imitation from competitors, but it requires the development of the dynamic capabilities to strengthen the business model of the service company (Teece, 2010).

Conclusion

In this article we have presented some findings about the dynamics and logics of innovation in SMEs in the security service industry. Further, we have tried to make some generalisations about the future potential of service innovation and development in operational services in general.

However, the further development of the innovative capabilities of the security service industry places some new demands on the management and staff of the security service companies. The security service companies have to develop and exploit the competences of the employees in innovation, and change the innovative culture and practice of the organisation much better, if the dynamic capabilities of the companies have to be fully utilized. Innovation and development can no longer be restricted to just a few individuals.

The fact that companies today to a large extent are solely run by individual entrepreneurs such as the owners and managers, and do not innovate systematically, makes service innovation and development a fragile process, and therefore, from a societal perspective, it would be more fruitful if security service companies moved towards a much more shared structure of responsibility at the organisational level giving the team of employees far more responsibility for service development and innovation in their daily operation.

This conclusion also challenge the widespread understanding of what is really the 'logics' and barriers of the SMEs in operational services. Although many security service companies today are open for organisational development and service innovation, on the other hand they strongly feel that they must comply with the present conditions and terms of the trade saying that it is the day-to-day business that comes first addressing the issue of innovation in ways that challenge the general view and wisdom that it takes resources out of the daily operations to be innovative.

We hope this article has made a contribution to close some of the knowledge gaps that exist in the literature concerning service innovation and development in small and medium-sized operational service enterprises and also given some insight into the dynamics of the security service industry and market. Hopefully, our conclusions also have the consequence that research into SMEs in operational services can be accessed in new ways, so that prospective studies will not depend on conceptual frameworks of innovation that do not match the reality of SMEs in the security service industry.

Theoretically, we find a change from a dominating Schumpeter mark 1 perspective on innovation in SMEs to a Schumpeter mark 2 is necessary if crucial drivers and barriers for further innovation and service development in operational services are to be better understood and insights from innovation processes across service and manufacturing are to be fully utilized in the future.

References

- Barras, Richard (1986): »Towards a theory of innovation in services«. *Research Policy* 15:161-172.
- Barras, Richard (1990): »Interactive innovation in financial and business services: the vanguard of the service revolution«. *Research Policy* 19:215-237.
- Becheikh, Nizar, Règean Landry, Nabil Amara (2006): »Lessons from innovation empirical studies in the manufacturing sector: A systematic review of the literature from 1993-2003«. *Technovation*, 26: 644-664.
- Berry, L.L., V. Shankar, J. Turner Parish, S. Cadwallar and D. Dotzel (2006), Creating new market through service innovation. *MIT Sloan Management Review*, 47 (2).
- Boden, Mark & Ian Miles (2000): »Introduction: Are Services Special?« in Mark Boden & Ian Miles (ed.): *Services and the Knowledge-Based Economy*. London, Continuum:1-20.
- De Jong, Jeroen P.J. and Orietta Marsili (2006): »The fruit flies of innovation: A taxonomy of innovative small firms«. *Research Policy* 35:213-229.
- De Jong, Jeroen P.J. and Patrick A.M. Vermeulen (2003): »Organizing Successful New Service Development: A Literature Review«. Scales Report, Scales Paper Series, EIM Business and Policy Research.
- De Wit, Bob and Ron Meyer (2005), *Strategy Synthesis – Resolving Strategy Paradoxes to Create Competitive Advantage*. London: Thomson Learning.
- DI Service (2009): »Serviceindustrien 2009 – Kortlægning af den operationelle servicesektor« published by DI Service, editors Kasper Lindøe Pedersen and Kristina Marie Krogh Hansen.
- DI Service (2011a): Branchestatistik, Serviceindustrien 2011 – Et nærbillede af den operationelle servicesektor. Published by DI Service, editor Thomas Hauge Berg.
- DI Service (2011b): Branchestatistik: Vagt og Sikkerhed 2011. Published by DI Service, editors Patrick Christian Laroignou and Thomas Hauge Berg.
- Djellal, Faridah (2002): »Innovation trajectories and employment in the cleaning industry«. *New Technology, Work and Employment*, 17(2):119-131.
- Drejer, Ina (2004): »Identifying innovation in surveys of services: A Schumpeterian perspective«. *Research Policy* 33: 551-562.
- ECORYS (2009), *Study on the Competitiveness of the EU Security Industry*, Final report, Rotterdam.
- Edvardsson, Bo and Jon Olsson (1996): »Key Concepts for New Service Development«. *The Service Industries Journal*, 16(2):140-164.
- Fagerberg, Jan (2005): »Innovation – A Guide to the Literature« in Jan Fagerberg, David C. Mowery and Richard R. Nelson (eds.): *The Oxford Handbook of Innovation*. Oxford University Press: 1-26.
- Forsman, Helena (2011): »Innovation capacity and innovation development in small enterprises. A comparison between manufacturing and service sectors«. *Research Policy*, 40(2011):739-750.
- Fuglsang, Lars (2006): »Commitment to public innovation: A case-study of a Copenhagen health care centre«, conference paper from XVI International RESER conference, Lisbon, September, 28-30, 2006.
- Fuglsang, Lars (2008): »Balancen mellem brocolage og innovation: Ledelsesdilemmaer i bæredygtig offentlig innovation.« Paper from the third conference of the Danish Academy of Management held at Calrion Hotel Copenhagen December 8th to 9th 2008.
- Gago, David and Luis Rubalcaba (2007): »Innovation and ICT in service firms: Towards a multidimensional approach for impact assessment«. *Journal of Evolutionary Economics* 17: 25-44.
- Gallouj, Faïz and Oliver Weinstein (1997): »Innovation in services«. *Research Policy*, 26(1997):537-556.
- Gallouj, Faïz and Maria Savona (2010): »Towards a theory of innovation in services: A state of the art« in Faïz Gallouj and Faridah Djellal (eds): *The Handbook of Innovation in Services – A Multidisciplinary Approach*. Cheltenham, Northampton: Edward Elgar.
- Godø, Helge, Rannveig Røste and Marianne Brock (2005): »Innovation in the home based services for the elderly«. Publin Report D13-5. Norwegian Case study WP5. NIFU STEP; Oslo, Norway.
- Gottfridsson, Patrik (2001): *Småföretags Tjänsteutveckling – en studie af hur småföretag utvecklar individuellt anpassade tjänster*. Företagsekonomiska institutionen Stockholms universitet. School of Business Research Reports No. 2001:17.
- Gustafsson, Anders & Michael D. Johnson: *Competing in a Service Economy*. San Francisco, Jossey-Bass.
- Henkel, Joachim and Erik Von Hippel (2005): »Welfare Implications of User Innovation«. *Journal of Technology Transfer*: 30 1/2: 73-87.
- Hipp, Christiane (2010): »Collaborative innovation in services« in Gallouj and Djellal (eds.): *The Handbook of Innovation and Services – A Multidisciplinary Perspective*. Cheltenham, Northampton: Edward Elgar: 318-341.

- Howells, Jeremy (2010): »Service and innovation and service innovation: New theoretical directions« in Gallouj and Djellal (eds.): *The Handbook of Innovation and Services – A Multidisciplinary Perspective*. Cheltenham, Northampton: Edward Elgar: 68-83.
- Illeris, Sven (2000): »Service Development, Internationalisation and Competence« working paper no. 12.
- Kim, L. (1997), *Imitation to Innovation: The Dynamics of Korea's Technological Learning*, Harvard Business School Press, Boston, MA.
- Kuusisto, Arja and Mikko Reipula (2009): »Customer Interaction in Service Innovation – A Checklist for Service Innovators«: <http://192.84.187.44/downloads/Chapter7.pdf>
- Kvale, S. (2007): *Interview*. København: Hans Reitzels Forlag.
- Lundvall, Bengt-Åke (1985): »Product Innovation and User-Producer Interaction«, Industrial Development Research Series No. 31, Aalborg University Press, 1985: 1-39.
- Lundvall, Bengt-Åke (2006): »Innovation System research and Policy: Where it came from and where it should go«. Second version of draft paper for Kistep Forum on Innovation Seoul, December 1, 2006.
- Madsen, Poul Thoís (1998): *Den Samarbejdende Virksomhed*. Erhvervsfremmestyrelsen. Erhvervsministeriet.
- Pade, Henrik (1991): *International Rengøringservice*. Schultz.
- Schumpeter, Joseph (2008a): *Capitalism, Socialism and Democracy*. New York: Harperpreennial modern thought.
- Schumpeter, Joseph (2008b): *A Theory of Economic Development*.
- Sundbo, Jon (1997): »Management of Innovation in Services«. *The Service Industries Journal*, 17 (3): 432-455.
- Sundbo, Jon (1998): *The Organisation of Innovation in Services*. København, Roskilde University Press.
- Sundbo, Jon (1999): *The manual Services Squeeze: Problems and solutions in ISS and other manual service firms*. Forskningsrapport 99:2, Center for Servicestudier, Roskilde Universitetscenter.
- Sundbo, Jon (2000): »Organization and Innovation Strategy in Services« In Ian Miles and Mark Boden (eds.): *Services and the Knowledge-based Economy*. London and New York: Continuum:107-128.
- Sundbo, Jon (2010), *Medarbejder- og brugerbaseret innovation i service – Servicevirksomhedernes organisering af innovationsarbejdet*, ICE Project, Center for Service Studies, Research Report 10:8, Roskilde University.
- Teknologisk Institut (2010): *Ny Service – Projektevaluering af innovation i mindre håndværkervirksomheder*. Skrevet af Mette Abrahamsen · Ana Maria d'Auchamp Louise Brønnum · Thomas Hammer-Jakobsen · Louise Hvid Jensen and Dorte Kulle. Published by Teknologisk Institut: Center for idé og vækst.
- Tidd, Joe, John Bessant and Keith Pavitt (2001): *Managing Innovation – Integrating Technological, Market and Organizational Change*. Wiley.
- Tidd, Joe and John Bessant (2009), *Managing Innovation – Integrating Technological, Market and Organizational Change*, Wiley.
- Tidd, Joe and F. M. Hull (2006), *Managing service innovation: the need for selectivity rather than 'best-practice'*, *New Technology, Work and Employment*, 21 (2), 139-61.
- Tidd, Joe and F. M. Hull (2003), *Service Innovation: Organizational responses to Technological Opportunities and Market Imperatives*, Imperial College Press, London.
- Toivonen, Marja, Saara Brax and Tiina Touminen (2008): »Client-oriented multicompetence: the core asset in KIBS«. *International Journal of Services Technology and Management* 10(2-4):175-189.
- Toivonen, Marja (2010): »Different types of innovation processes in services and their organizational implications« i Gallouj and Djellal (eds.): *The Handbook of Innovation and Services – A Multidisciplinary Perspective*. Cheltenham, Northampton: Edward Elgar: 221-249.
- Vargo, Stephen and Robert Lusch (2008): »Service-dominant logic: continuing the evolution«. *Journal of Academic Marketing Science*, 36:1-10
- Von Hippel, Eric (2005): *Democratizing innovation*. Cambridge, MIT.

Notes

1. Luise Li Langergaard and Jørn Kjølsest Møller are Assistant Professors in the Department of Communication, Business and Information Technology at Roskilde University. Anne Vorre Hansen has worked as Chief Consultant at the Danish Institute of Fire and Security Technology and been leading the SOS-project (Service Optimisation in Security Business, but is now a ph.d. student in the Department of Communication, Business and Information Technologies at Roskilde University.