Oper Manag Res (2015) 8:48–68
DOI 10.1007/s12063-015-0099-z

The development of innovation capability in services: research propositions and management implications

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Received: 7 July 2014 / Revised: 4 March 2015 / Accepted: 19 March 2015 / Published online: 15 April 2015

Abstract How service companies can develop an ability to innovate within their operations and use this to help formulate business strategy is still largely unknown. In this paper we report findings from exploratory, case study research conducted at five service companies. At three of the companies studied, service operations made year-for-year innovations in support of company performance but had no influence on strategy. The other two companies were significantly different. The way in which their innovation capability developed not only supported current performance but also opened new strategic directions for their organisations. From our cross-case analyses, four propositions are offered to explain how this can occur: First, profit instability leading to the restructuring of service operations is more likely to lead to the development of a service innovation capability that can help formulate business strategy than profit stability. Second, the attainment of improved technical competencies by service operations' employees is not sufficient to lead to the development of an innovation capability that can help formulate business strategy. Third, when employees develop behavioural competencies in addition to technical operational competencies, this combination leads to the development of innovation capability that can help formulate business strategy. Finally, recognition of the potential of service operations is necessary before new competencies can help formulate business strategy.

Keywords Services innovation · Service operations · Behavioural competencies · Business strategy

1 Introduction

Resource-based theorists advocate that a business should compete by developing, exploiting and renewing its resources and using these to develop competencies that the competition finds hard to imitate (Barney 1991; Peteraf 1993; Teece et al. 1997). These competencies and capabilities can then form the basis of a business strategy, creating value and enabling differentiation in the organisation's chosen markets. While studies have been conducted to explore the links between operational capabilities and the formulation of strategy (see e.g. Bowman and Ambrosini 2003; Acedo et al. 2006), little is known on how one such capability - the ability to innovate - develops within service companies. Indeed, research into the way in which service businesses innovate is regarded as one of the top ten research priorities for the science of services (Ostrom et al. 2010). The ability to innovate gives the organisation a way to obtain competitive advantage (Barney 1991). For service organisations, innovation can help it to raise quality and productivity levels, meet changing customer needs and overcome superior competitor offerings. Unfortunately, knowledge on services innovation lags behind that on product innovation because the majority of innovation studies are conducted in the manufacturing sector (Goffin and Mitchell 2010). This is despite the dominance of the service sector in most developed economies (Donofrio 2010).

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In this paper, we explore how innovation can develop within the operations function of service companies to the extent that it can then help formulate business strategy. Using exploratory case studies, we identify the conditions under which service operations can break from its traditional role of implementing the business strategy, to a role where the capability of the operations function to innovate enables the organisation to choose new strategic directions. Based on the analysis of the data, the conditions under which the operations function 'becomes strategic' are framed into a series of propositions to explain the key stages in the journey from implementer to formulator of business strategy. These propositions are the main contribution of our research. The remainder of this paper is organised as follows. It begins with theoretical underpinnings, before explaining the research methodology. Findings then follow and the cross-case analyses used to identify similarities and dissimilarities from which the propositions are derived. The paper concludes by discussing the implications for managers and future research opportunities.

2 Theoretical issues

2.1 Nature of services and innovation research

A significant proportion of the research carried out into innovation has focused on manufacturing companies (Ettlie and Rosenthal 2011; Goffin and Mitchell 2010). However, the different nature of service means that the approach used by manufacturing companies to innovation is not always directly applicable to service organisations. Characteristics such as intangibility and perishability, simultaneity and heterogeneity can make it difficult for service operations' managers to pinpoint their precise product offerings (Van Looy et al. 2003). For example, simultaneity and heterogeneity cause the delivery of services to embroil the customer. So customers' perceptions of service quality are dependent not only on the core product but also the service augmentation – the production and delivery mechanisms linked to the service product, including the physical or virtual environment in which the customer receives the service. The nature of services causes the service innovation process to be less tangible (than in manufacturing companies) and interwoven with the capabilities embedded in the processes, procedures and routines of the organisation (den Hertog et al. 2010). Consequently, it is recognised that the approach to innovation (and the associated tools and techniques) which is well established in manufacturing companies cannot be simply transferred to the service setting (Hipp and Grupp 2005).

The management of service innovation involves dealing with new services that have differing degrees of newness. They range from a totally new innovation (radical innovation) to those innovations that involve only minor adjustment that is more evolutionary or incremental in nature (Droege et al. 2009). Thus radical innovations are characterised as either novel or unique technological solutions which may include the development or application of new technologies or that encompass state-of-the art breakthrough in a service category (Booz et al. 1982; de Brentani 2001). Incremental or evolutionary services are typically described as new services that only involve minor changes in technology, simple service improvements, imitations or line extensions (Booz et al. 1982; de Brentani 2001). In her survey of managers with responsibility for new product development in business to business service companies, de Brentani (2001) found that where radical innovations occurred, having a corporate culture that encouraged entrepreneurship and creativity led to a positive impact on the innovation outcomes at the companies. She also observed that the role taken by senior managers in creating the vision was pivotal in those businesses. Interestingly, the involvement of expert front-line personnel in creating the new service had a positive influence on the innovation outcome irrespective of the degree of newness of the service.

Some researchers have pointed to the role that management can play in creating a climate to support innovation. The research undertaken by Lievens and Moenaert (2000) suggests that having an open culture where information is shared and communication between departments is encouraged helps to improve the idea generating ability of the work force and the problem solving capacity of the firm. Having a strategic vision and a focus on innovation is also considered to be an important determinant of employees' creative contribution and efforts to develop new service innovations (Johne and Davies 2000).

The process of developing and introducing new services is often described as a formal, methodical procedure with clearly define steps (sometimes consisting of stages and gates) that take the organisation from conceptualisation, evaluation and finally to launch of the service (Shulver 2005). The literature contains various normative models which can help service organisations improve their approach to service innovation (Bitran and Pedrosa 1998). However, the actual adoption of formal new service development approaches is considered to be limited. Innovation in this sector is not as well structured as in other sectors such as manufacturing (Shulver 2005).

A critical issue is that most service companies do not have an 'R&D' department. Consequently, the operations function (including the front office and back office employees) usually is, de facto, responsible for innovation activities in service companies. Various studies have identified that innovation in services is often a bottom up process resulting from the employees' actions rather than a structured top down approach (Sundbo 1997; Sørensen et al. 2013). Innovation can arise from employees making small changes to the service production and delivery processes as they attempt to meet customer needs or deal with problems that occur. These small process-

based changes may come about due to tinkering (Timmermans and Berg 1997) and bricolage (Fuglsang and Sørensen 2011). These inconsiderable changes may come out of a non-systemised process and may be unintentional but over time these minor changes accumulate and result in changes in the process and the way it is provided (Sørensen et al. 2013). Fuglsang and Sorensen (2011) observed in their case study research three different processes of innovation, namely bricolage, management initiated innovation and management-mediated innovation. Bricolage, due to its nature, was sometimes hidden in the daily activities of the service organisation even though it was recognised as a critical aspect of work. These authors contend that it is possible to collect the ideas from bricolage and integrate them into the formal management controlled innovation process.

Indeed, Sørensen et al. (2013) in their study of the development of new ideas and practices by front-line employees found that service innovation depends on how well the organisation facilitates creativity among its front-line employees and also importantly integrates the results of this creativity (the innovative ideas and practices that employees create) into the business. Helping, supporting and motivating employees to be creative are important but they need a proper support system behind them (Sørensen et al. 2013) if innovation is to occur. Without a management system in place to facilitate idea creation, to decide which ideas to implement, the innovation process will not function effectively. Thus, operations management has an important role to play in innovation.

2.2 Innovation, service innovation and service innovation capability

Innovation is, according to Lawson and Samson (2001), a key mechanism to achieve organisational growth and renewal. In the context of service, Bharadwaj et al. (1993) suggest that service companies achieve competitive advantage by being innovative. More particularly, service innovation, *"introduces something new into the way of life, organization, timing and placement of what can generally be described as the individual and collective processes that relate to consumers"* (Barcet 2010, p. 51). Innovation capability, defined as the resource and assets that enable a firm to engage in activities needed for innovation (O'Connor et al. 2007) is critical to the development and commercialisation of new services that create value for the company and its customers. Lawson and Samson (2001) contend that an organisation's innovation capability arises from the skills and abilities that enable the application of resources and reflect an, *"ability to continuously transform knowledge and ideas into new products, processes and systems for the benefit of the firm and its stakeholders"* (Lawson and Samson 2001, p. 384). Service innovation capability is therefore the ability of an organisation to adapt the service process to the changing environment. As the operations function is a significant part of an organisation's total resources, then it too must develop innovation capability.

According to Siggelkow (2002), the capabilities of the organisation are the configuration of activities, policies, structural elements and resources. Authors have argued that there has been insufficient work examining how and why firms change strategic direction from the perspective of their capabilities (see e.g. Brink and Holmen 2009). Furthermore, despite many papers on the management of innovation, there remains significant debate concerning how the firm's capability to innovate occurs (Jorgensen and Ulhoi 2010; Tidd 2001). It is recognised that identifying the resources and strategic assets an organisation needs to become innovative is problematic (O'Connor et al. 2007).

2.3 Operations and approaches to business strategy formulation

The traditional approach to formulating strategy is based on understanding what is happening in the business environment, including opportunities and threats, and then using the analysis to determine the strategic options available to the company (Porter 1979). Therefore, the history of academic thought on the relationship between the operations function and business strategy has concentrated on the need for a market-orientation. Operations managers have been required to focus on competitive factors such as cost, quality, and flexibility. These factors are dictated by the market-place and the external environment (Ward and Duray 2000). Thus, if there is a change in the competitive environment, this alters the organisation's business strategy and the operations function is expected to react. In such scenarios, an operation is simply tasked with implementing business strategy. Small wonder, perhaps, that some academics have raised concerns that this neglects the potential for operations to contribute to the strategy mainstream process (Brown and Blackmon 2005).

Advocates of the alternative approach to strategy formulation - the resource-based view (RBV) - have suggested that competitive advantage can be based on looking inside the organisation for valuable, rare, imperfectly imitable and non-substitutable resources (the so called VRIN criteria, Barney 1991). Superior performance and competitive advantage are considered to come from such valuable, company specific resources and capabilities that cannot be easily imitated or substituted. Once these have been identified they can then be exploited to the limit (Amit and Schoemaker 1993). However, the resource-based view suggests a static resource configuration. This cannot always guarantee competitive advantage in the long term, due to the fact that an organisation has to adapt its configuration to the market environment (Eisenhardt and Martin 2000). The resources that presently provide competitive advantage may no longer be appropriate in the future as

changes in the market and technology impact the firm eroding the power of these valuable resources.

The static nature of resource-based theory has been addressed by the concept of dynamic capabilities in which an organisation nurtures dynamic or change-oriented capabilities to help it redeploy and reconfigure its resource-base (Zahra et al. 2006). Nurturing develops new capabilities that might be of value in the external environment and market-place. Such capabilities have been defined as an organisation's capacity to perform a range of organisational routines for the purpose of delivering products and services to the market in a manner that outperforms the competition (Weerawardena 2003). Indeed, prior research has indicated the importance of distinct capabilities to performance outcomes (Song et al. 2007). However, capabilities are more than merely assets. They are embedded in the firm and so the most difficult resource for competitors to duplicate due to their high level of causal ambiguity. Supporters of the RBV and its associated dynamic capabilities approaches to strategy development have advanced the notion of resource-based sequencing (Grahovac and Miller 2009; Pettus 2001). These researchers argue that it is the sequencing of a firm's resource development decisions that best leads to business growth over time. In other words, that some organisations, by following a specific resource-based development path, experience higher growth than those that do not follow this development pattern. It is this notion of path dependency in capability development that underpins our study.

In summary, recent strategic management thinking has focused on the premise that a firm's success lies in its ability to find or create capabilities that are distinctive, with competitive advantage derived from how a firm develops and exploits those capabilities and its resource-based development path. Researchers have pointed to the importance for service organisations of possessing innovation capability given its role in the development and commercialisation of new services that create value for the company and its customers. However, the intangible nature of services means that service innovation, usually the responsibility of the operations function has been the subject of only limited investigation. Researchers have recognised that identifying how an organisation's capability to innovate develops is also under-researched. Hence, the purpose of this paper is to explore the conditions under which an innovation capability can develop within the operations function of service organisations to the point at which this capability can shape and help formulate business strategy.

3 Methodology

Case study methodology was chosen because the research was exploratory and it was recognised that contextual conditions were likely to be a pertinent factor in how the ability to innovate developed within service operations (Voss et al. 2002). Five case studies were conducted, selected from a sample of service companies that had responded to a previous survey on the strategic perspectives being adopted by their senior management. Our 'purposive' sample deliberately included companies of different size (in terms of numbers of employees) and covered a range of services. In addition to promising anonymity, the sample excluded direct competitors in order to establish trust and gain access to companies' strategic documentation. The composition of each company's respective service operations function conformed to the Hayes (1998) and Miller and Arnold (1998, p. 12) definition that equates service operations with, "*business processes management*". Table 1 provides a summary description of the characteristics of the case studies. It also shows the job title of each case study's principle informant. This person acted as the main conduit for communication between us and the targeted respondents and proved to be a valuable source of guidance and information.

3.1 Data collection and analyses

Data collection was conducted in three phases. Phase 1 involved sending questionnaires to the principle informant in each company for distribution. It asked the respondent to think of an occasion when an improvement to operations had occurred in the previous three years. The questionnaire then asked for more details about the operational improvements including, crucially, how and why they arose and the competitive benefit gained. The premise was that operational improvements could be examined to determine whether they contributed to the implementation or formulation of a company's business strategy. For the purposes of the study, the definition of *improvement* is that offered by Bessant and Francis (1999). They assert that improvement is a behavioural pattern or *innovation* which takes time to learn and institutionalise and is hard to copy or transfer.

The principle informants were individuals in mainly operations management positions such as Regional Operations Directors, Operations Support Managers, Client Service Leaders and Customer Service Managers deemed most likely to be able to comprehensively describe and recall events. The number of returned questionnaires varied from case to case dependent on company size with a minimum of 6 and a maximum of 15 completed.

The format of the questionnaire was adapted from critical incident technique (Flanagan 1954) which has been used in a variety of service contexts (Gremler 2004). The questionnaire comprised seven open-ended questions with a preliminary question which asked for details about the respondent's job role. The structure of the questionnaire permitted straightforward shaping of the data into seven categories. Full descriptions of each category are provided in Table 2. The method of analysis employed and data displayed in Table 2 follows a

Table 1 Characteristics of the case study companies

Case study	Description of characteristics	
	Service sector (Parent Co.) and size (employees)	Activities and product(s)
Case 1: Health Insurance Co. Principle Informant: UK Operations Manager	Financial service activities • A health and care services organisation • Division has 2000+ employees	Provision of health care insurance, including • Health insurance • Travel/health cover • Income protection • Life cover • Critical illness cover
Case 2: IT Services Co. Principle Informant: Operations Director	Information service activities • IT services to the market research industry • Approximately 30 employees	Provision of IT systems for: • Surveys, web surveys, • Data processing • Project management
Case 3: Vocational Awarding Org. Principle Informant: Head of Data Management	Public administration activities • Accreditation and vocational awarding body (quasi-Governmental). • Approximately 700 employees	Provision of vocational qualifications • 500 qualifications available in 30 industry areas
Case 4: Pensions Administrator Co. Principle Informant: Client Services Director	Insurance, re-insurance and pension fund activities • A division of a global risk Management corporation • Division has over 500 employees	The division offers services of an administrative nature to defined benefits and defined contributions pension schemes. These activities include: • Holding and updating customers' membership records • Collecting pension contributions • Calculating benefits • Paying pensions
Case 5: Security Services Co. Principle Informant: National Account Director	Employment activities • A division of a facilities Management and business outsourcing services company • Division has over 8000 employees	The division offers the provision of: • Security services from uniformed officers (manned) • Electronic security • Remote surveillance • Mobile security response

procedure suggested by Miles and Huberman (1994). The table commences with the job role of the respondent, the length of time in that job and the number of people in that job role who responded. Table 2 illustrates the analysis conducted on the completed questionnaires from Case study one, the Health Insurance Co. There is a category for each of the seven questions that comprised the questionnaire. A description of each category of question is provided in the table.

The comments written by the respondent on the individual questionnaires were listed under each category of question. The critical incidents that relate to the improvement occasion were discerned through comments made principally in response to questions three and four on the questionnaire, shown as Categories 3 and 4 in Table 2. The questions requested the respondent to comment on a time or event that took place that caused recognition of the possibility for improvement and the means, method or stimulus by which the potential improvement opportunity occurred. These incidents, under the categories, 'potential for improvement recognised' and 'potential improvement revealed' were then extrapolated from Table 2 and Table 3 devised to assist in tying responses to these two categories together. The purpose of Table 3 was to indicate incidents that were sufficiently discrete and definite to permit inference that a competitiveness improvement opportunity had arisen, and decide whether the incident had originated as a consequence of business strategy requirements. Reading across the rows in Table 3 provided a thumbnail profile of each respondent's key response as a discernible incident suitable for probing further via extensive interview at Phase 2 of data collection. These potential incidents are shown underlined with a specific comment that was made by the respondent in completing the questionnaire. Reading down the second column identifies distinctions between the incidents. 11 possible incidents were identified in Case study 1. At this preliminary stage of analysis - Phase 1- the stimuli for the incidents in Case study 1 was considered to mainly originate from a requirement to implement the business strategy; the origination of others was less clear. Indeed, in some other case studies, the originating stimulus behind each incident was less easily assessed than in the example of Case study 1.

The final column in Table 3 shows the significance of the extent of the improvement that was believed to have accrued to the competitiveness of the firm in the respondent's opinion. It was taken from Category 6 on Table 2. The respondent indicated the significance of the improvement occasion on a five-point scale. One was indicative of no improvement, and five on the scale indicated that the improvement was deemed to be very significant for the competitiveness of the firm.

Table 2 Analysis from phase one questionnaires – case study 1

Category	Classification/Code	Length of time in job role	Frequency of response	Description of category
Job role	- UK Service Manager	>4 yrs	1	Refers to the nature of job occupant's role in the organisation and the length of time in that job role. Purpose of the job includes explicit expectation of the individual to improve business processes as part of that job
	- Customer Service Manager	3–4 yrs	111	
	- Head of Customer Relations	2 yrs	1	
	- Business Project Manager	4 yrs +	11	
	- Not specified	Not specified	11	
(1) Improvement occasion	- Operationalisation of new initiative		1111	Refers to an event (recalled) which gave rise to an improvement in the organisations operational competitiveness
	- Revamped customer enrolment process		1	
	- Printing and fulfilment operations		1	
	- Rearranging teams by region		1	
	- Incremental process improvement		1	
	- Not specified		1	
(2) Improvement action	- Identification and removal of duplication and redundant procedures		111	Relates to the measures taken that caused the improvement to occur
	- Outsourcing to 3rd party suppliers		1	
	- Development of new system		1	
	- Development of new process/product		1	
	- No specific actions		11	
	- Not divulged		1	
(3) Potential for improvement recognised	- Formal process reviews/workshops (envoy project)		111	A time or event that took place that caused the recognition of the possibility of performance improvement
	- Formal think tank		11	
	- Team meetings/customer improvement opportunities		1	
	- Operations review and benchmarking		1	
	- Customers segmented by region		1	
	- Bi-annual management conference		1	
(4) Potential improvement revealed	- Feedback from customers or colleagues		11	The means, method or process by which the potential improvement opportunity come to be revealed
	- Highlighted by sales team		11	
	- Pressure from external market		1	
	- During process of removing unnecessary administration		1	
	- Not specified		111	
(5) Benefits	- Improved responsiveness thence customer satisfaction		111	Refers to the advantages to be gained by the organisation from the performance improvement
	- Improved cost and service		1111	
	- Business expansion		1	
	- Reduction in company's aged debtors		1	
(6) Significance of improvement	- Very significant		1	Refers to the extent of the improvement to the organisations competitiveness
	- Significant		11	
	- Some improvement		111111	
	- Little improvement			
	- No improvement			
(7) Measurability of improvement	- Turnaround times		1	Refers to the means or method by which the improvement is formally assessed
	- New business or renewal		1	
	- KPIs/SLAs		1111	
	- Learns 'captured'		1	
	- Unknown		11	

Phase 2 of data collection involved an in-depth interview lasting in excess of two hours with the senior operations executive of each company, who held overall responsibility for the services operations function. The interview questions (see Appendix 1) explored the range of improvements (innovations) that had been identified from an analysis of the completed questionnaires at Phase 1. In the example of the Health Insurance Co, the 11 incidents from Table 3 were included as probes in the interview script as part of Phase 2 data collection. The interview script generated a full picture of the company's operational improvement activities and financial performance in the previous three years. Descriptions of the actions taken by the company, the motives for and outcomes of the actions were data collected by the interviews. For purposes of ensuring internal validity, a second interview (using the same interview script) was held with a senior

Table 3 Description of the critical incidents and stimuli

Respondent	Description of possible critical incidents	Basis of stimulus for the incident		Low/Mod/High (Five-point scale)
		Business strategy implementation?	Other originating factor?	
UK customer service manager (CSM)	Process review 'early stages of… identified large amounts of duplication of paperwork and procedures no longer necessary'	✓		3
CSM and an informant of non-specified job title	Think tank '…held when we receive feedback from customers or colleagues – some formal, some informal.' Customer improvement opportunities 'There are so many it is hard to give details. It is an agenda point on team meetings one a month.' Focus on customer needs, 'we have done small changes to improve satisfaction…' Listen to customers' feedback '…driving out the administration away from the customer has helped.'	?	?	5
		✓		3
		✓		3
		✓		3
CSM and business project manager	Operational review 'we conducted a complete review of our in-house operation and benchmarked ourselves with external suppliers.' Op review '…recognised (activity) as non-core competencies'	✓		4
CSM	Envoy project '…when we worked through our process maps during the process review workshop, we quickly concluded that there was a doable initiative.'	✓		4
CSM	Highlighted by sales team, 'meeting between sales and service…during course of discussion…initiative piloted…'	✓		3
Head of customer relations	Feedback from colleagues/working with existing data '… working with advisors to see what could make their jobs easier… understanding inbound cash flows … segmenting customers by region…'	✓		Not specified
Business project manager	Pressures from external market '…led us to initiate changes… and a new product.' Bi-annual management conference '… presented…through regular updates from teams.'	✓	?	Not specified
		?	?	Not specified

manager outside operations, typically the Head of Marketing (as in Case Study 1) or finance, and on one occasion, with the company's Managing Director. Three types of codes - descriptive, interpretive and pattern - were devised. An adaptation of a simple table shell (Miles and Huberman 1994, p. 128) was also developed as a format for data analysis. The interview script at Phase 2 also indicated the documentary evidence considered most likely to be available to support answers given by the interviewees to the questions posed.

Following the interviews, Phase 3 data collection involved examining documents as evidence to support assertions made by the interviewees to complete data triangulation. These documents were subsequently requested for analysis. Appendix 2 provides examples of some of the actual types of company documentation that were examined. It also shows the job title of interviewees and respondents.

The three phases in the data collection plan were based on targeting different hierarchical levels and perspectives in each case study. As such, it fulfilled the requirement for an, *"accumulation of multiple entities as supporting sources of evidence"* (Meredith 1998, p. 443). For example, an improvement (a proxy for an innovation) was identified at one vantage point within the company from one category of data evidence (a questionnaire). It was probed at a secondary level (via an interview – a different category of data evidence) and then from a third and entirely different perspective (i.e. the same interview but someone independent of the previous sources of data). Likewise, a question asked with one respondent was repeated with a respondent from an entirely different functional area and wherever possible documentary support gained - a different type of data category. For example, a question that asked for descriptions of business strategy was corroborated by three different sources. Having several levels of perspectives rather than being limited to one large, standardised data set offered a degree of freedom to understand all interacting factors. Thus, evidence was compiled from different sources, using different collection categories and operating at different levels. This form of cross-validation (or data triangulation) is regarded as one of the strengths of the case method (Leonard-Barton 1990). Construct validity was helped by asking the principal informants to review their draft case study report (Yin 2003). Internal validity was assisted through providing evidence of the links between operational improvements and the implementation or formulation of each company's business strategy.

External validity of the findings was aided by theoretical rather than literal replication and we sought to make what we extrapolated from the collected data as transparent as possible.

Initially, our data collection and analyses focused on historical events that had taken place in the previous three years in each company. As previously discussed, data analyses concentrated on examining any interaction that had occurred between operational activities, improvements (used as proxies for innovations as per the Bessant and Francis definition) and business strategy in each case study. However, during data analyses, it became clear that the interplay of market forces, service innovation and business strategy was more interesting to us in two of the five companies in our sample. We believed that improvement activities were no longer solely originating from the demands of business strategy implementation. We were curious to reveal what these two companies were doing differently. These were case studies listed in Table 1 as Cases 4 and 5. Consequently, further visits were made to these two companies on a regular basis during the next two years and more data collected from further interviews and document gathering. This involved re-issuing Phase 1 questionnaires and conducting interviews in year 4 with the same interviewees.

4 Results

Our analysis looked at how key events influenced service operations activities, innovation, and business strategy. We asked: what were the major events at the companies? Did these lead to changes in service operations? Did the events also lead to service innovations? And did service operations innovations impact strategy? The case studies showed that in three companies their innovation capability did not assist in formulating business strategy. In these three companies, service operations activities focused on making innovations to meet the requirements of the business strategy, year-on-year. We have termed these companies 'service innovation business strategy implementers'. However, the other two companies, while initially having a similar approach to the three others, developed their innovation capability further. The capability was developed to such an extent that senior management were presented with the opportunity to devise a new business strategy. We have called these 'service innovation business strategy formulators' in our case study summary reports. Next, we present a synopsis of the five example case study reports: the three 'implementers' (Case studies 1, 2 and 3 - see Table 1) and then the 'formulators' (Cases 4 and 5). Swim lane flowcharts are used to summarise the findings in just one of the implementers (Case study 1) given the degree of similarity between the three. However, both of the formulators, Case studies 4 and 5 are sufficiently different to warrant individual summary in swim lane format.

4.1 Case study summary reports

4.1.1 Service innovation - business strategy implementer - case study 1: health insurance co

Case study 1 is an independent health insurance business which holds more than three million policies, has high market share, and consistently good profitability. Using the swim lane chart format, Fig. 1 summarises the events during the three years.

In Year 1, pursuant of its usual annual planning process, customer data were collected by the company. Claimants were interviewed by Health Insurance Co. to understand their experiences and some of these were written-up as cases. In addition, a survey of 1500 customers was made twice during the year. All customer data were analysed by the Senior Operations Manager and the Customer Relations team, to identify the operational innovations needed and the focus was placed on efficiency (Swim Lane 2), as identified in the Customer Service Plan. It specified targets for both enhancing the flexibility of corporate insurance products and speedier claims' settlements. In explaining how the market feedback led to these changes, one manager at Health Insurance stated, "*we brought the focus on to customers dramatically in the organisation… we saw sustained growth in customer satisfaction"* (Senior Operations Manager, speaking of Year 1).

Year 1 also saw the launch of an intensive people development program aimed at improving the ability of first-line management and front-line staff to deal with customers. The program sought to provide staff with information about the healthcare insurance market-place, Health Insurance Co.'s competitive position, and *"…improve the ability* [of the call agents and supervisors] *to hold more influential conversations with customers, better able to listen and answer precisely customer questions and issues"* (Senior Operations Manager).

The Year 2 annual customer survey showed that consistency of service had become vital. The data also showed that cost structures needed further improvement and so a complete review of in-house printing and fulfilment operations, including benchmarking against external suppliers took place. This led to printing and fulfilment operations being outsourced (Swim Lane 2). This was one exercise in a thorough examination of costs undertaken by project review teams, including a review of the claims handling process, which resulted in improved speed and accuracy. As a consequence, *"customer satisfaction with claims handling"* improved to 83% by the end of Year 2 from 79% 18 months earlier [confirmed in company documents].

In Year 3, customer data were again collected, analysed and new targets set for service operations. In addition, the Head of Marketing commissioned a report from external consultants to appraise the creative process within his department. In explaining the decision to commission a report into the

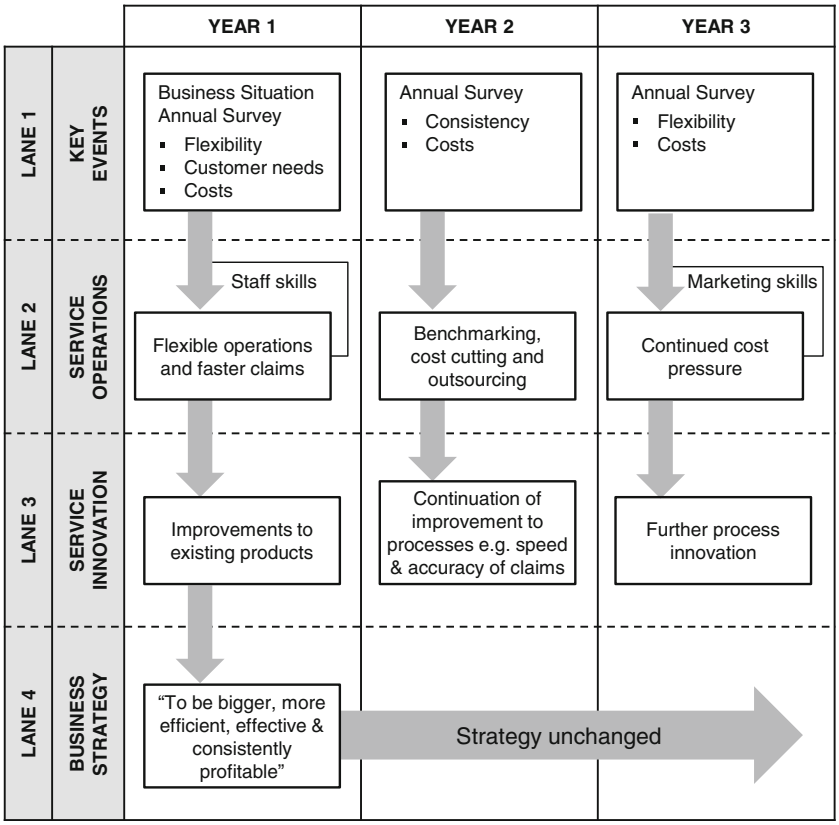

Fig. 1 Swim lane for health insurance Co

creative process, the Head of Marketing stated, "*I think changes in the market-place in the last few years mean that we have to better* [understand] *our creative process*". *"I think that we* [Health Insurance Co.] *are quite a reactive business…and we need to move forward because the whole scenery out there* [the external environment] *is completely changing"*.

Across the three years, customer data were used to set targets and, as these were achieved, new ones were set. However, Health Insurance Co.'s strategy (Swim Lane 4) was static and it was not influenced by service operations or innovation. The 'Business Strategy' document remained unaltered and stated, *"our mission is to be the number one provider in health and care insurance* [in the UK]… *to be strategically bigger, more influential in the industry, efficient and effective and consistently profitable"*. Interviews with key managers also confirmed that strategy did not change. The company did not develop new service products, fundamentally change its creativity process or significantly change its service augmentation. Innovation capability did not shape its business strategy.

4.1.2 Service innovation – business strategy implementer – case study 2: IT services co

Established in the early 1980s and based in London, IT Services Co. employs more than 30 people and focuses on providing information technology (IT) services to the market research industry. Their client base totals about 30 companies and at the time of our study, the company's market share was increasing in a market growing at 7-8% per annum.

For most of its history, IT Services Co. did not have a formal strategy: "*It was just a company that existed. We just did what we did and we did what we did each year. We were a group of 15–20 individuals* [consultants] *who just happened to work in the same office"* (Operations Director, Year 1). However, in the year before the start of our study, the company decided to define its business strategy for the first time, since business growth and a growth in the number of employees necessitated a more formal approach to strategic planning. *"Our sales have seen rapid growth—more than market growth—but the projects we are doing are becoming more complex and therefore costing more to execute… we want to compete on the technical expertise of our people…to be better than any other independent* [IT service] *organisation…by offering a recognised high premium service product"* (Managing Director, Year 1).

The business strategy, defined by the Executive team became: *"we will consistently develop people with superior technical expertise who communicate well and are highly valued by our clients… to be the best in the world at providing IT services to the market research industry"* (Business Strategy document, Year 1). The essence of this strategy was *"to seek to be world class at what we do through constant innovation in people, ideas and technology"* (Operations Director, Year 1).

Based on this strategy, IT Services Co. focused on superior technical expertise and process innovation as the means by which to compete (rather than criteria such as cost, quality or flexibility). Bi-monthly strategy discussions between the three main Directors were introduced in Year 1, in order to monitor the success in implementing the new business strategy. An emphasis was placed on improving the knowledge and skill of employees. For example, the company sought to be at the forefront within the industry in adopting the latest technology and so significant investments were made in the latest kit. Employees were expected to attend international conferences to find out how technology was changing and how IT Services Co. could benefit.

An immediate outcome of the desire to implement the new business strategy was a review of existing performance measures and some of them were discarded. In their place, measures of the company's ability to innovate were introduced: *"We had a long debate at Board level* [about the measures used]... *then quickly got rid of 4 or 5 measures that didn't work for us. We have now defined a series of technical targets for staff to achieve… with appropriate rewards and recognition given"* (Operations Director, Year 2).

In Year 2, operational scheduling was improved through the introduction of one-to-one meetings between the Operations Director and his key personnel. These provided a means to ensure that operational improvements were aligned with the business strategy. Also in Year 2, the opening of an office in the United States was perceived as a bold step. The new office addressed the capacity limits of the UK office, as well as pleasing US clients: *"The New York Office supports us* [in London] *as well as bringing in new business"* (Senior Consultant, commenting in Year 3).

In Year 3, continued pressure was being placed on service operations by the Directors, but throughout the period of our investigation, IT Services Co.'s intended strategy remained focused on a desire for the organisation to be 'best-in-class'. Our data show that the service operations function was not directly involved in the strategy-making process. Yet, the status of service operations was high. *"We* [service operations] *are 80% of the business. It's highly valued. We have experienced people who know their business; we* [the Directors] *trust them"* (Operations Director, Year 3).

Throughout the three year period, financial performance was considered good by the Executive team. Overall, they treated their service operations as a tool for the implementation of strategy, rather than the source of innovation capabilities that could help set the strategic agenda.

4.1.3 Service innovation – business strategy implementer: case study 3: vocational awarding organisation

Vocational Awarding Organisation was founded in the 19th century to further vocational education and training and provide certification. It is a major UK vocational awarding body with branch offices in Hong Kong, South Africa, Kenya, and Malaysia plus agents in South America and Eastern Europe. At the start of our study, market growth was approaching 20% per annum.

In the past, Vocational Awarding Org. had not been successful at operational improvements. The Head of Data Management (Year 1) said: *"If you go back 10 years, the perception was that we were very slow, old fashioned… difficult to work with because we had so many ways of doing things. We were innovative in the way we applied sticking plaster. There was a threat to our historically strong market position".* In addition, there was a high level of frustration within service operations, with key staff recognising that a lack of support from the IT department was inhibiting operational improvements. A new business strategy was formulated just prior to the commencement of our study (Year 1), with the imperative for change coming from a newly appointed Managing Director. The strategy chosen was to focus on improving operational efficiency and effectiveness: "*The business strategy… is a five year plan… which I would summarise as mostly about operational effectiveness. Becoming an organisation that's got good systems and processes, good people management practices, better enabled to deliver customer service"* (Head of Data Management, Year 1). Ideas on how the strategy could be achieved were derived from an internal meeting which *"involved all senior managers in a room, in different groups, brainstorming what it was that we needed to be looking at in the next 5 to 6 years"* (Senior Business Analyst, Year 1). The intention was to focus on improving the internal processes, which were perceived to be inadequate.

As a result, resources including IT were allocated to support process improvement. In Year 1, a team of managers from the operations directorate brainstormed no less than 49 different improvement opportunities. These were debated, refined, and grouped into three themes - process improvements; a theme concentrating on customers; and a third on suppliers. Managers were appointed as 'owners', with responsibility for co-coordinating each theme and their progress was reviewed by a programme manager who met with both the theme owners and project teams at regular intervals. The whole strategic drive at Vocational Awarding Org. became to, *"demonstrate the core values of always looking to add value, striving for excellence, engaging with others and never compromising on quality"* (Business Strategy document). Confirmation that what was documented in the business strategy was being applied emerged in our interviews with managers. For example, *"lots of the features of the current 5 year strategic plan are about building a platform so that we may become a more effective business"* (Senior Business Analyst, Year 1).

Vocational Awarding Org. also worked to redefine its key performance objectives (KPOs). New KPOs were set based on the core values highlighted in the business strategy document.

KPIs were devised for each of these objectives and at the end of Year 1, operations then reviewed its performance against them. Senior operations managers gave a presentation to the Board detailing the changes they wished to make to the KPIs for Year 2. For example, some new KPIs were introduced and others were amended where operational performance had improved and so higher targets were needed. This presentation became an annual event.

Continued pressure for operational improvement in Years 2 and 3 took place. The momentum behind improvement in Year 2 lay with a structural change with two contact centres consolidated into one. Further efficiencies and economies of scale resulted. In Year 3 some outsourcing of processes took place, for example the scanning and indexing of all images and the archives.

Our data show that Vocational Awarding Org's service operations were driven by a business strategy which remained static and demanded more efficient and effective service delivery. As the Head of Data Management described it in Year 3, *"our 5 year business strategy… has been very much geared around getting the organisation into a shape where it can deliver the next 5 years"*. As was clearly shown by its KPIs, Vocational Awarding Org. became better at service delivery and, consequently the service operations function gained recognition from senior management. As the Senior Business Analyst said in Year 3, *"I think there's been a lot of celebrating success and a lot of recognition of how well operations has done… so from my personal point of view, operations has improved dramatically"*.

Despite or maybe because Vocational Awarding Org. celebrated the success of their service operations in achieving its improvement targets, the organisation made improvements but did not develop innovations that were capable of aiding the formulation of a new business strategy. During the period of our study the strategy did not change and management even referred to it as the '5-year strategy', indicating that they did not perceive the need for it to be changed during that period.

4.1.4 Service innovation – business strategy formulator - case study 4: pensions administrator co

Pensions Administrator Co. is one of the world's largest providers of risk and insurance management. Our study looked at the business unit that manages pension schemes for client companies. At Year 1, (see Fig. 2, Swim Lane 1), *"our revenue was shrinking because our clients were going* [to competitors]. *We weren't winning new business. Our staff turnover was higher than industry norms. Our reputation was being damaged*" (Client Services Director, speaking of Year 1).

Consequently, in the autumn of Year 1, management conducted customer focus groups, which showed that Pensions Administrator Co. was perceived as 'costly' and 'removed'. This led to what was called a 'holding strategy', *"to recover business levels and increase profitability"* (Client Services Director) by dramatically cutting the cost of service products (Swim Lane 4). The holding strategy also led to a drastic 38% reduction in the service operations workforce between the summer of Year 1 to the end of Year 2. Also in Year 1, Pensions Administrator Co. collected comprehensive service performance data, in order to address the problems identified from the focus groups' discussions.

In Year 2, the company used operations management techniques such as mathematical modelling (operational science – see footnote) *"to align processes with customer needs by removing waste and non-value added activities…"* (Operations Support Director). This led to significant changes in many processes, based on priorities identified in the focus groups. Innovations were driven by the holding strategy and *"Operations were then set goals around those areas* [of operational performance] *that we needed to improve"* (Client Services Director).

By the end of Year 3, data analyses showed that pressure was still being exerted by senior management: *"We must not rest on our laurels when it comes to service efficiency…"* ('Communicating our Strategy' Document, Year 3). However, the previously relentless focus on productivity improvements began subtlety to change. This was triggered by an initiative to assess the skills of the workforce organised by HR and senior operations managers. Initially, this focused on technical skills but then behavioural competencies were added: *"We assess current staff skills…but* [now] *include behaviours and cultural alignment especially for new recruits"* (Client Services Leader, Year 3). The initiative looked at how to quantify behavioural competencies and their impact on customers (Swim Lane, 2). *"It's now more and more about behaviours* [of our service operations workforce]. *It's become less about what you do and more about how you do it"* (Client Services Director, Year 3).

The initiative defined technical and behavioural competencies for every role and a behavioural competency framework was created to determine individuals' performance. For example, 'empathy'- seen as vital for those in front-office roles - was defined as: the ability to use imagination; possession of good listening skills; and the ability to build rapport, all of which could be measured. The emphasis on coaching behavioural competencies was backed by a twice-yearly performance review of individuals' results and progress at developing the behavioural competencies necessary for their job role. By the beginning of Year 4, in parallel with the development of human resources, technological enhancements were also made to facilitate customer contact through optimising the company's website.

The true potential of the technical and behavioural competencies developed was first recognised by sales and marketing. They concluded that the company had not utilised the innovations made, viewed as, *"…dramatic service level*

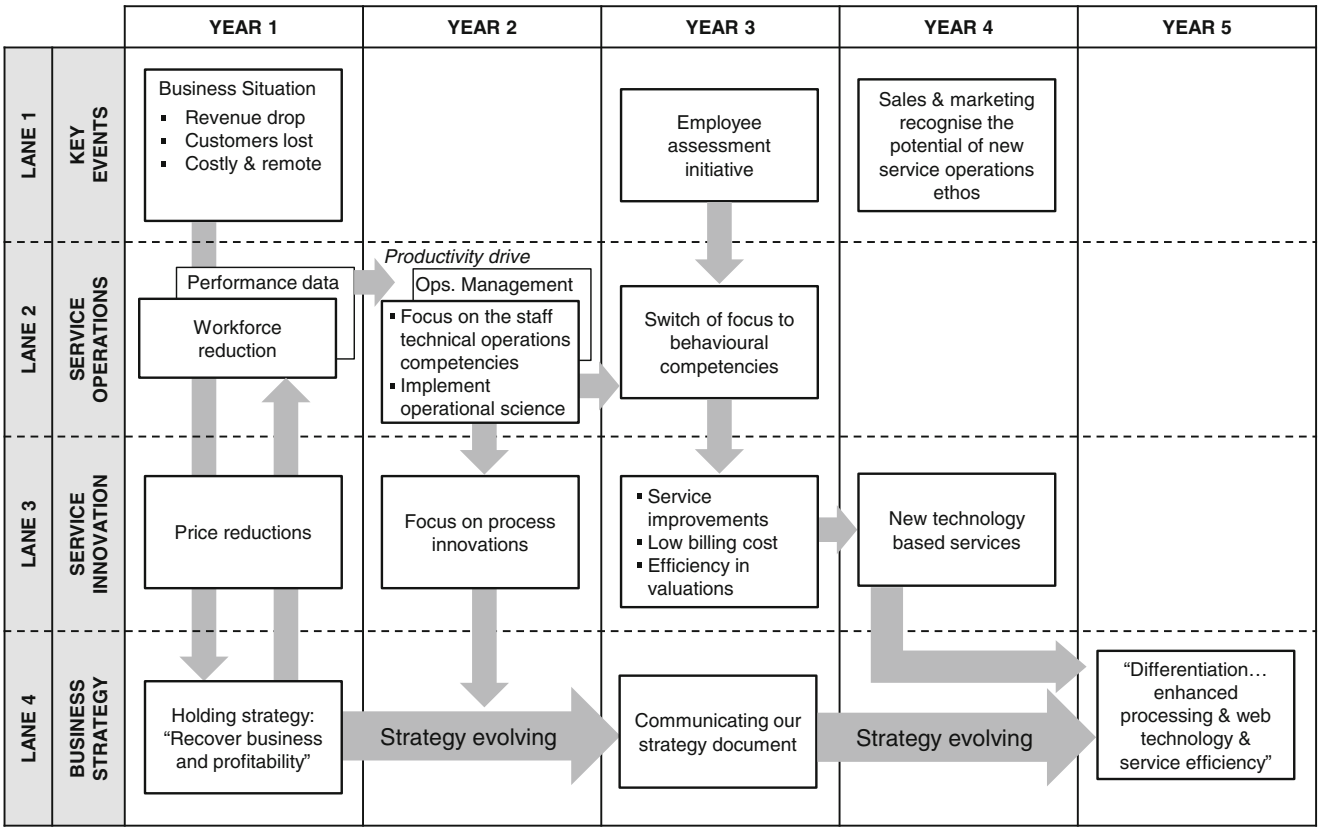

Fig. 2 Swim lane for pensions administrator Co

improvements, significant savings in the cost of client billing, improved efficiency in valuations, major improvements in turning the work we do for our clients into revenue and the creation of an environment where our people challenge how we work and are creative in coming up with solutions to problems impacting performance…" (Year 4, Communicating our Strategy document).

Footnote: Operational science uses scientific research-based principles and mathematical modelling, statistics, and numerical algorithms to inform and improve operational management decision-making.

In the autumn of Year 4, management at Pensions Administrator Co. began, *"thinking about devising a new strategy… utilising the changes that had taken place within our skills and competencies"* (Client Services Director, Year 4). The recognition by service operations managers that their function could contribute more was crucial. It led to a dialogue with senior management concerning the innovations made possible due to the way service operations had reconfigured its people, processes, and systems. This led the company to choose innovation as a key part of its strategy and to target not only customer service but also service products (Swim Lane 4). *"We believe we can deliver distinctive value and innovation to our customers through…developing our unmatched talent and operational excellence"* (Communicating our Strategy document, Year 4).

4.1.5 Service innovation – business strategy formulator - case study 5: security services co

Traditionally, Security Services Co.'s business strategy had been to, *"differentiate through service quality"* (Fig. 3, Swim Lane 4). However, by the end of Year 1, a major loss in market-share had occurred. A key indicator - customer retention - had dropped to 75% from previous levels in excess of 88%.

A customer survey commissioned at the end of Year 1 had revealed that customers perceived Security Services Co. to be 'arrogant' in its dealings with them; the company was seen as having lost its former strong customer-focus. The market feedback led Security Services Co. to develop what they called their *"Steadfast strategy* [which] *involved identifying root causes of problems …and then re-establishing correct processes to solve those problems"* (National Account Director, speaking of Year 1).

The adoption of the 'Steadfast strategy' (Swim Lane 4) led to changes. The company's regions were restructured. This brought about closer collaboration between 26 local centres which hitherto had operated semi-autonomously. An effort was also made to integrate processes across service centres, eliminate duplication of effort, and achieve better resource utilisation. Training days were established for all service operations' employees (including management) with dedicated

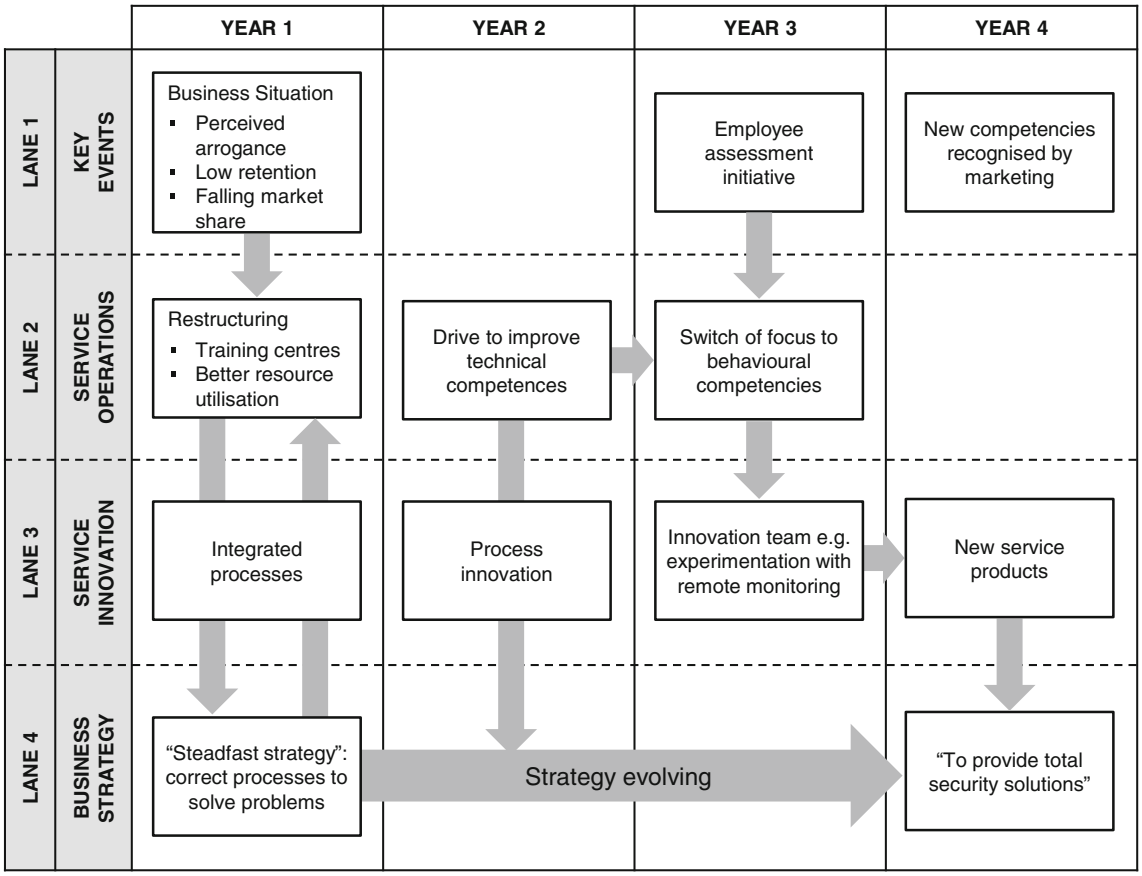

Fig. 3 Swim lane for security services Co

training rooms in every service centre created. 75% of front-line service providers (equating to approx. 6000 employees) were released from their duties for specified periods in order to complete technical skills training.

The improvement of technical skills led to innovations in customer service. For example, visit reports were provided in a more timely fashion; global positioning systems were better used with failsafe devices that guaranteed that a visit by an officer had taken place in empty buildings (important for insurance purposes); customers received immediate responses to queries even if their Contract Manager was away from the office on other site visits.

By end of Year 2, operational changes had begun to emerge independent from the data generated from the Year 1 customer survey. The benefits of investing in the technical skills of its workforce started to show in the ideas being generated for new ways of delivering services. For example, the company began to trial 24 h operational support management for dealing with 'out of hours business' issues on customers' sites. The idea for this trial had originated from a front-line employee. An 'ideas book' was now maintained on every site and every centre, with the ideas being reviewed by the General Manager of the centre.

Throughout Year 2, Security Services had continued to improve the technical competencies of its service operations' workforce but behavioural competencies came to the fore by the beginning of Year 3. *"The base level* [job technical competencies] *that we started with was a good one, but it was just that - a base level. We've moved up… we were now looking at… personal development plans* [at all levels within the company] *that go beyond technical skills to include personal characteristics of people…doing the job"* (National Account Manager, speaking of Year 3). The Year 3 competency frameworks described behaviours that Security Services Co. wished to foster amongst its staff. "*We established…a package of training that gave our operations teams* [understanding] *of behaviours needed for us to become THE professional security manager* [in the industry]*"* (National Account Director, Year 3). The descriptions were designed to show the workforce at each level what was required by way of observable indicators of behaviour.

During Year 3, the service operations' management team believed that the combination of technical and behavioural competencies that they had developed was unique in their market. Senior management assigned an 'Innovation Team' to determine how to capitalise on these workforce competencies. Ideas for security solutions using technology emerged and a willingness to experiment with services was, in itself, a new and useful competence. Security Services created a technology division for this. For example, "*…in this industry 'remote monitoring' means an alarm is activated and the*

security company responds. But now, remote monitoring means more than that to us. We initially look at the physical set up of the building, where [placement and concealment] *of electronics can lock the building, unlock the building, monitor it throughout the night, and we'll have an operator who will have a mobile camera who can even talk to people on the ground…"* (National Account Director, Year 3).

At the beginning of Year 4, the Board of Security Services defined a new strategy (Swim Lane 4). The Board aimed to apply the ideas of the 'Innovation Team'. Now the company offers not only a greater array of services but also totally new service products under the 'total security solutions' umbrella.

5 Cross-case data analysis and development of research propositions

Across the five case studies, we were able to identify what impacted the development of service innovation capability. By comparing and contrasting the service innovation business strategy implementers (Cases 1, 2 and 3) and the service innovation business strategy formulators (Cases 4 and 5), our cross-case data summarised in Table 4 indicate that a number of conditions develop that either causes a service company to focus on implementing business strategy, or to develop an innovation capability that can help inform the business strategy. These conditions lead us to put forward a series of propositions to explain how innovation capability develops to formulate the service organisation's business strategy.

In Cases 1, 2 and 3, financial performance was good and profits year-on-year remained stable. Improvement activities to enhance service delivery were carried out to support the business strategy and continuously stable profits. Senior management appeared satisfied with company performance. Customer data were used to set new targets, triggering operational improvements to existing product features and service product augmentation. Business strategy was not formulated on the basis of the organisation's ability to innovate because the focus was year-on-year implementation of business strategy. However, in Cases 4 and 5, complacency had occurred within each company with subsequent erosion in performance, market share and profit instability. In common with Cases 1, 2 and 3, customer data were still collected but the pressure for profit recovery led to disruption in each company's operations structure and infrastructure. In Case 4, there was a reduction of 38% in its operations workforce between the summer of Year 1 and the end of Year 2 of our study. In Case study 5, loss of jobs ensued from restructuring of their 26 service centres and the removal of duplicated processes across the centres. Based on this, we propose:

Proposition 1: Profit instability leading to the restructuring of service operations is more likely to lead to the development of a service innovation capability that can help formulate business strategy than profit stability.

Training and development of front office staff and first line management in Case study 1 focused on their obtaining better knowledge of the company's service product offerings in order to communicate this to customers. For example, the purpose of the training programme in Year 1 in Case 1 was to provide staff with information about the health insurance market and their company's competitive position. In Cases 2 and 3, employee training and development was focused on improving their technical competencies in order to improve job performance so that operational efficiency and effectiveness could be enhanced. Similarly in Cases 4 and 5, front-line staff and first line management training during the first 3 years in Case study 4 and nearly 2 years in Case study 5, was also focused on a desire to improve their technical skills (in Case 4 the adoption and application of operational science was the critical approach taken in Year 2; in Case 5 this meant improvement in technical security skills in order to perform security job roles better). The improvement of technical competencies possessed by their employees was ruthlessly pursued by both companies. Despite all five cases focusing on improving their employees' technical operations competencies, the 5 cases did not develop the capability to innovate sufficiently to help formulate business strategy. Other conditions were also needed to achieve this. On this argument, we put forward the second proposition:

Proposition 2: The attainment of improved technical competencies by service operations' employees is not sufficient to lead to the development of an innovation capability that can help formulate business strategy.

However, in Case studies 4 and 5, unlike Cases 1, 2 and 3, the improvement in the technical skills possessed by their respective workforces was a prelude for the pursuit of behavioural competencies which started to dominate their training agenda; in Case 4 this was 30 months after severe disruption to its operations had occurred compared to 18 months in Case 5. The role played by behavioural competencies in the development of service innovation capability appears to have been a key one. Eichinger and Lombardo (2011) examine the competencies, including behavioural ones; they believe make people successful in their job role or cause career derailment. They define competencies as, "*measurable characteristics of a person that are related to success at work. They may be behavioral, a technical skill, an attribute (such as intelligence) or an attitude (such as*

Table 4 Cross-case similarities and dissimilarities

	Case study 1	Case study 2	Case study 3	Case study 4	Case study 5
Description of business performance at commencement of the investigation	Market share stable. Revenues and profits increasing year on year incrementally	Recent market share increasing. Revenues and profits showing an increase. Costs increasing	Recent actions taken to reverse stagnating business performance despite healthy growth in the market	Market share and revenues declining. Business performance deteriorating	Market share, customer retention ratios in decline – revenues and profits stagnating
Description of business strategy / vision at commencement of the investigation	To be the number one provider of health and care insurance in the UK; strategically, bigger, more influential and consistently profitable	To be the best in the world at providing IT services to the market research industry through constant innovation in people, ideas and technology	A five year plan to become operationally effective with good processes and people management better able to deliver service	Adoption of "Steadfast Strategy". Correction in decline of business performance	Adoption of "holding strategy". Correction in decline of business performance
Focus of service operations improvements / innovation (years 1 – 3)	Meeting requirements of business strategy	Meeting requirements of business strategy	Meeting requirements of business strategy	Meeting requirements of business strategy	Meeting requirements of business strategy
Staff training / development actions in year 1	A focus on obtaining better knowledge of company's service product offerings and the health insurance market	Attendance at international IT conferences and training in latest IT kit developments.	A focus on understanding newly devised core values. Training on tools and techniques of process improvement	Training in process improvement tools and techniques, lean and operational science	Training in technical "security" skills and use of technology
Staff training / development actions after year 3	As above (unchanged)	As above (unchanged)	As above (unchanged)	Shift in focus from development of technical competencies to drive for behavioural competencies	Shift in focus from development of technical competencies to drive for behavioural competencies
Competence and capabilities developed amongst frontline operations staff	Customer relationship competencies	Technical competencies in IT	Technical operations competencies	Technical operations competencies but behavioural competencies considered more important in years 3 and 4	Technical operations competencies but behavioural competencies considered more important in years 3 and 4
How innovation capability was manifested	Process improvements aimed at meeting requirements of business strategy	Process improvements aimed at meeting requirements of business strategy	Process improvements aimed at meeting requirements of business strategy	Initially process improvements aimed at meeting business strategy requirements. But by years 3 and 4, creation of an environment where people challenge how they work and are creative in devising solutions impacting performance	Innovation teams established. Technology division created
Description of business strategy at end of the investigation	No change	No change	No change	To deliver distinctive value and innovation to our customers by continual development of our unmatched talent and operational excellence	To deliver 'total security solutions' to our clients
Types of innovation conducted (based on classifications from Booz et al. 1982 and de Brentani 2001)	Incremental	Incremental	Incremental	Incremental shifting to Radical in year 4	Incremental shifting to Radical in year 4
	Service innovation business strategy implementers			Service innovation business strategy formulators	

optimism)" (Lombardo and Eichinger 2000, p. 5). Behavioural competencies specifically refer to personal attributes or characteristics (i.e. attitudes, values) that describe how a job or task is performed as opposed to the skills required to perform that task or job role (technical competencies). Allied with excellent technical competencies, our findings show that the attainment of behavioural competencies must be present if innovation capability to help formulate business strategy is to be fulfilled. Case companies 4 and 5 focused on developing such behavioural competencies. Cases 1, 2 and 3 did not.

In Case Study 4, managerial actions taken to develop the behavioural competencies of its operations' workforce were planned. The organisation set out to train their HR and leadership (L&D) teams, through attendance on an external-facilitated cognitive coaching course. At the same time, behavioural competencies required of different job roles were defined and written up in a framework document. A programme, led initially by HR and L&D but later by senior operations leaders, was rolled out to all operations staff. By Year 3, the Client Services Director was able to state, *"it's now more and more about behaviours* [of our service operations workforce]. *It's become less about what you do and more about how you do it".* The programme involved individuals reflecting on their preferred work styles and attributes which were compared with the framework document. The emphasis on coaching behavioural competencies was backed by a twice-yearly performance review of individuals' results and progress at developing the behavioural competencies necessary for their job role. Bi-monthly online self-assessments which tested how well the individual was developing the required behavioural competencies were made available for staff to complete.

In Case 5, the switch from an effort to improve operations' technical competencies to a focus on behavioural ones was not 'training' led as in Case 4. Instead, the original technical competency framework which defined the skills and technical competencies required of job roles went through four iterations over a period of 18 months. By the end of this time, the document included definitions of behavioural competencies as well as technical skills needed. Appraisals of front-line staff and first-line management included personal evaluations and plans of actions for individuals against the competencies set out in this document. Our third proposition becomes:

Proposition 3: When employees develop behavioural competencies in addition to technical operational competencies, this combination leads to the development of innovation capability that can help formulate business strategy.

In Cases 1, 2 and 3, the interaction between service managers and senior operations management was tactical, based on meeting targets set from above. For example, a Senior Operations Manager in Year 2, Case study 1 recognised this limitation saying, "*we have too much emphasis on minute-to-minute, day-to-day operation*[al] *targets as opposed to bigger things that are more important"* but did not communicate this concern to Board level management. In Case 1, the Head of Marketing flagged weaknesses in their creative process in Year 3.

Yet in Case 4, by the beginning of Year 4, the effort to develop human resources had gained such momentum that the competencies of the organisation had developed faster than market demands. In parallel to the development of human resources, technological enhancements had been made to facilitate customer contact through optimising the company's website. A different customer care and service ethos had become ingrained within the service operations function. This led service operations' managers in Cases 4 and 5 to take the initiative to start a more 'strategic' interaction with senior management; they identified that new competencies could be the basis for innovation that could shape and help formulate the business strategy.

Hence, recognising the potential of service innovation was an important feature in Cases 4 and 5. Case 5 created an innovation team in Year 3 which sought to capitalise on new competences developed by its newly attained ability to innovate. "*What we're doing now is not business as usual.* [The security services industry] *has not been a particularly innovative market place to be in. However, we now are able to look at anything that has synergy with security"* (National Account Director, end of Year 3, Case study 5). In Case 4, senior management were able to, "*think about devising a new strategy…utilising the changes that had taken place within our operational skills and competencies"* (Client Services Director, Year 4). A final proposition is put forward:

Proposition 4: Recognition of the potential of service operations is necessary before new competences can help formulate business strategy.

6 Conclusions, implications for management and future research

For academics, resource-based strategic thinking has long established that competitive advantage derives from

using a firm's resources to develop capabilities and competencies that competitors find difficult to replicate. With responsibility for most of the organisation's resources, operations have the ability to support the achievement of competitiveness. Indeed, RBV includes operations as a strategic element. Yet the resource-based view implies that managers need to identify which resources and capabilities will become valuable in advance of changing competitive factors in the market (Pandza et al. 2003). Operations management will be reluctant to invest resources to develop capabilities on the mere possibility that what is created may provide the basis of a new operations-based business strategy. While the resource-based view offers a persuasive appeal, managers require more help if they are not to rely on mere speculation of future value (Bowman and Ambrosini 2007).

Our paper helps reduce this gap in knowledge partly because an empirical study examining how innovation capability develops within service operations is rare. The four research propositions derived from our cross-case analyses provide insights into how the ability to innovate can develop within service operations to shape or help formulate the business strategy and not just implement it. The paper's findings begin to address the gap between theory and practice, by offering guidance to service operations' managers on how the capability to innovate can occur in their operations. The study shows that the resource development process the service organisation pursues will condition the type of innovation that it creates.

The development of innovation capability in the five case studies indicated a sequential process. The findings align with the accepted view of path-dependency and the importance of taking a sequencing approach by a company to resource development decisions (Grahovac and Miller 2009; Pettus 2001). In Cases 1, 2 and 3, this sequential process over a three year period was governed mainly by the achievement of on-going stable profits and an emphasis on improving employees' technical job skills. Senior management appeared satisfied for its service operations to undertake minor changes to its technologies, simple service improvements and other incremental innovations which focused on implementing the business strategy each year. In Cases 4 and 5, it was the advancement in the employees' behavioural competencies, having first improved their technical skills that became instrumental in each organisation creating more radical innovations.

Indeed, the analysis of the five case studies highlights the evolution of the service firm's innovation capability: from one that aims for stable profits by responding to market data (used to inform the company's strategic objectives), to one where the attainment of excellent technical operations' skills becomes the norm for employees. This is the foundation on which the support for personal growth through coaching, mentoring and greater self-awareness amongst the workforce becomes the passion of the operations function. We conclude that services can be at their most innovative when combining new behavioural development competencies with their existing technical competencies.

For management, this article identifies a number of conditions that develop to either cause a service to focus on the development of innovation capability as implementer of business strategy (by which we mean a continuing focus on carrying out existing operational activities better), or results in an innovation capability that can help formulate the business strategy. We do not place greater importance for firms to strive to become radical service innovators. Indeed, the prevailing view in operations management has been that innovation is guided by strategic objectives and incremental innovations can provide the basis for achieving and maintaining a competitive edge. Instead, we advocate that the attainment of an innovation capability that can inform business strategy is more likely to take place following a period in which the company experiences pressure on profits leading to severe operational disruption (including perhaps restructuring and redundancies). However, prudent management will likely seek to create capacity and clarify the role of service innovation to avoid the risk of their service falling victim to the emergence of any new disruptive technology.

We recognise that care is needed in generalising from five case studies. Therefore, our focus has been on distinguishing when and how the service operations function develops an innovation capability by comparing the different conditions in each of our case companies. We do not believe that the development of an innovative capability can be prescribed, but that our data suggest that the innovation carried out within the five services conformed to a 'profile' in which interactions (tactical or strategic), distinct types of competencies (technical or behavioural) and business/functional strategy influence (top down or mutually reinforcing) exists.

We also recognise that as an exploratory study, we cannot state all the conditions under which innovation capabilities in services develop; neither do we seek to compare and contrast how innovation develops in service companies with manufacturing businesses. These would be areas that researchers could consider in future studies. Another current gap within the topic of services innovation is exploring which targets or measures are appropriate for driving service innovation. Perhaps the main limitation of the study concerns the need for further insights into the relationship between service innovation capability and the specific

return on investments. This is a key topic on which further research is necessary.

Acknowledgments We are grateful for the support and consent provided by the five participating companies.

Conflict of interest The authors declare that they have no conflict of interest.

Appendix 1 Data collection phase 2 – interview script

This is the interview script used in all interviews. However, for illustrative purposes, the incidents derived from Phase 1 of data collection within Health Insurance Co (Case Study 1) are shown. Other interview scripts for different case studies contained different incidents.

The documents listed below (data collection Phase 3) were requested, and where the document existed, examined to support interviewees' assertions and triangulate data. The phrase 'corroborating documents' was used when we were unsure of precisely what document to request to support the interviewee's answer. For example, in Q11, no corroborating documents were available. In Q20, the minutes of a meeting between call agents were made available to us. The minutes showed that some measures were no longer being used.

Section 1	General context questions	Supporting documents
Q1	What is your job role and how long have you been doing it?	
Q2	Please could you describe the business strategy of the company?	Strategy document
Q3	Does the company have a competitive advantage? Please explain	
Q4	How is the business strategy formulated? Are strategy reviews held?	Minutes of meetings
	How is the document put together? i.e. How is it devised?	
	What form does the discussion take?	
Q5	How would you define 'operations' in your company?	
Q6	Is there a follow up meeting with operations people after the strategy review?	Minutes of meetings
Q7	How does the operations part of the business contribute to the strategy?	Minutes of meetings
	How does it occur?	
Section 2	Performance and operational influence	
Q8	What's your assessment of the firm's financial performance over the past 3 years? How fluctuating has it been? Incidents: Pressures from external market	Competitor surveys
Q9	How does it compare with the performance of your competitors?	As above
	How do you know? Do you undertake benchmarking exercises? (Internal, external or best practice?)	Related documents
Q10	What's the organisational structure in operations?	Organisation chart
Q11	What is the influence of operations compared to other areas of the business? On what do you base your answer?	Corroborating docs
Q12	How do you and operations generally keep in tune with the market? Incidents: Envoy project Segmenting customers by region	Sales/marketing meetings
	Customer improvement opportunities	
	Listen to customers' feedback	
	(Ways by which you get this info; info. comes in at lower levels?	
	What happens when you get it? How is the info. used?	
	How do you decide what to reject?)	
Q13	What operations meetings take place at the different hierarchical levels? Incidents: Bi-annual management conferences	Minutes of meetings
Q14	Do you organise structured operations based workshops?	Minutes of meetings
	Incidents: Think tanks	
	Operational review (same as Envoy project?)	
	– How undertaken?	
	Process review (different from above?)	

	– How are they undertaken?	
	(All of above – Purpose, frequency, who attends, formal or informal, organised, how are pilots organised?)	As above
	How do they tie in with meetings at different levels?	
	Do you have any meetings to discuss outcomes of operations?	
	Decisions made?	
Q15	Is there an operations strategy? (or any equivalent?)	Strategy documents
	(If so, what is it? Who contributes, where does info. for it come from?)	
Q16	Are operations strategy type workshop/discussions ever held?	Minutes of meetings
	(If yes, tell me about them, if not, why not held?)	
Q17	What do you believe to be the operations priorities? i.e. things ops must do well	Minutes of meetings
Q18	How do you know that these are the priorities?	Strategy related docs
Q19	Do you know how well operations is doing in achieving its competitive priorities compared with those being achieved by your competitors?	Competitor surveys
Q20	What operations performance reports do you receive?	Appropriate report
	What do you do when you get them?	KPI reports
	How do you know that the KPIs reported are still valid? Are KPIs ever changed?	Corroborating documents
	(Do you ever do an audit of PMS? How is it undertaken? If not, why not?)	
Q21	Do you keep records of the time you or /and your people spend on various activities?	Timesheets
Section 3	Improvement/innovation – creative process	
Q22	How do the ideas from the staff get aired?	Corroborating docs
	Incidents: Ideas books	
Q23	How do you decided that some activities (or initiatives) are deemed worthy of turning into pilots and others not?	
Q24	How do you decide that changing ‘X’ process is more important to improving competitiveness than changing ‘Y’ process?	
Q25	How then do they become an everyday part of ops activities?	
Q26	Does the firm use the words capabilities and competencies?	Skills register
	What are operations competencies and capabilities?	
	Are these competencies codified or articulated?	
	(Is there a difference between the terms?	
	Can you name them? Are any unique?	
Q27	Does the firm undertake any assessments of its core and non-core competencies? How is this assessment carried out?	Minutes of any meetings
	If not, why not?	
Q28	What is the knowledge that provides the company with competitive advantage?	Corroborating docs
Q29	Where does this competency reside within the organisation?	Frameworks
Q30	Do you have an R&D department? If not why not?	
Q31	How do you know that operations have acquired the requisite level of competence?	
	Incidents: Competency frameworks	
Q32	Does the firm have measures that relate to how well new competencies are being developed?	KPI reports
	Corroborating docs	
	If so, what are they? If not, why not?	
	If answer yes, how are the data that generate these measures collated?	
Q33	How is tacit knowledge discovered and/or assessed?	Corroborating docs

Appendix 2

Table 5 Examples of respondent job titles and examples of documents examined

Case study	Questionnaire respondents' typical job titles	"Senior" typical leadership interviewees	Some examples of documents examined
Health Insurer Co. (Case study 1)	UK Service Manager Customer Service Managers Head of Customer Relations Business Project Manager	Senior Operations Manager Head of Marketing	Customer service strategic plan Presentation document to Board of competency gap analysis with data generated from interviews with key marketing staff, co-ordinated by external consultants Issues of staff circulars with details of results of customer surveys Presentation on outsourcing strategy
IT.Co (Case Study 2)	Director Operations Manager Senior Consultants Consultants	Operations Director Managing Director	Business strategy documents Presentation to all consultants from Directors outlining business performance, Year 1 compared to Year 2 Customer satisfaction ratings, marketing and operations updates, impending conferences, planned strategy reviews Documents relating to firm's history and development
Vocational Awarding Institute (Case Study 3)	Development Managers Team Co-ordinators Distribution Manager Senior Manager (Supply) Manager (Data Processing and Archives)	Head of Data Management Marketing and Strategy Manager	5 year Corporate plan KPOs year on year Improvement project plans Minutes of meeting relating to CRM database Competency frameworks
Pensions Administrator (Case Study 4)	Operations Support Director Client Service Leaders Service Centre Managers Client Service Manager Human Resource Manager	Client Service Director Sales and Relationship Manager	'Communicating our strategy' which summarises the strategic plans Strategic roadmap Business goals documents Online assessment, learning management system, pensions review Leaflet/letters to staff informing of business progress Behavioural competency frameworks
Security Services Co. (Case Study 5)	Regional Operations Manager National Account Managers Operations Manager Area Managers National Account Manager (Ops and Training) Contract Manager	National Account Director Finance Manager	Details of the ideas book scheme Minutes of meeting relating to interim business plan Document relating to customer survey with main findings Competency frameworks

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