An enabler or a disabler? A dual role of management accounting in service innovation

Seidali Kurtmollaiev
Norwegian School of Economics (NHH)
Department of Strategy and Management
seidali.kurtmollaiev@nhh.no

Tor Helge Aas
Norwegian School of Economics (NHH) / Agderforskning
Department of Strategy and Management
Tor.helge.aas@agderforskning.no

Abstract

There is a long tradition of regarding management accounting as an obstacle to innovation and creativity. More recent studies, however, claim that management control systems may enable innovation. Based on example of two service companies, the paper explores this dual role played by management accounting in the new service development process. It is found that companies rely heavily on formal control systems and calculations on the earlier stages of the innovation process to ensure the efficiency and success of the future service, but then management accounting loses its importance, either becoming a hindrance or not being applied at all. The study also presents advantages and disadvantages of both formal and informal management control systems in service innovation process, stressing the necessity of balancing between their rigidness and looseness.

An enabler or a disabler?

A dual role of management accounting in service innovation

Abstract

There is a long tradition of regarding management accounting as an obstacle to innovation and creativity. More recent studies, however, claim that management control systems may enable innovation. Based on example of two service companies, the paper explores this dual role played by management accounting in the new service development process. It is found that companies rely heavily on formal control systems and calculations on the earlier stages of the innovation process to ensure the efficiency and success of the future service, but then management accounting loses its importance, either becoming a hindrance or not being applied at all. The study also presents advantages and disadvantages of both formal and informal management control systems in service innovation process, stressing the necessity of balancing between their rigidness and looseness.

Keywords: service innovation, new service development, management accounting, performance measurement

Introduction

In recent decades the service sector has been experiencing rapid development, and at the turn of the century most highly industrialized countries have become "service economies" (Schettkat and Yocarini, 2006). As the role of service sector increases, the ongoing development of new services becomes critical for competitive survival (Johnson et al., 2000).

A new service can be defined as "an offering not previously available to customers that results from the addition of offerings, radical changes in the service delivery process, or incremental improvements to existing service packages or delivery processes that customers perceive as being new" (Johnson et al., 2000: 2). A new service is a result of an innovation process, which is usually called "New Service Development" (NSD) and contrasted with New Product Development (NPD) on the basis of differences between services and products. Among special features that distinguish services from products are customer participation, intangibility, simultaneity, heterogeneity, perishability, information intensity and fragility of property rights (Pedersen and Nysveen, 2010). It has brought up

discussion on whether innovation in services needs approaches that are different from the ones applied to manufacturing industries, and most scientists agree that NSD has a different character than NPD (de Jong et al., 2003; Dolfsma, 2004; Schleimer and Shulman, 2011; Ettlie and Rosenthal, 2001; etc.).

Several studies (Djellal and Gallouj, 2001; Hipp and Grupp, 2005; Ottenbacher and Harrington, 2010; Audretsch et al., 2011) indicate that it is more typical for NSD to take form of improvements rather than radical innovations. Thus, Hipp and Grupp (2005) find that it is twice as less radical innovators in services as in manufacturing, and 75% of service firms launching new services actually imitate existing services. The authors voice support for findings and thinking by Djellal and Gallouj (2001), who declare an incremental nature of innovation in services. Similarly, in a German survey by Ottenbacher and Harrington (2010), incremental NSD projects account for 75.4% of all NSD projects. The authors speculate that the reason lays in the fact that radical innovations involve more risk, time and resources.

This work provides a different perspective on the phenomenon by investigating the role of management accounting, particularly performance measurement, in the process of developing new services. The crucial role of management accounting in decision-support and decision-making has been widely discussed and accepted for a long time (Burchell et al., 1980; Mellemvik et al., 1988; Chenhall and Langfield-Smith, 2007). However, its role becomes ambiguous with respect to innovation management: on the one hand, formal control systems are regarded as brakes on creativity and innovation, and on the other hand, they may enable innovation if used properly (Mouritsen et al., 2009). This phenomenon has been discussed in the NPD literature, and is often referred to as the "help or hinder debate" (Akroyd, Narayan and Sridharan, 2009). One stream of NPD research, the "hinder" literature, (e.g., Tushman, 1997; and Amabile, 1998), argues that management accounting systems are designed for stable conditions and may not accommodate the uncertainty inherent in NPD. Another stream of NPD research, the "help" literature (e.g., Bonner 2005; Cooper, 2001; Davila et al., 2005) argues that management accounting systems are important for coordinating and controlling NPD projects and that management accounting systems are able to ensure that NPD projects with a high value potential are conducted and that NPD projects with a low potential are blocked.

The "help or hinder debate" in the NPD literature has been based on empirical insights from the manufacturing industries. However, the same debate, based on empirical insight from the service sector, has until now been virtually absent in the NSD literature. This literature gap is concerning because due to the differences between products and services and between NPD and NSD it is not clear whether the findings from the NPD research can be transferred to NSD.

Thus, this paper aims to provide an initial contribution to the "help or hinder debate" for NSD by exploring the role of management accounting in the service innovation process of two large Scandinavian service firms.. In other words, we intend to clarify whether management accounting is an enabler or a disabler of service innovation. Specifically, the paper addresses two research questions:

- *RQ1*. How and why is management accounting used in the NSD process?

- *RQ2*. How and why does management accounting influence decision-making related to service innovation?

The paper begins with a brief overview of the literature on the topic. Next, the methodological framework of the study is described, followed by the presentation of the empirical results. The final part includes discussion and conclusions as well as limitations of the study and discussion of what a future research agenda may be.

Background literature

The management of service innovation faces a number of challenges (Pedersen and Nysveen, 2010), and one of the them concerns performance measurement, since neither patent acquisition, nor R&D measurement, nor other classical measurement concepts applied in manufacturing are useful with respect to service sector (Hipp and Grupp, 2005; Cainelli et al., 2006). Some of the reasons of this problem are associated with difficulties of defining the content of transaction, the output of service activity and the relevant price for it (Griliches, 1992). The facts that services are most often produced and consumed at the same time and not embodied in any tangible output, often result in underestimations of service innovation and its effects on economic performances (Gallouj and Savona, 2009). Although there has been attempts to relate innovation to economic performance in services (Cainelli et al., 2004; Lopes and Godinho, 2004; Matear et al., 2004; Cainelli et al., 2006;

Kanerva et al., 2006; Aas and Pedersen, 2011, Hertog et al., 2011), these studies deal, first of all, with the question of how to measure innovation performance at either firm or industry level (mainly for academic reasons, e.g. comparing innovators with non-innovators to justify innovation).

Much less has been done in analyzing how the process of measuring innovation for managerial purposes actually happens within a service firm. While Voss (1992) concludes that performance measurement of NSD projects or programs is not a trivial activity for service enterprises. Storey and Kelly (2001) find that the UK service firms employ mainly financial (e.g. profit, sales, ROI, market share, etc.) and customer-based (customer satisfaction, new customer, market feedback, etc.) measures, but truly innovative firms use in addition "softer internal dimensions" such as future potential, efficiency, strategic fit and others. Exploring management control systems in NSD with focus on performance measures ten years after, Aas (2011) still find them to be simplistic, one-dimensional and dominated by financial measures as opposed to multi-dimensional and complex control systems of product innovation management.

On the other hand, Zomerdijk and Voss (2011) discover that experiential service providers need multiple performance measures for NSD, including sector-specific metrics, due to the differences in understanding of what maximizing return on investment and maximizing customer value are. The authors mention such indicators as sales, customer satisfaction, customer loyalty, etc. which, although being used extensively, rather measure traditional performance aspects and do not focus on individual customer experiences.

Storey and Kelly (2001) also notice that due to limitedness of number of performance measures used by the firms, there is need in normative studies aimed at developing measures that reflect the long-term objectives behind service innovations. An example of such research might be articles by Aas (2009) and Aas (2010), where the author develops and then implements an ex-ante value assessment tool for service innovation ideas. In turn, Hipp and Grupp (2005) and Gotsch and Hipp (2012) suggest using trademarks (dealer's brands, trademarks and service marks) as a substitute for patents for measuring innovation in the KIBS firms.

In spite of previously mentioned studies, performance measurement of innovation in service firms remains terra incognita, and, as den Hertog et al. (2010) notice, linking

service innovation efforts and results to overall firm performance is still one of the main research challenges.

Methodology

To explore the role of management accounting in service innovation, we have chosen an explorative research design. This design was chosen since the nature of an explorative research design (flexibility and versatility of research process, the small size of sample, tentativeness of results) brings the research closer to social constructionism, which is characterized prioritization of constructions and meanings that people place upon their experience as well as individual and collective thoughts and feelings (Easterby-Smith, Thorpe and Jackson, 2008).

As Rubin and Rubin argue (2005), the interpretative constructionist approach entails observational and depth interviewing projects. Thus, the main method of data collection is semi-structured interviews, being the most suitable way of getting insight into a few particular organizations under the exploratory research. This type of interviews implies the use of topic guides as a loose structure for the questions with possible deviation from the sequence in order to follow interesting lines of inquiry or go deeper into accidentally appeared topics (Easterby-Smith, Thorpe and Jackson, 2008).

Since the aim of our study was to explore the role of management accounting in NSD, we searched for service firms that had been active participants in research projects both related to innovation and management accounting. This sampling procedure was chosen to ensure that the cases selected for in-depth investigation would actually be able to offer opportunities to learn and build theory about the role of management accounting in service innovation. The sampling procedure resulted in the selection of two large Scandinavian service firms: one telecommunication firm, Comofone, and one insurance services firm, HelpHand (the names have been changed).

The innovation manager of both firms was contacted and they were kindly asked to provide at least three informants with different roles and from different firm levels. As a result we interviewed six employees (three researchers, one strategy and development director, one portfolio manager and one product manager) in Comofone, and three employees (one innovation manager, one product manager and one strategy manager) in

HelpHand. The interviews were conducted in the period December 2011 – June, 2012.The companies and informants are presented in Table 1 (the names are changed).

Table 1: The cases and respondents

Firm	Industry	Informants
Comofone	Telecommunication	3 researchers, strategy and development director, portfolio manager, product manager
HelpHand	Insurance services	innovation manager, product manager, strategy manager

The interviews were carried out according to the standardized open-ended interview approach. It means that set of questions was carefully worded and arranged with the intention of taking respondent through the same sequence, i.e. each respondent was asked the same questions with essentially the same words, thus increasing comparability of responses. The application of this approach is explained by the limited time (managers usually are not able to find more than one-two hours for the interview) and wish for reducing interviewer effects, variation in the questions and the possibility of bias that comes from having different interviews from different people (Patton, 1990). Additional interviews were conducted in order to obtain more specific information required for making cases comparable. Questions were formulated according to a resource-process framework of NSD by Froehle and Roth (2007) and were related to strategy, portfolio management, process, front-end, tools, measures and metrics, outcomes of process-oriented service innovation practices as well as intellectual resources, organizational resources, physical resources and culture (resource-oriented service innovation practices).

Structurally, the interviews were organized by combining main questions, follow-up questions, and probes. Main questions were prepared beforehand to secure all the major parts of my research problem were covered, whereas the follow-up questions were asked to elucidate themes, concepts, and events that the interviewee introduced (the interview guide is presented in Appendix 1). For instance, one of the main questions in interview guide was "How did you measure the results of the project?", while the corresponding follow-up questions were "Before deciding to invest in the idea, did you use any specific methods to evaluate the idea?", "Who evaluated the idea?", "What tools and methodologies were used during the process", etc. Probes were needed to manage the conversation by keeping it on

topic, signalling the desired level of depth, and asking for examples or clarification (Rubin and Rubin, 2005). An example of using probes can be laddering, that is technique, which helps a respondent to reveal the underlying values by moving from mere statements of descriptive accounts. During interviews a great number of probes was used such as "Does it mean that the project without clear economic gains will be stopped?", "How did you get the idea accepted in the top-management?", "What do you personally think about this approach?", etc.

All interviews were recorded and transcribed. The information was pulled together, edited, sorted out and organized to form the comprehensive, primary resource package, or, in other words, case records. These case records were used to analyse and compare the data across the firms.

Empirical results

Comofone

Comofone is a large company, operating in telecommunication industry both in Scandinavian and international markets. Our results suggest that innovation projects are typically initiated by specially educated facilitators or product managers that normally gather ideas around the organization. If it is an idea from outside though, it circulates for a while among the managers until someone decides to volunteer for its development. Our informants estimated that about 80% of ideas represent technology-driven innovation.

The company has implemented a formal and clear phase-gate process in the development of new services. The process begins with the innovation phase, where an idea shows up, and the criteria at the first decision gate are either high technological effects or high economic gains in short-term period. It is crucial that the first evaluation concludes that the project will be able to show benefits early, otherwise the project will be terminated already at the first gate. An important role in the selection is played by visualization of the concepts through making service prototypes. Usually, less than a half of the new ideas pass the first gate and proceed further to the initiation phase. Some projects that pass, however, often get low priority in allocation of organizational and financial resources, if some of the running projects promise higher benefits. The next gate is based on evaluation of costs, after which a very careful analysis on technical capabilities and the expected customer experience is conducted. If this third gate is passed, the project gets the necessary

means, so development and implementation phases begin. The same evaluation criteria are used for projects for both customer experience and technology platforms development, and the measures presented in a business case should always be financial.

The practices may be illustrated by the following statement from the portfolio manager:

> *"The project can be stopped before the means are provided. However, almost none is terminated after that, although KPIs are still followed-up by an entity responsible for the project".*

However, although this is the formally prescribed innovation process in Comofone, our results suggest that the development of some projects does not follow this pattern. According to the product manager interviewed, such projects actually have greater opportunity to be launched, and much faster. An example of this is a new music streaming service developed by Comofone in collaboration with a record store and a company that delivers entertainment services for mobile phones. Although this project was also taken through the defined phase-stage process, it was not done strictly, because of the involvement of the external partners that in fact initiated it. Therefore, the business case description was focused more on customer satisfaction and the reduction of customer attrition ("churn") than on the increase in income that had to be shared among the collaborators and expected to be rather marginal. An indirect effect of the increase in buying subscriptions with more data traffic was also suggested. After the preliminary development of the service, Comofone did an internal pilot study and, subsequently, open beta-testing with 5000 volunteers during 3-4 months.

The development process for the new service is explained in the following way by the product manager:

> *"On the whole, it took less than one year to launch the service after the project start. If it was run as a usual Comofone project, it would not have been launched even in three years. Actually, I do not think it would be developed at all, if we managed it in a standard w*ay. *[…] The main determinant of its rapid acceptance and development was the proper lobbying, access to the right people and enthusiastic engagement of the external partners. Even alpha and beta testing were not so important for the decision-making, and were done mostly to improve service quality. And since it was run mostly outside the process model, its priority in*

resource allocation was not ranked with respect to other initiatives. The process model is good for big projects such as replacing the whole mobile network, but it is too long and heavy for new minor services. Therefore, it is easier to realize such small service ideas via lobbying than formal routines".

The project did not have any contractual follow-up measures, although it entered annual summaries and similar reports. Interestingly, the positive feedback from customers and in media was used an important indicator in informing those who were lobbied to green-light the project.

HelpHand

HelpHand is a big company, whose main activities are related to life insurance, pension savings, other types of insurance, investment and banking (the company's name was changed). Our results suggest that an idea for a typical innovation project in HelpHand usually comes either from customers, when field workers make "a discovery" during interviews with clients, or can pop up in employees' mind. Then the project is designed by project leader, who often asks subcontractors or interaction designers to help as social anthropologists. Innovation is most often incremental, while something radical appears once or twice per year.

As an example of a typical NSD project, the innovation manager told about a project aimed at simplification of savings and insurance certificates and different invoices that are sent to 275 000 customers: after the first idea came, the innovation manager was working on it for half a year, but then it was rejected. However, after a while, he saw that the competitor had also simplified their invoices, so he decided to revise the idea again. This time the leader talked to a partner from the Oslo School of Architecture and Design, who suggested three design companies. After a tender, the innovation manager prepared a budget and presented the preliminary project with five different proposals to the steering group. The presentation showed what the problem was, how it could be solved, what would be changed, a rough prototype, logical arguments (e.g. availability of such simplified invoices in the competing company) and rough estimation of who would get money and how much, costs and yearly savings, since invoices would not be sent by usual post, but by Internet. All calculations were approximate "guesstimations" based on estimations of how many clients would stop using the paper version of invoices. In the initial presentation of the idea to the steering

group there were also results of a small survey of 6 clients with their quotes concerning the new design. Since it was only 4 of 6 clients who liked the new design, the steering group was unsure about the project, so the leader decided to ask 60 more clients. The results were that 55% liked the change, 30% did not, 10% did not see difference, but 81% thought that readability was better.

The innovation manager explains the subsequent process like this:

> "Now the steering group had problems with the refusal, and they had to accept the project. It is actually largely a kind of a "takeover" job: the more radical idea is, the more takeover there should be. There are ideas that do not go far, but if we have already drafted a project, and brought it to the steering group, it would not be stopped".

After acceptance of the preliminary project, it was passed to other entities, where the implementation and realization projects had to be made. Developers and programmers got their tasks, the leader produced a handover document and sent information about the ongoing activity to the relevant employees. After that the project followed the prescribed track and its performance was not measured.

The innovation manager in HelpHand explains his role in the innovation process like this:

> "My goal is to get a project accepted.[…]I just show an idea, and the management says that I will be evaluated on efficiency, cost reduction and customer satisfaction. And this is measured every year. Thus, we have short periods to succeed, i.e. the project has to have positive effects in the current year, and it must not be expensive. This is the biggest challenge for our company, because although top managers want to have success stories and innovative solutions, they give signals of focus on efficiency, costs and customer satisfaction. That is why we choose incremental innovation. We do not measure exactly the innovation project. We measure market share, but we neither measure innovation nor reward it".

The product manager in HelpHand also explains that costs and cost reduction are the most important indicators for NSD projects, and prioritization of resource allocation based on budget in selecting among innovative projects is mentioned by the strategy manager as

well. He also explained that there was a lack of measurement of effects from new services, except rare checks of whether a new service is actually used.

Discussion and conclusion

At first sight, the studied companies apply two different approaches to management accounting in their innovation processes. Comofone has a clear and formal control system for the NSD process, where calculations and measurements play an important role during the whole process and are used for the follow-up after the launch of new services. HelpHand, on the contrary, does not have a formal management accounting system for the innovation process, calculations are approximate and NSD does not follow a prescribed process.

However, the companies share an interesting similarity. Management accounting plays a crucial role mainly in selecting ideas: they are accepted, and given resources, only if a manager succeeds in convincing a steering committee that the benefits are higher than the costs. This finding is in line with the findings of Mouritsen et al. (2009) who suggest that "*innovation has to pass the test of management accounting calculations before it can be heard*" (p.753).

For Comofone with its rigid control system this test ensures the financial success of a new service, supporting the idea of the importance of formal controls in the innovation process (Bisbe and Otley, 2004). On the other hand, the use of the formal control system in Comofone also blocks the development of new services that could have been successful from the customers' point of view, and also successful for the firm in the long term, but not highly profitable for the company in the short term. However, this problem could most probably have been avoided if Comofone had used a different set of criteria when evaluating innovation ideas.

For HelpHand, the reliance on accounting calculations, combined with the lack of the formal NSD process, provide tools to low- and middle-level managers for influencing the top-management: if the steering group doubts success of the project, the project leader uses additional calculations for "takeover" of the situation and persuading top managers to accept it.

After the acceptance of the idea, performance measures practically lose their role for the particular project, which just follows the prescribed track. Although Comofone, as opposed to HelpHand, continues to measure the project's performance, this activity takes a form of observation, without actually influencing the process. Thus, management accounting of the innovation process in both companies is based, first of all, on *ex-ante* value assessment tools.

This reliance on calculations in the first stages of the innovation process contradicts the logic and findings of Abernethy and Brownell (1997), who stress the inappropriateness of the use of accounting controls for the tasks with high uncertainty and insufficient information for the *ex-ante* specification. However, it is in line with the idea by Mouritsen et al. (2009) who suggest that management accounting does not actually describe innovation, but mediates and mobilizes it by giving an impetus to develop relations within the firm as well as between the firm and its environment in order to carry out the innovation process. As long as the process is launched, the role of management accounting diminishes to a considerable extent.

It might be noticed, however, that the studied companies represent two extremes, neither of which can be called efficient. For HelpHand, without having follow-up and estimation of the success of certain project (the project level), bundles of projects (the program level) or innovation activity as a whole (the corporate level) (Storey and Kelly, 2001), it might be difficult to single out what exactly has led to the positive effects. This makes innovation activity a "wandering in the dark", when implementation of each new project is subject to number of uncertainties from beginning to end. The wider use of appropriate performance measures might become a step towards improvement of its new service development process that, in turn, might result in higher efficiency, productivity and profits, increased customer value, strategic benefits, strengthening the market position, etc. (de Jong et al., 2003; Froehle and Roth, 2007; den Hertog et al., 2010; Aas and Pedersen, 2010). For Comofone, the extensive formalization results in the alternative ways (e.g. lobbying) used by managers to start a project. This policy is fraught with the possibility of cost increase, the rise of self-interest and employee dissatisfaction and distrust (especially of those, whose ideas are rejected in favour of lobbyists' projects).

Nevertheless, based on our findings, it seems clear that management accounting plays a particularly important role early in the NSD process. Hence, we offer Proposition 1 (P1):

P1: Management accounting plays a particularly important role early in the NSD process and may help service firms select the most valuable innovation projects

Moreover, in both studied companies management accounting play another important role, which is related to the general innovation strategy: without rewards linked to innovation efforts, and with very strict rules related to what type of innovation projects that are given priority, top managers actually prevent internal innovators from suggesting, developing and introducing radically new services. This consequence is clearly seen on the example of HelpHand, where focus on overall efficiency, costs and customer satisfaction results in incremental innovations.

Our findings, especially in Comofone, also suggest that the implementation of strict management accounting systems may slow down the innovation processes in the firm.

Consequently we offer P2:

P2: The implementation of strict formal management accounting systems focusing financial performance hinder the development of radical new services and slow down the innovation process

Hence, we can conclude that performance measurement in the studied company plays a dual role with respect to new service development process. On the one hand, the part of performance measurement system, which is used in estimation of a preliminary project, enables the innovation activity by justifying the necessity of introduction of a new offering. On the other hand, the performance measurement system at the corporate level shapes the innovation strategy by slowing down the process and impeding radical innovations, thus playing a disabling role. It might be assumed that the total positive effect of using these different parts of performance measurement system could be higher, if they were adjusted to each other. The balancing between rigidness and looseness of management control system in the innovation process is uneasy, but seems to be necessary in order to avoid the negative effects associated with both extremes.

The main limitation of the present study is that the interview guide was not focused just on the management accounting and performance measurement issues, but was designed for the wider examination of the NSD process, so the time spent on the questions about management control was limited during the interviews. However, the study do provide

sufficient insight into the problem to provide two propositions, P1 and P2, that may be investigated into more depth in future research. We suggest that future research should carry out in-depth interviews with managers in different levels and departments in both large and small firms in different service sectors. These studies should not only aim at describing the management accounting practices but they should also aim at identifying the relationship between management accounting practices and NSD success. We believe that continued exploration of the role of management accounting in NSD will advance the "help or hinder debate" in the same way as research has advanced the "help or hinder debate" for NPD.

References

Aas, T.H. (2009). Service innovation management: designing an ex-ante value assessment tool. In Huizingh, K., Conn, S., Torkkeli, M. and Bitran, I (eds.), *Proceedings of the 2nd ISPIM Innovation Symposium,* New York City, the USA.

Aas, T.H. (2010). Implementing a value assessment tool for service innovation ideas. *International Journal of Innovation Management,* 14 (6): 1149-1167.

Aas, T.H. and Pedersen P.E. (2010). The firm-level effects of service innovation: A literature review. *International Journal of Innovation Management*, 14 (5): 759-794.

Aas, T.H. and Pedersen, P.E. (2011). The impact of service innovation on firm-level financial performance. *The Service Industries Journal*, 31 (13): 2071-2090.

Akroyd, A., Narayan, S. and Sridharan, V.G. (2009). The use of control systems in New Product Development Innovation: Advancing the 'Help' or 'Hinder' Debate, *The IUP Journal of Knowledge Management*, 7 (5/6), 70-90.

Abernethy, M., and Brownell, P. (1997). Management control systems in research and development organisations: The role of accounting, behaviour and personnel controls. *Accounting, Organisations and Society*, 22(3/4), 233–248.

Amabile T M (1998). How to kill creativity. *Harvard Business Review*, September-October, 76-78.

Audretsch, D., Martínez-Fuentes, C., and Pardo-del-Val, M. (2011). Incremental innovation in services through continuous improvement. *Service Industries Journal,* 31 (12): 1921-1930.

Bonner J M (2005). The influence of formal controls on customer interactivity in new product development. *Industrial Marketing Management*, 34 (1), 63-69.

Burchell, S., Clubb, C., Hopwood, A. G., Hughes, J., and Nahapiet, N. (1980). The roles of accounting in organizations and society. *Accounting, Organizations and Society*, 5 (1), 5–27.

Cainelli, G., Evangelista, R. and Savona, M. (2004). The impact of innovation on economic performance in services. *The Service Industries Journal,* 24 (1): 116-130.

Cainelli, G., Evangelista, R. and Savona, M. (2006). Innovation and economic performance in services: firm-level analysis. *Cambridge Journal of Economics,* 30: 435-458.

Chandy, R. and Tellis, G. (1998). Organizing for radical product innovation: the overlooked role of willingness to cannibalize. *Journal of Marketing Research*, 35 (4): 474-487.

Chenhall, R. H., and Langfield-Smith, K. (2007). Multiple perspectives of performance measures. *European Management Journal*, 25(4), 266–282.

Cooper R G (2001). *Winning at New Products: Accelerating the Process from Idea to Launch*. 3rd Edition, Perseus Publishing, Cambridge.

Davila A, Foster G and Li M (2005). Designing management control systems in product development: initial choices and the influence of partners. *IESE Business School Working Paper*, University of Navarra, Spain

de Jong., J., Bruins, A., Dolfsma, W. and Meijaard, J. (2003). *Innovation in service firms explored*: *what, how and why? Literature review*. Zoetermeer: EIM.

den Hertog, P., van der Aa, W. and de Jong, M. (2010). Capabilities for managing service innovation: towards a conceptual framework. *Journal of Service Management, 21*(4): 490-514.

Djellal, F. and Gallouj, F. (2001). Patterns of innovation organisation in service firms: postal survey results and theoretical models. *Science and Public Policy*, 28 (1): 57-67.

Dolfsma, W. (2004). The process of new service development - issues of formalization and appropriability. *International Journal of Innovation Management,* 8(3), 319–337.

Easterby-Smith, Thorpe and Jackson (2008). *Management Research*. 3rd ed. London: Sage Publications.

Ettlie, J. and Rosenthal, S. (2011). Service versus manufacturing innovation. *Journal of Product Innovation Management*, 28: 285-299.

Froehle and Roth (2007). A resource-process framework of new service development. *Production & Operations Management,* 16(2): 169-188.

Gallouj, F. and Savona, M. (2009). Innovation in services: a review of the debate and a research agenda. *Journal of Evolutionary Economics,* 19: 149-172.

Gitsch, M. and Hipp, C. (2012). Measurement of innovation activities in the knowledge-intensive services industry: a trademark approach. *Service Industries Journal,* 32 (13): 2167-2184.

Griliches, Z. (ed.). (1992). *Output measurement in the service sector*. University of Chicago Press, Chicago.

Hertog, P., d., Gallouj, F., and Segers, J. (2011), "Measuring innovation in a 'low-tech' service industry: the case of the Dutch hospitality industry". *Service Industries Journal*, 31(9): 1429-1449.

Hipp, C. and Grupp, H. (2005). Innovation in the service sector: the demand for service- specific innovation measurement concepts and typologies. *Research Policy*, 34 (4), 517-535.

Johnson, S., Menor, L., Roth, A. and Chase, R. (2000). A critical evaluation of the new service development process. In Fitzsimmons, J., and Fitzsimmons M., red. *New services development: Creating memorable experiences*. Thousand Oaks, CA: Sage., 1-32.

Kanerva, M., Hollanders, H. and Arundel, A. (2006). *Can we measure and compare innovation in services?* 2006 TrendChart report. European Trend Chart on Innovation, Maastricht Economic Research Institute on Innovation and Technology.

Lopes, L. and Godinho, M. (2005). Services Innovation and Economic Performance An analysis at the firm level. *DRUID Working Papers 05-08*, DRUID, Copenhagen Business School.

Matear, S., Grey, B. and Garrett, T. (2004). Market, orientation, brand investment, new service development, market position and performance for service organizations. *International Journal of Service Industry Management,* 15(3): 284-301.

McDermott, C. and O'Connor, G. (2002). Managing radical innovation: an overview of emergent strategy issues. *Journal of Product Innovation Management*, 19: 424–438.

Mellemvik, F., Monsen, N., and Olson, O. (1988). Functions of accounting - a discussion. *Scandinavian Journal of Management*, 4(3/4), 101-119.

Mouritsen, J., Hansen, A. and Hansen, C. (2009). Short and long translations: management accounting calculations and innovation management. *Accounting, Organizations and Society,* 34: 738-754.

Ottenbacher, M., and Harrington, R. (2010). Strategies for achieving success for innovative versus incremental new services. *Journal of Services Marketing*, 24 (1): 3-15.

Patton, M. Q. (1990). *Qualitative Evaluation and Research Methods*. 2nd ed. Newbury Park, CA: Sage Publications.

Pedersen, P., Nysveen, H. (2010). Service innovation challenges at the policy, industry, and firm level: A qualitative enquiry into the service innovation system. Working paper No. 10/10, SNF-Project No. 8561.

Rubin, H., Rubin, I. (2005). *Qualitative Interviewing: the Art of Hearing Data*. 2nd ed. Thousand Oaks, CA: Sage Publications.

Schettkat, R. and Yocarini, L. (2004). The shift to services employment: A review of the literature. *Structural change and Economic Dynamics*. 17 (2), 127-147.

Schleimer, S. and Shulman, A. (2011). A comparison of new service versus new product development*: configurations of collaborative intensity as predictors of performance. *Journal of Product Innovation Management*, 28 (4), 521-535.

Simons, R. (1995). Control in an age of empowerment. *Harvard Business Review*, March-April: 80-88.

Simons, R. (2000). *Performance measurement and control systems for implementing strategy: text and cases.* Prentice Hall, New Jersey.

Storey, C. and Kelly, D. (2001). Measuring the performance of new service development activities. *The Service Industries Journal,* 21 (2): 71-90.

Tushman M L (1997). Winning through innovation. *Strategy & Leadership*, 25(4), 14-20.

Voss, C. (1992). Measurement of innovation and design performance in services. *Design Management Journal,* 3 (1): 40-46.

Zomerdijk, L. G., and Voss, C. A. (2011), "NSD processes and practices in experiential services", *Journal of Product Innovation Management*, 28 (1): 63-80

INTERVIEW GUIDE

No.	Question	Follow-up questions (examples)
1	What is your background and your role in the organization?	
2	Please give some examples on new or improved services introduced by your firm lately.	To what degree are the examples typical?
3	Please select two service innovation projects that you know well and, for each project, explain: a) where did the idea come from, b) why did the firm decide to invest in the project, c) did you reconsider the investment decision during the development stage, d) how did the development process work (please provide detail about the stages and activities within your process, including who and which departments were involved), e) what kind of tools were used during the development process, and f) how did you measure the results of the project.	Was the idea a result of a formal or informal search process? If formal, what methodologies were used (e.g., swot analyses, market research, ethnography, focus groups, lead-user analysis)? Was the source of the idea internal or external? If external, what was the external source (e.g., customer, supplier, competitor, research institutes, consultants), and how was the idea captured?

Before deciding to invest in the idea, did you use any specific methods to evaluate the idea (e.g. return on investment, Monte Carlo, real option, strategic methods and balanced scorecards). Who evaluated the idea? Who made the decision to invest?

Who led the development process? Did you appoint a formal project manager? Did you change project managers during the process? Did you establish a project team? What departments/functions were involved in the process? Did you involve external partners? To what degree was the process predefined and formal? Did you have predefined decision gates? If so, what were the decision criteria and who made decisions at the gates?
What tools and methodologies were used during the process (e.g., Alpha testing, Pilot-testing, Online focus groups, Six Sigma, Triz, Project management software, Simulation systems)? |
4	Are the management practices related to the projects described in the previous question the typical practices for the management of innovation projects in your organization?	
5	What is the business strategy of your firm? What is the relationship between innovation and strategy? Do you have an articulated innovation strategy? Do you measure how innovation contributes strategically?	How have the strategic goals been developed? How often are they revised? Are strategic goals revised on a regular basis or when a particular incident occurs? Who is responsible for achieving the strategic goals? If you measure how innovation contributes strategically, what do you measure and do you use a particular tool (e.g., balanced scorecard)? What are the typical actions if measures are below the target?
6	What is your firm's approach to ensure that you have the right intellectual resources (i.e., competence, skills, etc.) to carry out innovation activities?	What is important when you recruit new employees? What is done to increase the employees' skills? How do you evaluate if you have personnel with the right skills? Do you use external knowledge, and if so, when and why?
7	What is your firm's approach to ensure that you have the right organizational resources (i.e., organizational structure etc.) to carry out innovation activities?	What is the organizational structure of the firm? How are roles and responsibilities specified? What parts of the organization are involved in innovation activities? When, why, and how is the organizational structure revised? Do employees often rotate between different jobs? Do you have any incentive systems?
8	How does your firm ensure that you have the right physical resources (i.e., offices, IT resources etc.) to carry out innovation activities?	What ICT systems are used in the firm? How are these systems used as an innovation tool?
9	What is the firm's culture? To what degree does this culture hinder or promote innovation? What is done to develop the culture?	To what degree are conflicts recognized in the innovation process? Are mistakes perceived as being a natural part of the innovation process? Is taking risks a barrier to career opportunities?
10	What does your firm do well in terms of service innovation? What areas need improvement?	