

USER INVOLVEMENT AND SUPPORTING TOOLS IN BUSINESS-TO-BUSINESS SERVICE INNOVATIONS: INSIGHTS FROM FACILITY MANAGEMENT SERVICES

Abstract

Purpose – This article investigates and conceptualizes user involvement in business-to-business service innovations as well as the tools that are used to support interactions in such a service innovation process.

Design/methodology/approach – The paper uses a qualitative research approach to answer the research question. By following Miles and Huberman (1984)'s this study started with a literature review of studies investigating service innovation, service innovations models, user roles and tools in service innovation in general, to conduct an empirical investigation in facility management (FM) services.

Findings – The findings indicate that, in business-to-business services such as FM services, the involvement of users is variable depending on the offered services as well as on the specific role that users play with regards to the service being innovated since users might have different needs and expectations with respect to such service innovation. In addition the study reveals that face-to-face tools are preferred to ICT-based tools in business-to-business FM service innovations.

Research limitations/implications – As in all qualitative research, the main limitation of our study is the generalizability of the findings to other business-to-business service sectors. More research conducted both in FM services and other service sectors would help to shed light on the generalizability of these findings.

Originality/value – The study contributes with new and detailed insights into the complexity of user involvement and supporting tools in business-to-business service innovations.

Paper type: Research Paper

Keywords: business-to-business services, service innovation, customer involvement, user roles, tools for customer involvement, facility management services, Information and Communication Technology.

Introduction

The service sector is an important economic sector of our society, employing about 70 % of the work force in most developed economies, and often characterized by complex service systems. A type of service that has developed over the last twenty years is Facility Management (FM) services. FM services are here defined as a diverse set of support services, which aim at enabling organizations to pursue the objectives and goals of their core business (Alexander 1992). Examples include building maintenance, catering, but also Information Technology (IT) services and cleaning. FM services, due to their supportive nature and to the fact that they are often outsourced to external providers, can be described as complex business-to-business service systems. They are in fact characterized by a complex value network, which includes top management, internal FM unit and employees of the client organization, along with the outsourced providers.

Facility management services require radical and incremental innovation not only to succeed and compete in the hectic contemporary markets, but also to affirm their increasingly importance within organizations (Goyal & Pitt 2007; Lindkvist & Elmualim 2010; Mudrak et al. 2005). However, the complex value network of FM services makes it difficult for internal and external providers to manage innovation processes, as heterogeneous needs and expectations require coordination among different innovation actors when planning and implementing FM service innovations. At the same time, it also implies that diverse internal and external actors get involved to various degrees throughout the FM service innovation process. This makes it particularly interesting to study innovation processes and, more specifically, user involvement in the innovation process of business-to-business FM services. Martin, Horne, and Schultz (1999) highlight that a major impediment to developing a business-to-business service innovation is understanding and adjusting to the change in role played by the client in a service dominant offering, as opposed to the role for one of product dominance. By drawing on Norman (1984) Martin et al. (1999) also emphasize that “the complexity is highlighted by the client playing two roles: that of the customer and that of a co-producer of the offering. In other words, clients not only receive and consume the service offering, but also serve as participants in its innovation, production, and delivery” (Martin et al. 1999:1). Such complexity of business-to-business services is further accentuated in FM services given the multiplicity of actors involved in the FM service system.

Kindstrom and Kowalkowski (2014) in point out that in business and industrial marketing, innovation research continues to focus mostly on products (e.g., Hsu 2011; Lettl & Gemünden 2005; Munksgaard & Freytag 2011), although some articles dealing with service innovation are getting published (e.g., Alam & Perry 2002; Nicolajsen & Scupola 2011). Nevertheless, Kindstrom and Kowalkowski (2014) suggest that B2B firms must embrace a broader perspective on innovation, moving beyond traditional product-centric views (e.g., Garcia & Calantone 2002). Given this background, the purpose of this article is to contribute to the literature on service innovation in a business to business context by: (1) conceptualizing and investigating user involvement in service innovation processes of business-to-business FM services and (2) mapping a number of tools, which support interactions in such a service innovation process. Therefore, the research question addressed in this paper is:

How can users be involved in the different stages of the innovation processes of business-to-business services such as FM services and what kind of tools can be used to support such an innovation process?

To answer the research question, the paper draws on literature on new service development and service innovation; literature on customer roles in new product and service development; and literature on tools for customer involvement to conduct an empirical investigation of user involvement in the business-to-business FM service field. Data collected in several FM organizations were used to answer the research question of the study.

The paper is structured as follows. The introduction presents the background, and the research question of the study. The second section introduces the empirical setting, while the third section outlines the theoretical background. The fourth section presents the research method. This is followed by the analysis of findings. Finally, the last sections provide a discussion of results and the concluding remarks.

Empirical setting: FM services and FM innovation

In the last three decades, FM has established itself as a key service sector, with a diverse and highly competitive market of FM contractors, in-house teams, FM providers, FM consultants, and professional FM institutions (Cardellino & Finch 2006) that form complex FM supply chains (Nutt 2000). Coenen, Alexander, and Kok (2013) states that the provision of one or more FM services is usually outsourced to one or more external FM providers. The outsourced FM providers collaborate with the internal FM unit of the client organization to ensure the proper functioning of the organization as a whole, by providing FM services to the employees, i.e. the end-users. Table 1 below provides a description of the different actors and their role in the FM services outsourcing set up.

Table 1: Stakeholders and stakeholder roles in the FM value chain.

FM Service Stakeholder	Role	Explanation
Organization, represented by the top management	Client	Orders to the internal FM unit the services to support carrying out the core business.
Internal FM unit	Double role of Customer and Internal Provider	Buys the services from the outsourced provider (in the role of customer) and/or provides services in-house to make sure that the organization can carry out the core business (in the role of internal provider).
Employees	End-users	Actually receive and consume the services while carrying out the core business of the "Organization".
Outsourced provider(s)	Provider(s)	Provide the services that allow the organization to function, by negotiating with the internal FM unit to serve the employees in the role of end-users

Borrowing the terminology from the marketing literature, in FM services the organization as a whole plays the role of the client, which, to properly function and carry out its core business, orders the service to the internal FM unit. The internal FM unit plays (1) the role of the internal FM provider from the perspectives of the client organization and end-users; (2) the role of the customer from the perspective of the outsourced FM provider, with whom it negotiates the terms of the FM service provision. The end users are the employees of the client organizations, i.e. the individuals that are provided the actual FM services.

FM services are combined in specific and ad hoc bundles of tasks, activities and services depending on the market and context in which the client organization operates. Due to their supportive nature, FM services have mostly been characterized as a secondary activity within organizations, and have been paid attention only in connection with the core businesses of the entities they support. However, FM organizations have often demonstrated the dedication and drive to implement new service development and exceed customer expectations, while adding value to the core business of the client organization (Pitt & Tucker 2008; Mudrak et al. 2005). Previous research has shown that FM organizations continuously manage innovation as a process and tend to have several projects under development at the same time (Mudrak et al. 2005; Cardellino & Finch 2006). However, they lack the ability to establish progressive innovation routines that would enable a successful innovation management. It can be concluded therefore that in addition to the complexity evidenced by Martin et al. (1999) in business to business service innovation in general, FM service innovation is further characterized by the need for cooperation between the different actors of the FM service system and the different roles played by top management and employees, along with the double role of the internal FM unit in the service innovation process (Coenen et al. 2013).

Theoretical background

Understanding services and service innovation

According to Bitner, Ostrom, and Morgan (2008) one of the most distinctive characteristics of services is their process nature. Unlike tangible goods, services are dynamic and unfold over a period of time through a sequence or constellation of events and steps. Moreover, services often require face-to-face interaction between the provider and the consumer as production and consumption often take place simultaneously. Although such simultaneity is not always true, services are perishable and cannot be stored, and their consumption usually starts right after production (Sundbo 1997; den Hertog 2010). The service innovation process has been defined as the process through which an idea for a new service, or for the renewal of an existing service, is developed and carried into practice to offer added value to the customer and provide benefit to the provider. To be classified as an innovation, the new service or the service renewal must not only impact the developer but involve elements that allow reproduction in different contexts (Sundbo 1997). There are several terms used in the literature to address the way new services are developed. New service development and systematic service innovation deal with the overall process of developing new services and are concerned with the complete set of steps from idea generation to commercialization of the service, even though some literature on service innovation only focuses on the idea generation phase.

In this article, the terms service innovation and new service development will be used interchangeably. In addition, for the purposes of this study, service innovations are defined according to the three Schumpeterian criteria, adapted to FM service innovation: (1) FM innovation is an idea, which is developed and carried into practice; (2) FM innovation brings benefits to its developer; and (3) FM innovation is reproducible, i.e. applied more than once (Toivonen & Tuominen 2009; Sundbo 1997). Not only new-to-the-world FM services are included in this study, but also new-to-the-firm (new-to-the-client) FM services, as (1) FM services are commonly adapted according to the characteristics of the client and thus require innovation management at the client side, but at the same time – in big organizations such as the ones involved in this investigation – new and improved services are reproduced across different FM services and areas of the organization, and therefore classifiable as innovation; (2) even when only new-to-the-firm, the new FM services originate organizational change processes in the customer FM unit and client (Nardelli 2013).

Customer involvement in service innovation and tools for involvement

Whether service innovation processes are planned, or happen ad hoc (Gallouj & Weinstein 1997) the involvement of users is increasingly being recognized as potentially supporting of a successful innovation outcome. Service innovation literature has highlighted how the proactive and systematic involvement of users in new service development processes, if managed correctly, is able to support such development and implementation of ideas (Alam & Perry 2002; Alam 2002; Matthing et al. 2004; Magnusson et al. 2003; Nicolajsen & Scupola 2012; Scupola & Nicolajsen 2010). Customer involvement, in fact, is expected to provide a more complete and accurate list of customer needs, behavior, changing requirements, and deep-seated dissatisfactions with current alternatives, and therefore contribute and improve service innovation. In this study, customer involvement in FM service

development is defined as those processes and interactions where a development team collaborates with current (or potential) customers at strategic, tactic or operational level to uncover information such as latent needs, develop customer knowledge, and develop new services accordingly.

The literature on customer involvement has focused on the evolution and transformation of the customer from a passive subject to being an active player in the innovation process and the different roles that the customer can take in this evolution. Such roles have been characterized among others as collaborators, co-developers, competitors (Prahalad & Ramaswamy 2000). Table 2 below provides an overview of customer roles in service innovation.

Table 2: An overview of customer roles in service innovation.

Study	Customer Roles
Nambisan (2002)	User as <i>resource</i> ; User as <i>user</i> ; User as <i>co-creator</i> .
Blazevic, V., & Lievens, A. (2008)	Customers as <i>passive users</i> ; Customers as <i>active informers</i> ; Customers as <i>bidirectional creators</i> .
Enkel et al. (2005)	<i>Requesting customers</i> provide ideas for new products, often by means of complaints and suggestions. As complaints are based on current products, new product information is rather limited; <i>Launching customers</i> are integrated from the development phase to participate in development activities; <i>Reference customers</i> supply application experience from prototype testing; <i>First customers</i> enter the development process in the late phases of pre-announcement and market launch; <i>Lead users</i> could cover all stages of the NPD process.
Michel et al.(2008) in Kowalkowski (2011)	<i>Users</i> whose role primarily relates to value-in-use; <i>Payers</i> whose role primarily relates to value-in-exchange; <i>Buyers</i> whose role bridges value-in-use and value-in-exchange.
Von Hippel (1986)	<i>Lead users</i> .

Organizations use diverse tools to systematically involve users in service innovation processes, which have been discussed in existing literature (e.g., Prandelli, Verona, & Raccagni 2006). Face-to-face interactions in the form of, for example, workshops, focus groups, user visits and meetings have been found very important to successfully involve users in the service innovation process (e.g., Alam 2002; Magnusson et al. 2003; Matthing et al. 2004). However, ICT-based tools are increasingly gaining importance thanks to their ability to capture and store data and to their independence from geographical location. Prandelli et al. (2006) have, for instance, identified 28 different web-based tools that can be used in the different stages of product innovation. These web-based tools range from surveys and ‘complaint areas’ used in the idea generation phase to ‘virtual product tests’ in the product test phase. In addition, Prandelli et al. (2006) found that the web-based tools are mainly used by larger corporations in the first and last stages of the innovation process, and are mainly considered as substitutes for offline practices.

The Conceptual Framework

To investigate how customers are involved in the service innovation process of business-to-business FM services, this study draws on the service innovation model developed by Alam and Perry (2002); the customer roles in the innovation process developed by Nambisan (2002) and a taxonomy of tools for user involvement in service

innovation developed by Scupola and Nicolajsen (2013). Alam and Perry (2002) presented a 10-stage model of the service innovation process, including: (1) Strategic planning; (2) Idea generation; (3) Idea screening; (4) Business analysis; (5) Formation of cross-functional team; (6) Service and process design; (7) Personnel training; (8) Service testing and pilot run; (9) Test marketing; (10) Commercialization (see the first column in table 3), and discussed user involvement in each of the stages. Alam and Perry (2002)'s contribution takes into account the core element of user involvement in service innovation and highlights the objectives, purposes, stages, intensity and modes of user involvement in new service development. Alam and Perry (2002)'s study is therefore useful to build the framework to investigate the heterogeneous user roles in the FM service innovation.

Nambisan (2002), on the other hand, has conceptualized three roles that can be played by customers in new product development: (1) customer as a resource; (2) customer as co-creator; (3) customer as user. Such roles have been previously applied to the context of business-to-business service innovation (Nicolajsen & Scupola 2011), and are here explained in relation to the NSD model by Alam and Perry (2002). Firstly, the contribution of customer as a resource is variable, and depends on the alignment of offered services with the customer base. One possible argument is that the more the provided services are aligned with the customer needs and expectations, the less the customers will actually contribute to the service innovation process, which will make the ideas generated by such role more incremental than radical. When playing the role as a resource, customers are usually passive: it is the provider that needs to find out about customers' opinions, needs and expectations through, for example, surveys or focus groups. Secondly, customers can be involved as co-creators, and thus participate in various activities, from design to development of the new service. Customer-firm interactions in this type of involvement tend to be more intense and frequent, and the support mechanisms for such interactions are expensive, time consuming and technology intensive. Finally, customers can play the role of users through service testing and service support. When involved as users, customers test the service and provide feedback based on their experience, which allows the service innovators to improve their offering when reproducing the service innovation.

Scupola and Nicolajsen (2013) have developed a taxonomy of tools to involve users in service innovations. They have distinguished such tools into direct vs. indirect and face-to-face vs. ICT-based. The direct tools (both face-to-face and ICT-based) such as workshops and online idea competitions require a direct and pro-active involvement from the users in the innovation process. The indirect tools such as ethnographic studies and virtual communities, on the other hand, require a more passive role, meaning that the users are mainly observed from outside actors to gain insights into their needs and expectations in relation to the service innovation process.

Table 3: Conceptual framework.

10 stages of new service development (Alam and Perry 2002)	Customer's roles in New Product Development (Nambisan 2002)	Tools for customer involvement (Scupola and Nicolajsen 2013)
a) Strategic planning;	Customer as resource;	Direct face-to-face tools
b) Idea generation;	Customer as co-creator;	Direct ICT-based tools
c) Idea screening;	Customer as user.	Indirect Face-to-face tools
d) Business analysis;		Indirect ICT-based tools
e) Formation of cross functional team;		
f) Service and process design;		
g) Personnel training;		
h) Service testing and pilot run;		

- i) Test marketing;
- j) Commercialization.

Research method

To answer the research question, a qualitative research method has been chosen because qualitative data “are the source of well-grounded, rich description and explanations of processes [...] and help researchers go beyond initial pre-conceptions and frameworks” (Miles & Huberman 198:15). By following Miles and Huberman (1984)’s guidelines for conducting qualitative research, this study started with a literature review of studies investigating service innovation, service innovations models, user roles and tools in service innovation in general, which was followed by an empirical investigation in the FM field.

Data for the study were gathered from archival sources, interviews with companies as well as attendance in practitioner conferences and workshops on the topic of innovation in business-to-business FM services. In all, 19 explorative, semi-structured interviews with facility managers working in internal FM units and outsourced providers were carried out in 15 Danish companies (Table 4). Furthermore four in-depth interviews were carried out in two of the companies involved in the study, and aimed at gathering more details and examples of the innovation processes that were spotted during the initial explorative round of interviews. The themes of the interviews included company and respondent background, the management of FM service innovation and new service development in general, and, more specifically, the structure and characteristics of interaction among stakeholders, the features and impact of user involvement in service innovation, and the tools (face-to-face and ICT-based) that are used to support processes of FM service innovation.

Table 4: Companies and interviewees involved in the study.

Company code	Role of company with respect to FM services	Core business	# employees	Position of interviewees
1	Client	Financial services	32500	Head of Contract Management & IFM Development
2	Client	Logistics	n.a.	Global Facility Management
3	Provider	Cleaning	300	CEO
4	Client	IT services	98000	Facility Manager
5	Research group	Research group	n.a.	Expert
6	Provider	Hard FM services	8000	Market Manager
7	Client	IT services	430000	Real Estate Site Operations Manager
8	Consultant/provider	Consulting	6200	Senior Project Manager
9	Client	Industrial biotech	5500	FM Director
				FM Manager
				FM Project Director
10	Provider	FM services	534500	Head of Knowledge Sharing and Engagement
				Commercial Director and CFO
				Director of Business Development
				Segment Director

11	Provider	Real estate	370	Head of Operations
12	Provider	Technical FM	162000	Nordic Head of Projects Regional Director Projects Nordics
13	Client	Transport	5500	Facilities Manager Group Procurement Manager
14	Client	Telecom equipment	7500	Global Head of Facility Management
15	Provider	FM services	7000	Director of Business Development

The interviewees were selected with a combination of convenience (at the beginning) and snowball (later on) sampling criteria (Eisenhardt 1989). All interviews were tape-recorded and transcribed, and notes were taken both during and after the interviews. To increase reliability, an interview protocol was used and a database was developed (Yin 2009). The respondents, all senior managers or directors, were somehow involved with FM innovation within their organizations.

To complement the interview data and ensure triangulation (Eisenhardt 1989; Yin 2009), archival data, i.e. reports, power point presentations, emails, newsletters, corporate brochures, were collected both from the interviewees and from secondary sources, such as corporate websites and during conferences, and were analyzed along with the interview data through subsequent steps of open and axial coding. The collected data were analyzed deductively by using the conceptual framework based on Alam and Perry (2002), Nambisan (2002) and Scupola and Nicolajsen (2013), with the support of the qualitative data analysis software Atlas.ti.

The setting in which we investigate user involvement is the business-to-business FM setting constituted by the relationship between the client organization and the outsourced FM service provider. Specifically, the data were analyzed from the perspective of the outsourced provider and the internal FM unit, which, within the FM service context, has the double role of being the customer (of the outsourced service provider) and the internal provider of the client organization. Therefore, when investigating user involvement in FM service innovation processes, it is interesting to look at how the internal FM unit (a) is involved as customer in relation to the outsourced FM provider; (b) involves top management and employees when developing new services together with the outsourced provider.

Analysis and results

This study aims at understanding user involvement in business-to-business FM innovation processes in the setting of the client organization and the outsourced FM service provider. The perspective of the providers is taken to investigate which different user roles the stakeholders of the client organization, i.e. the users, play in the service innovation process. As explained above, within FM services two main stakeholders are to be considered as providers: the outsourced FM providers and the internal FM unit. Therefore, in FM services, innovation processes can be carried out by (a) the outsourced provider or (b) the internal FM unit individually, but also (c) in collaboration between the two parties. Given the focus of this investigation, the innovation processes considered in the data analysis are only those that were carried out in collaboration between the outsourced provider and the internal FM unit. The analysis shows that these service innovation processes can be initiated for different reasons, e.g., the contract obligations of the outsourced providers and/or the direct requests of internal FM units, and the

different actors take on different users roles (as defined by Nambisan 2002) with various degrees during the innovation process.

The data indicate, in fact, that the client organization (the one outsourcing the services to the external FM provider), the internal FM unit and the employees, i.e. the users, play the roles of resource and co-creator –although heterogeneously and to a various degree – throughout the new service development process, and up until the stage of service testing and pilot run. In the final two stages of the service innovation process (Test marketing and Commercialization), on the contrary, the study finds that the client organization, the internal FM unit and the employees are passively involved as users, if involved at all.

The next sub-sections will more in-depth present the results of the study, summarized in Table 5 according to (1) stages of the service innovation process (Alam & Perry 2002); (2) stakeholders of the FM service innovation; (3) user roles (Nambisan 2002); (4) supporting tools.

User involvement and user roles in FM service innovation processes

In FM services, the organization (client) as a whole, internal FM units and end-users of the client organization represent diverse sets of users each of which may play different roles in FM service innovation processes. Our analysis indicates that the internal FM unit cooperates with outsourced providers in most phases of the innovation process, and takes on the different roles of user, resource or co-creator. Top management and end-users of the client organization, on the other hand, mainly participate in innovation processes as user and resource, but on different levels. Top management is often involved by the internal FM unit to support and legitimate strategic decision-making, e.g., during the strategic planning and the business analysis stages of the FM service innovation process. End-users, conversely, are usually more or less directly involved in the more operational phases of the innovation process, such as idea generation and personnel training.

The stages of the new service development, during which strategic decision making takes place (e.g., strategic planning and business analysis) are those in which the most direct user involvement (as resource and co-creator) tends to be required, especially from the internal FM unit and the top management, who represents the interests of the client organization as a whole. Strategic decisions, such as the ones taken along the strategic planning or business analysis stages of the new service development, require the direct involvement of the top management, along with that of the FM unit, especially when significant investments and efforts are related to the service innovation. For example when the internal FM unit of company 1 (FM client) has decided to initiate an Integrated FM (IFM) project, they have done the strategic planning before going out and looking for suppliers, and have done so by constantly referring to and involving top management in decision making.

Moreover, regularly scheduled meetings are usually organized between the internal FM unit and top management to discuss the strategic development of the organization as a whole and the consequent adaptation needs of FM. The internal FM unit is then in charge of integrating all strategic considerations in the innovation processes developed by the outsourced providers. In case of sudden instance, e.g., a crisis, meetings between the internal FM unit and top management can also be called ad hoc, to discuss potential consequences and responsive counter-actions. In company 9 (FM client), for instance, top management has asked the internal FM unit to find a solution to reduce travelling costs for the organization (top management involved as co-creator). This resulted in a

shared strategic planning between the top management and the internal FM unit, who then took over the innovation process along with the outsourced provider.

The internal FM unit, gets directly and indirectly involved throughout most stages of the innovation process, not only as resource, but also, and even more, as co-creator. For instance, when the innovation process in question does not strategically and/or financially concern the organization as a whole, e.g., in the case of single service innovations, it is the internal FM unit that carries out the strategic planning of innovation processes. In such cases, the internal FM unit either influences the outsourced providers indirectly by setting the guidelines (involvement of the internal FM unit as resource) or works on the strategic planning and on its implementation together with the outsourced providers (involvement of the internal FM unit as co-creator).

On the contrary, operational stages such as idea generation and screening, among others, are left to the providers, unless the innovation process has a peculiar relevance for the client organization. In company 2, for example, an FM client stated how external providers should be in charge of the operational tasks of the innovation process, and especially idea generation, while the internal FM unit would rather be involved in the idea selection to make sure all needs and expectations of the end-users are taken into consideration. Innovation is, in fact, usually one of the activities, which the outsourced provider is expected by contract to carry out. The internal FM unit is thus not always keen on being directly involved in the operational phases. Therefore, the outsourced provider is usually in charge of the idea generation and the subsequent management of the innovation process.

The internal FM unit, however, may decide to be involved in operational activities for the new service development process either because of a specific interest in the upcoming project, or of a proactive entrepreneurial drive. The internal FM unit has two options for involvement in the innovation processes, initiated by the outsourced providers. It can either decide to be directly involved, by sharing ideas with the outsourced providers (co-creator); or send out idea competitions to their end-users to collect ideas, whose outcomes will then be shared with the outsourced providers. In the latter case, the involvement would be as intermediary, while the end-user would be involved as resource.

End-users, finally, tend not to be involved in the strategic decisions, as their heterogeneous needs are believed to (a) not correspond to those of the organization and (b) often be too operational. Their involvement would thus be too complex and resource consuming. Nevertheless, end-users seem to be involved, as resource and, most of all, as users, in various phases of new service development processes. Such involvement takes place through the intermediate action of the internal FM unit and/or the outsourced provider, which may decide to use ICT-based tools, e.g., email or Intranet, to distribute idea competitions and user surveys. In alternative, this may take place with face-to-face interviews, workshops and workgroups in the initial stages (idea generation and screening); and shared training and team building in the latter ones (formation of cross-functional teams and personnel training). For instance, company 14 (FM client) requires its providers to regularly distribute user surveys to ensure a specific level of user satisfaction, while company 10 (FM outsourced provider) carried out interviews with end-users to delineate their needs and expectations to generate ideas. The aim of such initiatives combines (a) collecting feedback on existing services to better match needs and expectations in the innovated ones; (b) asking for potential ideas for improvements and innovation; (c) build awareness on the activities of the FM unit. In addition, ideas and feedback

are continuously collected per email and/or customer relationship management tools. End-users use the ICT tools to submit their feedback and proactive ideas to the internal FM unit, which operates as filter, and pre-selects the ideas to submit to the outsourced provider for screening and, potentially, development.

Table 5: Summary of findings.

Stages of the service innovation process	Stakeholders of FM service innovation	User roles as defined by Nambisan (2002)	Supporting tools
a) Strategic planning	Organization outsourcing FM services (FM Client)	Resource; Co-creator	Regular and ad hoc meetings; workshops
	Internal FM unit of Organization outsourcing FM services (FM Customer)	Resource; Co-creator	Workshops; trust-based relationships
	Employees of Organization outsourcing FM services (FM End-user)	Resource	User-surveys; interviews; workshops
b) Idea generation	Organization (FM Client)	Not involved	N.A.
	Internal FM unit (FM Customer)	Resource; Co-creator	Workshops; ICT for information management and sharing
	Employees (FM End-user)	Resource	Idea competitions w/ or /o ICT support; user surveys; workshops
c) Idea screening	Organization (FM Client)	Resource	Transparency matrices and models; workshops
	Internal FM unit (FM Customer)	Co-creator	Face-to-face meetings; ICT for information management and sharing
	Employees (FM End-user)	User	User surveys; user workgroups; workshops
d) Business analysis	Organization (FM Client)	Resource	Transparency matrices and models
	Internal FM unit (FM Customer)	Resource; Co-creator	Face-to-face meetings; ICT for information management and sharing
	Employees (FM End-user)	Not involved	N.A.
e) Formation of cross-functional team	Organization (FM Client)	Not involved	N.A.
	Internal FM unit (FM Customer)	Co-creator	Workshops; team building activities
	Employees (FM End-user)	Not involved	N.A.
f) Service and process design	Organization (FM Client)	Not involved	N.A.
	Internal FM unit (FM Customer)	Resource; Co-creator	Face-to-face meetings; ICT for information management and sharing; workshops
	Employees (FM End-user)	Not involved	N.A.
g) Personnel training	Organization (FM Client)	Not involved	N.A.
	Internal FM unit (FM Customer)	Co-creator	Workshops; shared training; team building activities
	Employees (FM End-user)	Co-creator	Workshops; shared training; team building activities
h) Service testing and	Organization (FM Client)	Resource	Scenario analysis w/ or w/o

pilot run	Client)		IT-based simulation
	Internal FM unit (FM Customer)	Co-creator	Scenario analysis w/ or w/o IT-based simulation
	Employees (FM End-user)	User	User surveys
i) Test marketing	Organization (FM Client)	User	Ad hoc meetings
	Internal FM unit (FM Customer)	User	Workshops
	Employees (FM End-user)	User	User surveys
j) Commercialization	Organization (FM Client)	User	(observation by provider)
	Internal FM unit (FM Customer)	User	(observation by provider)
	Employees (FM End-user)	User	(observation by provider)

Tools for user involvement in the FM service innovation process

Based on the findings, table 6 synthesizes the support tools that are and can be used to facilitate user involvement in new service development within business-to-business FM services. The tools are classified in relation to the roles of the users and their involvement within FM service innovation processes.

Table 6: Classification of support tools in relation to user roles and involvement.

	User	Resource	Co-creator
Organization as a whole/Client	Ad hoc meetings	Transparency matrices and models Workshops Scenario analysis (with or without simulation IT)	Regular and ad hoc meetings Workshops
Internal FM unit/Customer	Workshops	Workshops Shared training Team buildings activities IT for information management and sharing	Workshops Face-to-face meetings ICT for information management and sharing Team building activities Scenario analysis (with or without simulation IT)
Employees/End-users	User-surveys User workgroups Workshops	User-surveys Face-to-face interviews Workshops Idea competitions Shared training Team-building activities	Shared training

Among the support tools workshops appear to be the preferred tool for most user roles and involvements. The interviewees have depicted workshops as useful support tools in heterogeneous situations, as they can be adapted in the structure and functioning to specific contexts and needs. For example, workshops organized with outsourced providers and internal FM units are used to involve the latter as users (e.g., in test marketing), as co-creator (e.g., personnel training), and as resource (e.g., business analysis).

Top management needs to be involved through less “requiring” tools, such as regularly organized and ad hoc meetings, facilitated through scenario analysis and transparency models. This seems to be due to the need to

demonstrate the value of FM services, along with the non-strategic focus that top management tends to attribute to FM services.

ICT-based tools are mostly used to support information sharing and management, and, in some cases (e.g., scenario analysis and transparency matrices), to facilitate communication between different sets of users (e.g., between internal FM unit and top management of the client organization). On the other hand, the importance of partnership-like relationships with the outsourced providers, based on trust between individuals, is mirrored in the relevance of face-to-face meetings, especially to support involvement as co-creators, not only of the internal FM unit, but also of top management and end-users.

Finally, end-user involvement appears to be supported mainly through ICT-based user-surveys and interviews, which allow collection of end-user perspectives without direct involvement (requiring more intermediating effort by the internal FM unit). Nonetheless, end-users are sometimes involved as co-creators through idea competitions and workshops, which not only support the new service development, but also increase awareness of FM within the organization. Shared training and team building activities facilitate direct involvement as resource and co-creators and allow opening the innovation process while getting closer to the actual needs of the end-users.

Discussion and conclusion

Given the peculiarity of FM services, it becomes important, when investigating FM service innovations, not only to look at the FM innovation process stages, as stated in the literature, but also to consider the different roles that different FM users might play when involved by the providers in such a FM innovation process. To investigate how FM service users can be involved with different roles through the FM new service development process, we have considered the user roles, i.e. resource, co-creator and user, presented by Nambisan (2002) in relation to the stages of the innovation process as described by Alam and Perry (2002). Furthermore, we have outlined the various tools, which FM organizations use to involve and engage the users in FM service innovation processes.

The results of the analysis indicate that, not only the involvement of users is variable depending on the offered services (Alam & Perry 2002), but also on the specific role that users play with regards to the service being innovated, when involved in FM service innovation processes. This is due to the peculiarity of FM services, where clients, customers and end-users do not represent a single typology of users, but rather have different needs and expectations with respect to the FM service innovation. These needs and expectations have to be matched and balanced for the service innovation to be successful, which is why the providers, who are in charge of FM service innovation, tend to involve different stakeholders in the same stage of the new service development process, but with different roles and variable degree of involvement. This implies that, for instance, customers, who buy the service, are involved as co-creator in the stages of new service development that require strategic decision making, to ensure a better match between the service innovation and the specific needs of the client, who orders the service, and the end-users, who finally receive the service. The client, represented in FM service systems by the top management of the organization ordering the services, is instead mostly involved as resource – to ensure a proper fit between the service innovation and the overall vision and mission of the organization. Finally, end-users are the least involved, called in as resource or user to ensure satisfaction, but without allocation of actual power in the new service development process. The data also indicate some trends in the use of face-to-face vs. ICT-based tools to

involve different types of users, and for different roles: the first are more common for user involvement as co-creators, while the latter support direct and indirect involvement as resource and user.

These results extend and contribute to the literature on service innovation and user roles by investigating user involvement in service innovation processes in complex services such as FM services, by highlighting which user involvement process might be followed, and which tools might be used to increase user satisfaction in the service innovation process. The study suggests that this might be achieved by involving different types of users in different stages of the service innovation process, with different roles and to a variable degree depending on what they can best contribute with, given their relation with the goal of the service innovation process. The focus on FM services depicts a setting, which was not addressed before in terms of user involvement in service innovation, but, and more interestingly, might be taken as an example for other business-to-business support services with complex value chain, such as IT services.

The theoretical implications of this study are linked to the importance of considering stakeholder roles when dealing with user involvement for business-to-business service innovation. This, in fact, might help to investigate user involvement in service innovation in more depth and details. For practitioners, on the other hand, this implies that, before involving users in service innovation, their role as clients, customers or end-users should be assessed to increase the potential of their contribution.

Nevertheless, this study also has limitations. Firstly, the focus on FM business-to-business service might limit the applicability of the results to other service contexts. Secondly, the data were collected among a relatively small amount of organizations in Denmark, which reduces the external validity of the study. Thirdly, theoretical models developed in business-to-consumer contexts were applied in a business-to-business FM context. To overcome the limitations, and increase the generalizability of these results, future research could for example replicate this study in other business-to-business services with multiple stakeholders. In addition, further studies could expand the focus to other aspects of service innovation, and look, for instance, at how the different stakeholders of complex service systems distribute and appropriate the value that is created through user involvement in new service development processes – and which tools can support such value appropriation.

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