Investigating issues and challenges for customer involvement in Business services innovation

Abstract

**Purpose** - The paper investigates how customers may contribute to radical innovation in consultancy services and what are the conditions needed for customers to involve in such radical service innovations.

**Design/methodology/approach** - The paper uses a qualitative case study approach including rich descriptions based primarily on interviews to investigate an extreme example of successful customer involvement in the development of radical service innovations in Ramboll, a leading Scandinavian engineering consultancy.

**Findings** – Our study reveals that customers may be involved in radical innovation processes to different degrees. However involving customers actively in radical services innovation require a relationship between the customer company and the service provider that might be described as a partnership in which ongoing learning is taking place to develop new solutions. Our findings reveal that unsolved problems as well as personal trust are keys in order to make customers involve in radical service innovations. Customers involved actively are further characterized by possessing high expertise and extraordinary personal engagement.

**Research limitations/implications** – As in all case studies, the main limitation of our study is the generalizability of the findings. More cases would help to shed light on the generalizability of the findings across other radical innovation projects within the same company or in similar type of companies.

**Originality/value** – The study contributes with new and detailed insights into both how to involve customers in radical service innovations and the conditions and challenges found in doing so.

**Paper type:** Research Paper

**Keywords:** engineering consulting, service innovation, radical innovation, customer involvement, case study.

# Introduction

For many years innovation has been seen primarily as an internal organizational activity. Lately innovation is taking place in networks with customers and business partners (Cheesbrough 2006; 2003). The current literature presents a number of ways to involve customers in the innovation process and the benefits derived from it (e.g. Smedlund, 2008; Lundkvist and Yakhlef, 2004). A growing field of literature also describes and discusses how users can be actively involved in organizational service innovations (e.g. Alam, 2002, Magnusson et al., 2004; Kristensson et al., 2008; Matthing et al., 2003). These contributions emphasize that different relations between customers and companies are at stake along with new methods supporting active customer involvement (Roberts et al., 2004). Simultaneously they reveal patterns and nuances on user involvement dependent on the phases and types of service innovation as well as the different methods in use (e.g. Alam, 2002).

This article aims to contribute to this literature by investigating a specific case of radical service innovation within consultancy services. The research questions investigated here are: How may customers contribute to radical innovation in consultancy services? What are the conditions needed for involving customers in such radical service innovations? Engineering consulting services are per se developed or adapted to a specific customer based on customer characteristics, needs or wishes (Drejer, 2004). Consultancy services innovations are often categorized as so-called “ad hoc innovations” within the customer company (Gallouj and Weinstein, 1997). Innovation within the service provider company is only achieved if the knowledge or competences developed can be reused in future projects (Gallouj and Weinstein, 1997; Baark, 2004). By adopting the radical service innovation definition provided by Johannesen et al (2001), we argue that radical innovation is a matter of newness concerning - what is new, how much is new and for whom it is new. This understanding is furthermore supported by Gallouj and Weinstein (1997), who argue that radical service innovations can be understood as innovations that are challenging the provided services by questioning the organizational system in place, the technical characteristics and the competencies needed for their provision. Based on these arguments, we argue that the innovation we look into in this study (a method to discover drinking water) is on the radical side. In fact, the method to discover drinking water investigated reflects the definition of radical innovation above since it challenges the existing ways of detecting and analyzing drinking water reservoirs and its technical characteristics are different from the ones presently used as well as provides for new data and analysis not earlier available in the industry. As a consequence new competencies for handling and understanding the new equipment have been developed. To answer the research questions we conduct a case study in Ramboll, an engineering consultancy headquartered in Denmark. The development of the service for ground water discovery follows the pattern of high-potential services (Smedlund, 2008), which further supports the argument of these services being radical as high-potential services are characterized as radical innovations in companies with close customer relations.

The article is structured as follows. This section presents the background and the research questions. The next section provides a literature review of the different stages of service innovation and related different customer roles as well as a theoretical perspective on possibilities and pitfalls associated with customer involvement in innovation. This is followed by the section on research method. In the following section an example of a radical service innovation developed in collaboration with customers is presented to document and analyze the circumstances and challenges encountered – seen from the perspective of both the service consultancy and the business customer. This is followed by a discussion of the main results and the conclusions.

# The innovation process and user roles

Even though different models of the innovation process are found in the literature, describing the innovation process as a stage process and comprehension of the different stages is critical to understand what it takes to integrate customers in the innovation process different phases as well as to understand the influence customers might have on innovation.

Alam and Perry (2002) have described ten stages characterizing the new services development process (Table 1, column 2) and argue that customers can be involved in all the ten stages. Nambisan et al. (2002) have likewise identified a number of phases in new product development (NPD) and the customers’ roles in the different phases (NPD as an area of research does not distinguish between service and product development). They have identified three customers’ roles: customers as a resource, customers as co-creators and customers as users (Table 1, column 4). In addition, Alam and Perry (2002) found that user involvement may have a positive influence in all the phases of new service development, even though user involvement in idea generation and idea screening are found the most important. User involvement in strategic planning, personal training and test marketing are of least importance. Finally, many models of the innovation process have been developed in the literature. Rogers’ model (1995, p. 392) defines the innovation process in an organization as consisting of two broad activities: the initiation and the implementation process. Each activity is then subdivided in a number of stages that are similar to the stages identified by Alam and Perry (2002) in new service development (NSD) and by Nambisan in new product development. Table 1 summarizes and compares the innovation process stages as described by Rogers and the new service development and new product development stages as developed respectively by Alam and Perry (2002) and Nambisan (2002). In addition, Table 1 illustrates the different roles that the customer can have in the different stages as described by Nambisan et al. (2002, 2008).

**Table 1:** Summary of innovation process stages, new service and new product development stages and customer roles in the different stages.

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| --- | --- | --- | --- |
| Innovation Process Stages (Rogers, 1995) | 10 stages of new service development (Alam and Perry, 2002)  | NPD Phases(Nambisan et al., 2002, 2008) | Customer’s roles in New Product Development (Nambisan, 2002) |
| Initiation Step 1. Agenda setting is the general organizational problems that may create a perceived need for innovation.  | (a) strategic planning |  |  |
| Initiation Step 2. Matching is fitting a problem from the organization’s agenda with an innovation. | (b) idea generation(c) idea screening | Ideation  | Customer as resource |
| Implementation Step 1. Redefining/restructuring is when the innovation is modified and re-invented to fit the organization, and when the organizational structures are altered. | (d) business analysis, (e) formation of cross functional team, (f) service and process design, (g) personnel training,  | Design and Development  | Customer as co-creator |
| Implementation Step 2. Clarifying is the relationship between the organization and the innovation is defined more clearly |  (h) service testing and pilot run, (i) test marketing, | Product Testing | Customer as user |
| Implementation Step 3. Routinizing is when the innovation becomes an ongoing element in the organization’s activities | (j) commercialization | Product Support | Customer as user |

According to Alam and Perry (2002) customers may contribute in different ways including stating their needs, problems, and solutions or by criticizing existing services. Customers may also help in screening ideas with their thinking, dislikes or preferences. In order to get customers’ insights, the customer may be involved through face-to-face meetings, user visits or meetings, workshops, user observations or direct types of communication (Alam, 2002). Customers may also be closely involved as co-creators. In this case the customer takes on a more active role (e.g. Nambisan, 2002, 2008; Jeppesen and Molin, 2003 and Kristensson et al., 2008).

By comparing the customer roles in new product development (Nambisan, 2002) and new service development (Alam and Perry, 2002) it can be argued that customers can have the same roles in new service development as in new product development. However, Alam and Perry (2002) argue for more tasks or processes than Nambisan (2002) including roles as trendsetters, decision informers, decision takers or advisors.

There are many challenges in relation to customer involvement in NPD (Nambisan, 2002) or NSD (Alam and Perry, 2002; Jeppesen and Molin, 2003). Within NPD for example, Nambisan (2002) argues that the main challenges and conditions for involving “customer as a resource” is first of all to get in touch with customers in a cost effective manner. Selection of appropriate customers is essential and establishing ties for actually making the customers involve is important. In addition, customer incentives, company recognition and socializing are necessary for customers to share their knowledge with the service provider (Roberts et al., 2004). However, while Nambisan (2002) further argues that customers’ motivation to contribute include control over the outcome leading to greater self esteem, Antikainen et al. (2010) argue that good motivators include community cooperation and entertainment. According to Nambisan (2002) involving “customers as co-developers” in new product development might increase project uncertainty whereby a need for further control and evaluation is needed. This is further complicated by the fact that customers may suddenly withdraw. In addition, customers often need additional knowledge about the product and technology in question, therefore a need for customer training may arise. The main challenges in the role “customer as user” lie in ensuring the right mechanisms to structure and channel the customer input as well as to involve different customers to ensure a broad representation.

We find many similar conditions and challenges between the field of service innovation or new service development and new product development. However some different or additional challenges are also found. For example, in relation to customers as resource, Magnusson et al. (2004) argue that to obtain good and valuable ideas it is important that the customer is in his own environment and that ideas are anchored in a real context. In addition some studies argue that in order to use customer ideas in service innovation there is a need for the service provider to develop competencies in transforming these ideas into commercial innovations (Kristensson et al. 2008). A number of studies show that this is not a trivial task (Magnusson, 2003; Matthing, 2003). Lundkvist and Yakhlef (2004) argue that customer involvement in the development phase might reduce uncertainty by creating better products; however it requires active participation from and close dialogue with the customer. Customers as developers also raise a need for close integration with the company's development team, which is not straightforward to obtain. Lundkvist and Yakhlef (2004) further argue that there is a general need for a common language and a common approach for the service provider and the customer to make the collaboration possible. This first of all requires an understanding of the "other" as somebody who has got something to contribute. These forms of cooperation are rarely contractually specified and there is a need for social contracts in the form of informal agreements based on trust between the partners. Alam and Perry (2002) argue that in general it is necessary to have long-term relationships with the customers involving them in the decision making process. This is supported by Smedlund (2008) arguing that to involve customers in radical innovations a close collaboration process is needed not only between companies but also between the involved individuals. Common goals are needed, but also assurance that these goals can be met. We can conclude that issues of relationships, trust, common goals, expertise, engagement, and motivation seem to be of great importance but of varying degree across the different customer roles and the involved service provider.

# Method

Given the type of research questions, a qualitative research approach was considered appropriate for the study. Our research is therefore based on an in-depth case study (Yin, 1994) of an engineering consultancy firm, Ramboll DK. In this paper we report an interesting example of service innovation where two customers were involved, even though only one (an Environment centre) played an active role in the phases of development and forming of the content of the new service.

Following Miles and Huberman (1994) and Flyvbjerg (2006) we focus on this extreme example to shed light and create understanding of a certain phenomenon – the active involvement of customers in the development of a radically new consulting service, whereby we add new insight to the existing theory on the subject (Walsham, 1995). In our case study we use so called rich descriptions (Walsham, 1995) by combining interviews with secondary material such as internal letters and other printed material retrieved from Ramboll DK Intranet and Ramboll DK website.

In total we conducted 18 semi-structured interviews lasting 1½-2 hours each. At the beginning project informants were selected by the competence manager in Ramboll DK on the base of our research interest. Later, snowball sampling (Goodman, 1961) was used to identify relevant customers and informants within Ramboll. All interviews were tape recorded and transcribed. An ongoing dialogue with the company has also taken place to identify any misunderstandings and to obtain additional insights. The key roles that respondents played in the innovation process give high level of reliability and internal validity to the findings.

The analysis has been conducted by following Kvale’s (1990) instructions for analyzing qualitative interviews using themes. First a general level analysis identifying interesting and relevant aspects has been conducted. This was followed by an analysis based on the theory of customer involvement in service innovations described above. The study is thus inductive as it departs from the empirical findings.

# The case study – development of New Services

The service innovation investigated here concerns the development of a method for groundwater discovery to be used in the service provided by a consultancy company servicing environment centres and water works. The innovation is primarily motivated by the fact that current methods sometimes result in costly and unsuccessful drills. The innovation project is anchored within Ramboll DK, a big engineering consultancy where an employee came up with the idea to develop water detection services based on a method different than the one usually used. In the development of the new service two customers have been involved.

## The partners involved

Ramboll Denmark is part of Ramboll Group, a leading Scandinavian consultancy company in engineering, management and information technology (IT) fields.

Ramboll Denmark provides many different types of services from turnkey power plant solutions to consulting and design of buildings. Services provided include areas of Construction and Design, Infrastructure & Transport, Energy & Climate, Environment and Water, Industry & Oil /gas, IT & Telecommunications and Management and Society.

In Ramboll, innovation has traditionally occurred and developed in the context of projects implementation. This is closely related to the cost management of the projects requiring expenses to be charged to a specific project. The increased emphasis on innovation in Ramboll has however resulted in a range of new organizational initiatives. Recently, project-related ad hoc incremental innovations have been combined with more radical and centrally managed innovations. Lately the need of innovations whose costs cannot be justified by single projects has come into focus.

Two customers are involved in the service innovation in question. The first customer was primarily involved in the initial test of the method. The second customer, having the major role in the innovation process, is one of 7 regional environment centres in Denmark. The centre is part of the Agency for spatial and environmental planning within the Danish Ministry of Environment. One of the Environmental Centre’s duties is to assist waterworks in providing drinking water to the citizens.

## Analysis of the customer involvement

This analysis investigates an example of innovation developed by Ramboll in close collaboration with customers. The main focus is on the cooperation between Ramboll and one specific customer, the Environment Centre. Other customers have been involved, and their involvement will be touched upon in the analysis, but the Environment Centre had a primary role.

The process started when a Ramboll employee (from now on called “MN”) became aware of a French method to improve the discovery of good places to drill for drinking water. She established contact with a French university researcher team familiar with the methodology. However the methodology had only been applied in developing countries and the French researchers did not believe that this method could be used in Denmark. This was due to dense population and electrical noise expected to interfere negatively with the use of the technology.

“They are financed by projects in developing countries. They (the French Team) were a little, “well we could try, but we are working in developing countries.” They were not really interested until we were at this conference half a year later, where I was given the chance to present the data collected in DK (Denmark). Here they found out that we had eventually gotten some really fine data despite the high levels of noise. They really had not believed this was possible.” MN, Ramboll

This French team possessed expertise in using the technology and the tools to conduct measurements and to analyze data. MN had however no money available in her project or from other sources to pay for the French team to support her work. MN came to an agreement with a doctoral student from the French team. She would get his assistance in adapting the method to Danish conditions, learn how to use the equipment and learn to analyze the data. He would in turn get access to her data for his doctoral work. There was also a need to find a customer who would engage in the project, as required by the Ramboll innovation policy. This policy establishes that innovations must always be linked to specific projects as the here and now practical value is considered crucial. This was expressed as a fundamental part of the company innovation culture by several of the informants.

“It is a good way to give some support and get it started (…) however as a rule there shouldn’t be full financing from Ramboll, the more external (funding) you can get, the better the idea holds water”. LM, Ramboll Area Manager 3

The customer should first of all have a project where the application of the new method was relevant and could be tested. In addition the customer should be willing to co-finance the project.

 "We decided to try to get a customer involved in testing the method. We wanted to find a real problem to solve and they (the customer) should see the value and feel commitment, moreover we needed this to achieve the necessary economy to implement the test of the methodology. At the time this was considered easier than to find the money internally in Ramboll." MN, Ramboll

Involving customers in service innovation

MN and her colleagues were well aware that a lot of persuasion was needed to get a customer involved and prepared to co-finance the project. Long-term relationships were expected to be crucial due to the degree of uncertainty of the project and expected results. The strategy was to contact well-known customers where a relationship of trust was already established.

 "So we began to call around to customers who had confidence in us." MN, Ramboll

This strategy did not give any results. Instead a good friend of a colleague (employed in the county administration with responsibility to support the water works in water discovery) decided to get engaged in the project, not least because he faced a specific problem in locating water where the traditional methods, such as SkyTem (Østergaard, 2007) had not provided the expected results. Therefore expensive water drillings had been made without success.

"The current customer was a good friend from university of one of my closest colleagues who felt that: "it sounds cool if it works”, and would like to help to finance this development work." MN, Ramboll

 ".. It was really cool because they had a problem, they had uncovered an area with the traditional methods showing them where to drill, but there appeared to be no water, which they did not understand. This was a really good problem, which theoretically could have been avoided using the new (French) method." MN, Ramboll

The first part of the development task consisted in adapting the method and equipment to entirely different conditions than where the method had previously been applied.

"The equipment needed to be adapted quite a lot. It had previously been used on development projects out in a desert, but we have very different circumstances in Denmark. Here we have a dense population, they had never tried to use it somewhere where you are never far from a high-voltage it disturbs the measurements heavily." MN, Ramboll

The adjustment appeared to be rather problematic. Despite the fact that the method showed promising results many obstacles and much development work was still expected.

"The first time he (French PhD student) was here we had to try all sorts of strange ways of dealing with the equipment in the field.” MN, Ramboll

Adapting the methodology and equipment could practically have been achieved without customer involvement. However at later stages, that would not have ensured a proper alignment to specific issues related to the potential commercialization of the method and related services. The customer participating in this first part of the development task was not particularly involved; however the test results gave indications of a promising method. The test helped getting the necessary argument for involving a second customer, the one that actively engaged in developing the method and related services.

Again we found that confidence in the form of personal relations played a major role in this unconventional approach. Apart from confidence, personal relationships are found essential to make the collaboration process work smoothly.

“Personal relationships mean everything internally and externally for good cooperation between the various involved.” HB, Ramboll area manager 2

The second customer involved was a public environment centre where a friend (TH) of MN was working. His engagement is driven by confidence in MN’s abilities as well as a professional expertise making him see the promises of the new technology.

“I have gotten the insight to see, that this method is good and that it would be interesting to test.” TH, Regional Environment Centre

We found that management at the customer company needed confidence in the abilities and engagement of the involved employees both at the service provider company as well as at their own organization to ensure that the team could actually lift the challenge. This confidence was established given the successful test data along with trust in the qualifications and motivation of their own employee as well as the engineering consultancy employee involved.

“He (boss) could see that the arguments were good, so he could not say no, he knew the method was good and was something we needed to test in Denmark. He probably just had an interest in the university doing it (test the method). But we promised to do everything we could to make it a success. ” TH, Regional Environment Centre

Especially customer expertise is recognized as essential if customers are acting as co-developers within the area of technical engineering services.

“The customer is important as a co-developer - it requires special expertise and it gives you some different options and outcomes.” HK, Ramboll Area manager 1

As a consequence of this atypical and risky arrangement, MN and TH had to promise THs manager in the Environment Centre to avoid errors that could result in bad exposure of the method. The tests were done with extreme care following test methods applied at the university. Another consequence of the arrangement was that both MN and TH had to use free time like vacations to make the tests and learn about the method. It also involved visits to the research group in France, where they were taught how to analyse the data. This again points to an extraordinary engagement from the employees at both sides.

“.. I really use a lot of my free time on it. You need to take care. At a given time I was about to get bitter … I was putting so much time in it and expected to get something in return.” MN, Ramboll

“I do not just get “a yes do this”, so I use my free time on it. If we have been a week in Grenoble to talk to them at the university down there, well then it is my leisure time.” TH, Regional Environment Centre

The close collaboration with the Environment Centre is seen positively at Ramboll as such collaboration provides Ramboll with a better understanding of the challenges and needs of the customer. In this way Ramboll may actually discover applications that they weren’t aware of.

Active customer involvement is however not straight forward. It is pointed out that not all customers may engage into such a value creating collaboration. Whether it is possible depends on their professionalism and understanding of the problem to be solved.

".. It depends on their professional level. Sometimes you are really advisor and there is no professional collaboration. They just need help because they do not know themselves what to do. What is cool is when the customer is engaged and has a professional level, where you can ping pong with them. (...) ... they communicate to me about their needs and I might think creatively and I know what the possibilities are, and thereby find solutions to their problems, in these instances good synergy arise." MN, Ramboll

In this case the customer possesses high insight in the area of water discovery. However this has been further enhanced by actually teaching the customer (as well as the employee) about the technology used and how to analyse data.

“Well I believe that one of the things that have been really good is that I’ve been so closely involved that I understand the method. I understand “why do we need to measure this way?” and I understand “why we should interpret data this way? I’ve been at Grenoble and I’ve taken part in the education at that university on how to use the method” TH, Regional Environment Centre

Collaboration – from being a customer to being a partner

The case reveals that when the collaboration works really well then it becomes a learning process for both parties involved. The dialogue and the experimentations contribute to the development of a common understanding of what the method can be used for. This is perceived as furthering the innovativeness by bringing up new issues and understanding.

"They begin to think and see other issues or problems that have been put aside because it could not be solved by traditional methods. (..) These issues are taken up and suddenly new ways to apply the method emerge." MN, Ramboll

“...we have a challenge at a given place, where we envision that this method might help in solving the problem. That knowledge we have here at the centre. We may say we have these three-four challenges and then MN says: “how do we do this, what do you think is best?”” TH, Regional Environment Centre

When the customers are actively involved they feel ownership of the project. This may result in customers engaging themselves in a continuous development process.

"They feel ownership to the idea and may even think ahead. They call me and say that they have thought more about it and have got new ideas for applications. I do not think they would have done this if they had not been involved in the entire test and development process." MN, Ramboll

“There have been some results that were difficult to understand. MN had a hard time to interpret it and give an explanation, why the results looked the way they did. Well this was how it was and they were not necessarily wrong. However it was required to see them from another angle. We succeed in finding another angle .., because I was part of it.” TH, Regional Environment Centre

The development of the new method is described as an ongoing collaboration. Initially there was primarily an understanding that the method may be applied for water discovery. However over time new challenges have been met. This has contributed to extending the method to other applications including to distinguish between clay and salty water or to measure the amount of rainwater.

”They (the challenges) have surfaced on an ongoing basis. After we did some measures, then we found out “well, it may also be used to …” in collaboration with something else”. TH, Regional Environment Centre

The case further reveals that the employees in the Environment centre get inspired by the collaboration and find it interesting to help in the development of the new method. They are motivated by the feeling of being part of something interesting and new.

"He (TM) says that it has been really great for them to be involved in this innovation project. We try to motivate them - that they are part of something fun and something new. They had some technical issues, they were unable to solve, and it has been really valuable for them to be part of finding the solutions. ” MN, Ramboll

Having a close partnership and a common commitment with the customer is a very different relationship than the usual adviser-client relationship, where the customer place demands rather than offer support and take responsibility.

  "I think the worst part of my work is when we are advisers and they are customers and that their contribution is only to keep track of budgets and schedules, and that they feel "we are your employer”.” I would prefer that it was seen as common projects (..). I find that the best result is achieved when they have a professional level and time to take professional responsibility for the task.” MN, Ramboll

New applications of the method

Over time, the new approach to water discovery has become an innovative service that generates normal revenue. In addition new areas of applications have come up, which give Ramboll a competitive advantage as the method is not yet provided by competitors. For example, the method is integrated in bids for large-scale projects as it creates additional value in relation to differentiation over their competitors.

"Generally this new method is something you'd like to include in various offers, because we have something new and exciting that no one else can offer. In this way, such a new thing gives better chances to win traditional assignments." MN, Ramboll

The method proves to have many more applications than expected initially. It is diffusing to other business areas as customers and colleagues return with proposals for new uses.

".. Now they (colleagues and clients) in construction and pollution have heard about it, could we also use this method for something? When you are in construction you need to know how much water you have to drain. Within pollution …they need to know where the water is in the near-surface layers. " MN, Ramboll

Ramboll is now testing the equipment for pollution detection. At the same time more options seem to appear as the method becomes more widely known and colleagues, customers and competitors come up with new ideas for use.

# Discussion

The project described is an example of service innovation where the service provider engages with a research institution and a number of customers in order to develop new services. In our study we find that the two involved customers represent quite different ways or roles of involvement in the innovation process. Following Nambisan (2002, 2008) the first customer primarily takes on the role of a user, whereas the second customer involves as a co-creator, as a user and as a resource. However it may be argued that the first customer engaged beyond what is normally identified within the role “customer as user” primarily concerning customers involvement in testing and commercialization of the service. The first customer contributed in fact in different ways by 1) providing an unsolved problem including a test ground, 2) believing in the value of the new and yet unproved method and potential services that could come from it and 3) taking part in sharing the economic risk of developing the method to be used in a new market.

The second customer acts both as “customers as resource” by pointing out new challenges and “customer as co-creator” by actively engaging in the development process as a partner. Finally the second customer also takes on the role of the “customer as user” as they help to evaluate whether the services provided with the new method actually meet the need of the customer. The second customer, however, does not share any economical risk. This environmental centre engages actively through an employee who becomes part of the development process, thus contributing with some of the working hours. This involvement is justified by belief in the potential of the project as for the first company.

We find that both customer companies decide to engage in this rather risky project due to their confidence in the abilities and motivation of the service provider and especially the employee running the project. In the customer company it is also important that the management trust their own employee’s abilities and engagement to ensure success of the project. Here we thus see new and more complex examples of trust challenging the existing view that close collaboration with customers primarily is based on long-term customer relationships as argued by Alam and Perry (2001). What we see here is that both customer companies involve due to trust based on personal relations. This is interesting as long-term partnership may both generate professional and personal trust ensuring the belief that the needed expertise is in place. We believe this can be argued from an unusual and atypical situation of collaboration requiring high level of trust in the competences and qualifications of the service provider (and the customer involved in the development phase) as well as the engagement in making this project to succeed.

The second customer company engages in the project due to unresolved challenges in the market of water discovery. Similarly Smedlund (2007) found this to be one of the main reasons for customer involvement in radical service innovation. However our case shows that this type of customer involvement is only possible if the customer company has employees who not only have a high personal motivation to engage, but also possess the right qualifications and competences to be able to take part in the knowledge creation process as suggested by Lettl et al. (2006). We also found that despite the high level of knowledge possessed by the employee in the second customer company, further training was still needed. A possible explanation could be that we are dealing with radical innovation, demanding new insights and new competencies. Additional education is not an identified factor within the existing theory of new service development, but it is an identified condition when customers act like “customers as developers” in new product development. The need of close collaboration gives rise to a number of conditions necessary for innovation. In particular, it is pointed out that employees in the service provider should have a completely different approach to their work. Instead of providing all ready-made solution (we know best), the service provider should ensure a completely different communication practice so that the various resources of the customer and service provider come into constructive play. These elements are well described in the literature on new service development arguing for partnerships and ongoing communication. In our example it is stressed that the adviser should be sensitive and open to new proposals and any other input from the customer. The need for a more creative approach including experimentation and trial and error as well as the need for a different relationship between client and adviser is found. This relationship should emphasize collaboration with a common goal and shared responsibility for the success of the innovation project.

Creativity and idea generation is essential and calls for other ways to communicate and collaborate than what is usually seen in a customer / service provider relationship. Alam and Perry (2002) found that in new service development in the financial sector, involvement of customers plays the highest importance in idea generation and testing phases. Our case shows that customers are highly important in the development of radical service innovations in engineering consulting services as well. This applies not only in the idea generation and testing phase, but especially in the co-creation phase providing different perspectives and expertise that contribute to highly innovative solutions. However engaging in such an arrangement is highly demanding and underlines once again the need for both professional and personal interest that go beyond normal employment relationships.

# Conclusions

So the answer to the first question of the study, “How may customers contribute to radical innovation in consultancy services?” is that customers may indeed contribute to radical service innovation and may involve in different ways taking on different roles in the innovation process. In the study this is illustrated by analyzing the involvement of two customers. The first customer was primarily involved as “customer as user” of the innovation service and only in the beginning of the process supporting and legitimizing the innovation process. The second customer played a much more active role and contributed to the content of the service by engaging actively in the strategic considerations, the development of the method and the value generated to the industry. The role played by the second customer may be defined as “customer as resource”, “customer as co-creator” and “customer as user”. Regarding the second question: “What are the conditions needed for involving customers in such radical service innovations?” the answer is that it depends to some degree on the type of involvement. No matter which roles the customers take on we found that an unsolved problem along with personal trust in the employee of the service provider, are prerequisites. Customers involving more actively in the innovation process additionally need to have high professional expertise and high personal engagement.

The study brings, therefore, new knowledge to the field of service innovation and new product development. As stated above we found personal trust to be crucial for customer involvement, contrary to the well-established argument of long-term partnership as the generator of trust. Our findings further reveal that the user roles identified by Alam and Perry (2001) and Nambisan et al (2002, 2008) are overseeing other issues of importance. Regarding the “customer as user” role, our data reveal that customers may support the innovation process by legitimizing and financially supporting it. We also found that being actively involved in the co-creation of a service innovation is highly interrelated with the roles of being “a source of innovation” and “a user”. We therefore argue that while some customers may act as either “a source” or “user”, being involved as “co-creator” entails most of the roles identified in Nambisan et al. (2002, 2008) and most if not all the stages defined in Alam and Perry (2001). This is seen as a particularity regarding close collaboration in radical service innovation due to the fact that the roles in close collaboration is blurred in order to ensure real partnership and shared ownership meaning decision-making and strategizing is more of a common task.

As a last issue we also found that radical service innovation demands “research in practice”. Developing radical service innovation is characterized by many unknown and unsure factors requiring new knowledge and new competences. Our study provides insight into this process revealing an ongoing process of experimentation, reflections and studying bringing the knowledge of the customer and the service provider as well as a third partner together in order to develop and test new knowledge. The requirements of involving customers in the development phases of radical service innovation are summed up in Table 2 beneath.

**Table 2** Conditions for collaboration between customer and service provider in radical service innovation

|  |  |
| --- | --- |
| Challenged Elements  | Conditions  |
| Customer  | Unsolved problems in the company / markedBelief in ideaProfessional expertProfessional interest in problemEngagement beyond employment Personal relationship to service provider (trust) |
| Interrelation between customer/service provider | Mutual trust in expertise and engagementPartners – common goalsShared responsibilityLearning together |
| Process | Iterative process between applying, understanding, developingExperimentation – trial and errorOngoing and evolving (learning) process |

The main limitation of the study lies in the generalizability of the results since our findings and conclusions are based on the in depth study of only one radical service innovation. This is typical of qualitative, single case based type of research (Yin, 1994). In addition, the study could have been strengthened by conducting more interviews with the same informants, by interviewing the first customer involved in the project or the French PhD. Student. This has been attempted to some extent, but access to respondents outside Ramboll has not always been easy. Finally, whereas our case study investigates a business-to-business service innovation, differences between business-to-business and business-to-consumer services have not been taken into consideration in the literature review. Nevertheless we believe that our study provides some new knowledge and useful evidence about how to involve customers into radical service innovations and the conditions to do so in a successful way in engineering consultancy companies. This knowledge and insights could be of interest to researchers in the service innovation field and managers in the consulting services field alike.

The study limitations provide also the starting point for future research. In fact, it could be interesting to replicate the study by following similar projects within Ramboll. In addition the same study could be replicated in similar consulting companies to study whether this set up is specific to our case company or is spread and used in other companies within the same industry as well. From a theoretical point of view, it might be relevant to test the validity of the theories used in the paper at a more general level within the same type of business and other types of services.

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