



Key strategies for the successful involvement of customers in the co-creation of new technology-based services

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Abstract

Purpose – The aim is to propose a conceptual framework consisting of research propositions concerning the key strategies required for the successful involvement of customers in the co-creation of new technology-based services.

Design/methodology/approach – The methodology involves a single case study from which data are derived and analyzed using the grounded theory methodology of “constant comparative analysis.” User-generated ideas for future mobile phone services are collected from four user involvement projects and analyzed at several workshops attended by senior managers from telecommunications firms.

Findings – Seven key strategies are identified as being essential for successful user involvement in new product development. Each strategy is described and illustrated in relation to existing theory and presented as a research proposition.

Research limitations/implications – The exploratory nature of the research means that the findings are tentative and need to be confirmed in other settings by other researchers, including quantitative large-scale studies.

Practical implications – The results of the study provide management with guidelines for organizing successful user involvement projects with a market-oriented approach.

Originality/value – Despite the increasing popularity of user involvement, little research has examined the conditions required for successful user involvement in new product development. This study makes an original contribution by proposing strategies critical for a successful outcome.

Keywords Customer orientation, Customer relations, Product development, Service levels

Paper type Case study

1. Introduction

Even the most ingenious invention will be a market failure if it does not meet the needs of the customers. To ensure that customer needs are met and that such market failures

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are avoided, companies are seeking market-oriented methods of developing new products and services. An increasingly popular means of doing so is to involve users in the early stages of the new product development (NPD) process by inviting them to suggest ideas for innovative products and services.

According to Kristensson *et al.* (2004), involving users as co-creators during NPD produces ideas that are more creative, more highly valued by customers, and more easily implemented. Such customer co-creation during innovation processes appears to have become increasingly popular in recent years (Vargo and Lusch, 2004); however, there is a paucity of research on the theory and practice of user involvement (as one form of co-creation) during both new product and service development. In particular, there is a lack of a firm theoretical foundation on which to base an understanding of the strategies (e.g. antecedents and critical processes) which are required for success during the co-creation of services.

In the Marketing Science Institute ranking of research priorities, the issue of "... ensuring customer-relevant innovation in all stages of new product/service development" is now on the top tier of all research interests (MSI, 2004; MSI Research Priorities 2006-2008). One topic specifically pointed out as important concerns the development of new tools required for a proactive understanding of customers. Consequently, the aim of the present study is to suggest key strategies for the effective management of user involvement – thus facilitating successful market-oriented NPD.

Much of the previous research in this field has focused on the outcomes of co-creation; in contrast, the present study concentrates on the conditions that lead to these benefits. Through our attempt to demonstrate the key strategies required when managing user involvement, benefits to both theory and practice are addressed: In terms of theory, the identification of various research propositions is likely to provide insights that can guide and stimulate future research in this field. In managerial terms, managers will be able to utilize such strategies when implementing a market-orientated NPD[1] process.

2. Literature review

2.1 Co-creation versus customization

According to the notion of co-creation, if a user/customer[2] is involved in the production of a good or service, the end value will be enhanced because the customer can tailor the product as he or she desires. Co-creation refers to collaboration with customers for the purposes of innovation and has become a foundational premise of the service-dominant logic (Lusch *et al.*, 2007).

Co-creation may be compared with the notion of customization (Prahalad and Ramaswamy, 2004). The difference between "co-creation" and "customization" lies in the degree of involvement of the customer; in general terms, the customer plays a less active role in customization than in co-creation. In customization, the customer's role is usually restricted to the end of the innovation phase and involves making suggestions for incremental changes to an almost complete prototype (i.e. at the end of the innovation process). In this case, the customer is usually cast in the reactive role of responding to questions being posed by the manufacturer. In contrast, co-creation refers to the involvement of the customer as an active collaborator right from the beginning of the innovation process. In the process of co-creating value, the customer may suggest innovative ideas for the company's forthcoming products or, alternatively, he or she

might share consumption experiences in such a way that the company feels obligated to re-organize its current portfolio of products and services. Important to note is that the basis for the collaboration is the experiences that a customer has gained when using a company's product or service (Vargo and Lusch, 2004).

To sum up, co-creation represents a rather drastic departure from the traditional approach of customizing new products. In the concept of customization, value is viewed as something that can be built into a product or service during the production process. This is in line with the goods-dominant view whereby value was exchanged when the product (or service) was offered to the customer. According to the notion of co-creation, and the service-dominant logic, value can only be determined by the user during the consumption, usage, process (Michel *et al.*, 2008; Lusch *et al.*, 2007). The process of co-creation thus constitutes a more market-oriented perspective on the question of innovation than is the case with mere customization.

According to the service-dominant logic, there are two ways of collaboration (Lusch *et al.*, 2007). The first way has to do with the value-creation process and leads to value-in-use. The second way can "occur through shared inventiveness, co-design, or shared production" (p. 11) and may take place when a customer advises a company of how he or she wants her next mobile phone service to function. This latter form of co-creation also leads to value-in-use, but in a more indirect way. This paper focuses mainly on the second type of customer co-creation (as a way of collaboration) which is important since most marketers and consumer psychologists have traditionally focused only on buyer behaviour and actions related to the (good) product or transacting it. However, if the service-dominant logic is correct, it will be necessary to shift the focus to relationship formation and consumption behaviour as co-creation occurs between the company and the customer and implies that resource integration is a primary function of the company (Vargo and Lusch, 2006).

2.2 Reactive and proactive market-orientation

According to Narver *et al.* (2004), market orientation can be reactive or proactive. The former involves a company discovering, understanding, and satisfying the expressed needs of customers, whereas the latter involves discovering, understanding, and satisfying the latent needs of customers. Of the two, reactive market orientation has without doubt received most attention from researchers and managers, and is generally easier to implement (Narver *et al.*, 2004). Nevertheless, a business should practice both forms of market orientation if it is to attract and retain customers. The challenge for businesses thus lies in identifying and satisfying the latent needs of customers.

Reactive market orientation requires a company to possess the ability to formulate number of intelligent questions and/or carry out careful observations of customer behaviour which will later enable it to tailor a product or service containing value for the customer. The customer will play a largely passive role, merely answering questions or allowing observations. Proactive market orientation, on the other hand, entails the customer taking part as a collaboration partner, jointly co-creating value with the company. While customers are collaborating with the company over a period of time, opportunities are likely to occur whereby they can share their experiences. Thus, the co-creation of value occurs as the customer jointly discovers latent needs with the company.

User involvement is suggested as one type of practice whereby the co-creation of innovations takes place via the generation of knowledge of latent needs (Kristensson *et al.*, 2004).

2.3 Key strategies in reactive and proactive market research

When conducting reactive market-oriented product development, several key strategies need to be managed in order for valuable customer knowledge to be gathered. For example, one key strategy might be to classify different customer responses into different customer segments. Another key strategy might concern how to reach different kinds of customers or how to motivate them to participate. During the conducting of reactive market research, customers are typically shown recent product launches or already finished prototypes in order to trigger their responses. Furthermore, customers are generally expected to only take minor initiatives but rather wait to respond to pre-designed questions (von Hippel, 1978). Typically, the same types of questions are put to all participants, and attitudes to aspects closely related to the product/service are of importance. A final key strategy in reactive market-oriented NPD is to ask the customer to respond to questions (i.e. during an in-depth interview) by retrospectively recalling situations they had experienced in the past.

In terms of research on key strategies during co-creation, only sparse accounts can be found (to the best of our knowledge). It is clearly envisaged that the customer should be active in generating the knowledge, thus participants will not be subject to guidance in the same way as during reactive market orientation (Vargo and Lusch, 2004). Regarding who should participate, Matthing *et al.* (2006) claim that in particular users with a high degree of technology readiness should be asked to participate in a user involvement project (i.e. developing technology-based services). Somewhat similarly, Franke *et al.* (2006) claim that users who are able to co-create are likely to have cutting edge knowledge within the area; thus, only consumers who are “leading users” should be involved. This seems logical, but there is no study which has tested the reverse situation (whether ordinary users are also able to perform creatively). Other instructions on how to initiate a co-creation project, for example how and under which forms customers can share their information, are difficult to find. Furthermore, although it is possible to find references reporting that users are in better contact with their unmet needs (von Hippel, 2005), it is not specified how a company should act in order to facilitate its customers actively detecting their latent needs during value-in-use.

As indicated above, it is the contention of the present study that key strategies for co-creation, which are needed in order to facilitate proactive market-orientated NPD, are inconclusive. While, the outcome of close collaboration with the customers is well documented, understanding what to do in order for these benefits to be realized is more obscure. Viewed from the perspective of an input-process-output logic, there is some justification to try to identify which input is required in order to reach the desired outcome.

The identification of key strategies through which successful co-creation might occur is not only important from a scholarly perspective, but also to managers attempting to apply the philosophy of market orientation in a proactive way. When assessing the role of management in implementing a “market oriented NPD”, Kok *et al.* (2003, p. 138) assert that managers:

[...] are unable to identify what needs to be changed to make their product development activities more market oriented [...] perceive a dearth of guidelines about the implementation of market orientation in their organisation [and] [...] do not know how to make product development efforts more market oriented because academic research fails to provide implementable guidelines.

For companies using adaptive strategies when implementing co-creation, there is likely to be much to gain. One European company which uses its users as a valuable source of new innovations is Bosieboo, which specializes in products and services aimed at making life a little easier for (new) parents. Bosieboo invites parents who have entertained the thought “if only someone could invent a thingamajig which could do that, then life would be a lot easier” to share both their problems and their ideas for solutions. When this company was launched, it received more than 2,000 proposals regarding new products. The business logic of Bosieboo is that users have direct access to latent needs and they are thus likely to be better at coming up with promising ideas for future innovations.

2.4 Technology-based service companies

The present study focuses on user involvement as a market-oriented NPD practice at technology-based service companies. These companies face particular difficulties in ascertaining their customers’ expressed and latent needs. Firstly, because there is little face-to-face interaction with consumers, technology-based service companies have fewer opportunities to:

- communicate with their customers;
- observe them in different situations; and
- receive complaints about service failures.

This should be contrasted with the situation of “traditional” companies, which can use frequent personal interactions in order to learn from their customers – thus facilitating successful new service development. Secondly, because most users of technology-based services have limited technological knowledge, they are often unable to foresee (and/or articulate) their ideas about innovative services that would create surplus value for them.

For these reasons, technology-based companies can experience significant difficulties when initiating co-creation and thus when identifying the latent needs of their customers; indeed, for many companies in this line of business, great efforts are often required to understand even the expressed needs of the customers (Parasuraman and Colby, 2001). Given these problems, user involvement in NPD could provide useful information to enable technology-based services to meet their customers’ latent and manifest needs.

By allowing users to become idea generators and co-creators of new services (or ideas for new services, improvements to already-existing services) (Kristensson *et al.*, 2003, 2004; Matthing *et al.*, 2006), it becomes possible to move beyond the customers’ expressed needs to a comprehension of their latent or unarticulated needs. In the near future, companies will already need to be able to create processes facilitating collaboration during the innovation process, according to Lusch *et al.* (2007).

Nevertheless, as shown previously, research on the key factors contributing to how such collaboration can be organized, as well as how it can be managed most effectively,

is fragmented. Very few studies have specifically examined the process of user involvement, as one form of co-creation, in new service development (Alam, 2006). Those that have advocated the practice as a means of identifying truly creative ideas (Kristensson *et al.*, 2002; Magnusson *et al.*, 2003) have not described thoroughly enough what user involvement really is. For example, according to Matthing *et al.* (2004), customer involvement implies going beyond merely asking customers what they want, as in traditional market research; rather, customer involvement entails non-verbal learning by practical involvement which elicits latent needs. However, although the effects were thoroughly explored, the essence of what makes this possible and what happens during the process was not explained. From a scientific perspective, it might be expected that a concept which is being so enthusiastically recommended would be carefully defined and grounded in theory; however, this appears not to be the case.

3. Methodology

3.1 Case background

The methodological approach used in the present paper was that of a single case study (Yin, 2003). As is well known, case studies are especially useful for exploring topics in which there is a relative lack of strong theory. In these circumstances, case studies are often able to provide descriptions (and thus generate theory) in previously under-investigated areas (Eisenhardt, 1989; Gummesson, 2000).

The present case has focused on five project meetings conducted at two Swedish telecommunications service companies – Ericsson Consumer Lab and TeliaSonera. These firms are active players in the telecommunications industry, both within Scandinavia and worldwide – the former as an operator and provider of mobile phone services and the latter as a marketing and consumer research department at both Ericsson and SonyEricsson. The discussions concerned the conditions for the successful involvement of users during the early phases of new service development at the two firms. The aim of the project meetings was to explore the key strategies constituting user involvement, and to identify what is needed, from a management point-of-view, for user involvement to be successful when implementing co-creation as a practice in market-oriented NPD. From the companies' point-of-view, it was of interest to learn how to conduct user involvement projects in the future as they were experiencing discontent with the type of information they were currently receiving by means of more traditional market research techniques (i.e. focus groups and large-scale surveys). Figure 1 shows an overview of the research design.

3.2 Sample

Four company representatives participated in the five project meetings/workshops. All were males with an academic background in marketing. All the project meetings were held in conference rooms located at the companies. All the meetings lasted about three hours, except for one which lasted a whole day.

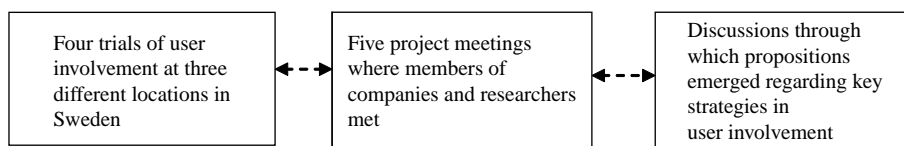


Figure 1.
An overview of the
research carried out

Data from four user involvement trials served as input at the project meetings. The trials had been conducted at three locations – two in a medium-sized Swedish city, one in the capital city of Sweden, and one in a sparsely-populated area in northern Sweden. In all, 38 real customers participated in the trials. All the participants were recruited by a professional recruitment company.

3.3 Data collection and analysis

To strengthen the case-study design using triangulation, three data-collection methods were used (Eisenhardt, 1989; Gummesson, 2000; Yin, 2003). These included:

- (1) project meetings involving four members of the project group;
- (2) collection of the ideas generated by the participants in the four trials; and
- (3) notation of the circumstances in which the ideas had been generated.

Each of these is discussed in greater detail below.

3.3.1 Project meetings (workshops). The five project meetings were all carried out in a “workshop-like” manner. The authors outlined the outcome of each trial and the company representatives were then given the opportunity to respond. Their responses mainly consisted of interpretations and analyses of customer behaviour and comparisons with data that had previously been collected by means of traditional market-research techniques (such as focus groups and surveys). The key strategies a company would need to consider in order for user involvement to generate true knowledge about customers were then discussed.

Field notes were used to collect reactions and impressions arising during the project meetings (van Maannen, 1988). After the meetings, the three researchers compared and transcribed their field notes. Data collection and data analysis thus overlapped (Eisenhardt, 1989). By identifying patterns and discussing these at meetings, the researchers and company representatives jointly developed propositions for further examination in subsequent trials and project meetings. The meetings were thus characterized by the freedom to suggest different analyses from the data already collected and to then make adjustments to the analyses as the result of discussion or the receipt of new data as the process evolved.

Project meetings were also used as a means of obtaining feedback from informants. In this way, the variables (i.e. key strategies) suggested were verified, or modified, by the informants.

3.3.2 Idea descriptions. All the ideas that the participants suggested during the four trials were transcribed and coded into a pre-formatted service description. During a given trial, participants used a recording facility on their mobile phones to record ideas and situations as they occurred during the trial. When the trial was completed, the ideas of all the participants were collated and transcribed.

3.3.3 Explanations of how ideas were derived. In the pre-formatted service description, participants were instructed to describe:

- how the idea was supposed to function;
- what values it was supposed to create; and
- how they had generated the idea.

If the descriptions of the latter were difficult to comprehend, the researchers asked for explanations.

An important aspect of the methodology was that all the ideas of the participants were recorded (in video or audio) using a mobile phone that enabled these services. These “captured moments” enhanced the researchers’ ability to understand the situation in which the idea had been generated. For example, an idea concerning real-time information about weather forecasts was animated using a 15-second-video recording from a sailing boat.

Data analysis was carried out using established techniques for the analysis of qualitative data, including open coding and axial coding (Miles and Huberman, 1994; Pettigrew, 1997). In particular, the grounded-theory methodology of “constant comparative analysis” was followed (Strauss and Corbin, 1990).

3.4 Procedure

During each trial, participants were equipped with a mobile phone and a prepaid card for 13 days. At an initial meeting, information about the scope and objectives of the study was provided to the participants. An expert on mobile phones gave a short lecture on the future possibilities of mobile telephony. Instructions were also provided on the use of the SonyEricsson K700i handset (the most recently launched model at the time of the study).

The instructions for each trial were explicit:

With respect to what you know about the potential uses of mobile phones in the future, pay attention to the problems and difficulties that you experience, and the situations in which these occur. If you believe that a mobile phone service could play a valuable role in this situation by solving your problem in any way, then record that situation and your idea on your phone.

A second meeting was held after 13 days. Both the initial meeting and the final meeting lasted for approximately two-and-a-half hours.

At the first project meeting, the researchers presented their proposed methodology for involving users. The planning of the trial was then discussed and decided upon (i.e. where and when the trial was to be conducted). Subsequent project meetings began with a presentation of the outcome of the most recent trial, followed by an open discussion of the data analysis and interpretation (as described above).

4. Results and discussion

During the four trials 38 participants generated 106 ideas for future mobile phone services. The telecommunications companies categorized all these ideas according to different types of services and the expected end-value of each idea. At five subsequent project meetings, key strategies for user involvement emerged.

As a result of this research, seven key strategies for user involvement during innovative NPD were proposed. These strategies are described and illustrated in relation to existing theory and presented as research propositions (Figure 2).

4.1 RP1: derivation from user situation

In the present study, the idea descriptions (described in 3.3.2 above) and the explanations of how the ideas were derived (described in 3.3.3 above) demonstrated a clear link between the situations in which a need was apparent and the ideas that the users created as a solution. For example:

My idea popped up the very moment I experienced the situation. I would love to get rid of that small but still annoying [problem] by getting information sent directly to my phone.

From this and similar data, it became apparent that the actual experiencing of situations was of great significance for users when developing ideas for innovative NPD. This is in line with the view of Vargo and Lusch (2004), who contended that the value of any product is not realized until the good or service is used (value-in-use). It is also in line with the contention of Matthing *et al.* (2004) that successful user involvement is all about learning by doing.

In arguing that successful user involvement during innovative NPD requires information that is derived from user situation, the present study notes that users learn about their own needs while engaged in various activities. As users are experiencing various situations in which they encounter difficulties (their own and those of others), certain emotions and cognitions are triggered. Through such experiences, users become aware of their needs, and these needs then stimulate ideas that stem directly from real experience.

Insights that emanate from an experienced situation are difficult to simulate merely by means of thought (Gladwell, 2005). Traditional marketing techniques are thus restricted by the fact that users have difficulty imagining (or remembering) suggested scenarios (Kristensson, 2006; Trott, 2001). Because cognition is often limited to the current situation in which people find themselves (Schakade and Kahneman, 1998), the participants in a focus group are thus likely to make suggestions in accordance with that situation (or situations that they have recently experienced).

Latent needs are difficult to express – either because they are difficult to grasp when the need is not present or because they emerge slowly and take time to reach consciousness. For technology-based companies, many new solutions to customer problems are invariably latent in nature because customers are unlikely to understand exactly what the technology might be able to do for them in the future. However, by asking users to derive solutions while simultaneously experiencing needs, their understanding of latent needs is likely to be made easier.

In summary, RP1 implies that one key strategy in successful user involvement is that the knowledge generated is derived from user situation.

4.2 RP2: derivation from various roles

The circumstances in which ideas were generated in the present study varied considerably, in accordance with the various roles the users were playing. Moreover, roles changed several times during a given day, and this affected the way in which

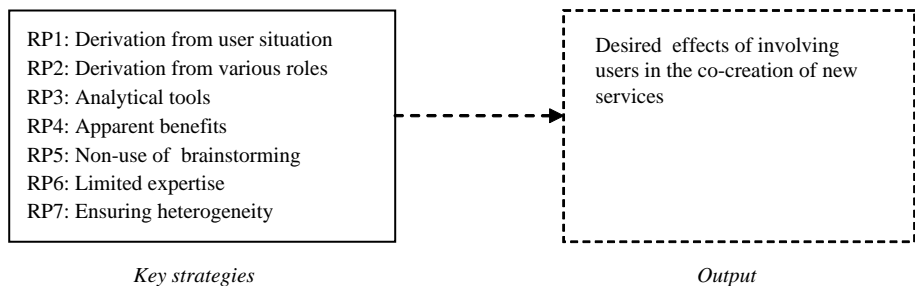


Figure 2.
Proposed key strategies that lead to the successful involvement of users in the co-creation of new services

users perceived the future value of a service. For example, people cared a great deal about safety issues when children were present, but this need was less apparent when spending time with adults at work:

At first, I only thought of ideas for services in relation to my job [...] but this [present] idea has nothing to do with my job. When one of my kids hurt herself in the playground, this need became very distinct, and just a short while after it had happened, I thought about the phone again.

As another example, a woman in the north of Sweden reported that one of her neighbour's specially-trained (and expensive) hunting dogs had got lost during a hunt. As was the custom, everyone in her small village went off into the woods to find this valuable missing dog. As a result of this experience, the woman suggested:

Why not put an adaptable device on dogs so they can be traced more easily via GPS technology connected to the phone?

It is the contention of the present authors that this participant would never have thought of this idea if she had been restricted to her other roles as an office worker and mother. Her unusual background in a hunting community, and her taking part in activities associated with this role, thus made it possible for her to appreciate a whole new area of hitherto unrecognized needs. Moreover, it does not matter whether the idea might be difficult to implement; at the very least, it has given the company valuable knowledge about what customers do (and might) desire.

The important point is that the heterogeneous roles that users can play in life are likely to be quite different from those played by the members of a product development team. By encouraging users to adopt (and consider) the various roles they play, a product development team is likely to obtain a wider array of original and value-creating ideas for future services.

To sum up, RP2 implies that, the second key strategy of successful user involvement is that knowledge is derived from a variety of user roles.

4.3 RP3: analytical tools

An "analytical tool" can be information about the opportunities and limitations of present and future technology, or it can be expertise regarding the platform (and/or its components) on which existing services are constructed. In the present study, important analytical tools included the provision of information regarding:

- future possibilities in mobile telephony; and
- the use of the mobile phone itself (including Java programming and the SIM card that provided the platform upon which the mobile phone services functioned).

In particular, users were instructed to elaborate upon the provided tools in their own settings of use to meet their own needs.

These analytical tools proved to be of significant assistance in enhancing the effectiveness of user involvement in the present study. The company representatives commented on this in the following terms:

It was interesting to see how much better users provided us with input when they were given a mobile phone and a lecture, instead of (as has been the tradition) just asking them to fill out a questionnaire evaluating our present services by way of the Internet. Providing them with

these tools really assisted the users in identifying situations where our services, potential or existing, played valuable roles.

An example of how one idea was derived is illustrated in the following report from one participant:

I was down in the cellar fixing my boat, something I love to do, when I became conscious of a small problem. I didn't pay much attention to it at first until I suddenly realized that this might perhaps be solvable using a remote-controlled mobile phone service – at least as I remembered the information I was given when we were visiting the telecom company.

It is reasonable to expect that such ideas are likely to be more easily implemented than ideas that are created with no knowledge or consideration of what is technically feasible.

In summary, RP 4 signifies that co-creation is more likely to be realized if users are provided with analytical tools before being involved in the co-creation exercise.

4.4 RP4: apparent benefit

The explanations of how the ideas were derived in the present study (described in 3.3.3 above) reflected the fact that users tended to contribute ideas that promised them an apparent benefit. The following comments were typical:

I often experienced difficulties with my mobile phone services so I participated in order to suggest some improvements that I personally would benefit from.

I only created ideas that I would personally benefit from if these were to be implemented.

This form of personal motivation is in accordance with psychological research which has shown that motivated users outperform unmotivated users during innovative tasks (Amabile, 1996). In particular, intrinsic motivation (i.e. taking part in activities that are personally meaningful or stimulating in themselves) has a positive effect on creative problem-solving, whereas extrinsic motivation (i.e. taking part in activities that only represent a means to an end or to a reward) has a negative effect on creative problem-solving (Amabile, 1996).

Moreover, von Hippel (1986) has demonstrated that so-called “lead users” are outstanding problem solvers because they are very interested in what they do and because their innovations provide solutions that are personally beneficial in their area of interest. In a similar vein, Linus Thorvalds, a Finnish computer science student, revolutionized software development when he released his open source Linux operating system. In an account of his accomplishments, pertinently entitled “Just for fun” (Torvalds and Diamond, 2001), the inventor of Linux stated that his motivation was the intrinsic enjoyment of writing software programs.

Although, the beneficial role of intrinsic motivation in innovation might appear to be self-evident, this is not how product development is usually organized; rather, professional developers are usually employed to predict (albeit with market research at hand) what other people will need. In effect, this means that professionally prepared solutions are searching for everyday problems to solve. In contrast, a project that is based on user involvement begins with the needs of motivated users, and then seeks solutions to these problems.

In summary, RP4 suggests that user involvement in NPD is more likely to be successful if users are intrinsically motivated by an apparent personal benefit.

4.5 RP5: avoiding negative brainstorming effects

It was apparent from the present study that the best ideas originated from real-life situations and problems, rather than from, for example, undifferentiated and directionless “brain-storming” activities. As one participant observed:

I couldn't come up with any ideas [...] I'm not creative at all. But then I became aware of a problem, so I used that as my starting point. I would never have thought about that idea if it wasn't for bumping into that situation.

The comment from this participant illustrates the general point that participants who are explicitly asked to try to produce new ideas (without contextual reference to their own problems and personal notions of value) are less likely to come up with worthwhile and useful ideas. Indeed, participants who proceed in such a way are likely to perform worse than professional product developers who sit down with the express purpose of generating ideas. According to Goldenberg *et al.* (1999), the downside of traditional brainstorming techniques is that they result in creative but rather meaningless ideas.

Discussions held during the workshops of the present study revealed that the telecommunications companies were genuinely interested in identifying the real needs of ordinary people, rather than relying on the views of a small group of technical product developers who were somewhat removed from the contexts and needs of ordinary users.

It is important to note that the aim of a user involvement project goes beyond novelty and originality; rather, the aim is to generate ideas that are valuable and feasible. Most telecommunication companies already possess a wealth of purely novel ideas, as derived from professional brain-storming. The real benefit of a user involvement project is the generation of solutions to practical problems in the context of the user's real-life experience. In this way, the ideas that are produced are likely not only to be original, but also valuable.

In summary, RP5 suggests that user involvement in NPD is more likely to be successful if users are not involved in brainstorming exercises isolated from their (the users') everyday contexts.

4.6 RP6: limited expertise

It was apparent from the present study that limited expertise is not a barrier to useful creative thinking, even when the participants are aware of their own lack of technical knowledge. As one participant observed:

I don't know whether this really is possible to implement [...] anyway, this is what I found I would need and I believe it was what they were asking for, so I simply told them that.

Indeed, expertise can have its drawbacks in the form of predictable thinking which follows well-established patterns. Research has shown that the more familiarity an individual has with a particular domain, the more difficult it will be to generate creative solutions that lie outside this domain (Wiley, 1998). Expert engineers, who have developed certain methods of solving problems successfully, often have difficulty embracing new options for dealing with problems in more efficient ways or recognising novel solutions as being preferable to established ones. This causes problems for product developers, who have often initiated and developed the technology that underlies their services over periods of years, and who are thus usually

too familiar with it. The problems caused by “over-familiarity” were summed up by one manager during a workshop:

Our product developers often come up with ideas [...] but, equally, [their expertise] often kills their ideas because they think of all the problems that are associated with the development of that idea.

In the workshops held during the present study, it became obvious that mobile phone companies have the expertise to decide whether or not an idea is feasible in terms of a potential commercial service. However, telecommunications companies do not necessarily have the inspiring ideas that generate feasible services meeting the users’ real needs.

In summary, RP6 suggests that that limited expertise is not a barrier to creative thinking when users are involved in NPD.

4.7 RP7: ensuring heterogeneity

It is difficult for a set of homogeneous product developers to foresee the multiplicity of problems that might be encountered by the many and varied kinds of people using mobile phones. An indication of this problem was apparent in a comment made by a company representative at one workshop in the present study:

Our product developers would probably not guess that this is something of interest to our customers [...] that they have such needs. I think [our product developers] could set up the service in no time if they had only known it was valued.

The potential users of mobile telephony services represent a wide range of people. They might include a child who uses a mobile phone to remain in touch with his or her parents; a teenager who wishes to listen to music; an elderly person who needs a mobile phone to arrange transportation; a middle-aged businessperson who uses the phone to check e-mail on the company intranet; or a young adult student who needs to access information of various sorts. Other examples could, of course, be added to this list. In contrast to the heterogeneous users and the diversity of their needs, a product development team is likely to consist of a small number of middle-aged, middle-class, male technicians who have become accustomed to the familiar (often free) mobile telephony services provided by their company. It is difficult for such a product development team to foresee and appreciate the myriad situations in which the heterogeneous users of their services experience real value.

In an attempt to meet heterogeneous needs, companies often segment their markets into smaller categories, with each category consisting of customers with relatively similar needs. However, even with such segmentation, the heterogeneous needs of many people will simply not be met. In these circumstances, it is often the needs of the largest market segment, or that most closely matching the profiles of the product developers, which receive most attention (Franke and von Hippel, 2003).

It is thus apparent, that the successful utilization of users in product development requires the involvement of users who represent a broad spectrum of potential customers, thus ensuring that a diversity of ideas for future services is generated. If this is not done, companies will run the risk of creating services that are valued by only a small segment of users, users who are similar to the product developers themselves; alternatively, companies might develop a service that is “almost right” for the largest customer segment while the problems of other (smaller) customer segments

are left completely unaddressed. Although this heterogeneous strategy runs the risk of being financially expensive, the costs, and the benefits, should be weighed against the cost of an unsuccessfully launched service.

In summary, the seventh and final RP suggests that heterogeneous users require heterogeneous solutions, which is why a wide array of users should be invited to participate in a user involvement project.

5. Conclusions

The present study has investigated an issue that is of increasing interest: key strategies to be considered when companies involve users in NPD for the purposes of market-oriented innovation.

Identifying key strategies when involving users in NPD is important for several reasons: first, although many scholars and practitioners speak about “the involvement of users,” there appears to be no consensus about what this really means (Matthing *et al.*, 2004). Some studies have claimed that user involvement has positive effects, especially in terms of generating superior product ideas (Alam and Perry, 2002; Kristensson *et al.*, 2004), but there are no studies that provide explicit details of the strategies required to achieve these desirable results. Secondly, although the concept of market orientation (Kholi and Jaworski, 1990) has attracted great interest, and although the measurement of this construct has evolved to include dimensions that reflect aspects of innovation, the notion of “market-oriented NPD” remains nebulous (albeit popular) (Kok *et al.*, 2003). It is reasonable to suppose that the involvement of users in NPD might be conducive to a better understanding of what the elusive concept of “market-oriented NPD” might mean. Thirdly, research by von Hippel (1986) has shown that users are capable of innovation. However, a general perception of the research carried out by von Hippel (1986, 1994) is that the emphasis of this research stream has been on confirming that users actually do innovate and not to provide insights and suggestions as to how companies that attempt to innovate can proceed to capture the important abilities that reside within a user. The management of user involvement may provide us with such guidance.

The empirical data gathered during the present study suggests that a user involvement project during NPD should consider the following key strategies (research propositions):

- (1) users identifying needs in their own setting of use;
- (2) users identifying needs in their various roles;
- (3) providing users with analytical tools;
- (4) motivating users via the apparent benefit to be gained from their involvement;
- (5) non-reliance on brainstorming when generating ideas;
- (6) users not having too much knowledge of technology; and
- (7) the involvement of a heterogeneous group of users to ensure that a diversity of ideas is provided for future services.

Several studies have shown that user involvement leads to innovative ideas (Kristensson *et al.*, 2002). In particular, user involvement is reported to be useful for capturing the latent needs of consumers that are so important to successful NPD. The key strategies presented here as propositions indicate that user involvement can

facilitate the identification of latent needs because users identify their own needs as and when they occur (1). Furthermore, the second key strategy suggests that users should adopt the full range of roles that they play in life (2). Neither of these criteria is likely to apply if a company employs reactive market orientation, e.g. short-term focus groups or large-scale surveys. It is also proposed that it is important to ensure that the contributions of users are created with their own personal needs in mind (4 and 5), thus enhancing the originality and value of ideas for future services. Another key strategy proposes that, although participants do need some knowledge of what might be feasible (3). Too much technical knowledge might actually inhibit individuals from producing truly innovative ideas (6). Finally, the last proposition (7) suggests a key strategy whereby a heterogeneous set of users will promote the production of ideas that will serve a variety of market segments.

Co-creation in terms of user involvement forces a rethink of much of the traditionally-accepted strategies when a company attempts to collect knowledge about customer value. As the key strategies described above suggest, it is no longer an advisable logic for companies to try to produce value in products and believe that this can later be exchanged to their customers (Michel *et al.*, 2008). Rather, the service-dominant logic prescribes that customers should be invited to share all kinds of experiences and knowledge when co-creating (Lusch *et al.*, 2007). Such a form of co-creation is more likely to lead to the discovery and understanding of latent needs, and would thus seem more appropriate to effective market-oriented NPD. As implied, the key strategies proposed are predicated on the contention that market-oriented NPD requires more than an annual survey to be conducted by firms regarding how their customers perceive recent products and services (Zaltman, 2003). Rather, market-oriented NPD requires firms to identify and understand the latent needs of their users. This involves more than merely listening to customers' retrospective accounts of their supposed needs; it also requires active collaboration with the users in a way that leads to a clear understanding of their latent needs.

The major contribution of the present study is the delineation of seven key strategies for user involvement during NPD – a concept that is often mentioned in the literature, but which has hitherto lacked any declaration of content. In terms of service management theory, this study suggests that the perspective of understanding customers retrospectively, by means of surveys, as in customer satisfaction scales, should be changed into constructs which better capture the customers' value-in-use (Michel *et al.*, 2008).

The limitation of this study lies in its exploratory nature, with the present findings requiring confirmation in other settings by other researchers, including quantitative large-scale studies. In particular, future studies need to explore how the suggested key strategies relate to the degree of newness of a product and whether or not financial factors affect the suggested key strategies.

The implication of this paper for managers concerns the call for discovering innovation opportunities which are not related to findings made in the R&D laboratory (Michel *et al.*, 2008) but at places far away from the company where, and when, ordinary people use certain services. The obvious managerial implication is that user involvement can be a valuable tool for implementing market-oriented NPD for technology-based services. It is apparent that companies in this line of business should include user involvement in their NPD, and that the seven key strategies suggested here should receive due attention when doing so.

Notes

1. In this paper, NPD implies the development of goods as well as services.
2. In this paper, the terms user and customer are used interchangeably.

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