



Eija Kaasinen, Mari Ainasoja, Elina Vulli, Heli Paavola,
Riina Hautala, Pauliina Lehtonen & Esa Reunanen

User involvement in service innovations

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Eija Kaasinen

VTT Technical Research Centre of Finland

Mari Ainasoja, Elina Vulli, Heli Paavola

University of Tampere

Department of Computer Sciences

Center for Research on Information, Customer, and Innovation Management

Riina Hautala, Pauliina Lehtonen, Esa Reunanen

University of Tampere

Department of Journalism and Mass Communication

Journalism Research and Development Centre



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VTT, Vuorimiehentie 5, PL 1000, 02044 VTT
puh. vaihde 020 722 111, faksi 020 722 4374

VTT, Bergsmansvägen 5, PB 1000, 02044 VTT
tel. växel 020 722 111, fax 020 722 4374

VTT Technical Research Centre of Finland, Vuorimiehentie 5, P.O. Box 1000, FI-02044 VTT, Finland
phone internat. +358 20 722 111, fax +358 20 722 4374

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Abstract

The importance of user orientation in innovation activities is nowadays emphasized not only in business life but also in political and societal discussions. In today's competed and changing market situations, one promising way to support market success are innovations originating from the needs of the customers. The traditional division to product-oriented and service-oriented business is blurring as traditional products are equipped with service elements that bring additional value to customers. Service orientation in business changes the connection to the customers: it is not enough to be able to sell the product to the customer once but the service customer has to be kept satisfied every day. Service providers need to know their customers better and to offer them better possibilities to be involved in service development.

In this report we present a review of the current state of the art in user involvement in service innovations. The review is based on three different research viewpoints: marketing and business research, human-centred design and media research. In each of these research fields we can see a similar trend of changing the attitude towards users; from passive research object to an active design partner, potential resource and co-producer.

The transition from product design to service design requires that design and usage should be more firmly connected – the design does not end when the service is launched but the design continues in use where the users are creating content for the service. The users shape usage practises in actual use and this may indicate needs to refine the service. That is why service providers should have good channels to monitor the users and to listen to their ideas and feedback. In addition to user involvement in the actual design process and during use, users should increasingly be involved also in early innovation phases, in ideating what kinds of services should be designed for them and with them.

Different users can give different contributions to service innovation and their motivations and preferred ways to participate vary. Different roles in the innovation process should be available to user groups such as lead users, ordinary users, advanced users, critical users and non-users. User communities are increasingly important sources of innovations, either existing communities or new communities that are grown around the service.

Customer interaction may shorten the development cycle and improve the quality of innovations. Successful user involvement, however, requires that the organisation has methods and processes to gather and analyse user data as well as to integrate user data in the design process. User involvement is especially useful in the early stages of service development processes due to their high uncertainty and low formalisation. Direct user-designer interaction helps in transferring user feedback and ideas to service innovations. Designers' direct interaction with users is also beneficial as it seems to change designers' mindset smoothly from technical features to user experience, thus boosting better designs. User experience of the service is improved when users themselves can contribute to developing the service.

Preface

User Involvement in Service Innovations (USEIN) was a Tekes-funded research project that lasted from autumn 2009 to autumn 2010. Even though the project was relatively short, we had an ambitious goal of creating a real multidisciplinary research project. We did not want to have three separate sub projects for each presented research field: business and marketing research, human-centred design and media research. Instead, from the very beginning we wanted to learn from each other and we wanted to create a common approach to the research of user involvement in service innovations.

We noticed that we were even using different terms of the main character of our research project: customer, user and audience. Focusing on services is a relatively new area in human-centred design whereas in marketing and business research services have played an important role for a long time. In user involvement media research is a forerunner: audience is already quite commonly acting as content creators and media houses have firm channels and connections to their audience. Our multidisciplinary research group had a series of face-to-face meetings to find common ground on which to build our research. The framework has been used in our case studies where we have studied best practises of user involvement in service innovation with four case organisations: If insurance company, Kaleva media company, Tallink Silja passenger shipping company and Vuores-project that is planning a new residential area in Tampere.

The literature review that presented the foundation of our common research framework turned out to be quite popular among our fellow researchers. The review seemed to give firm background also for other research activities related to user-driven innovation. That is why we decided to publish the review as a VTT Research Notes report.

We would like to thank Tekes for their open-minded approach in funding this research. We would also like to thank the participating companies for their activeness and support. We are grateful to Heli Paavola (previously working at Tampere University) whose passion towards the research theme motivated her to gather together our research team and who lead the project team efficiently in the start-up phase. Finally, thanks to Sanna Rytövuori, Minna Kulju, our active co-researchers in the project and special thanks to Sanna for the firm but gentle leadership of our project.

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1. Introduction

The importance of user orientation in innovation activities is nowadays strongly emphasized not only in business life but also in political and societal discussions. A common concern in Finland is that innovation activities are too focused on industrial branches and on the utilization of scientific-technological knowledge and thus do not serve optimally market and societal needs. The demand for customer and user orientation has been accentuated by the quickly changing and fractured market. The behaviour and needs of the post-modern consumer change from one situation to another and the behaviour is hard to anticipate. Both in business life and in innovation politics the emphasis lies on developing services and innovations originating from the needs of the customers, in the systematic use of market incentives as well as in the involvement of users in the development. The use of external sources of innovation, such as user communities, in product development can remarkably improve the congruence between the product and the needs of the users and thereby the commercial success in the competed and changing market. However, companies still lack concrete methods and tools to adopt a user-driven approach in their research and development activities.

Besides user-driven innovations, another strong trend in business is to focus on service instead of mere products. The traditional division to product-oriented and service-oriented business is blurring as traditional products are equipped with service elements that bring additional value to customers. The service and the tangible elements of it together create the overall customer experience. Service orientation in business changes the connection to the customers: it is not enough to be able to sell the product to the customer once but the service customer has to be kept satisfied every day. This requires a firm connection to the customer and ways to monitor customer experiences.

The involvement of users in innovation processes is still relatively untypical of many industries, especially in the front-end of the innovation process, such as idea generation. Potential for development can also be identified in the forms and environments of involvement and in the incentives offered for the participants. In order to genuinely develop products and services, a company has to enhance the role of users from research objects to active co-designers. The innovation process should support the active and meaningful participation of users all the way from idea generation to the commercialisation of the service and further to service delivery. Accomplishing this, however, requires more specified research about the factors that affect the involvement of users in the service innovation process and about the means of advancing the meaningful involvement of users in different stages of the innovation process.

1. Introduction

In this report we present a review of the current state of the art in user involvement in service innovations. The review is based on three different research viewpoints: marketing and business research, human-centred design and media research. In each of these research fields we can see a similar trend of changing the attitude towards users; from a passive research object to an active design partner, potential resource and co-producer. In addition to the actual service design process, the researchers are increasingly focusing on user participation in ideation of new services and in contributing with content to already running services.

The review starts with the foundations of the three research traditions in Section 2. Then we analyse the characteristics of services and service innovations in Section 3. Section 4 gives an overview of the different roles that users can take in innovation processes and Section 5 analyses what motivates users to participate. Section 6 introduces different innovation stages and user involvement in designing what to design, user involvement in the actual design process and user involvement in the design in use, after the service is already running. The report concludes with Section 7, where we analyse the impact of user involvement and with Section 8 where we highlight why users should be involved in service innovations based on the previous sections.

2. Foundations of research traditions

In this section we will describe the foundations of user involvement in service innovations from three different research viewpoints: marketing and business research, human-centred design and media research. These research fields even use a different term for the user: customer, user and audience respectively. However, in each research field we can see a similar trend of changing the attitude towards users; from passive research object to an active design partner. In the following we will describe the research traditions in the three research fields and how the attitude towards users has changed.

2.1 Foundations from marketing

User (usually referred with broader terms of customer or consumer in marketing) evaluation can be seen as one of the fundamental questions in marketing and therefore a countless number of frameworks have been presented. Extensive overview of those frameworks is beyond the scope of this review, but a short summary about overall development of research perspectives is presented next in order to provide background for the marketing and business research viewpoint.

2.1.1 From customer satisfaction to customer-perceived value and customer experience

Traditionally, the concept of customer satisfaction has been a popular way to evaluate performance and take customer into account in marketing and planning. Customer satisfaction can be defined to be, for example, an emotional reaction or an attitude-like judgment following a purchase act or based on a series of consumer-product interactions (for a more comprehensive overview of the definitions see Babin & Griffin 1998 or Fournier & Mick 1999).

Usually, customer satisfaction judgment is defined to develop through some kind of comparison standards. This means that confirmed standards lead to moderate satisfaction, exceeded standards to high satisfaction and underachieved standards to dissatisfaction (Oliver 1999). Typical comparison standards in customer satisfaction frameworks are predictive expectations of performance, desires based on features considered ideal, equity expectations based on reasonability compared to price or norms based on earlier experience (Fournier & Mick 1999).

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Nowadays, the concepts of customer value and customer experience have replaced satisfaction in evaluating customers. Customer-perceived value is the customer's subjective, overall evaluation of perceived benefits and perceived sacrifices (Zeithaml 1988, Holbrook 1994). These benefits and sacrifices can include for example utilitarian i.e., functional and economic aspects, hedonic i.e., emotional aspects and enjoyment or social aspects (Babin et al. 1994, Rintamäki et al. 2006). In contrast to customer satisfaction, it takes better into account subjective, dynamic, context dependent and comparative nature of customer experience, and also pays attention to negative aspects of customer experience (Holbrook 1994, Patterson & Spreng 1997, Fournier & Mick 1999).

2.1.2 Relationship marketing and service marketing perspectives

In recent years, the focus of interest in marketing has moved from new customer acquisition to “establishing, maintaining, enhancing and ending relationships with customers and other partners, at a profit, so that the objectives of the parties involved are met” (Grönroos 2000). This view is called relationship marketing (Egan 2004, Grönroos 2000). Interaction and co-creation with customers have been key processes in the relationship marketing view (see for example Grönroos 2000), and customer involvement in innovating and developing services can be seen as one part of that interaction.

One contributor to this change has been the growing emphasis of services and services marketing. For example Grönroos (2000) specifies service as a process consisting of at least partly intangible actions that are provided in order to solve customer problems. Traditionally, services have been viewed as different from goods. The characteristics on which they differ include intangibility, heterogeneity, inseparability and perishability (for an overview see for example Lovelock & Gummesson 2004). Intangibility makes services more difficult to evaluate and store. Services are produced in interactions with customer and as a result, production and consumption can not be separated. Partly as a result from these characteristics, services are more heterogeneous and their quality more difficult to control. The quality of process is equally important as the quality of outcome in services. (Grönroos 2000, Zeithaml & Bitner 2003.)

With this service dominant logic, Vargo & Lusch (2004) question the distinction between services and goods. Service is no longer seen as a special example of goods or an additional element which brings more value to goods. Instead, it sees service as a fundamental basis for all exchange and value, and that all economies are service economies. From this point of view, physical goods can be seen as a “delivery channel” or transmitter for the service instead of providing the service directly; in other words goods become meaningful through the use or service they provide. (Vargo & Lusch 2004) Another example of this same development away from goods and services dichotomy is the rental/access perspective presented by Lovelock & Gummesson (2004). In this perspective, services are presented as offering benefits through access or temporary possession, rather than ownership, with payments taking the form of rentals or access fees. This view emphasizes for example that manufactured goods can form the basis for services and time and resource sharing play a central role in service. Also the literature about customer experiences (Pine & Gilmore 1998) has pointed out the link between goods and services: Service and possible tangible elements create one customer experience from the customer point-of-view.

Service marketing and customer value concepts have diversified the roles of customer in marketing. In addition to the more traditional roles of buyer, user and product consumer, the customer is more often seen also as potential resource and co-producer (Lengnick-Hall et al. 2000). Consequently, customer participation and co-creation have a decisive role in both service dominant logic and customer value literature. Firms cannot simply deliver value; instead it is co-created with the customer. But while the customer eventually determines the value of service innovations, it is the firm that is responsible for developing value propositions and managing the co-creation process. (Prahalad & Ramaswamy 2004, Vargo & Lusch 2004)

2.1.3 Market orientation

In addition to the emphasis on customer interaction and value co-creation in service and relationship marketing literature, the market orientation theory has, on a more strategic level, also directed interest in marketing to the close customer and user relationships. Among other effects on profitability, market orientation has been found to be positively associated with new product success (Kohli & Jaworski 1990, Grinstein 2008).

Market orientation can be described to be “organization-wide generation of market intelligence pertaining to current and future customer needs, dissemination of the intelligence across departments, and organisation wide responsiveness to it”. In addition to sensing customers’ current and future needs, the successful application of market orientation also requires interfunctional co-ordination and competitor orientation. (Kohli & Jaworski 1990, Foley & Fahy 2004). Market orientation has also been conceptualised from the more cultural or philosophical viewpoint to be the principal cultural foundation of the learning organization (Slater & Narver 1995).

2.2 Foundations from human-centred design

2.2.1 User conception in evaluation frameworks

User evaluation is an essential part of human-centred design and human-technology interaction research. The aim is to study how users will accept new products and services and influence design decisions accordingly. Early user feedback is essential as the further the product development process proceeds, the less there are issues that can still be changed based on user feedback.

Usability is a well-established framework for user evaluations. ISO standard defines usability as “the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use” (ISO 1998). The standard emphasizes the context of use as a central factor that affects the usability of the system. This means that usability will be affected by the user’s tasks, his or her social usage context, the physical context, and the technical context in which the service is used.

In the early 2000’s, **user experience** has replaced usability in human-centred design (e.g., Hassenzahl & Tractinsky 2006, Forlizzi & Battarbee 2004). User experience (UX) emphasizes that products need to support users’ hedonic needs such as stimulation and self-expression, in addition to the pragmatic ones (Hassenzahl 2004) in using the product or service. Designing for UX aims at broader views

2. Foundations of research traditions

of users' emotional, contextual and dynamically evolving needs, and the impact of users' previous experiences to the new experiences. Furthermore, positive user experience means that the users' interactions with every contact point in the life cycle of the system usage are satisfying, including taking it into use, active usage of the system, using the supporting services including maintenance, and upgrading the system (Väänänen-Vainio-Mattila et al. 2008). Väänänen-Vainio-Mattila et al. (2008) present a Life-cycle framework for **Service User Experience (SUX)** that defines factors that need to be addressed to provide attractive and acceptable Web 2.0 services during the different life cycle phases. Recently, ISO has been renewing human-centred design standard so that it will include user experience in addition to usability (ISO 2009). According to the renewed ISO standard, user experience includes all the users' emotions, beliefs, preferences, perceptions, physical and psychological responses, behaviours and accomplishments. User experience is a consequence of the presentation, functionality, system performance, interactive behaviour, and assistive capabilities of the interactive system. It is also a consequence of the user's prior experiences, attitudes, skills and personality. Rather than just a design target, user experience can be seen as a framework to study customers' attitudes towards a product and related services throughout the product life cycle.

Technology acceptance models aim at studying how individual perceptions affect the intentions to use information technology as well as actual usage (Venkatesh et al. 2003). In 1989 Fred Davis presented the initial Technology Acceptance Model (TAM) to explain the determinants of user acceptance of a wide range of end-user computing technologies (Davis 1989). The model is based on the Theory of Reasoned Action by Ajzen & Fishbein (1980). TAM points out that the perceived ease of use and perceived usefulness affect the intention to use. Davis (1989) defines perceived ease of use as "the degree to which a person believes that using a particular system would be free from effort" and perceived usefulness as "the degree to which a person believes that using a particular system would enhance his or her job performance". Perceived ease of use also affects the perceived usefulness (Figure 1.). The intention to use affects the actual usage behavior. TAM was designed to study information systems at work to predict whether the users will actually take a certain system into use in their jobs. The model provides a tool to study the impact of external variables on internal beliefs, attitudes and intentions. TAM deals with perceptions; it is not based on observing real usage but on users reporting their conceptions. The instruments used in connection with TAM are surveys, where the questions are constructed in such a way that they reflect the different aspects of TAM.

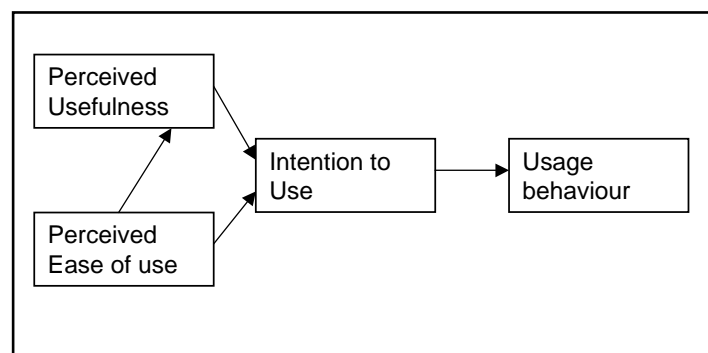


Figure 1. Technology Acceptance Model (TAM). (Davis 1989)

Davis & Venkatesh (2004) have proved that the model can be enhanced from the original purpose of studying user acceptance of existing products to study planned product concepts, e.g., in the form of mock-ups. This suggests that TAM could also be used in connection with technology development projects and processes to predict the acceptance of the proposed solutions. Kaasinen (2005) has extended the original TAM model for mobile services based on several long-term field trials. Technology Acceptance Model for Mobile services (TAMM) extends the original core model by Davis (1989) by identifying two newly perceived product characteristics that affect the intention to use, i.e., trust and ease of adoption, and by redefining the theme of usefulness as value to the user.

Usability is very product-focused and thus not so suitable to assess services. User experience is an important issue in services and especially the Service User Experience presented by Väänänen-Vainio-Mattila et al. (2008) seems to be a promising framework for service design. However, when studying factors that affect the adoption of services, technology acceptance models may provide good frameworks. Technology acceptance models also give possibilities to combine user and business point of view, and this is important for a multidisciplinary research framework.

2.2.2 User role in design

The **Human-centred design** approach is a quite well-established practice to include user points of view in design processes. According to ISO13407:1999 standard, human-centred design includes four principles: 1) active involvement of users and clear understanding of user and task requirements, 2) an appropriate allocation of functions between user and system, 3) iteration of design solutions, and 4) multidisciplinary design. Human-centred design is iterative between the following phases: understand and specify the context of use, specify the user and organisational requirements, produce design solutions and evaluate designs against requirements (Figure 2.). This design approach starts from a situation where the decision has been made to develop a certain product or service. The design approach ends when the product is released. Thus this approach does not include innovation of new products or design of usage practises that takes place after the products or services have been taken into use.

2. Foundations of research traditions

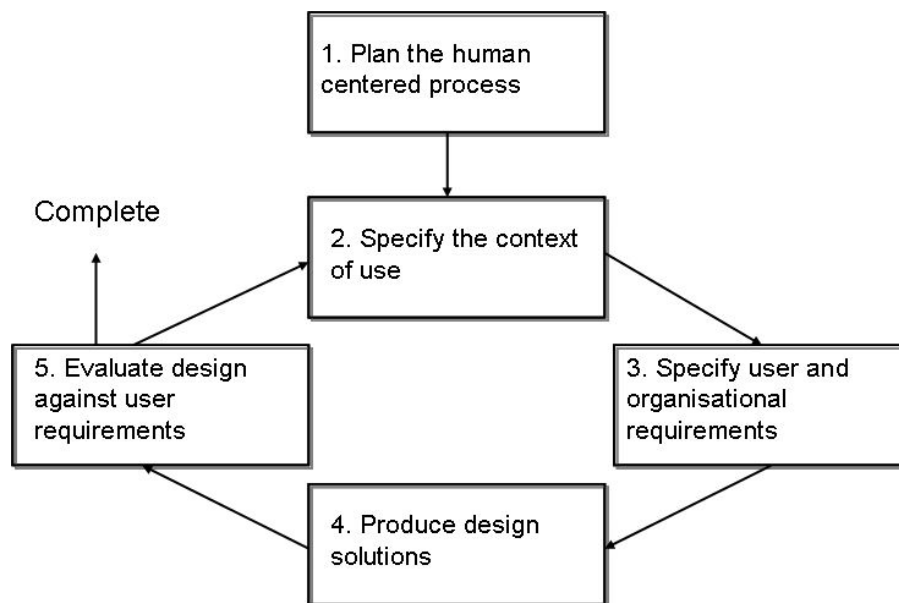


Figure 2. Human-centred design approach. (ISO 1999)

Participatory design has quite a long tradition especially in Scandinavia, where co-design by designers and users has been carried out in connection to equality at work places. Participatory design focuses on system development at design time by bringing together developers and users. (Schuler & Namioka 1993). Muller (2002) points out that participatory design should integrate the different knowledge of users and designers and the design approach should provide a common design space for users and designers. Basically the users can come to the designers or the designers can be taken to the user environment so that the designers can familiarise themselves with the users' world. Henderson & Kyng (1991) emphasize that despite the efforts at design time, systems need to be evolvable to fit new needs, changing tasks, new contexts etc. This approach extends participatory design from design-time activity to a continuous activity throughout the product or service life cycle.

Agile design emphasises continuous collaboration between customers and product teams (Miller 2005). Agile design includes gradual development based on firm customer/designer interaction. The product is designed piece by piece, function by function in close co-operation with the customers. Agile design emphasizes customer involvement. The customer representatives who participate in the design are not necessarily actual users and may thus not understand the needs of users. Managing customer input includes making sure that the right type of input is received, at the right time, and from the right people (Miller 2005). Miller points out that agile design has potential in producing elegant simplicity: it helps to focus on features that are used by most users, most of the time.

Heiskanen et al. (2007) point out that even if companies would carry out market studies and usability studies, they are not part of early phases of product development. Thus those studies do not touch wide issues such as usefulness, user interest or user acceptance of the proposed innovation. Human centred design, participatory design and agile design are mainly focused on the actual design process, i.e., they focus on integrating users to the design process of a certain product or service, after the decision to design the service in question has been made. User involvement in deciding what to design and

user involvement in design in use will require new design methods. In Section 6 we will describe some innovation-focused design approaches that have their origin in human-centred design.

2.3 Foundations from media research

2.3.1 From passive audiences to active co-creators

Within media industries it has been common to use the term “audience” instead of “customer” or “user”. The term “audience” captures the special relation of media products (newspaper, movies, television programs etc.) and the people to whom these media are targeted. However, the term is also a contested one, and while the understandings of the term have changed also the needs and the means of researching the audience have changed.

The term “audience” has a history that dates back into unrecorded time. In media studies the term is mostly used to refer to large groups of people, like the mass audience of television news or newspaper readership. The people in these kinds of groups are thought to be quite heterogeneous and separated from each other. However, the increasing complexity of the media environment and the growing attention to the audience engagement (active audience, audience participation) mean that it is also important to re-examine what is the role of the audience in media today.

Although media organizations have always been interested in their audiences, their active, innovative and co-creative role have been recognized quite recently, very much after the rise of the Internet as an important platform for journalistic and other media products. Nowadays the innovative contribution of the audiences is not only limited in distinct development or research projects, but audiences take part more broadly in journalistic production processes innovating daily topics to be covered, contributing with their own articles, photos and videos and discussing different topics in several media sites. Thus, when researching customer or audience innovation within media services, it is necessary to examine quite broadly the different ways the audiences take part in the content production and innovation processes.

2.3.2 From effects to uses and gratifications and reception

For long, the typical role of the media audience was thought to be a passive receiver or a target. In the 1950's the American mass communication research (MCR) focused on the effects that the media had on its audiences. The key hypothesis in the relationship between media and audience was that the audience could be straightforwardly injected with a message. (e.g. Ross & Nightingale 2003) However, it was soon discovered that the media effects on people's opinions and attitudes were not that straightforward or as great as they were thought to be (Klapper 1969 [1960]).

The paradigm shift to uses and gratifications theory (cf. Katz et al. 1974) was a result of the comprehension that an audience may use or read media in different ways rather than responding to the way that might be predicted. This means that audience might use the same media to meet different needs according to their own wants. The uses and gratifications approach seeks to discover how audiences use the media, asking not only who consumes media but also why individuals do so and in what con-

2. Foundations of research traditions

text. In uses and gratifications approach the audience is seen more active than in early media effect theories.

Uses and gratifications studies understood that media was used still in quite technical terms. This was changed in so called “reception studies” that adopted more semiotically oriented approach. In Stuart Hall’s encoding/decoding model the idea is that the message is encoded by the producer and then decoded by the receiver. This means that the sent and received messages are not necessarily identical and that different audiences may decode the message differently. Audiences are considered to be culturally formed and situated and in the two-way relationship between audiences and texts the readers can resist or engage with the meanings offered by the texts, or they can even create their own meanings. The second phase of the reception studies, audience ethnography, focused “more on the audience’s end of the chain” (Alasuutari 1999). Ethnographic approach brought more qualitative methods into audience research and stressed the everyday contexts of the media use.

2.3.3 Ratings and readership surveys

One might say that media organizations became interested in their audiences at the point when advertising became a crucial part of communication. This indicates to the dual nature of journalism and its markets. Media operates in two markets: it “sells” content to its audiences and then “sells” its audiences to the advertisers.

Audience measurement is a type of audience research that documents the size and structure of media audiences. This, typically commercial audience research, generates the type of data that permits comparison of audience over time and from one media to another (Ross & Nightingale 2003). The simplest audience research counts consumers (listeners/viewers/readers) and assigns individuals to demographic categories.

However, simply counting the members of the audience will not help us to find out how the communication process operates, so more refined methods are needed. In media organizations different kinds of audience surveys are typically used as a part of the product development process to gather background information for the marketing purposes. However, as Andersson (2009) notifies, the dialogue with the audience is nowadays seen important in the newsrooms too: audience research is more and more used to help and develop journalistic work.

According to Heinonen (2008), most of the Finnish newspapers use some kind of audience research. Most widely used is the National Readership Survey (39 of the 43 newspapers surveyed). It is followed by RAM reader panel (22/43), Risc Monitor (12/43) and TNS Atlas (10/43). Risc Monitor is the first commercial audience research format which is applied as a journalistic tool in Finnish newsrooms. Also different kinds of audience panels are widely used by Finnish media companies.

2.3.4 Audiences as “producers”

During the first decade of the 2000’s the concept of “active audience” has taken a massive step forward. The media has become less massive and less centered (e.g. McQuail 2005). The information age has brought about fundamental changes in the ways people approach the media and in their engagement with media texts. Developments in media and communication technology are providing exciting

new media contexts and new audience formations. Audience-hood is not a permanent identity, but a constant shifting. Audiences are no longer just passive receivers of media texts, but active co-creators. Being an audience is now much more active and interactive experience than in the broadcasting era. (Ross & Nightingale 2003)

In the 1990's World Wide Web seemed to be revolutionizing the whole environment of communication. Suddenly almost everybody could, for example, create their own web pages and be a publisher, and many local web publications experimented with new modes of citizen communication. However, the change was not that radical. Early studies on online news found that many web sites contained "recycled" content of their offline counterparts and when it came to audience participation, their strategy tended to replicate the gatekeeper model to user-generated content: it was filtered and separated from the material produced by the professionals. (Boczkowski 2004, Heinonen 1999, Thurman & Hermida 2007, Domingo & Heinonen 2008)

Along with the Web 2.0 and the immense growth of social media and weblogs, the paradigm shift in journalism has surfaced again. Domingo & Heinonen (2008) argue that "weblogs are a symbol of the outgoing change in the relationship between citizens, media and journalists". It seems that mediated communication is no longer simply or even mainly mass communication ("from one to many") but rather the media now facilitate communication among peers (both "one to one" and "many to many").

The changing role of the audience can be seen in terms which are used to describe the audience. Axel Bruns (2005) launched the term "produsage", in which the former role of the audience as a user is combined with the more active role of producer. Bruns uses the term "produser" to describe that in a collaborative, participatory environment the boundaries between producers and consumers are blurred and all participants can be users as well as producers of information. Gillmor (2004) talks about "former audience" and Jay Rosen (2006) has portrayed the change with "the people formerly known as the audience". These terms present the cultural trend that is turning the audience into active producers of the content. However, Matikainen (2009) notes that the trust towards traditional media is still very strong (in Finland) and not everyone wants to be an active participant of media production, so the discourse about "the end of the audience" is premature.

The emerging role of the audience can also be seen in the terms this trend has been called, like public's journalism (Haas 2005), participatory journalism (Bowman & Willis 2003), open source journalism (Deuze et al. 2007), networked journalism (Jarvis 2006) or citizen journalism (Bowman & Willis 2003, also Sirkkunen 2006).

According to Ross & Nightingale (2003) researching online audiences create genuinely novel research opportunities but virtual audiences are also a challenge for audience research. Quantitative popularity is easy to examine by analysing log files, but such data provides very little information about user profiles or motivations. Researching online audiences as users, producers and consumers of media requires a different understanding of audience but does not necessarily require wholly different research tools. One interesting project on this field is "Towards Engaging Journalism" now in process in Journalism Research and Development Centre in University of Tampere that tries to capture the role of the media in the social networks of the audiences. This seems to be important because as media in the Internet become increasingly interconnected, it is content irrespective of the medium that matters to people, for they follow it across the media and weave it seamlessly also into their face-to-face communications (Livingstone 2004).

2.4 Common ground for multidisciplinary research approach

All of the three research fields – marketing, human-centred design and media research – have started to broaden the view of the user from a passive research object to an active design partner. The research framework has extended from mere usability and satisfaction (can the user cope with the service) to user experience, perceived value and gratification (user attitude towards the service throughout the service life cycle and usage motivations). The user role in service innovations has accordingly started to broaden from test user or customer/readership survey participant to co-designer, co-producer and “produser”. In addition to the actual service design process, users are increasingly participating in deciding what to design and design activities continue in service usage or content creation.

The concept of co-creation is common for all three research fields covered in this report. In research literature, this concept can refer to either active user role in creating service experience and value (“co-production”) or user involvement in service innovation (“co-design”). (see for example Prahalad & Ramaswamy 2004, Vargo & Lusch 2004, Banks & Deuze 2009) For example in media research, this concept is not limited to innovation or development projects, but is used in broad sense to represent different ways the audience is taking part in journalistic processes like innovating topics, contributing with their own content and discussing different topics. In this report, co-creation as active user role in innovation and design, is emphasized due to the focus of our review. However, these different meanings of co-creation are often blurred in service innovation: co-creation with users can take place both as co-design of the service and co-production of the service.

3. Service innovation characteristics and research fields

Characteristics of service innovations are based on the characteristics of service itself (for a short overview of service definitions see Section 2.1). Despite the recent development of service marketing perspectives challenging the traditional divide between services and products (see for example Vargo & Lusch 2004), the starting point for the research in new service development (NSD) has often been comparing similarities and differences to new product development (NPD).

Both Droege et al. (2009) and Gallouj & Savona (2009) name somewhat similar schools of thought in NSD: Early technologist school of thought emphasizes a dominant role of technology in NSD, assimilation school of thought promotes the view that theories in NPD can be directly applied to service context, demarcation school of thought (service-oriented or differentiation approach in Gallouj & Savona) emphasise distinctive features of services and synthesis school of thought aims to combine the research of NSD and NPD.

The latter, synthesis school, can be anticipated to become more popular (Nijssen et al. 2006, Gallouj & Savona 2009). According to this view, there are similar underlying mechanisms of innovation both in products and services but with different priorities (Nijssen et al. 2006).

3.1 Service innovation classifications

Probably the most popular way of classifying service innovations is, like in product innovations alike, by the degree of newness: the continuum from incremental innovations to radical innovations. Another dichotomy mirroring the same idea is the distinction between reactive and proactive innovations used in market orientation literature.

The classifications originally presented by Lovelock (Lovelock 1984, modified version in Lovelock et al. 2002, summarized also in Johne & Storey 1998 and Järvinen & Suomi 2007) and describing service innovations with different degrees of newness include for example the following categories:

- New service innovation = New services for markets as yet undefined
- New service process innovation or start-up business = New way of producing or delivering service in a market that is already served by existing services

3. Service innovation characteristics and research fields

- Service line extensions = Augmentation of the existing service line such as adding new menu items, new courses etc.
- Service process extensions = Producing existing services in a new way
- Additional service innovation = Providing new additional services as a part of core service
- Service improvements = Gradual changes in features of services that currently are being offered
- Style changes = Modest forms of visible changes in appearance that have an impact on customer perceptions, emotions and attitudes.

Another example of service typology based on the degree of newness is presented in Avlonitis et al. (2001):

- New-to-the-market service
- New-to-the-company service
- New delivery process service
- Service modification
- Service line extension
- Service repositioning.

According to Gallouj & Weinstein (1997) and Gallouj & Savona (2009), the basic distinctions made for innovations, namely distinguishing product, process and organizational innovations and incremental innovations from radical innovations, are not as useful in the service context as they are in more traditional product context, because these often co-exist in service innovations. They (Gallouj & Weinstein 1997, Gallouj & Savona 2009) offer the following classification:

- Radical innovation = Totally new service including new benefits to customers, new systems and processes used in providing the service, and new competencies needed
- Improvement innovation = Better value provided through improvements in providing or competencies
- Incremental innovation = Not a residual when the change does not represent radical innovation, but exists when one or more elements are added, eliminated or substituted to service
- Recombination innovation = New service developed either by combining existing services or splitting up an existing service. Incremental innovation can also be seen as a particular case of this service innovation type
- Formalisation innovation = One or more characteristics of service is formatted or standardized, and this can clarify the service offering and the benefits it provides
- Ad hoc innovation = Elements and expertise that develop in connection with tailored solutions and can be transferred to new situations. Typical for knowledge intensive business services (KIBS).

Service marketing literature emphasizes the role of service process newness in addition to service outcome newness (Menor et al. 2002), and also provides models that can be used to analyse existing and new services. For example Edvardsson (1997) analyses new services as a combination of three characteristics: customer outcome, customer process and prerequisites for services. Customer outcome and process describe the benefits to the customer. Prerequisites describe the end result of NSD and can be

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further divided to service concept (value proposition), service system (resources required) and service process (description of activities needed to generate the service). (see also Toivonen & Tuominen 2009). Menor et al. (2002) present the same idea by using concepts external and internal newness adopted from Tatikonda & Zeithaml (2001): external newness captures the novelty as the customer perceives it and in contrast, internal newness emphasizes what must be changed or developed internally for the new service to be operational (for example personnel training, information flows, physical infrastructure and facilitating goods).

In addition to these classifications of separate service innovations, Paswan et al. (2009) take a broader view and present a typology for service innovation strategy. Their model classifies service innovations on three dimensions: perceived environmental uncertainty (high or low), service firm's strategic orientation (cost control or differentiation), and managers' market orientation (market or firm focus).

3.2 Service innovation process and its stages

According to Johne & Storey (1998) the six most popular themes in NSD process literature have been the corporate environment behind service innovations, the service innovation process itself and its stages, the people involved (designers, customer service and customers), analysis of opportunities (collecting and analysing ideas), analysis of development (activities and techniques) and analysis of implementation (e.g., launching new services).

Despite the represented differences of goods and services, the service innovation process has predominantly been described to include similar phases than product innovation process; the process proceeds in stages from idea generation to launch (for more thorough overviews see, for example, Scheuing & Johnson 1989, Alam & Perry 2002, Johnson et al. 2000, Menor et al. 2002).

However, service development process models usually contain more stages than product development process models, and many of the models provide some extensions or additions to the stages of basic product development models (Menor et al. 2002, Nijssen et al. 2006). This kind of model is for example the 15 stages model of Scheuing & Johnson (1989). More recent 10 stages model by Alam & Perry (2002) underlines for example the stage in which cross-functional teams are formed and also provides alternatives for parallel stages if needed (Figure 3.).

3. Service innovation characteristics and research fields

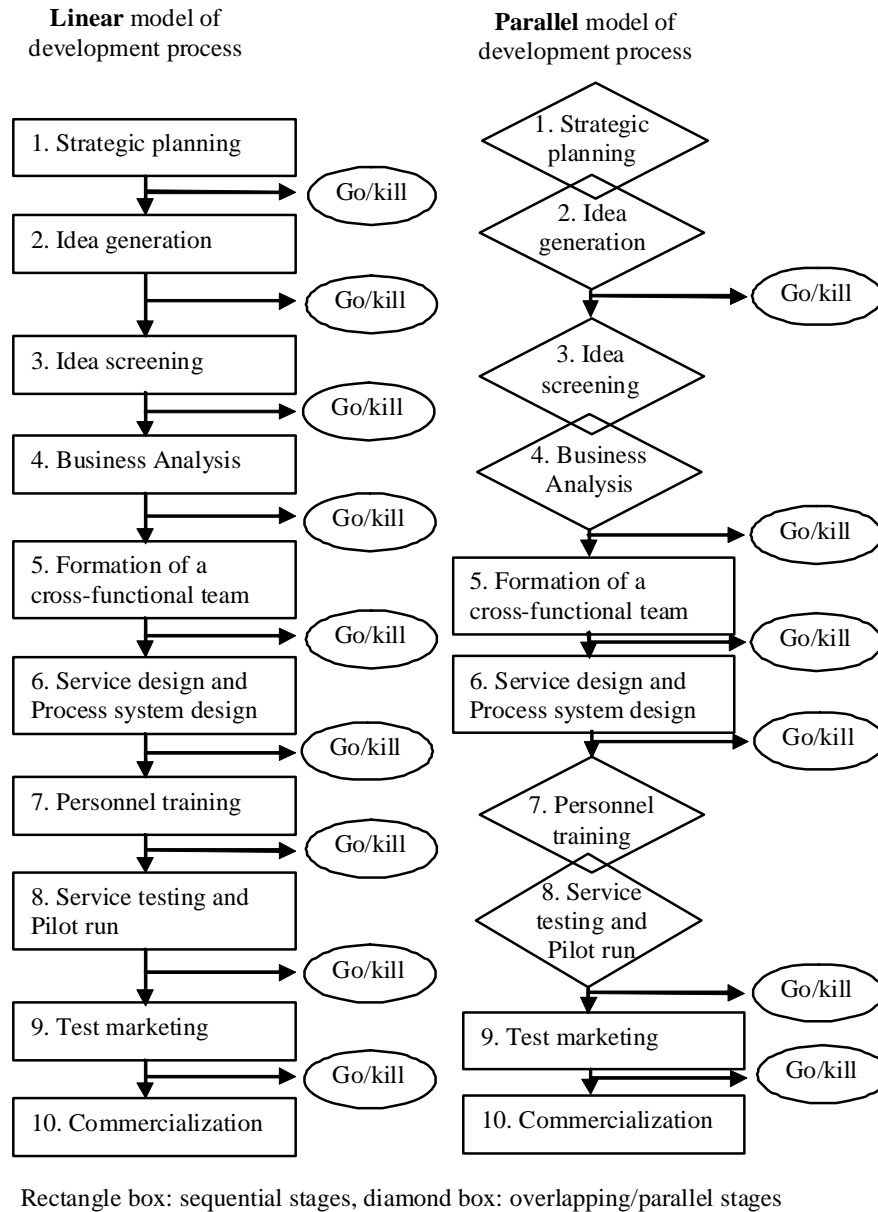


Figure 3. Two models of new service development. (Alam & Perry 2002)

To differentiate service development process further from product development, it is often described to be non-linear, iterative and including overlapping phases and inter-functional co-operation (Menor et al. 2002, Johnson et al. 2000, Alam 2006). One widely referenced model (Figure 4.) illustrating these features is the model presented by Johnson et al. (2002).

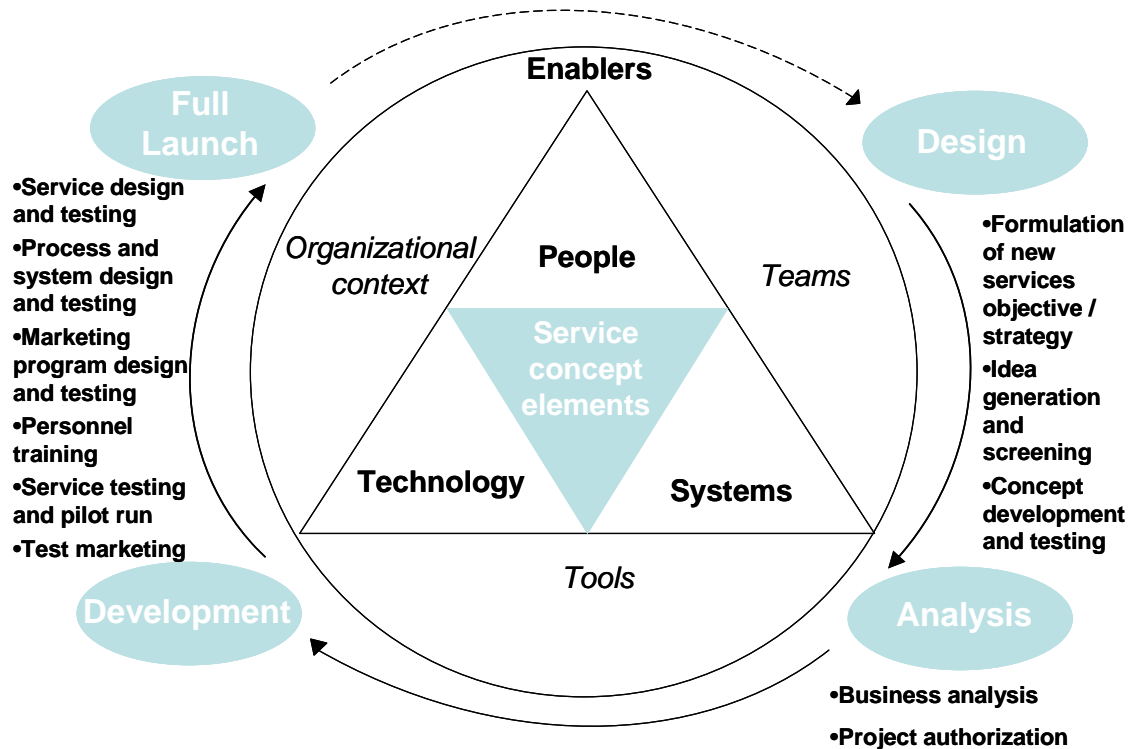


Figure 4. NSD process cycle. (Johnson et al. 2000, adapted by Menor et al. 2002)

Despite many models presented in service innovation literature, for example Järvinen & Suomi (2007) criticize that process models for service development describe it disconnected from the other functions of the company and as a unidirectional process. Differing from this overall view, Toivonen & Tuominen (2009) describe three different sequences for the traditional stages of idea emergence, development and application in the context of knowledge-intensive business services. One of these sequences is the traditional one, but new service can also be put to market rapidly and detailed development is started only afterwards, or the process does not start with idea generation but in the practical implementation followed by finding the idea and developing it further. The authors describe that the role of customer co-creation is especially important in the latter practice-driven model.

3.3 Service innovation success factors and organization

Some similar success factors have been found behind both product and service innovation. For example management commitment and organizational culture that values innovativeness, clear goals that personnel are aware of, systematic processes and adequate resources characterize both successful product innovations and successful service innovations (Johnson et al. 2000, Nijssen et al. 2006).

Further common antecedents of successful innovations are reported in Froehle et al. (2000): Team structure is directly influencing New Service Development (NSD) effectiveness, process formalization

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is indirectly influencing NSD speed and IT facilities are influencing both effectiveness and speed of NSD.

Menor et al. (2002) suggest that despite the differences, many operational guidelines could be adopted or modified from traditional New Product Development (NPD) and manufacturing studies, for example requirement specification and concept of modularity could be modified and used more actively also in the service development context.

However, service development has also been identified to be characterized by several aspects that make organizing and succeeding in development different from traditional product development.

3.3.1 Informal organization

New Service Development (NSD) is not usually organized as formally and for separate R&D departments as traditional product development. (Griffin 1997 cited in Menor et al. 2002, Nijssen et al. 2006) In many cases service innovations are not results from a deliberate activity at all, because they arise in the practical process of service delivery, and consequently it is not always easy to detect a change or improvement to be an innovation. (Toivonen & Tuominen 2009).

3.3.2 Different management role

Innovation in service firms has been described to be a collective process. Informal social system and intra-firm entrepreneurship play a significant role in producing ideas, and formal strategic management role is to inspire employees and ensure that implemented ones are in line with strategy. (Sundbo 1997) Consequently, the coordination of front and back-office work in the development is more challenging than in traditional NPD (Menor et al. 2002, Alam 2006). Service development is tightly connected to customer service personnel and existing ways of doing things. Organization culture and internal competences and conflicts as well as required training have more profound effect on success than in traditional product development. (Nijssen et al. 2006, Johnes & Storey 1998)

3.3.3 Challenges by intangibility

Intangibility of services results in some differences compared to products. “Tangibilizing” the service offering during the development process is central in order to create all parties a shared view of goals (Menor et al. 2002). On one hand, changes can often be made relatively quickly and easily, but on the other hand these changes may easily be copied by competitors (Johnes & Storey 1998).

3.3.4 Emphasis on customer interface and customer involvement

Due to simultaneous production and consumption, service development can not be separated from service delivery and the whole service process. The supplier-client interface and interaction are highlighted in service innovations (Nijssen et al. 2006, Gallouj & Savona 2009, Toivonen & Tuominen 2009) and front-line personnel is an important source of new ideas (Alam 2006). The issue of co-production also raises the question of how this makes customer involvement different from customer

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involvement in a typical NPD process; customer involvement in development may be more useful in NSD process than in NPD process (Menor et al. 2002, Alam & Perry 2002).

Although the perspective adopted here is comparing success factors for product and service innovations, many studies on success factors have also used different viewpoints, like success factors in different service dimensions or success factors for projects with different degrees of newness (Droege et al. 2009).

3.4 Ongoing evolution of service innovation concept

Many service innovation characteristics presented in this section also affect planning of user involvement in service innovations. Service innovation requires a more comprehensive view to development: the whole service process must be taken into account. Customer service personnel and their interaction with customers play a central role in service innovation. Consequently, service innovation is tightly connected to organizational change and training.

On the other hand, users are also active players in service value creation throughout the whole service life cycle. Users can develop the service before, during or after the actual service development process. Actually, for example Menor et al. (2002) and Alam & Perry (2002) point out in their literature reviews that one of the fundamental differences between product and service innovation is the need for different degree and means of user participation. What exactly these needed new methods for user involvement are, is a future challenge both for research and practice.

Overall, the current literature about service innovation and new service development does not fully reflect the recent change to a broader view of service expressed in service marketing tradition. Both in organization studies and human-centred design, predominant starting points for service innovation studies and categorizations appear still to be the degree of newness and comparison to product innovation, even though some critique on this narrow view has been presented (see for example Gallouj & Savona 2009, Järvinen & Suomi 2007). Especially human-centred design tradition is still quite focused on product design. The transition to service design requires that design and usage should be more firmly connected – the design does not end when the service is launched.

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Kanstrup & Christiansen (2006) describe how user “discourse” has gradually changed from “victims” needing support in the 1970s to “competent practioners” in the 1980s, to “serious professionals” in the 1990s and to a “valuable source of inspiration” today. Heiskanen et al. (2007) describe how users can highlight issues related to usage situations and applications or point out issues related to user acceptance of the technology. These issues can be utilised in product design but also in designing business and identifying risks. Rohracher (2005) points out that innovation and diffusion of technologies can no longer be clearly separated. Even if users were not involved in specific design and innovation processes, they may also have a role in changing socio-technical configurations. Co-evolution and mutual adaptation occurs between the technology and organisation, between products and use practices.

User’s or customer’s contribution can be considered important especially in services, because in services the user’s relationship with the provider is usually more intensive than in the case of products. Matthing et al. (2004) define customer involvement in service innovation to be those processes, deeds and interactions where a service provider collaborates with current (or potential) customers at the program and/or project level of service development, to anticipate customers’ latent needs and develop new services accordingly.

However, we need to be aware that people are different: not all users, not all times, want to be active participants. It also needs to be considered what kinds of users or user groups are adequate for different kinds of innovation processes. When this is clear, the challenge lies in identifying and finding the desired participants (Jeppesen 2005).

This section maps different user classifications and user roles, describes the change of media audiences from individual receivers to active user communities and discusses the role of social networks and communities in service production and design.

4.1 Types of users

The most well-known customer role concerning innovation is probably the one of *lead users* introduced by von Hippel (1986, 2005). Lead users are characterised by their interest in the product, their frequent use of the product or their active information processing. They also have the ability to sense important market trends before the majority, which is why they may act as a “need-forecasting” laboratory. Additionally, they expect to get relatively high benefits if their need is fulfilled with a solution.

This, in turn, will encourage them to innovate. According to Kujala & Kauppinen (2004), lead use studies have turned out to be faster and cheaper than conventional marketing research methods.

Ordinary users represent a contrast to lead users. They represent the average man with regard to the use and expertise of the service in question. They are likely to have only little knowledge of the technology concerning the service (Magnusson 2009). Compared to professional service developers, they possess a more divergent thinking style (Kristensson et al. 2004). At least in a B2B-setting, Alam (2006) states that it would be useful to include both ordinary users and lead users in the development process, because lead users are able to produce new ideas the attractiveness of which then can be tested with ordinary clients.

Another user type based on the level of expertise related to the service in question is *advanced users*. Compared to ordinary users, they have a higher level of expertise and previous knowledge of the services in question (Kristensson et al. 2004). This knowledge can be acquired either in connection with the service development process or separately, for instance, in connection with their previous education (Kristensson et al. 2004, Magnusson 2009).

In addition to lead users, advanced users and ordinary users, possible user groups whose involvement in the innovation and design should be considered are, for example, technically advanced user-innovators, active users, critical users, unresponsive users and non-users (Heiskanen et al. 2007).

Alam (2006) suggests that the closeness of the relationship between the customer and the company providing the service will affect the results at least in a B2B-setting. The chances for creating successful new services are increased when the customers involved have a close relationship with the service provider company.

4.2 Intensity of user involvement and user roles

The intensity of user involvement in service innovations can be seen as a continuum from passive acquisition of input from customers, through collecting information and feedback on specific issues, to extensive consultation with users (e.g., interviews, focus groups), and finally to actual user representation in development teams (Alam 2002). Alam (2002) comes to a conclusion that most firms fall in the middle of the continuum and the involvement is more intense during the initial and later stages of development.

Blazevic & Lievens (2008) divide customers in three classes according to the amount of their active knowledge co production. The most modest role of participation, *passive users*, means, for example, that consumer behaviour is tracked in electronic self-service channels. This allows the company to acquire representative knowledge on a continuous basis. However, as this role is unconscious to the customers, the input of a single consumer is very modest. *Active informers* knowingly offer the company feedback about its problems. By doing so, they hope to get better products and services from the company in the future. The problem is that the information is not representative and the customers are not willing to discover solutions for the problems. In contrast to the two other roles, the *bi-directional creator* – informing the company about problem areas and offering solutions for them – also provides the firm with contextual information.

Nielsen (2006) has studied the intensity of user contribution in the case of online communities. He classifies the participating users in three categories according to the amount of contribution they ac-

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count for: end-users (90% of users, never contribute), contributors (9% of users, contribute a little) and service developers (1% of users, account for almost all the action).

Also within media environments the intensity of the user involvement varies a lot, and different types of journalism have been categorized respectively. For example, Nip (2006) categorizes the connection between mainstream journalism and the people as: 1) *traditional journalism*, 2) *public journalism*, 3) *interactive journalism*, 4) *participatory journalism* and 5) *citizen journalism*. In traditional journalism, journalists control the entire news process and the people do not play any part, except very rarely as news sources. Audience can send letters to the editor after the news is delivered. Public journalism tries to engage the audience as citizens both in news making process and the use of news. However, the editorial process and publishing is still controlled by the professional journalists. Interactive journalism is closely related to online journalism. Interactivity has two dimensions: content interactivity and interpersonal interactivity. Participatory journalism allows news users the chance to express their views about public affairs. Users can participate in the news making process in multiple ways, more or less independently of the professionals. User contribution is possible within a frame designed by the professionals. More and more mainstream news organizations have adopted participatory elements to their work. In citizen journalism the audience is responsible for the whole process from news gathering to publishing, and the professionals are not involved at all.

Bowman & Willis (2005) have presented three models of how media connects with people (Figure 5.). The *broadcast model* represents the traditional model of journalism, where the content is created solely inside the media company. The interaction in this model is unidirectional and from “one-to-many”. In the *interactive model* the traditional “one-to-many” communication is enhanced with “many-to-many” communication. The interests of the audience are better heard and that enables customisable content for audience and more targeted advertising. Compared with the traditional model, the audience has a more active role in the interactive model. The audience can participate in the journalistic process, for example, by commenting, discussing or taking part in polls or queries. The *social media model* emphasizes peer-to-peer communication, and the content is solely created by the active participants. In this model the role of the media company is to create the suitable infrastructures and nurture the trusted communities.

4. Users as participants in innovation processes

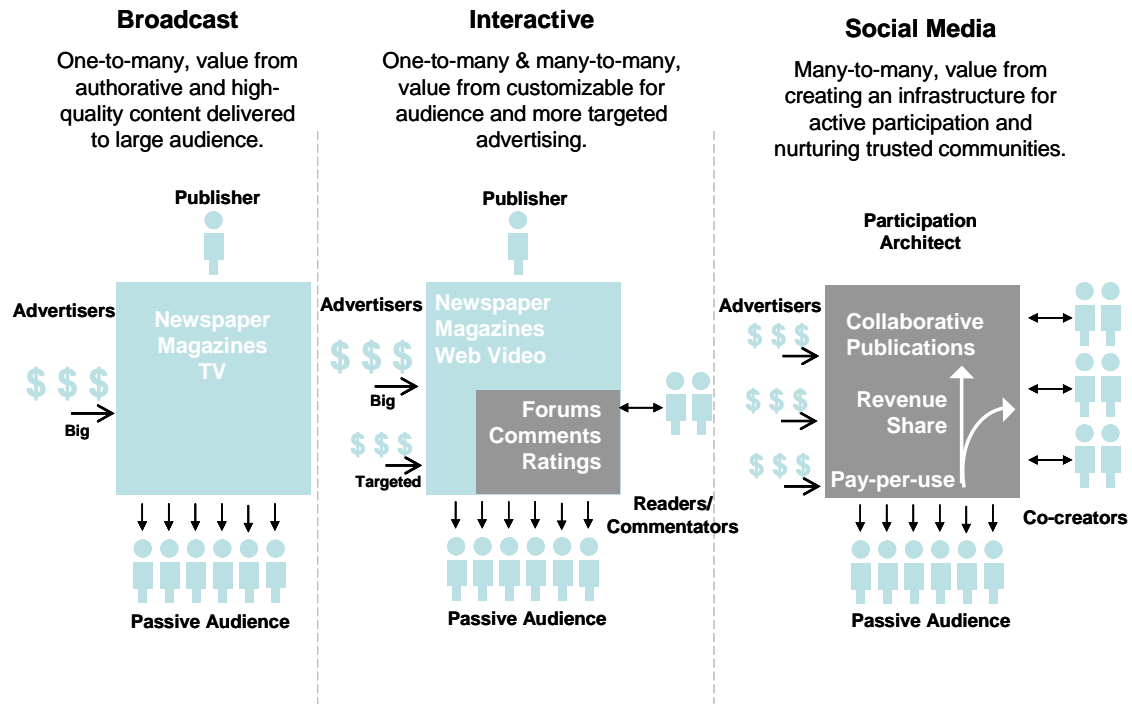


Figure 5. Three models in which media connects with the people. (Bowman & Willis 2005)

The emergence of internet and social media has also forced traditional media companies to modify their assumptions about their audience. Lietsala & Sirkkunen (2008) see it important for the future of journalism that media industry is “ready and able” to adopt the “culture of participation”. According to them the core values of the journalistic institution should be brought “into the era of social media”. This is not a simple task considering the long history of seeing the audiences as passive receivers instead of dynamic participants. However, collaboration and participation are nowadays crucial parts of being an audience (see e.g., Heinonen & Domingo 2009, Matheson 2004).

It is also obvious that the large audience is not going to transform suddenly into active content creator. In fact, most people do not even want to write journalism or become journalists. But what is important is that they want to tell their stories and share their photos, videos etc. with their peers. Their opinions are also often asked through different kind of surveys and reader panels to help e.g. redesigning newspapers. Therefore more and more people have started to contribute to journalistic processes. (Lietsala & Sirkkunen, 2008)

The new situation means changes in the power hierarchy of the journalistic publishing process and also new kinds of roles of the audience, publishing institutions and journalists. Lietsala & Sirkkunen (2008) have collected a typology that shows how interaction changes the roles of the participants involved (Table 1.). The traditional model of content production leaves audience in a consuming role. In the open media or social media environment the audience is active contributor and the journalist’s role as a gatekeeper turns into gate opening. The work is far from the traditional work of journalists. During the first decade of the 21st century the concept of audience has gradually transformed into more

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social direction, where the audience is constituted, for example, of different social groups that operate in social media.

Table 1. The changing roles of audience, publisher and journalist. (Lietsala & Sirkkunen 2008)

<i>Content (professional)</i>	<i>Audience (passive)</i>	<i>Publisher</i>	<i>Journalist (gatekeeper)</i>
News, reports	Readers, watchers, listeners	Ads, subs, managing	Newsmakers, editors
Comments, critique	Conversationalists	Ads, subs, managing	Idea collectors, opinion amplifiers
Photos, videos	Witnesses	Managing, providing resources	(Pre)editors, publishers
Special information	Assistants, project co-workers	Managing, resources	Project leaders, editors
Blog post, reports	Amateur reporters	Managing, resources	Moderators, professional mentors
Blogs, videos	Creators, sharers	Technical rec.	(Post) moderators
Content (amateur)	Audience (active contributors)	Facilitator	Media worker (gate opener)

4.3 Communities as contributors

The collaborative ways of producing services and service innovations challenge the way of thinking users, customers or audiences as a bunch of individuals. For example, Bowman & Willis (2005) predict that in media companies more of the value will come from nurturing trusted communities. *“If media companies are going to collaborate with their audiences online, they must begin to consider a news and information Web site as a platform that supports social interaction around the stories they create. These interactions are as important as the narrative, perhaps more so, because they are created and owned by the audience. In a networked world, media whose primary value lies in its ability to connect people will win.”* (Bowman & Willis, 2003) Also in communication theory so called ritual view (e.g., Carey 1989) has challenged the traditional *transmission model of communication* (Shannon & Weaver 1963). When the transmission model highlighted individuals in the communication process stating *“who says what in which channel to whom with what effect”* (Lasswell 1948), the ritual view is linked to such terms as “sharing”, “participation”, “association” and “fellowship”. According to the ritual view the communication takes part in daily activities that forge human relationships and communities.

Benkler (2006) sees that the networked information economy is based on the radical decentralization of intelligence, knowledge, culture and ideas. The material conditions have had substantial effects on the change but the technology alone does not determine social structure. *“From our friendship to*

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our communities we live life and exchange ideas, insights, and expressions in many more diverse relations than those mediated by the market. In the physical environment, these relationships were largely relegated to spaces outside of our economic production systems. The promise of the networked information economy is to bring this rich diversity of social life smack into the middle of our economy and our productive lives.”

Domingo et al. (2009) think that the re-inclusion of networks might lead to a new model of journalism, labelled “participatory journalism” (cf. Nip 2006 above), where some of the communication functions can be performed by individual society members or organizations, and others still lie in hands of media institutions (Figure 6.).

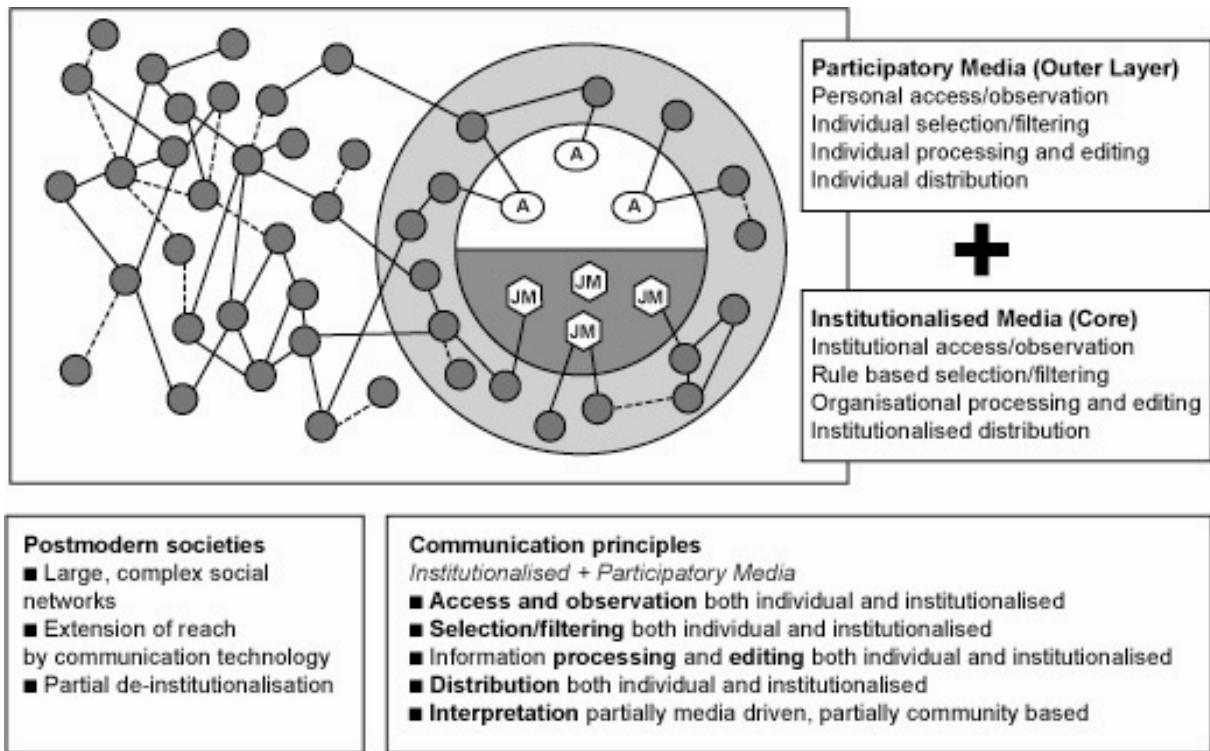


Figure 6. Re-inclusion of social networks in public communication. (Domingo et al. 2009)

The social networks and communities seem, thus, to be important when considering user involvement in service production or design. It is also important to note, that all communities are not alike, but there is a huge plurality of them. In the case of virtual communities, Dholakia et al. (2004) differentiate between *small-group-based* and *network-based* communities. The members of a *small-group-based* community identify themselves with a specific group of individuals rather than the venue or the theme of it. The members interact together as a group to achieve common goals and to maintain current relationships. The relationships are formed dense and the group can also meet occasionally face-to-face. *Network-based* virtual communities, on the other hand, are characterized by the fact that the members identify themselves primarily with the theme of the venue rather than with specific individuals of the community. This kind of community is usually geographically dispersed, the relationships of

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the participants form a relatively sparse network and they typically communicate with each other only online. This, naturally, is only one way to differentiate between various kinds of groups or communities. In order to better understand the potential of different types of user groups and their suitability for user involvement more research is obviously needed.

According to Mäkinen (2009), a community based development process does not offer ready-made solutions but takes further the procedures the network found appropriate and develops new ones together with the community. The members of the community participate in every step of the development process from ideas to implementation and evaluation. *“Community networks are potential places for useful innovations. Communities may use networks to share experiences and information as well as share information as well as solve problems, which is useful to the development of both the community and individuals. Each member of the network, often unknowingly, adds something to the network that can be useful to others.”* (Mäkinen 2004)

4.4 From passive individuals to active communities

The general trend in user involvement has been a gradual progression from a user as a “victim” to a user as a valuable source of inspiration. The previous literature suggests that different kinds of users contribute to the innovation process differently. It is important to involve lead users into innovation process, but also ordinary users can give valuable contributions. As Alam (2006) says, it would be useful to include both these user types in the development process. An even more broadminded approach suggests that every user can offer something for the innovation process (Heiskanen et al. 2007, Mäkinen 2004). It only needs to be determined, what kind of information is needed, what kind of users or user groups are the best source for that and what kind of interaction technique enables the contribution best.

A good example of the change of users’ role is the media. After the rise of the internet and social media, even the traditional broadcast and print media have had to change their assumptions about their audience. Media companies are now eagerly looking for business models that could make good use of the user activity that has developed in internet and social media. These phenomena have also brought to the fore the different kinds of user communities. Communities differ in many ways from individual users, and they may also contribute to innovation process differently. In some cases the community itself is the “service”, social media is a paradigm of that. When the task of the company is focusing more to create suitable infrastructures and nurture the trusted communities than to produce tangible services or products, also the roles of service consumer and service provider can no longer be clearly separated. This highlights the collaborative character of the service development activities.

5. User motivation to participate

Once a company has identified suitable participants for taking part in service innovation and development, it is important to consider, how the potential participants can be motivated to participate and how they can be rewarded for their contributions. According to Jeppesen & Fredriksen (2006), the starting point for involving customers is good, since hobbyist users and innovators have been found to be more motivated than professional innovators.

In the following, theoretical approaches concerning motives are briefly presented. The term motive is applied here in a broad sense, referring “to any internal force that activates and gives direction to behaviour” (Roedelein 1998). The theories presented here have been selected, because they represent either focal theories concerning motivation in the fields of marketing, human-centred design or media research or they have been utilized in customer innovation research. Besides looking at individual motivations, focus is also given on group behaviour.

We then move on to a more practical level and look at previous research discussing motivation and rewarding in different kinds of environments. The section concentrates mainly on various virtual environments, since these are prevalent in current literature. We have included examples of innovation and development projects concerning products, since similar examples of services seem to be quite rare.

5.1 Different theoretical approaches related to motivation

5.1.1 Needs

A basic approach regarding motivation is Maslow’s hierarchy of needs, which consists of the following levels: (1) physiological needs, (2) safety, (3) belongingness, (4) ego needs and (5) self-actualisation. The idea of this approach is that an individual progresses from the first level to the last level, that is, each stage of needs has to be fulfilled at least to some extent before moving on to the next level. (Solomon et al. 2006)

Needs can also be classified to biogenic and psychogenic needs. Biogenic needs are innate and they include things that are necessary for basic surviving such as food, water and air. Psychogenic needs such as need for status or power are formed when an individual becomes a member of a culture. (Solomon et al. 2006)

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Another way to classify needs is to divide them into utilitarian and hedonic needs. Utilitarian needs are related to the objective attributes of things as well as gaining functional or practical benefits. Hedonic needs, on the other hand, are more subjective and experiential in nature and involve an emotional aspect. (Solomon et al. 2006)

5.1.2 Extrinsic and intrinsic motivation

Extrinsic motivation occurs “whenever an activity is done in order to attain some separable outcome” (Ryan & Deci 2000). This outcome can be either material or social, such as a monetary reward or approval from others.

Intrinsic motivation, on the contrary, has been defined by Ryan & Deci (2000) “as the doing of an activity for its inherent satisfactions rather than for some separable consequence”. In other words, the activity is performed for its own sake. Intrinsic motivation is also associated with the individuals’ tendency to behave proactive, to interact with the world in order to have an effect and to accomplish something (Deci 2004).

5.1.3 Social exchange theory

The social exchange theory assumes that the reason why individuals engage in social interaction is because they expect to get some kind of social rewards by doing so. These can be, for example, approval, respect or status. (Blau 1964, cited in Wasko & Faraj 2005.) This approach has been utilized, for example, by Hannuksela (2009), Füller (2006) and Wasko & Faraj (2005) with regard to various virtual environments.

5.1.4 Uses and gratifications approach

The uses and gratifications approach originates from mass media research. It has been used there especially for assessing consumer motivations for using media. This framework has been applied on virtual customer environments by Nambisan & Baron (2007, 2009), Dholakia et al. (2004) and Stafford et al. (2004), for example.

Stafford et al. (2004) have applied the uses and gratifications approach for internet usage in general. They conclude with three types of gratifications in their research: process gratifications, content gratifications and social gratifications. Process gratifications are related to the actual use of the Internet, content gratifications to learning and information and social gratifications are related to interpersonal communication and social networking.

In a case of virtual customer environments (VCEs), Nambisan & Baron (2009, based on Katz et al. 1974) present four kinds of benefits individuals can acquire from participation: cognitive benefits, social integrative benefits, personal integrative benefits and hedonic benefits. In the case of VCEs, cognitive benefits can include obtaining knowledge and getting a better understanding about the products concerned in the VCE and their usage. Social integrative benefits are derived from the social and relational ties evolving between the participants of the VCE, whereas personal integrative benefits are

related to reputation, status or a sense of self-efficacy. Hedonic benefits can be, for example, pleasant and interesting experiences when participating in the VCE or intellectual stimulations in VCEs related to product-support. (Nambisan & Baron 2009.)

5.1.5 Individual motivations vs. “group motivations”

Some authors state that not only individual motivations have an effect on the customer’s participation but also “group motivations”. Bagozzi & Dholakia (2002) and Dholakia et al. (2004) have used the concept of we-intentions to elaborate on this. According to Tuomela (1995), a we-intention can be defined as a “commitment of an individual to participate in joint action, and involves an implicit or explicit agreement between the participants to engage in that joint action”.

In order to study the influence of the group on participation, Wasko & Faraj (2005) and Wiertz & de Ruyter (2007) discuss the concepts of collective action and social capital. The basic idea is that the existence of social capital explains the collective action of a group, e.g., why they do participate instead of free-riding in a community (Coleman 1990, cited in Wasko & Faraj 2005). Social capital can be divided into structural, relational and cognitive capital. Structural capital has to do with the links between the individuals, relational capital with the quality of the social relations and cognitive capital with the common system of understanding the individuals in the group have with each other. (Nahapiet & Ghoshal 1998, cited in Wasko & Faraj 2005.)

5.2 Motivations in different kinds of environments

Motivation is a crucial element in any kind of participation and in any environment of participation. Lakhani & Panetta (2007) emphasize that the functioning of systems based on distributed innovation is driven by mixed and heterogeneous motivations. Their analysis is based on three examples of distributed innovation: Linux community of software developers, Threadless.com, an online t-shirt company and Innocentive.com, a community to solve science-based R&D problems for companies. The participating users can have and take different roles in the communities. The more granular and diverse the available tasks, the larger the potential pool of participants. E.g., in the t-shirt community, not all users need to design shirts but they can provide feedback, suggest changes and vote for favourite designs. In open software communities some develop software, some write documentation, some report or fix bugs, some request new features and so on.

When looking at online participation in broad terms, Yossi Vardi has posited four factors that inspire folk to participate: self expression, communication, sharing and collaboration (Nuxoll 2006). According to the study of Franke & Shah (2003), having fun and considering assisting others as a social norm were the strongest motivating factors for the participants.

5.2.1 Firm-hosted user communities

According to Füller et al. (2007) user innovators can be divided into two categories, “need-driven” innovators and “excitement-driven” innovators. Need-driven innovators participate in innovation crea-

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tion because they have discovered unsatisfied needs when using a product (see also Füller 2006) whereas excitement-driven innovators are motivated by the fun and enjoyment produced by the innovation activity itself. This categorization corresponds broadly with the concepts of utilitarian and hedonic needs.

Also Dholakia et al. (2004) found that the participants of virtual communities were need-driven, that is, they were highly motivated by the purposive value, which they define as “the value derived from accomplishing some pre-determined instrumental purpose” such as receiving information, sharing information and solving problems. In other words, they define purposive value as a combination of informational and instrumental value.

Füller (2006) has investigated the motives of participants in different New Product Development (NPD) projects concerning sports equipment, furniture, mobile phones and tattoos. The most common motives for participation were curiosity, intrinsic innovation interest, dissatisfaction with existing products and gaining knowledge. In another study by Füller et al. (2008), they state that the creative attributes (innovativeness, skills, task motivation and task involvement) of customers define their willingness to participate in innovation projects. In the study of Ebner et al. (2009), the participants were motivated by the creative challenge offered in the form of an idea competition.

Further, Ebner et al. (2009) state that the participants wanted to get to know the enterprise and its products. In the case of students, the possibility for internships in the company was, however, considered only weakly motivating. In the case of brand communities, the trust in the brand also affects the willingness to participate positively. However, identification with the brand community and brand knowledge did not have an effect on participation willingness. (Füller et al. 2008)

Jeppesen & Fredriksen (2006) found that user innovators were motivated by the recognition from the company they were innovating for. However, they were not necessarily motivated by recognition from other user innovators (Jeppesen & Fredriksen 2006). Ebner et al. (2009) even found that the possible prestige was considered only weakly motivating by the participants.

In the study of Dholakia et al. (2004), social benefits such as interpersonal connectivity and social enhancement were regarded as important. Chu & Chan (2009) report that the majority of innovation community members were willing to share their ideas without monetary compensation under certain circumstances. These include prosocial and reciprocal behaviour, shared possession of knowledge, personal gratification, self-efficacy and identification. Ebner et al. (2009), on the other hand, report that being part of an innovation community was considered only weakly motivating.

There are many examples of the relatively low significance of monetary rewarding compared to other kinds of motivations and rewards (Franke & Shah 2003, Füller 2006, Ebner et al. 2009, Chu & Chan 2009). However, monetary rewards have been found to have a positive influence on participation frequency, but a negative influence on future participation interest (Füller 2006).

In Füller's (2006) study, when the participants were asked about their willingness to participate in similar projects in the future, intrinsic innovation interest and curiosity were the strongest drivers. Also the possibility to show ones own ideas to others was considered important.

5.2.2 User communities in media environments

Bowman & Willis (2003) have listed motivations for users to participate in online communities related especially to the media branch:

- to gain status or build reputation in given community
- to create connections with others who have similar interests
- sense-making and understanding
- to inform and be informed
- to entertain and be entertained
- to create.

In his study on the trust and motives of the use of both traditional and social media Matikainen (2009) found three motives to produce content: 1) development of web-ideology and self, 2) self-expression, and 3) social interaction and content sharing. Some media companies have also used a monetary payment to motivate audience to participate. In those cases a small fee is paid if the company uses the content provided by the citizen. (Lietsala & Sirkkunen 2008.)

5.2.3 Innovation intermediaries

Innovation intermediaries are marketplaces that offer a place for trading solutions to various problems. Companies can deliver innovation challenges to solvers and receive solutions to their problems via the intermediary. Normally, the members of the innovation intermediaries are not customers of the companies looking for solutions, which is an important difference compared to company-hosted innovation communities. This should be taken into account when considering motivations and suitable rewarding mechanisms (Antikainen et al. 2010).

In their study concerning open innovation communities such as CrowdSpirit and FellowForce, Antikainen et al. (2010) differentiate between motivating to participate and motivating to collaborate. In the case of motivating to collaborate, they (2010) have identified the following motivational factors:

- interesting objectives and clear purpose and concept
- open and constructive atmosphere
- influencing and making better products/services
- new viewpoints and synergy
- sense of efficacy
- having fun
- winning, competition and rewards from participation
- sense of cooperation
- sense of community and similarity.

Interestingly, monetary rewards are not mentioned as a reward for collaborating, though they are commonly used by innovation intermediaries (Lietsala & Sirkkunen 2008). Antikainen et al. (2010) state that current rewarding mechanisms, including monetary rewards, are not sufficient. They suggest that em-

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phasis should be put on enhancing the possibilities to work together with the other participants such as commenting the suggestions of others and creating a sense of community by letting the participants from both sides (company and users) get to know each other better by providing tools for that.

5.2.4 Traditional ways of participation

Hyvönen et al. (2007) have studied the participation of consumers in more traditional ways than in online environments, such as workshops, service trials, user surveys and group discussions. They found that the interest of consumers to participate in service trials was based on two factors. Firstly, the consumers appreciated the possibility to influence the service and technology that was only in the initial development phase, since they could influence their own life in that way. Secondly, they were motivated by how interestingly and inspiringly the implemented user trials were arranged. According to Heiskanen et al. (2007), it is important to take the consumers' feedback seriously and also provide them with information about how their involvement has been utilised. However, they also state that there are many products that users are not interested in developing unless they face problems in use.

5.3 Significance of motivation

Based on a review of current literature, it seems that there are not only numerous theoretical approaches related to motivation but also the practical results describe a great variety of motivational factors. There seems to be some controversy regarding the significance of different motivational factors, which highlights the individual nature of motivation. Though, as in connection with different user types in Section 4, the group approach should also be taken into consideration with regard to motivation and rewarding.

Regardless of the innovation environment, it seems that consumers having trouble in using products or services – although ordinarily a negative phenomenon – offers a good starting point for motivating consumers in participating in innovation processes. By solving the problems they have faced, they can influence their own quality of life. Receiving and exchanging information is also an essential motivational factor. Also the so-called softer values have been proven important. Consumers can be motivated by offering them a chance to have fun or to enhance social connections with others. Despite the fact what kind of environment or technique of participation is used, it seems to be quite clear that monetary compensation is not a key issue.

In order to better understand the motivations of consumers, more research is needed especially in service context and in other kinds of environments than online environments only. Further, the research should not only concentrate on the motivating outcomes of the process, but also on the process itself. Füller et al. (2006) present the following themes for looking at consumer experiences from participation: usability of the participation technique, task complexity, resemblance to real world imagination, ease of expressing individual needs and wants, feeling of being integrated in the development process, having fun and the willingness to participate in future. When the motivations and experiences of participants are studied thoroughly, the information can be utilised in designing the most suitable way of participation for each desired participant group.

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Planning the techniques of user involvement is critical for the success of the whole process. The selected technique can have an effect both on the results of involvement and the experience of the participating users. The experience from participation in turn can have an effect on motivation (see more about motivation in Section 5).

This section describes selected examples of techniques for user involvement presented in previous research. In all three research fields, business research, human-centred design and media research, the starting point for categorizing methods has been the combination of innovation stage and intended user role. In all the three research fields the most recent research concentrates on virtual or online involvement.

6.1 Participation in different phases

User involvement can take place in different phases of service innovation process with different objectives or functions for users. In new product development (NPD) context, Nambisan (2002) presents a classification of customer roles; he binds the roles to the new product development stages. A customer participating in the ideation phase of NPD is seen as resource, customer participating in design and development phase is seen as co-creator and customer role in testing and support is seen as user (Table 2.).

In the media, audience participation can take many forms, depending on the openness of each news production stage. Bruns (2005) sees that participation can happen in three phases of the journalistic process:

- **Participation at the input stage:** the extent to which users are able to contribute material into the news production process.
- **Participation at the output stage:** the extent to which users are able to edit or otherwise affect content that is to be published.
- **Participation at the response stage:** the extent to which users are able to comment on, extent, filter or edit content which has already been published.

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Table 2. One classification of customer roles in product development context. (Nambisan 2002)

<i>Customer role</i>	<i>NPD Phase</i>	<i>Key issues/Managerial Challenges</i>
Customer as resource	Ideation	<ul style="list-style-type: none"> • Appropriateness of customer as a source of innovation • Selection of customer innovator • Need for varied customer incentives • Infrastructure for capturing customer knowledge • Differential role of existing (current) and potential (future) customers.
Customer as co-creator	Design and development	<ul style="list-style-type: none"> • Involvement in a wide range of design and development tasks • Nature of the NPD context: industrial/consumer products • Tighter coupling with internal NPD teams • Managing the attendant project uncertainty • Enhancing customers' product/technology knowledge.
Customer as user	<ul style="list-style-type: none"> • Product testing • Product support 	<ul style="list-style-type: none"> • Time-bound activity • Ensuring customer diversity • Ongoing activity • Infrastructure to support customer-customer interactions.

Domingo et al. (2009) think that these three phases are not enough and they have divided journalistic process into five phases: 1) access and observation, 2) selection/filtering, 3) processing/editing, 4) distribution and 5) interpretation (Figure 7.).

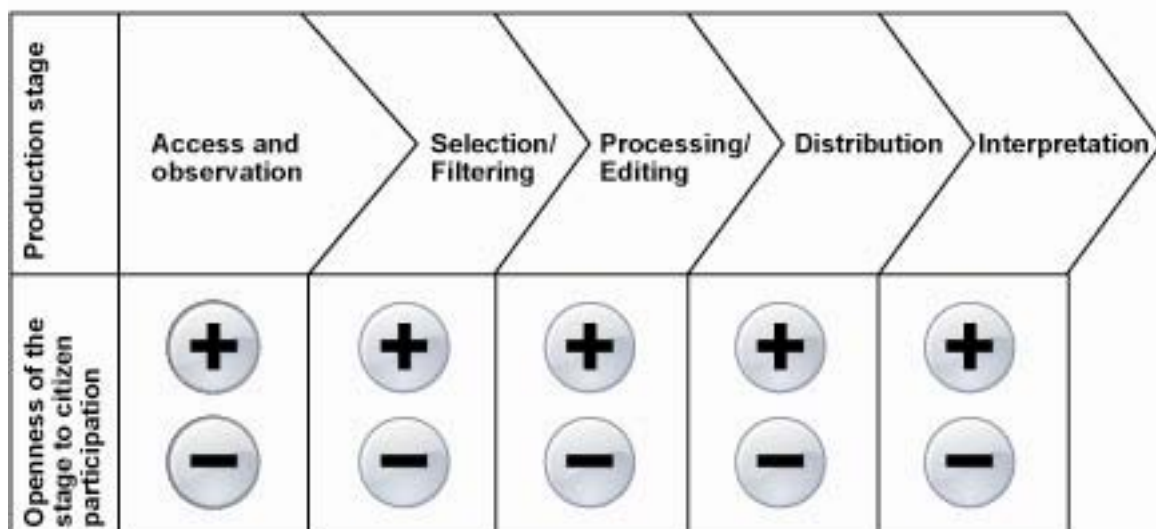


Figure 7. Phases of the journalistic process. (Domingo et al. 2009)

The participation in the *access and observation* stage can include, for example, citizen-based story suggestions and collaboration between citizens and journalists in covering events. In the *selection/filtering* stage the focus is in the extent to which the audience may participate and collaborate in the story selection process before producing the story. Participation in the *processing/editing* stage can mean for example stories and other material produced by the audience. In the *distribution* stage the focus is in publishing: for example citizens participate in selecting what stories are published, and they can decide the hierarchy of the stories or the audience can tag or classify the stories somehow. The participation at the *interpretation* stage means for example that the audience can comment on stories and journalists can participate in the comment areas to “hear” the audience's opinion.

Heinonen (2008) found three main functions of audience participation in Finnish newspapers: getting feedback to the newsrooms, augmenting journalism produced by the professionals, and horizontal communication of the audience. According to Heinonen (2008) Finnish newspapers see the audience as an important journalistic resource. Journalism is more open to the audience, especially in the initial (observation stage) and final (interpretation stage) steps of the journalistic process: “*The audience is invited to provide tips to enrich content and on the other hand feedback and comment are elicited. The actual journalistic content production remains firmly in the hands of the professionals, with the exception of isolated experiments and such supplementary materials as readers’ photographs.*” (Heinonen, 2008)

In the human-centred design field, process stages can be defined following somewhat similar logic: the actual development or design process is just one of the phases, where utilizing user involvement is possible. User involvement can be divided into three classes based on what they are influencing:

- User involvement in deciding *what* to design
- User involvement in the actual *design* process of a certain service
- User involvement in design in *use*, after the service has been launched to the market.

Human-centred design, participatory design and agile design presented in Section 2 are mainly focused on the actual design process. They focus on integrating users to the design process of a certain product or service, after the decision to design the service in question has been made. User involvement in deciding what to design and user involvement in design in use will require new design methods. In the following we will describe new approaches to user involvement to *what to design* and *design in use*.

6.1.1 User involvement in deciding *what to design*

User-driven design and user-driven innovation are related to user involvement in deciding what to design. **User-driven design** integrates user studies and idea generation. User-driven design is methodologically close to participatory design. However, user-driven design starts rather from technical possibilities than from a particular user need. The participating users are not necessarily the final users of the proposed system but inspirers, e.g., extreme users. A central issue is that users are equal partners in the design (Botero et al. 2009).

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Gaver et al. (1999) describe **cultural probes** as tools for user-driven design. Users are given informal exercises that should provoke responses to inspire design. Hutchinson et al. (2003) present the concept of technology probes. Technology probes are simple, flexible, adaptable technologies with three interdisciplinary goals: the social science goal of understanding the needs and desires of users in a real-world setting, the engineering goal of field-testing the technology, and the design goal of inspiring users and researchers to think about new technologies.

Also in **user-driven innovation** users are not considered as a reference group that sets the specifications of a system but as a source of inspiration that can foster innovation (Holmquist 2004). Von Hippel introduced the term “user dominated innovation” already in 1976 to emphasize that users can play a valuable innovative role for product development. Later user-driven innovation has been moved to community level, first in gaming communities (Jeppesen & Molin 2003).

6.1.2 User involvement in *design in use*

One of the recent viewpoints from human-centred design tradition is user involvement in design in use, i.e., facilitating users the possibility to continue the design in use by developing usage practises. If systems cannot be modified to support new practices, users will be locked into the old patterns of use. Users should be co-designers not only at design time but throughout the whole existence of the system. In co-adaptive environments users change because they learn and systems change because users become co-developers and active contributors.

Fischer & Giaccardi (2006) present **Meta-design**, a conceptual framework aimed at defining and creating social and technical infrastructures in which new forms of collaborative design can take place. As future uses and problems cannot be completely anticipated at design time, the design should not try to get rid of the emergent but to include it and make it an opportunity for more creative and more adequate solutions to problems.

Fischer & Scharff (2000) list three necessities for socio-technical environments for meta-design:

- They must be flexible and evolve because they cannot be completely designed prior use.
- They must evolve to some extent at the hands of the users (solution space). However, this does not imply transferring the responsibility of good design to the user.
- They must be designed for evolution.

Meta-design follows **Seeding – Evolutionary growth – Reseeding** model (Fischer & Ostwald 2002). Seed is a collection of domain knowledge that is designed to evolve at use time. Evolutionary growth includes users focusing on solving specific problems and creating problem specific information, rather than creating reusable information. Reseeding includes organising, formalising and generalising information and artefacts created during the evolutionary growth phase. Reseeding is necessary when evolutionary growth no longer proceeds smoothly.

Meta-design includes three levels of design:

- designing design – designing for end-user modifiability
- designing together – collaboration of users and designers both at design and at use time
- designing the “in-between” – empowering co-creative behaviours.

6.2 Forms of user involvement in practice

6.2.1 Channels of interaction

The chosen interaction channel is usually connected to the objectives of user involvement and the role that users have in the development; traditionally direct user involvement (e.g., user workshops) is more often chosen when the objective is to create ideas and indirect user involvement (e.g., survey) is more likely favored when the emphasis is on testing already designed ideas.

Hyvönen et al. (2007) found a direct contact between users and product developers to be an important element in user involvement. They describe two alternatives to increase direct interaction: direct participation of users in the product development process and taking product developers to the users. Both alternatives aim to find a common space where the users and developers can meet. For participation of users in the product development process, probably the most common methods are based on some kind of focus groups or workshops. In the second alternative, taking product developers to the users, the primary techniques are observing and interviewing users in their own usage environments.

Indirect interaction by mail, e-mail or telephone is usually based on traditional market research techniques like surveys and interviews, and the role of the user remains usually rather passive: user role is the one of information provider. However, online involvement and virtual communities are blurring the line between direct and indirect interaction, and a great proportion of recent literature on designing customer involvement concentrates on online involvement and virtual communities (see for example Nambisan 2002). With new ICT solutions, especially social media, consumers can make more informed decisions, possess a global view of matters and network with others. This all facilitates consumers to experiment with and develop new products and service ideas. Understanding users as value co-creators and sources of innovation not only points to users' ability to innovate themselves but also draws attention to new forms of collective organisation and collaborative practices that make possible collective and distributed innovation (Botero et al. 2009).

Sawhney et al. (2005) have listed some characteristics of the Internet as a platform for customer involvement. Benefits include for example, direction of communication (dialogue instead of one way), intensity of communication (continuous interaction instead of on the spot), richness of communication (social knowledge instead of individual) and size and scope of audience (also mediated interaction with both current and prospective customers). Also Füller & Matzler (2007) argue for the benefits of virtual customer environments. Because products can be presented in virtual environments, the customers have a better foundation for innovating and the quality of ideas should also enhance.

Despite the benefits of virtual environments, it does not make careful planning of involvement useless. Some tips for designing online environment for user involvement in development can be found in Nambisan (2002). He categorizes the key design features around 4 themes: customer interaction pattern (task/social orientation, individual/social identity, temporal structure and degree of control), customer knowledge creation (search from files/discussion with networks and tacit/explicit), customer motivations (product related/community related/medium related) and customer-NPD team integration (coupling, integrator tasks, role and process transparency, importance of cognitive compatibility).

Sawhney et al. (2005) categorize virtual techniques of customer collaboration by the nature of collaboration and by the stage of product development process (Table 3.). One phenomenon around vir-

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tual user involvement is the emergence of autonomous web-based innovation marketplaces (see for example Antikainen et al. 2010, Sawhney et al. 2005).

Table 3. Virtual customer involvement based on nature of collaboration and stage of NPD process. (Sawhney et al. 2005)

Nature of Collaboration	Applicability to Stage of New Product Development Process	
	Front-end (Ideation and Concept)	Back-end (Product Design and Testing)
<i>Deep/ High Richness</i>	<ul style="list-style-type: none"> • Suggestion Box • Advisory panels • Virtual Communities • Web-based idea markets. 	<ul style="list-style-type: none"> • Toolkits for users innovation • Open-source mechanisms • Web-based patent markets.
<i>Broad/ High Reach</i>	<ul style="list-style-type: none"> • Online survey • Market intelligence services • Web-based conjoint analysis • Listening in techniques. 	<ul style="list-style-type: none"> • Mass customization of the product • Web-based prototyping • Virtual product testing • Virtual market testing.

Media branch and journalism offer good examples of virtual participation that can possibly offer inspiration also for other branches. The increasingly active (and more powerful?) role of audience both in innovation and in content creation has already changed practices more than in most other service industries. According to the recent research of Purcell et al. (2010) the internet is “the center of the story how people’s relationship to news is changing”. People’s relationship to news is becoming portable, personalized and participatory. *“To a great extent, people’s experience of news, especially on the Internet, is becoming a shared social experience as people swap links in emails, post news stories on their social networking site feeds, highlight news stories in their Tweets, and haggle over the meaning of events in discussion threads.”*

The participatory journalism flourishes in social media and in collaborative media. In new media ecosystem online communities discuss and extend the stories created by the mainstream media or create their own. (e.g. Bowman & Willis 2003, Lietsala & Sirkkunen 2008)

Bowman & Willis (2003) have listed some examples of forms in which participatory journalism takes shape:

- *Discussion groups* are the oldest form of online participation. Message boards or forums allow the audience to communicate asynchronously with others. This may lead to more thoughtful contribution as participants have time to think their responses. In the online message board environment, the audience can become both senders and receivers of information in an open environment.
- *User-generated content*: Audience may send in advice, tips, reviews, calendar events, useful links, even full-length articles. The content does not have to be text-based, it can also be for example photos, video or audio.

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- *Weblogs* have also proven to be effective collaborative communication tools in participatory journalism. Weblogs are easy to set up, operate and maintain, but they require higher level of commitment from the author than for example discussion forums. Both individual and group blogs are being used.
- *Collaborative publishing* (like Slashdot, Kuro5hin, wikis etc.) and *Peer-to-Peer communication*.

Bowman & Willis (2003) have also categorized the online participation by the function audience serves. According to them, *commentary* is the most pervasive level of participation. The participant's effort may also be used in *filtering and editing*, if the online community is provided by the tools for alternative forms of editing (filtering, sorting, ranking and linking). In such cases the participants may guide and direct their community to valued news. Participation is also utilized in *fact checking*, when the community effort is used to somehow uncover the truth. Gillmor (2004) calls this a partnership between professionals and gifted amateurs. "*It is a partnership of sorts between professionals and the legions of gifted amateurs out there who can help us – all of us – figure things out.*" Another function of participation is *grassroot reporting*, where users are participating in the fact-gathering and reporting process. This type of reporting is nowadays used a lot in breaking news where photos and stories of eyewitnesses bring first-hand accounts of the incident. *Annotative reporting* extends the traditional reportage, as audience is adding to or supplementing the information in a given story. When participation's function is *open-source reporting*, the audience is allowed to evaluate and react to content before publishing.

6.2.2 Techniques for user involvement

Techniques of customer involvement and the style of questioning are relevant issues, because uncertainty in these matters can partly be the reason for controversy around usefulness of customer participation. (Ulwick 2002, Alam 2006) Ulwick (2002) suggests asking customers to focus on the desired outcome of a new service rather than asking for the solutions.

A wide range of partly overlapping methods and techniques for customer involvement have been described in multidisciplinary literature and this review does not include an extensive introduction of all of them. In order to name a few related references, Alam (2002) suggests numerous techniques for customer involvement such as interviews, user visits and meetings, brainstorming, users' observation and feedback and focus group discussions. Ebner et al. (2009) recommend idea competitions for customers and Rosenthal & Capper (2006) various ethnographic methods. Kaulio (1998) and Kujala (2008) add for example consumer idealized design and contextual design to this list of methods.

In one of the categorizations based on Reichwald et al. (2004), Hyvönen et al. classify interaction methods by three roles that user involvement can play in product development (Table 4.).

In any event, the planning of user involvement starts with setting the goals. In an exploratory research of Alam (2006), respondents pointed out that specific goal should be set for the interaction for each stage of development, because if the focus is too wide, customer interaction can easily turn to nice and airy but aimless discussion.

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Table 4. User contribution to product development. (Hyvönen et al. 2007)

<i>Decision support</i>	<i>Producing information</i>	<i>Creating solutions</i>
Surveys, tests Idea competitions Evaluation panels	Workshops, discussions Focus groups Initiatives by employees Idea competitions Customer service line Lead user workshops	User toolkits Open product development

Kristensson et al. (2008) have listed key strategies for the successful involvement of customers in the development of new technology-based services and their list includes many points affecting planning of user involvement techniques. First they claim that users should have a chance to identify needs in their own settings of use and in their various roles; involvement should not rely purely on traditional brainstorming. Applied in more traditional service context, this can pose challenges to visualizing, concretising and experiencing service during the involvement. For example Thomke (2003) presents a case where service experiments conducted live with real customers engaged in real transactions were successfully applied in consumer financial services context.

Another key decision pointed out is to find a balance between providing some analytical tools (e.g., basic knowledge for example about technology) but not constricting users with too much knowledge on technology (Kristensson et al. 2008).

6.3 Making decisions about methods of user involvement

Even though previous literature lists many techniques for user involvement, practical guidelines for choosing methods of user involvement and successful case examples describing best practices of user involvement are still quite scarce. Methods can be chosen based on the objectives of the innovation process, innovation process stage, intended user role as well as based on participating user group and its motivational factors.

Many practical decisions must be made in planning the interaction with users: At which stage of the innovation process is involvement of users most useful for design? What is the most suitable method regarding objectives and participating users? How should the interaction be organized and could new channels like social media be utilized? What can be done to help customers to innovate? How should the background information be provided and how should the service under development be made concrete to participants?

Finally, it should be noted that concentrating on a single way of involving customers might not bring the best results. In the context of online customer involvement, Sawhney et al. (2005) suggest that different collaboration techniques should be employed simultaneously as a part of integrated portfolio. Additionally, in order to make user involvement influential, there has to be room for user input in design process as the next section points out.

7. Impact of user involvement

Empirical research about the objectives and effects of customer participation has mainly been done in product context. Overall, there still exists some controversy; one group of researchers believes that customer interaction is a necessity for successful innovation while another group maintains the view that customers can not tell a firm what they want (Alam 2006).

Alam (2002) reports in his exploratory research in b-to-b service context that the most frequently mentioned objectives for user involvement are superior and differentiated service as well as reduced cycle time. Other objectives for involving customers include user education, rapid diffusion, improved public relations and supporting long-term relationship.

Earlier research has shown that user involvement in service innovations has benefits. Carbonell et al. (2009) state that customer involvement has no direct effect on sales volume, instead it affects new service success through better technical quality and innovation speed. Also Alam (2006) suggests that customer interaction helps shorten development cycle time. In their recent study in financial services industry, Chien & Chen (2010) found that customer involvement has a positive effect on NPD process both directly (measured by market share, profit, team performance and duration) and through better cross-functional integration. Cross-functional integration for example provides R&D people better opportunity to communicate directly with customers.

However, besides these benefits user involvement in service innovations has also challenges and even threats. In this concluding section we will analyse how user involvement may affect service design processes.

7.1 User contribution to design

Idea of “design-by-all” may be perceived as a challenge to the design expertise of professional designers. User representation is an important concern: who shall be allowed to articulate the needs and concerns of others, to speak for other users; and who is willing to do that? Humans (not all, not all times, not in all contexts) want to be and act as designers in personally meaningful activities (Fischer & Giaccardi 2006). There is nothing wrong being a consumer, and we learn and enjoy many things in a consumer role. Consumer-designer is a role assumed in specific contexts.

The agency of users does not mean that they should be considered as equal partners with designers. However users can be a source of learning and a source of innovations and product improvements.

7. Impact of user involvement

Customer involvement serves as a means to identify future needs and leads to greater variety of ideas and broader decision basis (Füller & Matzler 2007). But the risk could be for example over-customisation of services resulting from listening to customers too closely; needs and ideas articulated by participating customers may be too niche (Füller & Matzler 2007, Alam 2006).

Meta-design, where systems are made modifiable for users does not imply transferring the responsibility of good design to users. On the contrary, the goal of creating the technical and social conditions for meta-design becomes as important as creating the artefacts itself. Designers need to focus on system integration and facilitation, and use their own creativity to set the socio-technical environment where other people can, in turn, be creative (Fischer & Giaccardi 2006).

Lakhani & Panetta (2007) have studied open software projects. They remind that distributed innovation is not without limitations: failure rate is relatively high, few projects are making progress towards code shipment. Distributed innovation systems are based on voluntariness and thus, cannot deliver innovations “on demand” or according to annual plan. Insiders within companies may be reluctant to interact with “random individuals” from outside. Organisations should take distributed innovation as an addition to innovation strategies rather than “silver bullet” that will solve internal innovation problems.

Contributing to service development may also change the customer experience and customer relationship itself: at least Lengnick-Hall et al. (2000) found that involvement in service production affects the service experience positively. Also Füller & Matzler (2007) list increased customer retention and contacts to new potential customers to be among the positive effects from customer involvement.

7.2 Quality of user data

It has been pointed out that the crucial factor for product and service development success is the performance in the early stages of development process, that is “fuzzy front-end” (see for example Khurana & Rosenthal 1998, cited in Chien & Chen 2010, Alam 2002), and that customer involvement could be especially useful in this stage due to its high uncertainty and low formalization (Alam 2006). Also Füller & Matzler (2007) suggest reduction of market uncertainties to be one of the benefits from customer integration.

Sandström et al. (2009) add that functional elements of service experience (like costs and safety) are better met by services based on users’ ideas. Instead, ideas improving emotional elements of service experience (like enjoyment and fun) can be difficult to generate spontaneously by consumers. Consumers still appreciate both aspects of service experience, and Sandström et al. (2009) among others recommend a combination of customer-generated and company-generated ideas for service innovation.

Magnusson et al. (2003) have measured that consumers’ ideas are more original than experts, but not as producible. Ordinary users produce more original ideas with better user value when they are not trained about the underlying technology (Magnusson 2009). Without technical briefing, ordinary users won’t contribute ready-made solutions but should be used as an inspiration for further innovation (user inspired, not user led innovation) and a stimulus for strategy review. With technical consultation the originality of consumers’ ideas deteriorates but ideas become more producible; consumers become “copycat professionals”. (Magnusson et al. 2003, Magnusson 2009). Hyvönen et al. (2007) point out

some research-based experiences of the quality of consumer input. Consumers cannot predict their selections and preferences very reliably, consumers may be overcritical towards totally new ideas and they favour familiar solutions. On the other hand, the product ideas generated by consumers may be overly original. However, based on company interviews and user trials Hyvönen et al. point out that companies see it important to develop systematic practises to gather user data. Hyvönen et al. also emphasise that user data should be directly handled in the companies and it should directly influence, the data does not keep fresh and usable for long.

Jeppesen (2005) analyses consumer involvement as a simple information provider (delivering feedback voluntarily, giving complaints, answering market surveys or participating focus groups). He stresses that the utility of consumer information depends strongly on the analyst's ability to interpret the data. Another problem with mere information gathering is that consumers constantly form new preferences and change their opinions. Järvinen & Suomi (2007) have been studying the development of insurance services. They emphasise that experienced customer service experts can analyse customer feedback quite reliably and assess how important the feedback is.

User ideas often describe a need rather than a suitable solution. Thus the ideas need to be analysed carefully to identify the actual need behind the idea and to innovate other possible solutions than just the ones proposed by users.

7.3 Designer-user interaction

Hyvönen et al. (2007) point out that user studies produce a lot of new information that, however, may not be easy to integrate into the company. If there is not a space or receiver for this data, it may get lost and cannot be utilised. Company's own participation into user studies and interaction is important to ensure the usefulness of user data. Also Heiskanen et al. (2007) point out that user information produced outside the company is often difficult to integrate into the innovation process. In their user trials face-to-face communication between users and developers was beneficial: developers appreciated this kind of interaction and it created data that motivated to action. Heiskanen et al. emphasize that if companies want to encourage users to participate their innovation processes, they have to be ready to participate also themselves and to interact with users.

In the trials by Heiskanen et al. (2007), product developers originally came to the pilot to get answers to their questions regarding technology and usability. During the design process, the design teams learned to receive user feedback also on wider issues – immediate user experiences - as they started to interact with the users. Group discussions turned out to be especially fruitful. Designers should get feedback in actual interaction with users, not just by reading research reports. Direct interaction gave the designers access to silent data and impressive experiences and they could utilise these in the design. However, user-designer interaction may not always succeed; Jeppesen (2005) points out that developers may perceive the results of interaction with lead users too ambiguous or overly simplistic and the developers thus have a tendency to abandon lead user interaction as a design method.

Heiskanen et al. (2007) found that timely user trials where developers were actively participating in designing trials and carrying them out, did not delay the product development. On the contrary, those kinds of activities energised the product development process. A somewhat similar example can be

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found from journalism practices. Domingo (2008) has noticed that the special coverages of events were the innovation edges of online news projects. Being outside the daily rhythm helped experimenting with new forms and concepts.

Füller & Matzler (2007) point that designing customer participation requires work and knowledge, and participation can also lead to disturbances in internal processes. Additionally, intellectual property problems and lack of secrecy can cause extra work and harm the success of new products.

In the case studies by Hyvönen et al. (2007) focus groups that gathered together both users and developers turned out to be most beneficial. Feedback in direct interaction was impressive and influencing. User trials helped the companies in defining different usage possibilities for their products.

7.4 User impact in journalistic processes

Nowadays mainstream journalism is offering more and more tools for users to participate in the journalistic processes, but institutions still rely on existing norms and practices as they expand to digital media (Heinonen 2010).

Dealing with the UGC (user generated content) depends much on the motivations of the newsroom. If the function of the participation is only to get more traffic to the site, the attitude is completely different than when the users are seen as a valuable source. Domingo (2010) divides the newsroom's attitudes and management strategies towards UGC in two: 1) UGC as a playground, and 2) UGC as a source. When UGC is seen as a playground, the users usually have "their own space" outside the "news" section, the moderation is often loose, and the prior of the moderation is not to get valuable information from the users but to control the public image of the company. When UGC is approached as source, the user input is often strictly moderated, and it is seen as a valuable feed for news production.

Changes in the media environment have caused pressure to redefine and broaden the duties of the journalists. A new kind of partnership with the audience has been seen as a part of this development. According to Heinonen (2010) journalists see users as 1) sensors (observation stage), 2) co-workers (production stage), or 3) reflectors (interpretation stage). Using the public as sensors (idea generators, case witnesses, experts) and reflectors (commentators) is frequent, but they are rarely treated as co-workers. The public is still treated as audience, not co-workers, even if the relationships have more interactive features than before.

Williams et al. (2007) remark that involving audiences successfully usually means changes in work practices, too. For example, if the company allows user contribution, but the staff ignores it and never interacts with the users who have become participants, the site can fail to gain traction.

Domingo (2008) sees the participation in journalism as an uncomfortable myth: journalists embrace the interactivity as a crucial part of their work, but in practice the relationship is very problematic. The traditional practices live so deep in newsrooms that they prevent experimenting with the more dialogic forms of communication. Also according to Chung (2007), producers are generally interested in the idea of participatory journalism, but putting it into practice has also caused problems. The participation is often seen as a channel to increase audience and increase its loyalty, but along with its advantages, the interactivity has brought about increased workload, uncivil communication on the message

boards, and the costs of implementing and maintaining the interactive features. Journalists have also been worried, how the development is going to effect on their work opportunities (Andersson 2009).

7.5 Implications in service design

Distributed innovation is a promising approach for user participation in service innovation. This includes making innovation a continuous process such as in open source communities and providing the users possibilities to participate in different roles, depending on their capabilities and resources that they can devote. Special attention needs to be paid on controlling the innovation process: as user involvement is voluntary, it is difficult to control the process according to a predefined schedule and predefined outcomes.

The responsibility of good service design cannot be transferred to users; the users however can help identifying their needs. User data cannot be transferred to design by just delivering research reports. A direct connection between designers and users is essential, and common spaces for this interaction are needed. Users can come to designers and participate in the design process but as important is that the designers can come to users and observe users in their own usage environment.

The process of interpreting user input and making decisions based on it needs to be planned and grounded carefully. Distributed innovation can well complement other innovation practises in the organisation, especially during the early stages of service development. Systematic organisational practises should be developed to gather user data and to utilise it while it is still fresh. The process of interpreting user input and making decisions based on it needs to be planned and grounded carefully.

8. Conclusions

In today's competed and changing market situations, one promising way to support market success is innovations originating from the needs of the customers. Service orientation in business changes the connection to the customers. The service and its tangible elements together create the overall customer experience. It is not enough to be able to sell the product to the customer once but the service customer has to be kept satisfied every day. This requires a firm connection to the customer and ways to monitor customer experiences. Service providers need to know their customers better and offer them better possibilities to be involved in service development.

The attitude towards users has been changing from a passive research object to an active design partner, potential resource and co-producer. The transition from product design to service design requires that design and usage should be more firmly connected – the design does not end when the service is launched but the design continues in use where users are creating content for the service. The users shape usage practises in actual use and this may indicate needs to refine the service. That is why service providers should have good channels to monitor the users and to listen to their ideas and feedback. In addition to user involvement in the actual design process and during use, users should increasingly be involved also in early innovation phases, in ideating what kinds of services should be designed for them and with them.

The users have different motivations and preferred ways to contribute to service innovation. That is why innovation processes should serve various roles for participating users based on their interests, skills and motivation. In addition to lead users, also ordinary users, advanced users, critical users and non-users can give valuable contributions to innovation. User communities are increasingly important sources of innovations, either existing communities or new communities that are grown around the service.

One starting point for motivating users to take part in innovation processes is to highlight the possibility to contribute to the design of services, especially with users that have faced problems using the service in question. In addition to direct problem solving, exchanging information and tips among users and enhancing thus social connections is also a good motivator. The participation in itself can be made entertaining and fun and it may thus motivate the users to participate. Monetary compensation is rarely the key motivation to participate.

Even if user involvement may seem to require extra efforts in service design, customer interaction may actually shorten development cycle and improve the quality of innovations. Successful user involvement, however, requires that the organisation has methods and processes to analyse user data and

to integrate user data in the design process. User input does not directly include service innovations but it includes information on user needs and inspiration that may lead to service innovation. User involvement is especially useful in the early stages of service development processes due to their high uncertainty and low formalisation.

Direct user-designer interaction helps in transferring user feedback and ideas to service innovations. User-designer interaction requires spaces where users and designers can meet, either users coming to designers or vice versa. It may be challenging to change the traditional organisational practices so that there will be room for influential user involvement. Designers' direct interaction with users is beneficial as it seems to change designers' mindset smoothly from technical features to user experience, thus boosting better designs. User experience of the service is improved when users themselves can contribute to developing the service.

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Author(s) Eija Kaasinen, Mari Ainasoja, Elina Vulli, Heli Paavola, Riina Hautala, Pauliina Lehtonen, & Esa Reunanen		
Title User involvement in service innovations		
Abstract <p>The importance of user orientation in innovation activities is nowadays emphasized not only in business life but also in political and societal discussions. In today's competed and changing market situations, one promising way to support market success are innovations originating from the needs of the customers. The traditional division to product-oriented and service-oriented business is blurring as traditional products are equipped with service elements that bring additional value to customers. Service orientation in business changes the connection to the customers: it is not enough to be able to sell the product to the customer once but the service customer has to be kept satisfied every day. Service providers need to know their customers better and to offer them better possibilities to be involved in service development.</p> <p>In this report we present a review of the current state of the art in user involvement in service innovations. The review is based on three different research viewpoints: marketing and business research, human-centred design and media research. In each of these research fields we can see a similar trend of changing the attitude towards users; from passive research object to an active design partner, potential resource and co-producer.</p> <p>The transition from product design to service design requires that design and usage should be more firmly connected – the design does not end when the service is launched but the design continues in use where the users are creating content for the service. The users shape usage practises in actual use and this may indicate needs to refine the service. That is why service providers should have good channels to monitor the users and to listen to their ideas and feedback. In addition to user involvement in the actual design process and during use, users should increasingly be involved also in early innovation phases, in ideating what kinds of services should be designed for them and with them.</p> <p>Different users can give different contributions to service innovation and their motivations and preferred ways to participate vary. Different roles in the innovation process should be available to user groups such as lead users, ordinary users, advanced users, critical users and non-users. User communities are increasingly important sources of innovations, either existing communities or new communities that are grown around the service.</p> <p>Customer interaction may shorten the development cycle and improve the quality of innovations. Successful user involvement, however, requires that the organisation has methods and processes to gather and analyse user data as well as to integrate user data in the design process. User involvement is especially useful in the early stages of service development processes due to their high uncertainty and low formalisation. Direct user-designer interaction helps in transferring user feedback and ideas to service innovations. Designers' direct interaction with users is also beneficial as it seems to change designers' mindset smoothly from technical features to user experience, thus boosting better designs. User experience of the service is improved when users themselves can contribute to developing the service.</p>		
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User involvement in service innovations can shorten development cycles and improve the quality of innovations. This report gives an overview of current state of the art in user involvement in service innovations. The review is based on three different research viewpoints: marketing and business research, human-centred design and media research. In each of these research fields we can see a similar trend of changing the attitude towards users; from passive research object to an active design partner, potential resource and co-producer. The transition from product design to service design requires that design and usage should be more firmly connected. In addition to the actual design process and design in use, users should increasingly be involved also in early innovation phases, in ideating what kinds of services should be designed for them and with them.

The report analyses user involvement in service innovations: who should be involved in the design, what motivates the users to participate and what kinds of roles the users can take in different phases of the innovation process. The report gives an overview of the impacts of user involvement and gives recommendations of user involvement practises.