TAKING ADVANTAGE OF CUSTOMER PARTICIPATION IN THE PROCESS OF DESIGNING COMPUTER-BASED SERVICES

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The present model of providing services has evolved as a result of the use of the IT tools and systems. It is a noticeable trend that the customer participation in the design process is an added value in design of IT systems or the services themselves. It is precisely the customer participation in designing of IT systems that is of crucial importance for meeting the expectations of the end-user. This article presents the ways in which advantage can be taken of the added value created due to the customer participation and how to use this participation in the designing process.

Keywords: service design, services, client participation, IT systems

1. Introduction

We are surrounded by numerous services in the contemporary world. It is just nowadays that more and more services are provided through the electronic channels or based on modern IT systems. We can see examples of such services on a daily basis when we have to use them in order to function properly. In the course of the approximately three last decades it has been observed [4] that the IT projects which were carried out by experienced persons – ended up in a failure. Despite immense expertise of the project managers, the target was not achieved. One of the reasons of failure was, among others, neglecting the aspect that is present in the process of designing services nowadays – namely the customer participation. When it comes to the projects of today, the challenge consists in meeting the

expectations of the customers and the end users of the final services or supplied IT systems. As the research carried out in 2011 [2] proves, it is a contemporary practice to include the customer in the process as an actor who introduces innovations and improves the existing services or processes. The author points out that still a part of the IT sector companies do not take the advantage of the knowledge and the information coming from the end users of a given service. Olszański and Piech [7] maintain that 'Almost every type of product can be converted into a service and an attempt can be made to provide it with the use of the Internet'. This observation serves as the departure point for the author to investigate the subject matter and he will attempt to describe how to take the advantage of the added value brought by the customer.

2. Customer – service provider relationship

According to Sikorski [5], when carrying out the IT projects nowadays it is assumed that the most appropriate starting point of the project aimed at ensuring the highest functional quality is to recognize the final context of the user, and that iterative arriving at best solutions with the participation of the future users is also crucial and that they should participate in a large part of the design process. It is precisely the relationship between the service provider and the end user that has the largest impact on the possible success of the process of designing services based on the IT systems. As Hippel, Ogawa and de Jong maintain [2], it is exactly in the customer-service provider relationship where a new innovation paradigm is created. Due to the introduction of such relationships in the IT projects, we obtain ideas for service providers for innovations in the processes, whereas the cooperation with the client in the scope of design and improvement of services can become a source of inspiration or even provide us with ready prototypes of solutions.

As Figure 1 shows, the customer participation in the relationship with the service provider is a crucial factor. It is precisely the relationship between the user and the person designing a given system or a solution that allows for discovering innovations.

During the first decades of using and carrying out IT projects the view on the known customer-service provider relationship was limited to the Customer Relationship Management (CRM) systems, whereas at present these systems serve to stimulate building of stronger relationships between the producer and the end-user of the system. In the current approach it is crucial to build and maintain a positive relationship between the customer and service provider in any project carried out, regardless of whether it is an IT project or a management project. The cooperation

with the customer during the designing phase may make it possible for us to Carry out the project and achieve its goals. As a result of these positive relationships it will be possible for the projects carried to fully meet the design intentions and, consequently, the services will meet the requirements of the customers or the end-users.
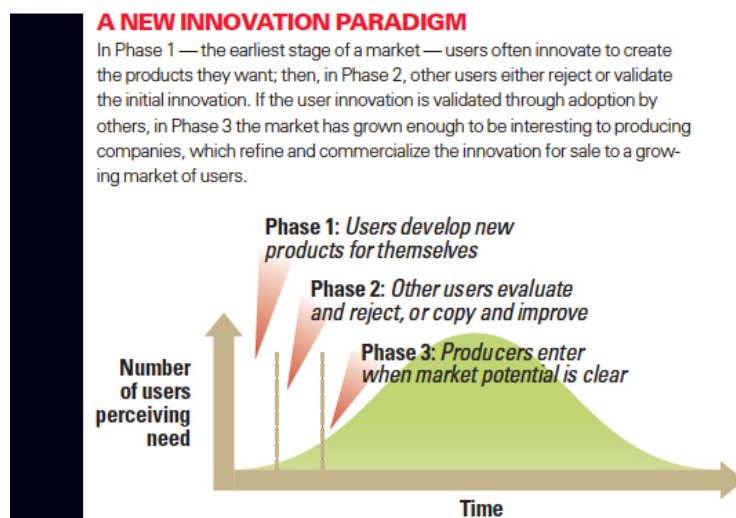

A NEW INNOVATION PARADIGM

In Phase 1 — the earliest stage of a market — users often innovate to create the products they want; then, in Phase 2, other users either reject or validate the initial innovation. If the user innovation is validated through adoption by others, in Phase 3 the market has grown enough to be interesting to producing companies, which refine and commercialize the innovation for sale to a growing market of users.

Phase 1: *Users develop new products for themselves*

Phase 2: *Other users evaluate and reject, or copy and improve*

Phase 3: *Producers enter when market potential is clear*

Number of users perceiving need

Time

Figure 1. A new innovation paradigm. Source: Hippel E., Ogawa S., de Jong J. (2011) The Age of the Consumer-Innovator

3. The significance of customer participation in designing IT systems

It can be currently observed that carrying out IT projects without customer participation is not possible. The managers who endeavour to carry out project without participation of the end-users find out too late – when the project has already turned out to be a failure – that the decisions they made were erroneous. The first study on the subject was presented in 1996 by Damoradan [4], who presented the role of the users of the systems in IT projects as well as the way in which they influence the junior and the senior managers. Beginning with the 80s, the significance of customer participation began to be recognized. Sikorski [4] presents in Table no. 1 the evolution that occurred over the last two decades in user participation in IT projects.

It can be seen in the presented Table no. 1 how quickly the changes in perceiving the role of the end-user in the system or in the application took place, and how the role of the user evolved in the direction of increased customer participation in designing process and project management.

Table 1. The timeline of user participation in IT projects

Years	Design Focus	Design Perspective	Design Paradigm	End-User Role in the System	End-User Role in the Project
1980s	Software technology	Early software engineering	Sequential (waterfall-like) process	None	None
Early 1980s	Functionality	Mature software engineering	Spiral development process	Operation (routine tasks)	Acceptance final testing
Late 1980s	Usability	User interface design	UCD (User-Centred Design)	Operation maintenance	Usability requirements, usability testing
1990s	User Experience	Interaction design	Cross-discipline design	User-consumer	Expressing emotional expectations
Late 1990s	Customer relation-ship	Customer loyalty	E-marketing, agile development	User-consumer	Revealing shopping behaviour
2000s	Value-oriented design	Value for customer lifecycle	Value marketing	Customer	Revealing individual lifestyle habits
Late 2000s	Software apps as services	User-centred services	Service design, service thinking	Value co-creator	Revealing social lifestyle habits
2010s	Digital services in everyday life	Services-oriented architectures and systems	Service co-design	Services co-designer	Cooperation in service design across its lifecycle

4. Customer participation and agile methodologies in IT project management

Numerous IT projects are currently carried out with the use of agile methodologies for project managements such as e.g. SCRUM or Extreme Programming. Agile methodologies are close to design with customer participation. As new methodologies they discover the opportunities that are related to the cooperation with the customer at the level of project implementation. Project implementation within the framework of agile project methodologies is not an easy task. It must be remembered that agile methodologies require large involvement. What is important is that agile methodologies are flexible and can be adjusted. Taking advantage of customer participation can be achieved in a number of ways, however, it is most

important to get the customer involved in carrying out of the project. Especially agile methodologies provide for such a possibility due to their non-formal formula of conducting a project. Koszlajda's written opinions [3] should be remembered here, that it is precisely the agile methodology of the Scrum type that while 'providing a specific and coherent solution to how IT projects should be carried out, they simultaneously leave much freedom so as to the way of implementation in a specific organization'. This flexibility described by Koszlajda (2010) provides great possibilities of using a large number of tools and methods, which will help to get the customer involved and to use his participation with the aim of delivering a service or a product meeting the customer's needs.

5. IT projects and the beginnings of the User-Centred Design approach

The origins of IT projects date back to the 80s when first personal computers were built. As IT technologies developed, numerous systems appeared, which supported activities of large enterprises and organizations. With time these systems became generally available for end-users or other people. Gradually, ergonomics of the designed systems started to be analysed and studied, and attempts were made to develop software and systems using the User-Centred Design (UCD) approach, which is based on cooperation with the user during iterative design process. Before the UCD approach started to be used, the process had been based on ISO 9241-210 norm and the earlier ISO 13407 norm [6]. The UCD approach is focused on ensuring ergonomics and on the user interface - and its purpose is to deliver systems of high usability. The enterprises that deal with design, in order to understand the contemporary end-user of the IT system, must make use his expectations related to the system. Due to the fact that the designers noticed that the iterative design process that uses User-Centred Design approach does not fully meet the expectations of the customers, solutions to this problem started to be sought. The UCD approach is based on the necessity of the user participation, but only during the iterative (spiral) design of the user interface solutions. The current problem consists in the lack of permanent customer involvement in service design process. And what lacks most is collecting information from the customers regarding their expectations towards the designed or improved service. As a result, the UCD project approach evolved into the Service Design approach, which the author of this article would like to present in its subsequent parts.

6. Tools and methods for customer participation in IT w projects

Due to the fact that the customer-service provider relationship evolved over the past decades (as Table no. 1 shows), it incurred the necessity to develop the

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tools and methods, which would support the use of the customer participation in IT project implementation. As Sikorski [4] presents in Table no. 2, numerous methods and tools were developed, which facilitate cooperation with the user in IT projects. Particular attention should be paid to the quantity of tools listed in the last column, i.e. Service Design. It is exactly the Service Design approach which significance increases in the currently conducted IT projects. As Pucher and Nowak describe [1], a dynamic increase can be observed in the application of the Service Design techniques for process design in web and mobile retail trading. Using the tools listed in the Table no. 2 below allows for adjusting the designed services and process so that they meet the expectations of the end-users.

Table 2. Main Methods and tools for user participation in IT projects

Software Engineering	Functionality	Usability	User Experience	CRM	Value	Service Design
- Identifying requirements	- Teamwork on a QFD method: correlating user requirements and technical features	- Context of use analysis - Task analysis - Personas - Prototyping - Usability testing - Surveys, interviews and questionnaires	- User workshops - Focus groups - Observational studies - Verbal protocols - Wizard of Oz - Ethnographic research - Psychometrics	- Analysing customer activities on the Website - Customer profiles - Customer satisfaction surveys - Interviews - Customer lifetime value analysis	- Analysing customer activities on the Website - Value mapping - Value for customer analysis - Service value chain analysis - E-service development analysis - Customer lifecycle maps	- Service blueprints - The Five Whys - Cultural probes - Mobile ethnography - Expectation maps - Service safaris - Service prototyping - Service value co-creation - Business model canvas

Source: [4] Sikorski M. (2014) *Evolution of End User Participation in IT Projects* DOI: 10.4018/978-1-4666-4313-0.ch004

In the above Table no. 1 we can find a number of tools and methods that are used in IT projects. Many of these elements can be used in design of services which are not directly connected to IT technology. It must be remembered to use only those tools and methods that can help us to achieve the intended goal. The analysis of some areas can be made only and exclusively with the end-user.

If we fail to get the customers deeply involved while examining their expectations, we shall not be able to create an ideally suited product or service that we want to sell.

7. Service design not only in IT projects

Methodologies of e-business projects come down to perceiving the created product from the perspective of generally available services. In the case of IT projects we take the customer into account. It is the customer or the end-user of our solution who is the key person in project. The Service Design Approach is a relatively new term, because it uses some of the earlier known methods, which evolved from other design methods [6]. As Sikorski describes (2012), it is in the Service Design methodology that the users under the supervision of the project manager analyze and assess the concepts and solutions created by the designers. The Service Design approach is aimed at involving the customer in such a degree that he formulates the expectations that were not articulated before and which concern the customer-service provider relationship. The SD approach allows to create and mention the values resulting from customer participation in service design. In each designed service we shall find many interactions, which form a specific part of the experience related to the provided service [6].According to Sikorski (2012), Service Design approach completes the 5 existing project perspectives recognized by the customers, which influence shaping of service quality:

- Technical and functional approach,
- Designing interactions and functional quality,
- Designing user experience,
- Customer satisfaction-centred perspective,
- Building of trust and relationship with the customer.

Service Design is the approach, within the framework of which service design with the use of customer participation provides numerous possibilities while the information technology aspect of the venture carried with the use of this approach allows for discovery of many new innovative solutions, which will meet the expectations defined by the customers of the designed service.

8. Conclusion

This article is intended to present the characteristics of service design and of IT systems, which may take the advantage of the priceless information coming from the end-users, that is the recipients of the service or the system. Moreover, a

number of arguments proving the significance of customer participation in the pro-
cess of carrying out an IT project. Many of the mentioned aspects relate not only to
IT projects, but also to process design or the services themselves. As author said as
result of the positive relationships (end-user and service provider) it will be possi-
ble for the projects carried to fully meet the design intentions and, consequently,
the services will meet the requirements of the customers or the end-users.Taking
advantage of customer participation can be achieved in a number of ways, howev-
er, it is most important to get the customer involved in carrying out of the project.
The described methods and tools show that the Service Design approach is needed
and will be used in carrying out of projects. The number of tools created, which
support the process of customer participation in design of traditional services or e-
services is so large that the subject matter described in this article will be continu-
ously developed improved in the implemented IT projects.

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