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THE CUSTOMER - ONLY A SOURCE OF INFORMATION OR CO - PRODUCER?

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Viitorul aparţine organizaţiilor orientate spre client. Cum pot aceste organizaţii să identifice, să anticipeze, să utilizeze eficient nevoile clienţilor lor pentru a crea produse revoluţionare, ce răspund cerinţelor şi aşteptărilor acestora?

Lucrarea de faţă prezintă rezultatul unui studiu cu privire la diferitele modalităţi pe care organizaţiile le folosesc cu scopul de a afla şi utiliza nevoile clienţilor pentru a crea produse noi.

Sunt situaţii când organizaţiile folosesc metode ce presupun simpla cercetare a clienţilor în scopul de a le analiza nevoile, clientul fiind un element pasiv al procesului de dezvoltare al unui produs. Această abordare este utilă în special în cazul nevoilor latente şi deseori conduce la realizarea unor inovaţii radicale.

Noutatea lucrării constă în gradul de implicare al utilizatorului în procesul de proiectare al prototipului unui produs. Sunt cazuri când organizaţiile îşi tratează clienţii ca pe parteneri activi, apelând la metode ce presupun implicarea activă a utilizatorilor în procesul de proiectare a prototipului unui produs, clientul transformându-se în co-producător. În principal, aceste mijloace sunt folosite pentru a culege informaţii atunci când clienţii sunt conştienţi de nevoile lor. Rezultatele utilizării acestor metode se concretizează în inovaţii incrementale ce reprezintă îmbunătăţiri ale produselor existente.

The future belongs to the customer-oriented organizations. How these organizations could understand customer's needs, anticipate them and use them to create innovative products in order to fulfill their needs?

This paper presents the results of a research regarding the manners for the organizations to access the user's needs in order to create novel and useful products. There are cases when organizations use methods which assume only a user needs research in order to gain useful information for developing new products. In these situations the customer is a passive part of product development process. For this reason we call them ***passive user involvement*** *manners. This approach is useful when we deal with latent needs; the customers are not aware of what they need. In most of the cases the results of using these methods are radical innovations.*

The paper originality consists in user's involvement in the product development process. There are cases when organization and the user work as co-producers. In these cases organizations apply what we call ***active user involvement*** *manners because the user has an active role in the product design process. These means are useful when users are aware of their needs; they know very well what they want. The results of using these methods are incremental innovations.*

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1. Introduction

For the moment, the competition between companies becomes more and more intensive and the only possibility to survive on the market is customer oriented politics and innovation. For not making just products to be sold and in order to produce competitive products for the clients, innovations, there is necessary to fully understand consumer's needs and expectations. An organization must be able to identify, anticipate and fulfill its consumer needs, using patterns depending on consumer's needs and also on the innovation type the organization is developing.

The present research is presenting several patterns how the organizations are identifying and satisfying user needs. On the first part of the paper is defined and proposed a user needs classification. Continuing, depending on the user involvement in the prototype making process for the service and product, are briefly presented the main patterns that the companies are using. There are two main method cross divisions: methods that imply *passive user involvement* in creating the product prototype and *active user involvement* in the process. For every described pattern was determined the most fitted innovation, together with the type of need that is satisfied by that. The paper ends with conclusions regarding the implications that classification might have.

2. The customer needs

Questions like what are the human needs have many answers but for the purpose of this study we chose the marketing approach Marketing literature makes a distinction between *needs, desires and wants*. A *need* is a basic human requirement, e.g. air, water, food. The need has originated from both external and internal sources. On one hand, *desires* are related to concrete things that might satisfy a need. They depend on education, culture, religion, occupation etc. On the other hand, *wants* are more related to buying decisions [5, 14]. Many authors used these as synonymous and this paper will do the same.

There are many criteria for need classification but for the purpose of this paper it is enough to classify them as:

- *known and articulated needs (expressed needs)*

This is both an unusual and desirable situation. It is seldom that consumers are able to fully understand their own needs and, at the same time, to communicate them completely and correctly to the researcher.

- *known and unarticulated needs (unexpressed needs)*

Another frequent situation is when users know, more or less, their needs but they cannot transfer the information to those who need it. For such a situation there could be additional reasons:

  - ✓ users do not have enough technological knowledge therefore they cannot express their needs correctly
  - ✓ they are unfamiliar with the technique and its use and thus unable to evaluate the benefits
  - ✓ sometimes users are not prepared to relate their desires to researchers because they fear being considered irrational or they do not want to admit certain types of purchasing reasons
  - ✓ users are highly aware of what they need but they cannot think of a way to satisfy it [7]

- *latent needs (unconscious needs)*

Latent needs refers to what customers really value or the products and services they need, but have never experienced or would never experience or would never think of requesting [11]. Another possibility is for customers to have "difficulties that are so familiar with that they do not experience them as difficulties: they are just the usual way to fulfill the task" [7].

- *future needs*

This kind of needs arise in the future as a natural consequence of technological evolution and human development. For the moment these needs do not even exist.

3. The Customer – A source of information

There are many cases when organizations use methods which assume only a user needs research in order to gain useful information for developing new products. In these situations the customer is a passive part of product development process. Among the methods a company uses for collecting information from the clients, in the paper are presented the emphatic design and usual market research methods.

Empathic design

This is the most useful method for a deeper understanding of latent user needs. Users may have difficulties expressing their needs or they are not really aware of their needs, since these needs are embedded in daily practices.

The concept of *Empathic design* describes some methods used by top engineering/design companies and some forward looking manufacturers for externalizing tacit user knowledge [6, 7]. These methods are based on behavioral observation. The main characteristics are that observations are made in the user's natural environment, over time, by multi-functional teams.

Leonard-Barton [7] refers to three cases which are familiar:

- *"triggers of use"* - in these cases researchers, during observations, can see an unexpected usage of product, with customers using the products improperly. This situation is usually called *"Re-invention"* because sometimes, an innovation can occur from this peculiar usage or from product alteration made by users [13];
- *"interaction with user's environment"*- users have their own routines, their own value systems and when customers act in their habitual environment, they are often unaware of their own system. Researchers can deeply understand customer's system when they are part of their world and interact with the user's environment. In this way a new product can be developed which will better interact with this system;
- *"user customization"*- sometimes, users customize some products which could become their own innovations. Manufacturers can discover such new or improved things only by observation because people do not know the needs which generate such inventiveness.

Due to their efficiency, these methods for importing tacit knowledge about customer needs are more and more used by organizations.

A similar approach was proposed by Clark and Fujimoto [1]. They say that, a way to find out which are "the wishes of prospective customers" is to live in "the customer's natural habit" and focus on how people tend to be peculiar, because they can generate ideas for radical innovative products or service.

Conventional market research methods

This term is used for surveys (personal, telephone and mail surveys), focus group and personal interviews. These methods are based on inquiry, on asking people about their needs.

They are used to find out which are user known needs (expressed and unexpressed) and when researchers are interested in aspects of behavior that are difficult to observe directly (such as thoughts about something). They are most useful when, both the interviewer and the respondent, have a clear idea on the product or service which is the subject of inquiry [7]. But it cannot be used when users have never experienced what someone asks about. These methods are proper when organizations want to make some improvements to current products or services, but it can be used for radical innovations.

There are some important limitations to those methods:

- even if the interviewer tries to imagine all different interpretation of his questions, sometimes customers can find the desired responses
- there are cases when people do not tell the truth because they want to impress or they have some inhibitions about taboo subjects
- these methods rely on a self-report method of data collection; in this way, intentional deception, poor memory, or misunderstanding of the question can all contribute to inaccuracies in the data.

4. The Customer – Co-producer

When consumers are aware of their needs, gathering information concerning their needs might become a partnership between the subjects and the research companies. In that case, the organizations treat the consumer as co-producers using specific methods to actively involve the user in the making process of the prototype for a product.

User Toolkits for Innovation

Today, more than ever, it is important that organizations deeply understand user needs, if they wish to succeed. This process became more difficult to implement and more expensive because often, customers cannot express their needs clearly or they do not know exactly what they want at the start of the design process [16, 17]. Other causes may be that user needs change as they proceed to use a given product [10]. For these reasons, some firms ceased

understanding user needs and they shifted the design process to customers. This became possible with "user toolkits for innovation" [11, 14, 17]. In this way, the iterated process of design by trial-and-error between customer and producer is transferred only to the user and thus it can save money and time.

"User toolkits for innovation" means to offer users the tools (computer simulation, rapid prototyping and many other tools which, obviously, depend on products or services which are developed) in order to design and customize products themselves. In this way, "users can create a preliminary design, simulate or prototype it, evaluate by use in their own environment, and then iteratively improve it until satisfied" [17].

The successful toolkits must satisfy some conditions [17]:

- the toolkits must enable the user to do complete cycles of trial-and error learning;
- the toolkits must offer users a "solution space" containing the design that they want to create (von Hippel defined "solution space" as "the preexisting capability and degrees of freedom built into a given manufacturer's production system");
- the toolkits must be "user friendly" meaning that customers can use their own design language and skill and they should not need additional training for this process;
- the toolkits must contain "libraries of commonly used terms" that users can incorporate into their custom design;
- the toolkits must ensure that, in the end of this process, the custom product designed by the user will be manufactured without any revision made by the producer, otherwise, the purpose of toolkits is lost.

But there are also some limitations in this method:

- sometime, the "savings" on information costs in the product development department achieved by using the toolkit method can be less than costs in consumer support [2];
- the custom products which are created in this way will cost more than mass produced products and customers must have a stronger need for something different to pay the price [14];
- this method mainly leads to incremental innovation, because consumers design their own product and service using a toolkit which was created by analyzing existing customer products;

- users cannot create everything they want because in this process they use the toolkit's libraries which sometime might not have all the information that users wanted and needed.

This method is preferable for those industries with high heterogeneity of user needs and it is useful for expressed and unexpressed known needs, because when customers do not know what they want, they cannot create a new, customized product or service.

There are many examples and empirical analysis which prove this, e.g.: Nestlé's ingredients toolkit, Westwood Studio's software toolkits, Apache security software [18].

User networks/communities

Another source of innovation for companies is user networks [7, 16] and user communities [2, 3]. The main stream of this approach is that participants are engaged in joint problem solving by social construction, collaboration and shared language. It is a common practice in the software industry.

The difference between user networks and user communities is not always very clear. Meanwhile user communities are "networks of interpersonal ties that provide sociability, support, and information, a sense of belonging and social identity" [19]; user networks are simple tools, which sometime could have qualities of user communities.

So, in these cases ideas for innovative products and services are generated outside the organization, as a result of interaction among users. These users can be from different networks and communities. In this way they can bring information and experiences from one situation to another.

Because in such user networks or user communities, people can develop improved or even novel products, the big challenge is how organizations can interact with them.

Lead users

This method is focusing on "lead users" of a product or process, and is recommended for novel products (radical innovation) or for product categories characterized by rapid change [16].

Lead user of a novel or improved product or service, has two characteristics:

- he faces needs that will be general in a marketplace – but faces them months or years before the bulk of that marketplace encounters them;
- he is positioned to benefit significantly by obtaining a solution to those needs.

This method is based on the presumptions that:

- regular users of existing products (the type of user-evaluators customarily chosen in market research) are poorly positioned with regard to the difficult problem-solving tasks. These tasks are associated with assessing unfamiliar product and process needs;
- the existence of some users who develop their own solutions to satisfy their needs.

Lead users method is a four-step process:

- identify an important market or technical trend – the development teams research literature and interview experts; for this many methods are already in use;
- identify lead users who lead that trend in terms of experience and intensity of need and who expect to obtain a relatively high net benefit from solutions to those needs;
- analyze lead users need data; in contrast with typically users, *lead users* may have made some investment in solving the need at issue. Sometimes *lead users* problem-solving activity takes the form of applying existing commercial products or components in ways not anticipated by their manufacturers. Another time, *lead users* may have developed novel products as a response to their need.
- launch lead users data on the general market of interest.

Some examples of lead users are Garry Fisher - the mountain bike lead user (inventor of the mountain bike) and Rob McCool - developer of the web server software that evolved into Apache [18].

5. Conclusions

To succeed, organization must develop both incremental and radical innovation [4, 9]. It is proved that relationship between product innovativeness and new product performance is a U-shaped curve, meaning that only high and low innovative products have a significant positive impact on success [4]. The radical innovation role is to build companies competitive advantage and to

establish their position on marketplace with great potential for future profits. The incremental innovation role is to maintain and reinforce this position [9]. To carry out such innovations, companies need to have an understanding of user needs and also to anticipate their needs. For a deeply understanding of user needs, the best approach for a company is to operate with methods and techniques from both active and passive user involvement methods. In the first instance firms have to apply passive methods to generate ideas for novel products or services, and after that, in product design process to use customers as co-developers. But such approaches are very expensive and the results are not always satisfactory because of industries characteristic features. In this sense, the present study, which has proposed approaches for organization interactions with their customers could be develop. The future study could analyze, for each industry, the adequate way of users interaction for successful innovations.

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