Co-creation of Innovation Using the Potential of Web 2.0 Tools

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Abstract: In the paper there are discussed the opportunities for using Web 2.0 tools as communication solutions and platforms of cooperation with the client in the field of co-creation of innovation. There are presented the changes of the concept in the area of innovation, from closed to open innovation, and particularly the models emphasizing the role of users in creating innovation. There is also discussed the evolution of the solutions of communication with the client with the consideration of Web 2.0. The presented results of the author's own research show the activity of young people as co-creators of on-line innovation, identify the most frequently used channels of communication and, above all, present the evaluation of the application of Web 2.0 tools in the field of cooperation with the client.

Key words: co-creation, innovation co-creation, Web 2.0,

Introduction

The concept of involving customers into the process of creating the innovation gains more and more supporters (Prahalad, Ramaswamy, 2004), (Full, 2010), (Howe, 2008). We observe deep changes in the interaction between the consumer and the company in co-creating not only the innovation but widely understood value co-creating. Prahalad (2004) distinguished four fundamental elements of the process of co-creating: dialogue, access, risk assessment and transparency defined as DART concept. The purpose of the study is to determine which Web 2.0 tools have the biggest influence on customer co-creation innovation process.

In the paper there are presented the changes in the perception of the concept of creating innovation from the model of closed innovation to the latest concepts in the framework of the model of open innovation. Subsequently, there is defined the concept of cooperation with the client and the space of the Internet as the platform of the development of these processes. The aim of the paper is to verify the following hypotheses:

H1: Young clients eagerly get involved in the process of co-creation of on-line innovation and take the role of consultants, innovators and people testing new products and services.

H2: Web 2.0 is the environment favorable for cooperation and co-creation but it is not fully utilized by companies for co-creating innovation with the client.

New paradigms, such as Open Innovation (Chesbrough, 2003) and Web 2.0 (O'Reilly, 2004) promote a more proactive role of customers in the innovation area. Companies should see customers as co-creators of products and hence value. Products should be designed in ways that allow users to design all by themselves, remix, and share.

In literature there are many concepts that shows other most crucial aspects of co-creation and a number of existing methods for involving users, such as:

- Virtual community (Rheingold 2000),
- Crowdsourcing (Howe 2006; Howe 2008; Kozinets et. al., 2008),
- User Co-Creation (Prahalad and Ramaswamy 2003),
- Collective Intelligence (Glenn 2009),
- Open Innovations (Chesbrough 2003; Jelonek 2012),
- User-Driven Innovations (Rosted 2005; De Moor et. al., 2010),
- Consumer Involvement (Muncy and Hunt 1984),
- Lead User (Von Hippel, 2005),
- User Centred Design (Von Hippel, 2005)
- User Created Content (O'Reilly, 1998)
- and others

Information about customer preferences and personalization have always been a key factor for success in any business. Electronic commerce, partially in conjunction with flexible manufacturing, now provides the opportunity to obtain the information necessary for personalization from customers all over the world at low cost and, specifically in the case of digital products, to tailor general-purpose goods or services to the specific needs

of each customer - "mass customization" (Bandulet and Morasch 2005).

The Internet is the environment which is favorable for the development of cooperation with the client. The development of the Internet refers, above all, to new communication solutions used in the relationships - business- customer (B2C), customer – business (C2B), customer – customer (C2C) and business- business (B2B).

The term Web 2.0, as proposed by T. O'Reily (2005), has been adopted in a variety of studies aimed at offering perspectives on the Web developments (Fuchs, 2010), (Song, 2010). With the development of Web 2.0, the role of prosumption and creative behaviors of customers is increasing. Ritzer and Jrgensons (2012) demonstrated that prosumption has become a significant characteristic of Web 2.0. At present, business and application developers are suggesting that there will be a new era of the Web: Web 3.0. This will be defined by a new online environment, which will integrate users' generated data to create new meaning. In contrast to Web 2.0, which is understood as being based on users' participation, Web 3.0 will be based on users' cooperation (Fuchs et al. 2010). Websites built upon Web 2.0 allow users to co-create the contents by enabling them to publish, comment on or evaluate the contents. The main characteristics of Web 2.0 (Kuszyn, 2008) are:
- network effect – joining by new users
- the long tail – increasing the sales of the product
- user contributed value – contribution of users positively influencing the value of the website
- remixability – possibility of integration of other websites and services
- co-creation – co-creating website by users
- decentralization – use of the website or its part by users with no participation of the owner
- emergent systems – administration of parts of the website by users

Co-creating innovation with the client – the organizational aspect

Consumers are considered a valuable source of innovation such as the generation, design, refinement, and testing of ideas and new product concepts. Consumers take on the role of co-creators. Prahalad and Ramaswamy (2004) describe that co-creation is about joint creation of value by the company and the customer. It is not the firm trying to please the customer (Prahalad, Ramaswamy 2004). They wrote also that, co-creation is […] creating an experience environment in which consumers can have active dialogue and co-construct personalized experiences; product may be the same […] but customers can construct different experiences (Prahalad, Ramaswamy 2004). Customer become a new sources of competence, consisting of the knowledge and skills they possess. They are ready to learn, experiment and engage in dialogue with the firm, cooperation, co-creation of innovation.

In the realization of successful co-creation it is proper to take into account two determinants which will positively influence on the process of co-creating innovations with the customer:
1. The recognition of motives of customers who are inclined to co-creating the innovation using Web 2.0 tools.
2. The consider of conceptual model designer –user collaboration

Against the background of many opportunities to maintain the relationship with clients, in the first position, more and more frequently, there are listed social media, in which more and more managers see the target groups of their clients. According to the report (From social…2011) 65% of managers participating in the research perceive social media as the promising source of profit providing that the cooperation activities undertaken by them are compliant with clients' expectations. Unfortunately, as the research showed there are significant gaps between what businesses think consumers care about and what consumers say they want from their social media interactions with companies (see Figure 1). 5 reasons in the assessment of which there occurred the largest discrepancies in both groups of respondents were market with grey color. The respondents, as the two main reasons of their activity on profiles of organizations in social media, listed an opportunity to get discounts (61% of indications) and to make purchases (55% of indications). The same reasons, in the opinion of managers, were found in the last and the second-to-last place of all the 12 specified reasons of the participation in social media.

Consumers' ranking:
The reasons they interact with companies via social sites

Perception gap

Businesses' ranking:
Why they think consumers follow them via social sites

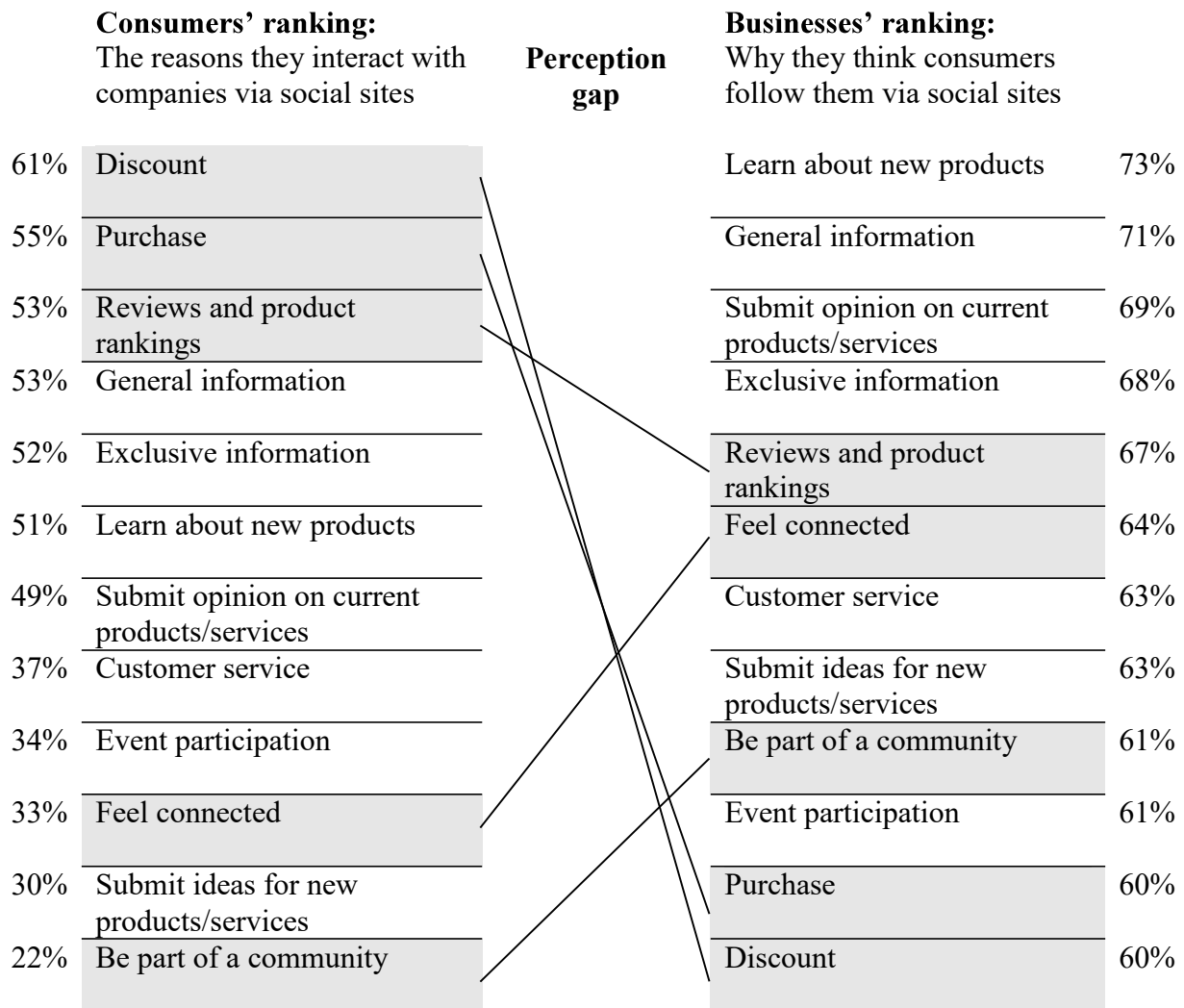| Consumers' ranking		Businesses' ranking	
61%	Discount	Learn about new products	73%
55%	Purchase	General information	71%
53%	Reviews and product rankings	Submit opinion on current products/services	69%
53%	General information	Exclusive information	68%
52%	Exclusive information	Reviews and product rankings	67%
51%	Learn about new products	Feel connected	64%
49%	Submit opinion on current products/services	Customer service	63%
37%	Customer service	Submit ideas for new products/services	63%
34%	Event participation	Be part of a community	61%
33%	Feel connected	Event participation	61%
30%	Submit ideas for new products/services	Purchase	60%
22%	Be part of a community	Discount	60%

Figure 1. The reasons for which it is advisable to maintain the relationship with organizations using social media from the point of view of clients and managers.
Source: *From social media to social CRM. IBM Global Business Services Executive Report*, Copyright IBM Corporation 2011, s.11.

      The effective support for managers, which will allow to minimize the detected discrepancies in the perception of clients' behavior and lack of understanding of their needs, is the information provided by the systems of Customer Relationship Management (CRM) or e-CRM network systems and the latest propositions - social CRM or CRM 2.0.

      Customer - company cooperation requires new effective methods and models of collaboration. Awa and Eze (2010) reviewed methods of customer collaboration and proposed the model designer – user collaboration. Traditional approach displayed the model of "design for customer", proposed model demonstrates an extension of "design with and design by user". The conceptual model designer –user collaboration was presented in Figure 2.
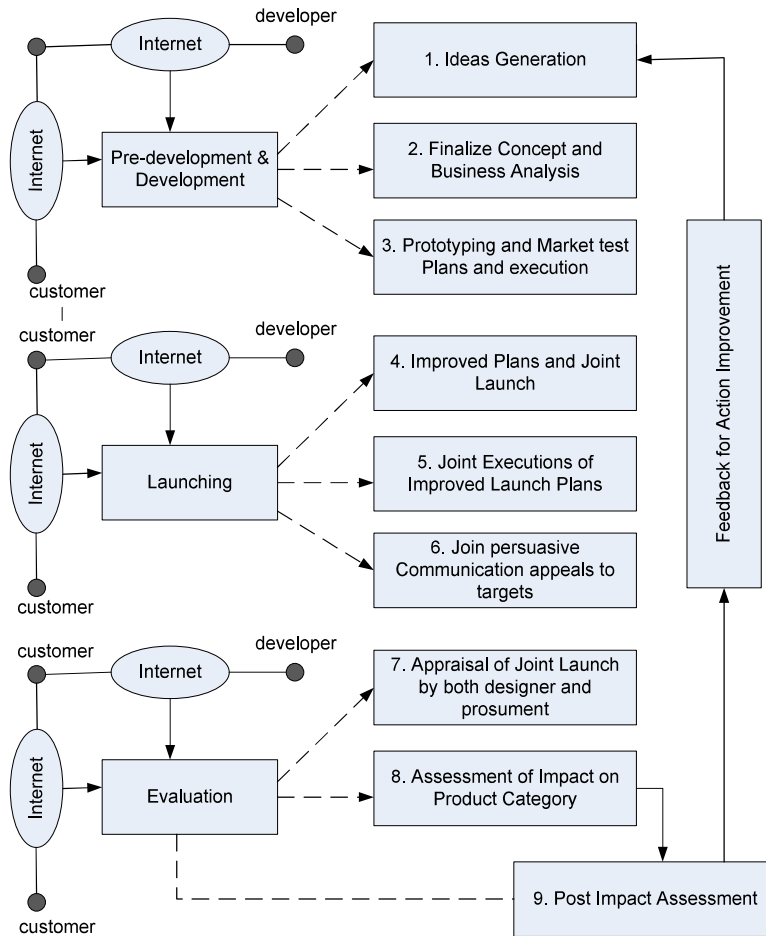
Figure 2. Conceptual model designer –user collaboration
Source: (Awa, Eze 2010)

The model shows four phases: pre-development and development, launching, evaluation, and feedback of customer collaboration. The pre-development and development exercises span such activities as idea generation, concept finalization and business analysis, prototyping and market test plans and execution. Then the generated information are evaluated. The launching phase covers such activities as improved plans and joint launch, joint execution of improved launch plans and joint development of persuasive communication appeals. The evaluation phase involves a joint objective comparison of actual results against ideal standards in order to trace impact discrepancies on product category to a source. Actions are continually reworked from the results of joint evaluation and feedback exercises in order to further the competitive balance of management decision (Awa and Eze, 2010). This model seems very useful for companies witch plan collaborate with customers.

Materials and Method

The survey was conducted in January 2014 on a group of 198 of students of the full-time studies of the Faculty of Management of Czestochowa University of Technology. The study used an electronic form on the website. The form included 18 questions directed towards the achievement of a few research objectives. The purpose of the research was, among others, to identify the behavior of the respondents as clients on the Internet. It has been established that in the group under research, the traditional clients who do not make purchases on the Internet constitute 5%, the clients who occasionally do the shopping on the Internet amount to 40%, e-clients constitute 27% and prosumers - 28% (Jelonek, 2014). On the basis of the research results, it has also been indicated that personalization is an important determinant of the success of activities directed towards cooperation with the client, performed in the space of the Internet (Jelonek 2014).

Moreover, the further research objectives referred to:
Objective 1: Identification of the respondents' activity in the area of innovative actions
Objective 2: Establishing what communication channels are used by the respondents

Objective 3: Evaluation of the extent of use of Web 2.0 tools in the customer – company cooperation
Objective 4: Evaluation of the possibilities of using Web 3.0 tools in the customer – company cooperation
     The results obtained in the course of the research serving the purpose of the achievement of the above objectives are presented in the following part.

Results

     In the research there participated: 124 women (63%) and 73 men (37%). The respondents were aged 23-25. It was established that in the analyzed group 93% of the respondents have free access to the Internet, 5% - the limited access, 1% - very limited access and 1% of those questioned indicated the response "no access". The respondents are characterized by "high" (34%) and "sufficient" (57%) abilities of using the Internet resources and utilizing the available Internet services. Only 6% of those questioned admitted that "they sometimes use the help of others", 2% of the students "often use the help of others" and 2% of the students "cannot use the Internet to make purchases".
     The listing of the responses to the question: "Have you ever taken activities on the Internet, in which you were: a purchaser of products or services, a brand promoter, a client who reveals advantages and disadvantages of a product/service, an innovator submitting an idea, a client testing a new product/service or a consultant?" are presented in Table 1. The responses were given by 55 respondents and it was possible to indicate a few answers.

Table 1. The clients' activities in the area of innovative actions

No	Propositions of the responses to the question: "Have you ever taken activities on the Internet, in which you were:	% of indications
1.	A client submitting an idea of a new product/service, or essential improvement, modification, development of the existing products or services	9%
2.	A client testing a new product or service	52%
3.	A client – consultant	40%
	Total:	100%

Source: The author's own study based on the research results

The students cooperating with companies in the field of broadly understood innovation were asked for the answers to the further questions. Each of 55 respondents were able to indicate a few responses. The listing of the answers to the question "What channels of communication with the company were used by the respondents?" is presented in Table 2.

Table 2. Channels of communication with the company used by the respondents

No	Propositions of the responses to the question "What channels of communication with the company did you use?":	% of indications
1.	Telephone	98%
2.	Text message	86%
3.	e-mail	99%
4.	A form on a website	85%
5.	Blog on a company website	45%
6.	Chat on a website	57%
7.	Video chat and Skype	58%
8.	Social website	62%
9.	Platform of reporting ideas created on a website by the company	4%
10.	Platform of cooperation in a real mode	0%

Source: The author's own study based on the research results

     The respondents' answers to the question concerning what enterprises ought to improve in contacts with clients are presented Table 3.

Table 3. What enterprises ought to improve in contacts with clients

	What requires improvement on the side of companies	%
1.	Social media	32%
2.	Skype	26%
3.	Introduction of virtual assistants, avatars	35%
4.	Better contact via text message and telephone	25%
5.	Multimedia	30%
6.	Better contact with a consultant	26%
7.	Others	3%

Source: The author's own study based on the research results

For clients contacting the company it is important that the range of available communication tools is wide, fully accessible and effective. The most popular ones are traditional channels of contact, e.g. a phone, and from among the traditional Internet communication tools - e-mail. In the first case, communication in a synchronic mode, guaranteeing fast and efficient contact is important to the client. In the other case, the client consciously decides on the choice of the channel of asynchronous communication and accepts the postponement of interaction with the company. From among Web 2.0 tools the respondents use: forms on websites, social websites, video chats and Skype, chat on a website, blog on a company website and, to a small extent, platforms of submitting ideas, created on a website by the company. In the evaluation of effectiveness of communication, relatively high assessment was given to a form on a website. A chat on a website and video chats and Skype were rated low with respect to the "speed" and in the evaluation there was taken into consideration long waiting time and often lack of activity even at the time of designated consultation. Social websites were given low rating of effectiveness and rapidity. Platforms of submitting ideas created on a website or platforms of cooperation in a real mode obtained the highest percentage of indications in the "average" rating since the respondents had their own experience of such cooperation. Thus, there is such low rating of effectiveness of platforms in the aspects – "very comfortable", "very fast" or "very effective".

The research results showed that 92% of the respondents use a lot of communication channels, which means that they utilize at least 6 out of 10 listed communication channels. There are no preferences as for the choice of the communication channel depending on the gender.

The respondents paid attention to the need for combining the contact with consultants with other communication channels when asked about the elements of the contact with the client which need to be improved by enterprises. Clients would also long for more modern methods of contact handling avatars, social media and multimedia.

Discussion

Enterprises, more and more frequently, perceive their client not only in the role of a purchaser but, by establishing cooperation with the client, strengthening the relationship with them, they want the client to appear in the following roles:

- A promoter of products, services or a brand,
- An expert, specialist or consultant,
- A person testing new products and services,
- An innovator.

The results obtained in the research allowed to positively verify the hypothesis that young clients eagerly get involved in the process of co-creation of on-line innovation and take roles of consultants, innovators and people testing new products and services.

Theoretical considerations on the possibilities of Web 2.0 and the results of the survey also confirmed the validity of the hypothesis that Web 2.0 is the environment which is favorable for cooperation and co-creation but which is not fully utilized by companies for co-creating innovation with the client. Clients will eagerly take the role of a consultant or an expert, but in the environment which is a natural and comfortable communication platform to them, which Web 2.0 is.

Summing up, companies treat Web 2.0 and social media more frequently as a tool of casual communication than a tool of long-lasting relationship. In the near future there must be an important change in the perception of social media and their use in the activity of the company since the new generation of employees and, simultaneously, clients enter the labor market. For young people Facebook or Twitter are not only another technological curiosity but a natural channel of exchange of information.

In the research it has also been confirmed that for young clients the appearance of a wide range of communication channels is important because 60% of clients asked a question or submitted a proposal while using one communication channel and in the further communication they searched for solutions utilizing other channels.

Conclusions

The recognition of the motives clients are driven by, while taking other roles than the role of the purchaser of products and services, is of the key importance in creating the basis for the effective cooperation with the client. Another step is the identification of clients' needs not only as for the offer of products and services but also their preferences as for the used tools of communication with the enterprise. While planning the designer - user cooperation, it is advisable to utilize the presented concept model (figure 2) and to develop the communication layer with tools preferred by clients of the company.

The most professional solution in communication with innovation founders are cooperation platforms created on platforms of companies or as independent portals. Well-known platforms include: "Dell Idea Storm" or " My Starbucks idea", and among Polish brands, e.g. "Bank pomysłów" (Bank of Ideas) BZ WBK. Unfortunately, only 4% of the respondents at least once logged in on the platform of submitting ideas and took an activity, e.g. submitting an idea, commenting or voting on the presented ideas.

Companies will need to be more flexible and creative in defining the way they interact with customers. Furthermore, companies will need to become more sophisticated in their open innovation approaches and in a relationship-dominated world, companies will need to focus more on the role of employee engagement in innovation. The winners will be those company who are able to link strategy, innovation, product, customer experience and employee engagement, all in a landscape of shifting sectoral boundaries, new bases of competition and Web 2.0 tools.

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