Innovation through developing consumers communities. Part II: Digitalizing the innovation processes

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Abstract. The current research recognises the concept of innovation as the main driver for organisational growth and profitability. The companies seek to develop new ways to engage consumers and customers into co-creation value through the product design, development and distribution processes. However the main concern is manifested for new and creative ways of customization products based on consumers’ requirements and needs. Thus the need for innovative virtual instruments arose as the demand from social communities for personalised products or services increased. Basically companies should develop own innovative platforms, where consumers can participate, with ideas, concepts or other relevant contributions, and interact with designers or engineers for product development. This paper aims to present the most important features of platform development within BMW Group as a concept and as innovative instrument. From this point of view it is important to enhance past experiences of the company in the field of co-creation projects. There will be highlighted the dual consumers’ character as co-creator and co-evaluator based on their involvement in the proposed and developed projects and platform structure. The significant impact on platform functioning it has the diversity of company’s concerns for Research & Development and innovation activities. From this point of view there will be assessed the platform structure, the main proposed themes and the evaluation process. The main outcome is to highlight the significance of platform development as innovative tool for consumers’ communities’ enhancement. Based on the analysis of “BMW Co-Creation Lab”, there will be revealed the main consumers concerns in terms of safety, comfort and appearance of the products. Thus it is important to understand the evaluation process of gathered ideas and intellectual property policy. The importance of platform development and implementation will be highlighted by company’s results in terms of Research & Development investments and future projects which will be proposed, assessed and implemented by BMW Group in order to show the responsibility for their products and consumers.

1. Introduction

The current research emphasize the need of open innovation as the main driver for organizational growth and profitability. However it is also stated that in order to implement the open innovation outside – in component it is necessary to create a virtual environment for interactions with social communities [1]. This kind of organizational openness resulted as consequence of the switch from traditional supply chain to value network, and is concretized by value creation. Therefore, the evolving value networks seek to engage into collaborative processes in order to gain competitive advantage [1]. From this point of view, co-creation became the basis for consumers’ engagement into
organizational activities and is achieved through exploitation of those interactions [1]. Based on online communication technologies and the need for collaboration, the manufacturers or service providers improved their offerings by including social communities as value creation engine [1]. Although innovation management has major importance as it justifies the need of consumers’ engagement, the main concern is still about the locus of innovation, the integration into the product development process [2], especially at early stage – ideas generation and exploitation [2]. Despite the fact that innovation is a key concept for product development process, its sources are highly assessed in order to create new product. From this point of view, the final users are seen as sources of innovation [3], as they contribute with skills, knowledge, creativity and motivation [2] in the product development. The main interest is concentrated on the mechanism for ideas collection and their exploitation from the producer point of view. Hence the development of virtual instruments and social community’s involvement became an unavoidable condition in terms of innovation implementation and interaction with final users. This user – driven approach requires empowerment and connectedness of customers or consumers with product producers or service providers via virtual platforms, as instrument for ideas collection and generation [4].

2. Social communities’ customization and digitalized interactions
As consumers’ buying power increased, the need for product personalization arose [5]. The integration at the early stages of product development, design and development, of the social communities implies the companies’ adaptation to market trends [5]. Hence there is important to define the consumers’ actions in order to understand the level of product’ customization [6], which is comprised from:

Consumers’ data evaluation – collecting data from different indirect channels, such as sales, reports, internet logging data,
Consumers’ response – observe and ask the consumers directly: surveys, interviews, focus group,
Create with consumers – consumers’ involvement into product creation by introducing specific developed tools [6].

From this point of view, companies adopt a platform thinking approach based on the main interests: differentiation, relations and efficiency of the products, which represents the engine of value co-creation and communities’ customization [7]. However, Piller considered that a social community’s customization is successful only when in covers all necessary information and provide an efficient communication between those who are involved [7]. The degree of covered information and efficient communication between manufacturers or producers and their final users is covered by platforms’ implementation, which represents an important instrument for customization distribution, implicitly reflects the degree of interaction digitalization [7].

3. Case Study: BMW platform and implications
3.1. Co – Creation with stakeholders
According to the BMW Group vision and philosophy the product innovation should involve first of all customers’ engagement. However, the company’s previous experience is relevant for platform development research. As the group’s vision is to provide innovative and connected solutions, the main concern is related to product development at early stages, consolidated afterwards through collaboration between the departments [8]. From this point of view the group implemented Virtual Innovation Agency, which represents an interface for ideas or concepts collection related to different problems solving solutions or other relevant design aspects in order to ensure The BMW Group’s leadership in automotive industry worldwide [4, 8]. Previous experience in co – creation innovation and stakeholders’ engagement is concertized through several successful projects delivered on “BMW Co – Creation Lab”, as it is shown in table 1.

The “BMW Co – Creation Lab” is designed for car owners or other customers with special attention for automotive industry, who jointly with the group’s experts participate in co – creation activities through assessments, commentaries and suggestions [15]. The main subjects addressed, but
not limited to engineering, electronics, performance and motorsport, design and life style, marketing and sales [15]

### Table 1. Previous developed projects on “BMW Co-Creation Lab”.

| Projects                          | Type                   | Objective                                      | Key aspects                                      |
|-----------------------------------|------------------------|------------------------------------------------|-------------------------------------------------|
| Interior Design Contest [9]       | Ideas contest          | Functionality, design and experience           | Vehicle interior design                          |
|                                   |                        |                                                | Creative ideas for vehicle personalization      |
| Mobility Services [10]            | Ideas contest and      | Urban mobility services and solutions          | General mobility                                 |
|                                   | discussion forum       |                                                | Electric vehicles                                 |
| Customer innovation Lab [11]      | Co-creation lab        | Electric and electronics, life style and        | Online services                                  |
|                                   |                        | accessories, sales and marketing               | Future driver’s assistance systems              |
| BMW on internet [12]              | Workshop               | Accessories and life style, internal and external design | Virtual configuration of BMW products           |
| CleanEnergy Community motoring [13]| Discussion forum      | Sustainable energy and BMW Hydrogen 7 in virtual communities | BMW Hydrogen 7 technology                       |
| BMW Idea Lab [14]                 | Event                  | Product innovation process                     | Renewable and sustainable energy use            |
|                                   |                        |                                                | Use of multimedia virtual instrument            |
|                                   |                        |                                                | Performance and engineering                      |

3.2. “BMW Co – Creation Lab”: digitalized innovation

As it was previously stated, the digitalized innovation requires the creation of a virtual interface in order to ensure efficient communication and interaction between the social communities and producers. From this point of view, the BMW Group implemented “BMW Co – Creation Lab” as a virtual meeting environment, where the participants get to propose, assess and discuss major subjects related to product innovation [15].

The instrument’s affiliation to the BMW Group can be traced through brand’s identification, the BMW logo, comprised from Bavarian colors – white and blue. The importance of brand visualization is reflected by the fact that it represents an essential design element [16].

The platform is structured as virtual community, where potential co-creators can participate at a various developed projects by BMW Group’s experts. The access to the platform is granted based on individual registration virtual form. The potential co-creators should fill special registration form with [17]:

- **Account information** – e-mail address, user name and password
- **Personal information** – age, occupation, educational qualification, industry, family status, country
- **Survey** – motivation for involvement into “BMW Co – Creation Lab” activities
- **Vehicle Information** – car type and specification [17].

The access to the platform is granted based on account validation, which represents a direct link to the participant’s e-mail address and comprises also information about the latest developed projects. The participants have the opportunity to explore the virtual world of co-creation and to meet all the contributors at “Co - Creators” section [18]. This section comprises also statistical data concerning the type of vehicles that other co-creators possess [18]. The co-creators listing is represented by a 3D sphere, comprised from other contributors accounts [18].

The access to the specific project is realized by pressing the “Participate at this project!” button. However it will redirect the participant to the Terms of Use and Data Protection page, where at the bottom it can be found the direct link to the project website “Proceed to the project website” [19].
The visibility of the platform is ensured by the possibility of sharing the contest information through social networks, such as Facebook or Twitter, as well as mailing option, through Gmail, Hotmail and others, and images networks, Pinterest, Instagram and other.

3.3. Data collection and analysis
The ideas submitted to the “Co – Creation Lab” are assessed and reviewed by the BMW Group’s experts in order to discover the current trends, ideas and needs according to the topics of the proposed and developed project [20]. After the first review, the most appealing and applicable ideas will be presented to the experts non – member to the BMW Group in an anonymous way, such as discussion forums (figure 1). The Intellectual Property policy ensures the personal data protection for each participant of “BMW Co- Creation Lab” [20].

![Diagram](image)

**Figure 1.** Data collection and analysis process in “BMW Co – Creation Lab” [20].

3.4. Company’ results and future projects
The main objective of platform implementation is to explore social communities’ ideas and needs in order to create sustainable and innovative products. According to BMW Group’s vision the platform use facilitates the interactions between the company and the potential consumers, the implementation of ideas in product development process at concept and design levels. From this point of view, the success of co – creation activities is concretized by major financial results derived from the use of new technologies and innovation [21]. The Research and Development activities are reflected by new models launching and increased number of innovative products which ensured the group’s future through increasing investment into research and development.

In future, The BMW Group seeks to respect their commitment for innovative and sustainable manufacturing. There is still present the company’s concern for lightweight construction, innovative design and connected drive vision, which are pillars of their 2020 strategy [22]. Sustainable mobility represents an important energy management issue in terms of efficient dynamics [23]. The use of renewable energies and alternative fuels, BMW Hydrogen 7 project, as well as led technologies represents the major interest in innovative product development process [24].

4. Conclusions
Open innovation as well as co – creation with social communities expands the companies’ horizons in terms of product development and innovation implementation. However, each economic entity organizes its own activities according to their main strategies.

Nowadays, the reflection of innovation implementation is supported by platform development activities. Based on the case study in BMW Group it can be seen that innovative products require innovative ideas, gathered in a systematic and creative ways, and assessment of consumers’ needs based on their own developed solutions.

The created virtual instruments became well known for the interactive projects development, which are implemented in products ‘design, engineering or services. From this point of view, The BMW Group perceive to identify not only innovative ideas, but also to create the new meanings for life style
"Connected Drive" reflects the combination of innovative engineering solutions, creative design and drivers’ experience.

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