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Personification of the service based on the Concept “Internet of things”

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Abstract. The article considers the need to provide personification of Internet interaction with consumers in the conditions of the digital economy. This involves the creating an effective system of communication between the company and its target audience, taking into account the individual characteristics of consumer behavior and customer activity in social media. On this basis, the authors make a number of proposals in the context of using the possibilities of the Internet technologies. There are specified sequence of actions for the organization of personalized interaction with consumers and developed algorithm of managerial impact in the process of implementation of instruments provided by the Concept “Internet of things”.

1. Introduction

In the conditions of the continuing process of globalization and development of the information society, it is necessary to search for new opportunities to meet the individual needs of consumers through the introduction of innovative methods and technologies adequate the priorities of the digital economy.

Determining the perspective areas of work with real and potential consumers of goods and services, it is necessary to take into account the trends that modern scientific and technological progress brings, primarily in the field of Internet technologies. It should be recognized that traditional methods of promotion today don't attract consumers as it was 10–15 years ago [1]. Against the background of the ongoing changes, direct interaction with customers by means of the use of modern digital technologies should be considered the most promising [2]. The tools developing within the Concept “Internet of things” are becoming more popular. They allow companies to establish direct, personalized contact with representatives of their target audience. The ability to communicate and receive feedback in real time provides an increasingly high level of customization of the service [3–6].

At the same time, the competitive economic entities, seeking to increase their market shares, don't always effectively use their potential due to misconceptions about the factors of personification and underestimation of the possibilities of the Concept “Internet of things”. The implementation of technologies within the framework of this concept is often associated with difficulties and contradictions. The most obvious of them are explained by the fact that business entities often use averaged data on market segments, losing the individual characteristics and needs of consumers. In addition, in the modern world people feel information overload because of the continuous impact of digital technologies and social media, through which sellers actively and aggressively are introduced into the lives of ordinary citizens [7, 8].



This requires the management of modern enterprises to focus on introduction of new digital technologies for automation, predictive technical and economic support and extensive use of mobile devices for personalized service.

Despite the numerous studies on the issues of digitalization and customization of business, today not all of the problems existing in this area have been solved [9–11], which determines the relevance of this study.

The aim of the study is to analyze the possibilities of digital technologies for substantiation of the modern approaches to the management of personalized service within the Concept “Internet of things”.

In accordance with determined aim, the following research objectives can be presented:

Identifying the basics of personalized interaction with consumers;

Justification the necessity of customizing the product offer;

Determination the main directions of communication based the opportunities of the “Internet of things” technology.

2. Materials and methods

Application of tools and technologies operating on the basis of flexible, dynamic pricing and online personalization creates a history of interaction with a particular user. This allows companies to analyze information and form a relevant, unique price for a particular service in which an individual potential client is interested. It is possible to take into account the current market prices, regional characteristics, as well as the level of activity of the client for a certain period of time, with the help of analytical algorithms [12].

The desire of people to socialization and their activity in social media create new methods of influence on their consumer behavior and new competitive advantages of the company. This is possible only on the basis of a strategic approach to the consumer impact management. It should be based on Internet and digital technologies and ongoing monitoring, focused on achieving results. Potential consumers can express in social media their attitude to a particular product or service on their pages, acting as critics who undermine the audience's trust in a particular company or, on the contrary, as brand ambassadors who widely recommend determined services [13].

Within the framework of promotion in social media such tasks as organizing two-way feedback and increasing the level of brand loyalty could be solved. It helps to manage the reputation of the brand and the company as a whole on the basis of forming a positive image, working with customer reviews, monitoring references on the Internet, and, if necessary, neutralizing the “black PR” [14].

The use of Internet technologies makes it possible to attract the target audience to the company's website by occupying high positions in search engines, ensuring high conversion of the site and continuous improvement of the content. These measures contribute to brand awareness and create conditions for effective online communication with consumers.

The authors offer clarification the sequence of managerial actions in the process of organizing of personalized interaction with consumers. It could be represented as follows:

- a) creating a portrait of a potential consumer;
- b) building a model of interaction with a potential consumer;
- c) making forecast of target audience coverage;
- d) developing a plan of target audience exposure using the Internet capabilities;
- e) detailed elaboration of this plan based on the personalized approach.

The clarification affects the last component of this list. It should be considered as a new tool that provides more efficient work with consumers, compared with the commonly used tools. The position of authors involves the active use of the emotional and psychological background of the communication process, which indicates an interdisciplinary approach to the study of this problem.

As part of this, it is proposed to actively use the emotional mapping technique, which makes it possible to capture and evaluate all the nuances of interaction with consumers from the standpoint of their emotions, evaluations, and perception features.

As we know, emotions are formed by consumers at all stages – from the initial call to the company or visiting its website to making a decision about purchase. Managing this process forms a positive emotional response of consumers and establishes a stable emotional connection with them in a future. It facilitates repeated appeals of customers, transferring them to the category of permanent clients, ready to generously share their responses and positive recommendations in social media [15].

First of all, we should talk about working with the target audience. For the consumer, the choosing a product/service is a complex process including a lot of functional and emotional requirements. These are formed under the influence of different habits, experience, memories, conscious and unconscious motives of behavior. In this regard, it is difficult to offer the best tool that will be equally suitable for each client. At the same time, the practical experience indicates that using big data and consideration the desire of people to share their personal data online in exchange for certain preferences allow companies to create new effective communication schemes. It could be provided by the integration the data management platform into the mechanism of work with clients. It helps to attract customers even at the stage of manifestation of their initial interest to the separate product/service for focused impact on the target audience.

An effective tool in this case will be the use of customized content. The key resource for this is social networks. Various manifestations of activity of consumers in social media provide an opportunity to observe their behavior in the natural environment. On this basis, companies could form the content that is relevant for this target audience [16]. Forming customized content is not limited to the division of potential customers by age, gender and income level. We are talking about a more fine-tuning, taking into account the lifestyle of consumers, their basic values, circle of friends, fashion preferences, degree of mobility, etc.

A high degree of customization and personification of the offer can be achieved through the “Internet of things” technology. As is known, within the framework of this concept, a network of physical objects containing built-in technology is being formed. These objects can change the parameters of their own state or the state of the environment, using and transmitting digital information. This is happening now in all countries of the world, and the difference could only be in the speed of the flow of such processes [17, 18]. According to the forecasts of BI Intelligence research Agency, more than 24 billion devices are expected to be connected to the Internet by 2020. As soon as this figure is reached, the amount of necessary investment in the development of applications, improvement of hard drive devices, system integration, data archiving, and security will be \$ 6 billion. At the same time, the expected revenue by 2025 will be \$ 13 trillion [19].

The capabilities of the “Internet of things” technology allow companies to develop and improve communication with consumers on the basis of such services as geolocation and geotargeting, online registration, selection of offer options and its adaptation to individual views and requirements [20]. Today, thousands of companies around the world carry out commercial activities with the active use of this technology. This allows them to provide automation of production processes, replace routine procedures with the operation of smart systems, reduce personnel costs and energy consumption, introduce innovative resource saving technics, etc.

Predictive settings help companies to anticipate possible technical problems and provide technical support based on the exchange of data between various integrated devices. For this purpose, modern learning algorithms are used. They provide the identifying the type of equipment connected to the network and out of service, as well as supporting the necessary level of software availability for the user.

In order to obtain the best result from the use of all the technological capabilities that the “Internet of things” technology provides, an appropriate plan of managerial impact should be developed. We consider it possible to propose an enlarged algorithm of such work, consisting of the following steps:

1. Searching for ideas and technological solutions that improve the level of customer satisfaction and minimize the production and transport expenses of the manufacturer (seller).
2. Selection of specific instruments of the “Internet of things” set, taking into account the restrictions on the costs of their implementation and maintenance.

3. Determination the stages of implementation these instruments: content, scope of work, costs and schedule.

4. Development the scheme of implementation with participation of specialists in information technologies, managers and involved consultants.

5. Ensuring the safety of selected instruments for consumers.

6. Implementation these instruments.

8. Control and evaluation of the effectiveness of the application of the “Internet of things” instruments.

7. Determination the composition of the real and potential competitive advantages of the company formed by the implementation of instruments providing by the Concept “Internet of things”.

It should be emphasized that the implementation of all directions within the Concept “Internet of things” involves the international integration of companies and their mutually beneficial cooperation in line with the requirements of the market. This is fully consistent with the key guidelines for the formation of the digital economy in the modern conditions of globalization.

3. Results and discussion

As a result of the analysis of the place of the Concept “Internet of things” in the development of personalized service, we can conclude that this technology should be considered as an additional tool to increase the loyalty of existing customers, create a positive reputation of the company and attract new customers. The rapid development of the “Internet of Things” technology will lead in the near future to a reformatting of the market. It will provide the competitive advantages for those players who are interested in a high quality of goods and services and development of personalized customer service.

According to Forbes, investments in the world market of the “Internet of things” will amount to \$14.4 trillion by 2022. Most of these expenses, along with improving the quality of customer service, will make investments in reducing the volume of operating costs (up to \$5.0 trillion) and improving staff efficiency [21].

The wide implementation of “Internet of things” technology supposes the modernization of used mechanisms and tools. Radical restructuring of all management functions and development new approaches to interaction with consumers should be based on the close integration of human efforts, equipment and software. Increasing requirements to skills of managerial and line staff expand the arsenal of applied methods of management including socio-psychological methods.

Conclusions

Based on the results of the analysis and the developed proposals that clarify the directions, sequence and algorithm of managerial influence in the framework of personification of service, the authors draw the following conclusions:

1. In the modern conditions, on the basis of an unlimited amount of information companies should develop personalized offers for customers. It allows attracting the target audience and creates foundations for effective communication with both real and potential consumers.

2. The need to use customized content is determined by the importance of forming a highly relevant address to individual representatives of the target audience. This is achieved through the opportunities of digital technologies and their integration into the “Internet of things” system.

3. Communication with consumers on the basis of the “Internet of things” technology is a modern direction of the digital economy, which has a great potential of ensuring the effective development of companies and gaining advantages of the whole society.

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