

Digital transformation of trade: problems and prospects of marketing activities

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Abstract. The article analyzes the basic concepts that characterize the problems of digital transformation of economy; identifies the main directions of the transformation of trade in the digital economy, characterized by increased competition, dramatically increased opportunities for collecting and processing data using artificial intelligence, changing consumer behavior in the digital environment. The key problems of the development of trade enterprises are formulated: improvement of digital methods for collecting, processing, analyzing marketing information; organization of interaction with consumers in the digital environment; automation of planning and implementation of marketing activities. Directions of improving the marketing activities of a commercial enterprise stipulated by the digital transformation are specified: in the development of product policy it is the emergence of fundamentally new 'smart' goods and services; modernization of traditional goods, aimed at implementing the functions of interaction in the digital environment at the level of goods-goods, goods-external environment, goods-people; formation of new markets for devices, equipment, systems of interaction of various objects; in the development of pricing policy, it is taking into account both the possibility of a 'skimming' strategy when introducing a product with new characteristics to the market, and a rapid price drop; accounting for the emergence of a large number of services, price comparison for goods and services, systems of interaction with the buyer in real time, offering goods and services in a given place at a given time and at the best prices; when developing a promotion strategy taking into account the factor of interaction in cyberspace.

1. Introduction

In the face of tougher competition, digital transformation is becoming one of the key areas of trade innovation. Digital technologies make it possible to achieve sales growth, reduce costs, cover global markets, quickly meet customer needs through direct contacts and constant interaction with participants in the sales process.

The success strategies should be based on the analysis of the main trends in the development of digital economy, retail trade, the experience of companies that are industry leaders, and the choice of effective business development tools on this basis.



The purpose of the article is to determine the main directions of the transformation of trade in the digital economy. To achieve this goal, the following tasks had to be completed:

- analysis of the basic concepts of digital transformation of trade;
- formulation of the key problems of the development of trade enterprises in the field of digital transformation;
- outline of promising areas of innovative improvement of marketing activities.

2. Analysis of basic concepts of digital trade transformation

Let us consider the basic concepts that characterize the problems of digital transformation of trade.

According to [1], digital economy is an economic activity, the key factor in the production of which is data in digital form. It contributes to the formation of the information space, taking into account the needs of citizens and society in obtaining high quality and reliable information, the development of information infrastructure, the creation of a new technological basis of the social and economic sphere.

The basis of the digital economy is the big data; artificial intelligence (AI); Internet of things, robotics; mobile technology; technologies of virtual and augmented reality, etc. [2].

Digital transformation of trade is viewed as a process of transforming the activities of enterprises through the introduction and use of methods and forms of management based on digital technologies. At the same time, there are changes in the style of management of trade enterprises, thinking, encouraging innovation, and the adoption of digital business models and technologies provides improved interaction between customers, suppliers, partners and employees of the organization.

3. Main areas of digital trade transformation

The fundamental changes in consumer behavior lie at the heart of the digital transformation of trade.

According to Russian Public Opinion Research Centre (VCIOM) currently 81% of Russian citizens use the Internet [3]. The share of users using broadband Internet access is growing. In 2016 it was 18.77%. At the same time, there were 159.95 mobile phones per 100 people. Due to this, 71.29% used mobile access to the Internet.

In order to assess the impact of digital technologies, let us compare the dynamics of retail and online trade in the past five years (figure 1).

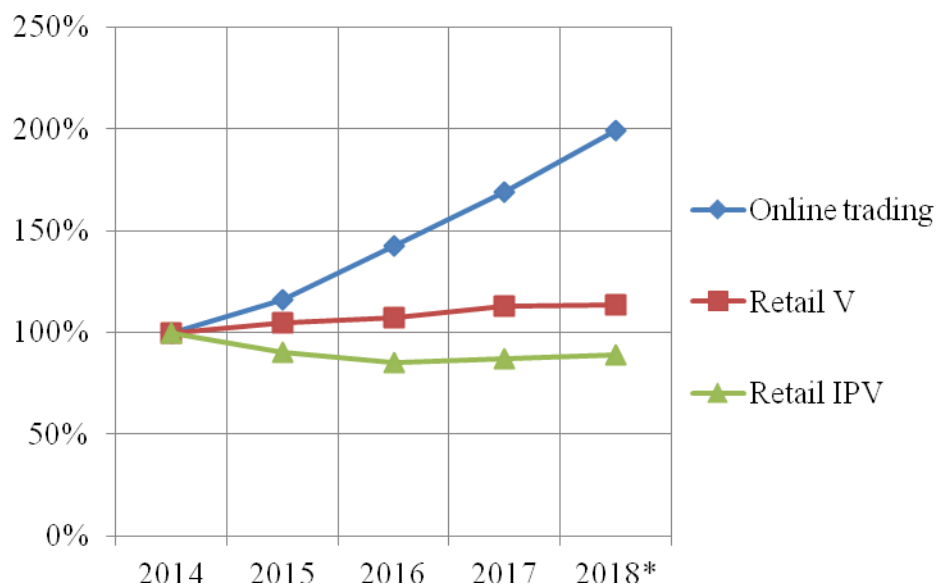


Figure 1. Comparison of dynamics of retail and online trading.

According to Rosstat (Federal State Statistics Service), the retail trade turnover (Retail V) has shown a slight increase in recent years. At the same time, the indices of the physical volume of retail trade turnover (Retail IPV) show that it decreased by 10% in 2015 in relation to 2014, and by 5% in 2016 — in relation to 2015. At the end of 2017, it amounted to 29.8 trillion rubles, which is 1.2% more than in 2016. According to analysts, in 2018 retail turnover will show growth at the level of 2017 [4].

The turnover of the Internet trade over these years shows a steady growth: in 2015 by 16%, in 2016 by 23%, in 2017 by 18%. It is expected that the growth will be 18% in 2018 [5]. According to the Association of Internet Trade Companies (AITC), the turnover of online trading reached 1.04 trillion rubles in 2017 [5], and the electronic trading in goods and services made up 36% of the country's digital economy [6].

The analysis of indicators of 100 largest online stores shows that the majority of stores increased in terms of both revenue and the number of orders by more than 33% in 2017.

WILDBERRIES.RU showed a significant increase in online sales by 40%, CITILINK.RU by 35%, DNS-SHOP.RU by 61%, MVIDEO.RU by 41%, OZON.RU by 44%, SVYAZNOY.RU by 35%, etc. [7].

For orders in online stores, mobile devices are widely used. Therefore, the share of orders from a smart phone or tablet via a website or a mobile application was 34.6%, from a laptop — 32.4%, from a PC — 30.2%. The share of voice orders over the phone is only 2.8% [8].

These data show that there is a significant increase of sales in online stores with an extremely low growth in retail sales.

Shopping is increasingly being done in digital environment with the use of innovative technologies. Interaction via the Internet, mobile communication using or controlled by digital systems replaces personal contacts, which creates new prospects and problems in the activities of trade enterprises [9].

Let us consider some of the trends in retail transformation.

1. The trade enterprises seek not only to intensify the online sales under conditions of tough competition, but also to develop new models of customer relations: use different sales channels, sales and exhibition halls, create modern service packages that a client cannot receive on the Internet.

The innovative examples of combining digital and traditional methods of interaction with customers are demonstrated by new Nike and Ulta Beauty stores, where a significant growth in total and online sales is provided by combining excellent shopping with a wide range of products and brands, related services, and online interaction capabilities [10].

2. The artificial intelligence is being rapidly developed. More and more companies are using it to develop retail and e-commerce. It is assumed that 85% of customer interaction will be carried out without human intervention by 2020.

The machine learning algorithms that are integrated into the platform of analytics and customer relationship management (CRM) are being actively implemented. They help identify and immediately use information on how to serve customers better [11].

Another direction implies the chatbots hosted on websites for immediate customer service. They are used to manage customer service requests and make reasonable purchase recommendations. For example, a Taco Bell chatbot can maintain a conversation with a customer. Knowing the customer's preferences, their location, it can help place an order for delivery of products to the door.

3. Digital technologies have placed the buyers into a center for information processes. The brands that can offer personalization, instant satisfaction of needs, availability of goods at any time and in any place will win in this competition.

The above trends in the transformation of retail trade in relation to the tasks of marketing services also lead us to the unequivocal conclusion that the theoretical aspects of transformation of the process of marketing management in the digital economy have not been studied enough.

4. Main directions of transformation of marketing activities in the field of trade

We believe that the tasks of organizing the interaction of market entities in the digital environment, studying the impact of digital transformation processes on marketing activities, and creating innovative marketing tools remain relevant.

In [12] the authors identify the following main directions of transformation of marketing activities in the field of trade: the improvement of digital methods for collecting, processing, analyzing marketing information; organization of interaction with consumers in the digital environment; automation of planning and implementation of marketing activities.

However, the development of digital technology makes this division conditional. The integration of digital technologies, such as the Internet, mobile communications, Big Data, artificial intelligence, augmented and virtual reality, the Internet of things, allows combining these areas as part of a unified digital platform for organizing and managing marketing activities of a trading company [13].

As a result, marketers have a number of effective tools that enable them to quickly answer fundamental questions about consumers — what the buyers buy, when they buy, how they buy and where they buy. At the same time, multichannel communication between the company and the consumer is used.

Let us dwell on some of the areas that should be taken into account when forming the marketing strategies of digital transformation. The marketing strategy should take into account that buyers, suppliers, products now interact with each other at the fundamentally different level not in the point of sale, but in cyberspace.

When developing a product policy, one should pay attention to such innovative areas as the emergence of fundamentally new ‘smart’ goods and services; modernization of traditional goods, aimed at implementing the functions of interaction in digital environment at the level of goods-goods, goods-external environment, goods-people; the formation of new markets for devices, equipment, systems of interaction of various objects.

The pricing policy should take into account both the possibility of a ‘skimming’ strategy when introducing a product with new characteristics to the market, as well as a rapid price drop as a result of creating analogs of a successful product by competitors.

It is necessary to take into account the emergence of a large number of services for comparing the prices of goods and services, systems of interaction with the buyer in real time, offering goods and services in a given place at a given time and at the best prices.

The promotion in cyberspace will be based on the understanding of consumer behavior, patterns of his purchases. Marketers will be able to interact with the consumer in real time and personalize customer behavior in the store.

It is predicted that there will be 75 billion connected devices worldwide by 2020 that will generate unprecedented amounts of data on each customer interaction [14]. This will allow marketers to explore the intentions of consumers, their behavior, needs and desires, creating context-sensitive marketing messages delivered at the most convenient place and time.

Instant customer analysis technologies will enable management systems responsible for customer relationship to collect and analyze customer data helping to understand the process of making a purchase. Marketers will have information to improve the quality of customer service.

Marketers will be able to predict the development of social communities. By targeting these communities, they will be able to attract potential buyers who were previously unavailable.

As a result, digital technologies will provide multi-channel communication between the trading enterprise and the customer through loyalty programs.

5. Findings

1. A comparison of the dynamics of retail and online retail turnover shows that there has been a dynamic development of online stores in recent years.

2. Digital technologies have made the buyers to be a center for information processes. They can quickly receive and process information, find products or services, easily compare incoming offers in real time. At the same time, the tasks of organizing the interaction of market entities in the digital environment, the study of the impact of digital transformation processes on the marketing activities of trade enterprises, and the creation of innovative marketing tools in the trade sector remain relevant.

3. The marketing strategy should take into account that buyers, suppliers, products interact with each other in cyberspace at a fundamentally different level, based on processing huge amounts of data using AI methods that transform the marketing strategy of an enterprise.

4. One of the key problems under the conditions of rapidly proceeding digital transformation of bidding is lagging behind of the methodological basis of marketing activities. The computer systems are evolving faster than understanding of the changes and the development of marketing concepts.

References

- [1] Digital Economy of the Russian Federation, <http://static.government.ru/media/files/9gFM4FHj4PsB79I5v7yLVuPgu4bvR7M0.pdf>
- [2] Bagiyev G L 2013 *Problems Of The Modern Economy* **3** (47) 258–60
- [3] Internet Space: for Work or Entertainment? Survey Data, <https://wciom.ru/index.php?id=236&uid=9322>
- [4] Retail Turnover in 2018 Will be Comparable to the Last Year's, <https://www.retail-loyalty.org/news/oborot-roznichnoy-torgovli-v-2018-ozhidayut-sopostavimym-s-proshlogodnim>
- [5] Trade in Russia — 2017, <https://nangs.org/analytics/rosstat-torgovlya-v-rossii-s-prilozheniyami-onlajn-pdf-rar>
- [6] Online Trading in Russia 2018 Figures and Facts, <http://datainsight.ru/sites/default/files/DI-RIF2018.pdf>
- [7] The Turnover of the Russian Internet Trade Exceeded One Trillion Rubles, <https://www.vedomosti.ru/business/articles/2018/04/04/755812-internet-torgovli-trillion>
- [8] Bakharev I 2017 The Market for Online Commerce in 2017, <https://e-pepper.ru/news/rynok-internet-torgovli-v-2017-godu-dannye-akit.html>
- [9] Top 100 Online Stores, <http://datainsight.ru/top100>
- [10] Krasnyuk I A, Bakharev V V, Kozlova N A and Mirzoeva D D 2017 *Proc. of 2017 IEEE 6th Forum Strategic Partnership of Universities and Enterprises of Hi-Tech Branches* 52–54
- [11] Yanenko M B and Yanenko M E 2015 *Conceptual Foundations for The Formation of Innovative Marketing Strategies* (Saint Petersburg: Publishing House of Saint-Petersburg State University of Economics) 179
- [12] Bagiyev G L, Yanenko M B and Yanenko M E 2017 *Problems of Modern Economy* **2** 127–32
- [13] Yanenko M B and Yanenko M E 2014 *Bulletin of Yaroslav the Wise Novgorod State University* **82** 77–81
- [14] Schwab K 2017 *The Fourth Industrial Revolution* (Moscow: Publishing House 'E') 208

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