

**Yulia Syaglova**

The Russian Presidential Academy of National Economic and Public Administration  
Institute of Industry Management, Marketing and Trade Department, Russian Federation  
E-mail: syaglova-yv@ranepa.rs

**Snezana Mojsovska Salamovska**

University of "St.Kliment Ohridski" Bitola, N. Macedonia  
Faculty of Economics  
E-mail: snezana.salamovska@uklo.edu.mk

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# DIGITAL TRANSFORMATION IN MARKETING AND BUSINESS – IMPLICATIONS ON RETAIL TECHNOLOGIES AND CUSTOMER ENGAGEMENT

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Review

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## **Abstract**

*Digital transformation of the global society and economy causes tectonic movements in doing business worldwide. Business marketing has become an arena where disruptive technologies literally change the marketing environment landscape, transforming the contemporary marketing into digital marketing, and thus implying newly emerged groundbreaking concepts in scientific thought in these fields. This paper discusses the phenomenon of digital marketing transformation, particularly on its impact on contemporary retail technologies, with emphasis on Russian economy. In addition to the theoretical analysis, selected relevant statistics and data are presented. Furthermore, the respective impact of marketing transformation on customer behavior in retail is elaborated. Marketing transformation implies substantial changes in retail environment of companies, because in an era of marketing digitalisation, customers are gaining enormous empowerment by development of new technologies; they are becoming more demanding, and their expectations are increasing. Consequently, companies are literally forced to constantly reevaluate and reshape their marketing strategies, especially sub-strategies that are directly influenced by development of disruptive technologies that are applied in business. Omni-channel retailing strategy is discussed as one of possible newly emerged solutions for meeting the increased customers' expectations and responding to modified behavioral patterns, as well as for attaining the required level of digital customer engagement in retail businesses.*

**Keywords:** *digital marketing transformation, retail technologies, omni-channel retailing, customer engagement*

## **1. INTRODUCTION**

Retail as an industry makes a significant contribution to the development of the gross domestic product and job creation of each country. It follows the general economic trends in terms of digitalization, such as the use of machine learning, artificial intelligence, the Internet of things, big data etc., and is quite actively affected by numerous elements of digital transformations.

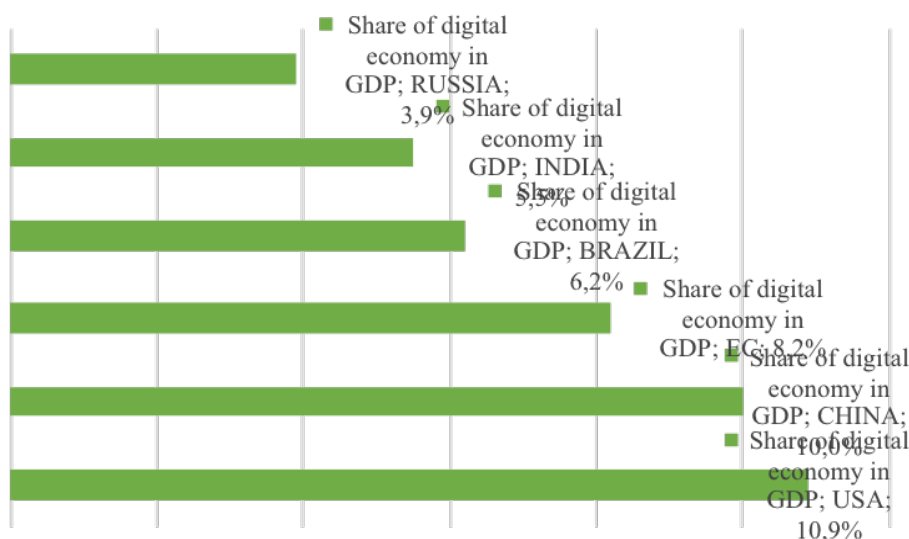
Digitalisation and newly applied retail technologies contribute to creation of innovative offline and online retail space for the “internal customers” - the company's staff, and “external customers” – clients. Digital transformation has a significant impact on the retail customer behavior, by irreversibly changing the customers’ purchasing decision making patterns and models. Purchasing is being realised in the re-created omni-channel shopping space, including the newly emerged digital services to customers related to purchasing convenience, speed, as well as additional relevant features.

This paper discusses the marketing digital transformation and its impact on one of the major sectors of the economy - retail, with special emphasis on the case of the Russian economic. Retail sector is directly influenced by the digital transformation process, by adapting digital transformation in the company's internal processes, such as online and offline space, logistics and IT system, on one hand; and, on the other hand, trying to predict the consequences of the possibility “to make - or not to make” decisions related to digitalisation, having in consideration the transformed behavior of company’s customers.

From the point of view of state regulation of the economies, digitalization creates a basis for state projects and programs. From industries point of view, experts carefully consider all decisions regarding digitalization, weigh the importance of individual elements, trying to determine their importance for businesses and clients of the industry.

## 2. IMPLICATIONS OF DIGITAL MARKETING TRANSFORMATION ON RETAIL TECHNOLOGIES – GENERAL CONSIDERATION AND SPECIFICS OF THE CASE OF THE RUSSIAN ECONOMY

Digital transformation of business is associated with various areas of economic activity of companies and industries, and as a result, in a large number of countries, including Russian Federation, relevant governmental programs are being developed as a support of this process. In Russia, the Digital Economy program is already in operation, the main elements of which are reflected in various sectors of the economy ranging from telecommunications and high-tech digital products to the production of goods in metallurgy [1]. Figure 1 presents data on the share of the digital economy in the total GDP of various countries, including the Russian Federation.



Source: Digital Russia: New Reality. Analytical McKinsey report. 2017. [https://www.mckinsey.com/ru/~/\\_/media/McKinsey/Locations/Europe%20and%20Middle%20East/Russia/Our%20Insights/Digital%20Russia/Digital-Russia-report.ashx](https://www.mckinsey.com/ru/~/_/media/McKinsey/Locations/Europe%20and%20Middle%20East/Russia/Our%20Insights/Digital%20Russia/Digital-Russia-report.ashx)

Figure 1 Share of the digital economy in the total GDP

According to Figure 1, the USA has the share of the digital economy in the total GDP of 10.9%, China - 10%, European countries - 8,2%, and Russia has only 3,9% share of the digital economy in the total GDP. However, with regard to the case of Russia, in this context should be pointed out that over the past few years the percentage of growth in the volumes of the digital economy has increased by almost 60% and grown 9 times faster than the GDP itself. Experts also predict a significant increase in the next three years.

Based on general trends of digital transformations and according to Gartner company report [3], the following general directions for the development of commercial activity could be stressed out:

1. Active penetration of the company's business processes into the digital environment.
2. Use of new digital technologies and tools in business processes.
3. Introduction of Big Data elements into information channels.
4. Multi- and mono-channels of commerce.
5. Distribution of e-commerce as sales channels for various products.
6. Internal transformation of markets and industries.
7. Uberization of business.
8. Changes in the patterns of consumer behavior.

Companies are increasingly seeking to penetrate the digital business environment, using the mechanisms of globalization and business expansion, including in global marketplaces, e.g. Alibaba, TMall, Amazon, and the other hand, they are trying to transform internal business processes with regard to digital transformations. For example, logistics activities using the EMS system and robotization in warehouses, as well as supply chain management based on block-chain technologies, as Walmart is practicing, are all examples of the penetration of analogue business processes into the digital environment. New digital technologies, such as, VR and AR, machine learning technologies and artificial intelligence help modern companies to plan better and predict the direction of their business solutions.

Multi-channel and omni-channel business opportunities enable companies to form a specific ecosystem of online and offline platforms and solutions that enable them to implement much more efficient communications with the new generations of consumers - Y and Z, that already have different needs other than previous generations. This includes the need to be constantly connected to the World Wide Web and the willingness to make purchases using new technological solutions in the mono-channel business environment. In various fields, Big Data tools allow companies to accumulate and process a huge amount of diverse qualitative and quantitative data which later will also allow you to adjust business decisions made by the company towards a clearer targeting and focus of the sales offers for key customers.

The field of e-commerce does not require individual comments anymore and has proven its effectiveness and efficiency in terms of the sales channels of such product categories as ticketing, large and small household appliances, clothing and shoes, etc. Today it is the penetration of e-commerce in the e-grocery segment that is important, as well as cross-border trade between consumers and companies located in different countries.

Separate digital transformations lead to the transformation of entire markets and business sectors turning them into global ecosystems, such as Amazon and Alibaba in which the widest range of services and opportunities for the client are presented. In this context, the ecosystem provides the client with such value, realizing that the client no longer has any reason to move between companies that provide various goods, conditions and possibilities of purchase, the client has all these within the same ecosystem of the company to which (s)he is loyal.

«Uberisation» of business processes in general contributes the spread of the sharing model of the economy being a characteristic of the modern generation of consumers from categories Y

and Z. We are seeing the development of companies that are gaining more and more power without having a single real product. Examples of such companies are Uber, AirBnB, Booking, the whole field of car sharing and others. These companies enable a new generation of customers to receive a product or service most conveniently and most quickly understanding the values that are unique to these categories of consumers.

These changes generally transform the behavioral patterns of customers that no longer want to spend time buying goods and receiving services at a certain time and place, offline. They no longer want to buy those products that their parents used to buy which lead companies to transform the product range, for example, towards eco- or bio-products. They want to be at the center of the digital ecosystem, rotating in the omnichannel segments that this ecosystem creates for them.

Based on the McKinsey Report «Digital Champions» [4], all these digital transformations change the missions and values of modern companies when the company's overall competitiveness begins to depend entirely on its digitalization level, when digital platforms become the most valuable digital asset of companies, when digital intermediaries take over intermediaries and platforms, etc. Based on the above, we can judge the positive digital transformations of the economy. However, it is the digital environment that creates some business challenges that we would also like to mention. For example, the researchers of the global consulting company McKinsey in their analytical report highlighted a number of digital challenges related to the transformation of the labor market and the emergence of new professions in which the main place is given to programming and process control based on machine learning and algorithms. According to this source, by 2036, more than 50% of workplaces will be digitized globally in the economy. It is about the destruction of such professions as a postman, driver, packer, train driver, merchandiser and others, and replacing them with robots. In addition, another challenge is related to the security of digital information in a digital system, cyber security and cyber risk. All this requires the formation of an updated business development strategy based on the company's involvement in digital transformation.

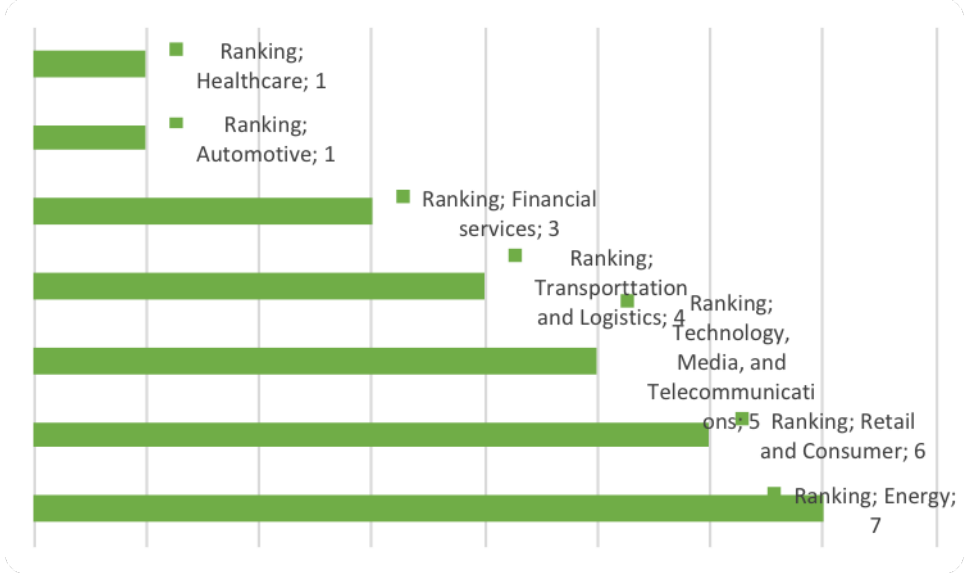
Speaking of the industries that are being actively involved in the digital transformation process, it should be noted that experts from business schools and consulting companies give various assessments of involvement. For example, the IMD business school in the developed “digital tornado” model assumes that among the main industries, that will undergo digitalization in the next 5 years, will be technology products and services, media and entertainment, and retail. Data on industries are presented in Figure 2[5].



Source: Gaidar Forum 2017. Panel discussion «Banking services without banks» <http://fintech.ranepa.ru/gajdarovskij-forum-sektsiya/>

Figure 2 Digital Tornado Model

Experts of the consulting company PWC in the report «2018: AI Predictions. Insights for business strategy» [6] also gave their vision of those businesses that will be actively exposed to digital transformation in the near future. These are, for example, such industries as medicine, financial sector, transport and logistics, media and telecommunications, as well as retail. The data are presented in Figure 3.

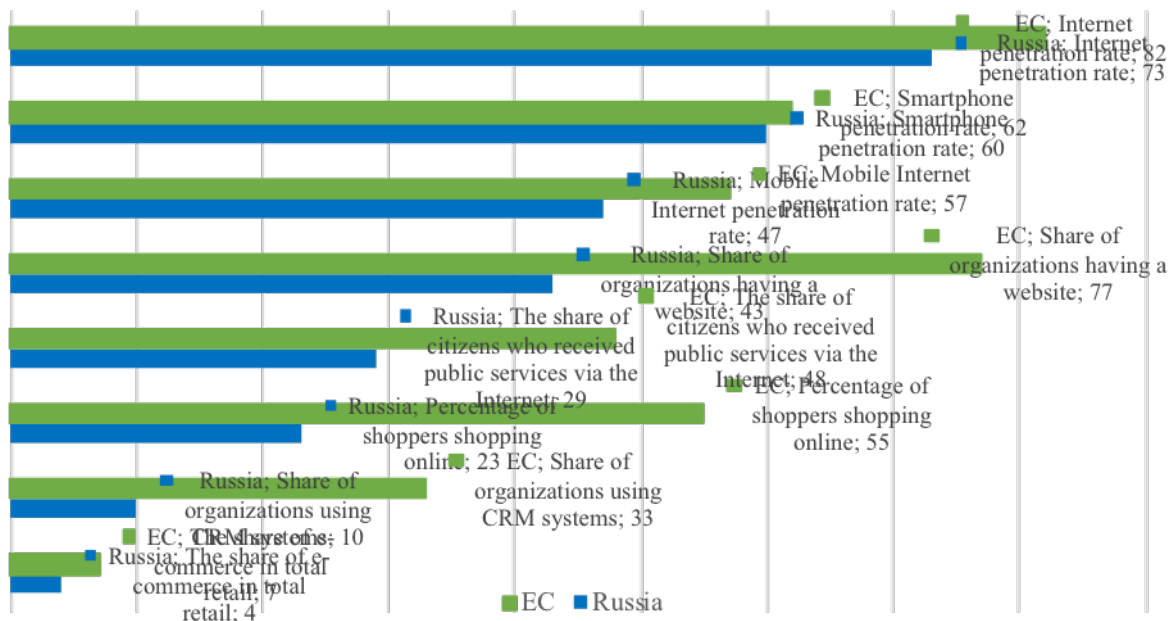


Source: PWC Analytical report: 2018: «AI Predictions. Insights for business strategy». 2018. <https://www.pwc.com/us/AI2018>

Figure 3 Digital Transformation Sectors

These indicators illustrate the current situation regarding the retail as an initially established area, in which the business model was very simple, associated only with interaction with suppliers and the subsequent sale of the goods they supplied to end customers. There is a great confidence among the experts that the retail is being transformed into a digital platform model, and the ecosystem is actively involved in digital transformations.

Speaking of digital transformations in retail, the growing possibility of Internet technologies in trading should be highlighted. For example, according to McKinsey experts in Russia and Europe, there is a varying percentage of access to digital services. These data are presented in figure 4.



Source: Digital Russia: New Reality. Analytic McKinsey report. 2017. [https://www.mckinsey.com/ru/~/\\_/media/McKinsey/Locations/Europe%20and%20Middle%20East/Russia/Our%20Insights/Digital%20Russia/Digital-Russia-report.ashx](https://www.mckinsey.com/ru/~/_/media/McKinsey/Locations/Europe%20and%20Middle%20East/Russia/Our%20Insights/Digital%20Russia/Digital-Russia-report.ashx)

Figure 4 Access to digital services

Thus, the share of e-commerce in total retail sales in Russia is about 4%, while in Europe this figure is close to 7%. The share of companies that use CRM systems in building and managing consumer loyalty systems in Europe is 33%, while in Russia only a tenth of companies pay attention to this. The share of customers who are already making purchases over the Internet for Europe has already exceeded half and is 55%, while in Russia this figure is much more modest - only 23%. The share of companies that understand and realize the value of having their own website also differs between Europe and Russia and is 43 and 77%, respectively. Data on the spread of mobile Internet and smartphone penetration are comparable and differ slightly, about 55 and 60%, respectively. More significant differences are observed in the share of penetration of Internet technologies in general: 73% in Russia and 82% in European countries.

Of course, the lag of Russia in most of the above parameters may be caused by the size and variation in the geographical location of individual regions and cities. Russia is a huge country that has a rather pronounced polarity in the processes taking place and the level of purchasing power in large cities, where Internet penetration reaches 85 percent or more, for example, in the cities. Moscow and St. Petersburg and where the volume of Internet commerce is several times higher in view of the established system of logistics and options for delivering goods to end users and smaller cities and regions that are still difficult or impossible to deliver goods ordered via the Internet and where the level of solvency and consumer activity is several times lower than in large cities.

In the context of retail digitalization as an industry, the main trends of its development could be identified as follows:

1. The penetration of Internet commerce in new business segments, such as, the sale of food products.
2. Sale of goods through marketplaces and digital platforms.
3. Active penetration of IT technologies in retail.

4. The penetration of digital technologies into internal business processes and processes related to communication with consumers.

Having in consideration the abovementioned aspects of digital transformations and the possibilities of Internet sales of goods, the spread of the Internet to new categories of products could be noticed, that were not involved in online sales in past years. Specifically, the e-grocery segment share of sales in Russia was lower than 1% of the total volume of Internet sales. However, this segment has been growing very actively and most of the trading companies, engaged exclusively in online trading or representing marketplaces, have already realized the need to transform their trading range towards the inclusion of the food product category. There are a number of examples of companies that for many years have specialized exclusively in the sale of food products online. In Russia, for example, this is the company Utkonos. It should be noted that such companies are still unprofitable, as evidenced by the data presented in the annual reports of these companies. These circumstances are associated with the complexity of online sales of this product category, consumer misunderstanding of the value of this business model, disagreement with the paid delivery of goods and the need to make a large purchase, as the company strictly regulates the minimum order amount. Only in the last two years - 2017-2018, such business model began to bring small results in terms of revenue from sales and income in view of the emerging changes in trends in consumer behavior and the formation of the need to save time and readiness to buy food over the Internet. This trend of consumer behavior was also supported by traditional offline retail chains which began to include an additional Internet sales channel in their business model, opening an online store and delivering food directly to the consumer's home, using the last mile delivery or to the nearest network store using the click & collect method, as well as to the nearest point of issue of orders which can be branded from the trading network or partner, accumulating orders from various online stores.

In addition to the classic sale of goods through online stores, we can also observe a more active penetration of the marketplace model or a similar version of the digital platform into retail. In this case, the marketplace is a digital platform, which is essentially an intermediary between a number of sellers who present products for sale on the intermediary's Internet platform, and buyers, going to the marketplace site, can compare products in terms of price, quality, value, etc. Next, the buyer is left to pay for the goods by going to the site of the supplier of goods, or in some cases the intermediary's digital platform itself makes it possible to do this immediately without going to the store of a particular supplier. For example, in Russia, Russian marketplaces function effectively, such as Ozon.ru, Goods.ru, Beru of Sberbank and others, as well as Alibaba Corp.'s foreign marketplaces with Aliexpress and Tmall platform solutions. Certainly, from the point of view of buyers, such platform solutions offer value in the breadth of the range of products presented, the ability to compare prices and select the optimal option comparing options and delivery terms, which causes a shift in consumer preferences towards these platform-based business models.

Regarding the collaboration of retail and IT technologies, an active shift of retail towards digital transformations is noticeable, and trading companies understand that traditional business processes based on analog solutions, paper and other types of solutions are becoming ineffective. Therefore, the retail sphere actively cooperates with IT companies such as SAP, SAS, Oracle, Microsoft, Google, Yandex in Russia, in terms of saturating individual trade and technological processes with their IT solutions. In particular, Big Data collection and analytics software, CRM systems, software solutions for WMS warehouses, software platforms for logistics, order collection and processing, customer analytics, and site visit analytics could be stressed out. It is the IT solutions that contribute to the emergence and spread of such a highly paid competence and even a profession, such as a data scientist which specialists have knowledge of mathematics and programming, on the basis of which many retail business solutions are modeled and predicted.

One of the most actively developing trends in retail is the penetration of digital technologies into business processes, and these technologies could be classified into two groups:

1. Technologies related to communications with the company's "external customers", that is, with consumers. Examples of such technologies include companies themselves, their mobile applications, SMM platforms and instant messengers, video blogs and so on. These technologies allow companies to communicate most effectively with customers creating the most accurate informational messages that build awareness and further customer commitment to the company, encourage the customer to purchase a particular product, help to know better about the properties of the product, train the customer in some ways to use the product, his adjustment and installation and so on. In addition, there are a number of technologies that allow you to manage customer experience at the point of contact, in the store itself. These are special digital panels and similar devices that today recognize the identity of the client and can immediately make him or her a personal purchase offer, digital systems for self-scanning products and payments, digital gadgets with which you can find out more accurate information about a product (price, origin, nutrient parameters), choose the color or size of the goods and order the right one in case there is no necessary article at this point of sale, virtual fitting and smart mirrors, AR and VR technologies, robotic assistants and many other things.

2. Technologies related to internal business processes of trade and technology business processes management. As examples of such digital solutions, the following should be mentioned:

- digital price tags which enable the company to manage dynamic pricing systems;
- CCTV and video analytics systems that allow the company to monitor the current situation in the store, collect Big Data and subsequently process them;
- smart shelves that give a signal to the merchandiser about the absence of goods on the shelf and the need to replenish stocks;
- smart carts which enable the buyer to independently select goods and subsequently pay for it, and the store to track the quantity of goods sold;
- RFID tags which are equipped with goods, which contributes to easier accounting and control of existing inventory when they are inventory, as well as contribute to greater traceability of goods;
- robotic assistants (robots and other devices), with the help of which it is also convenient and quick to make accounting and inventory of goods.

These and other digital solutions, of course, on the one hand, are aimed at creating mechanisms for mono-channel interaction between buyers and retail companies, as well as helping to optimize the company's expenses for remunerating employees, saving time spent on trade and technological operations, etc.

All the elements of digital transformations in retail mentioned above contribute to the transformation of consumer behavior when making decisions about purchasing goods.

### **3. THE IMPACT OF MARKETING DIGITAL TRANSFORMATION ON CUSTOMER BEHAVIOR AND COMPANIES' RESPONSES TO CHANGED BEHAVIORAL PATTERNS**

Marketing transformation has a strong impact on retail businesses, and one of the major implications is the rapid transformation of **behavioral patterns** of customers that are no longer willing to spend their time in traditional mode of purchasing. Traditional channels, offline stores and point of sales is no longer an effective marketing mix instrument, and instead, virtual points of sales are becoming increasingly and dominantly convenient for customers, and, therefore, important for companies, that are exploring broad new channels and vehicles for marketing communication and customer engagement. Many companies are considering cloud communications as a way of decreasing large amounts of operational expenditures in this context.



As new technologies for marketing communications emerge, customer behavior continuously evolves, and the customers' expectations are being further shaped and fine tuned by their experiences in the overall internet landscape. Having in consideration that the superior understanding of customers is the only sustainable source of competitive advantage, it is clear that in digital era, the quality of customer experience is highly valuable source of differentiation. In order to compete in such an unpredictable and demanding environment, companies need to focus on delivering a unique experience to customers, based on their recently acquired habits of engagement, in terms of an "orchestrated omnichannel customer experience that supports all customers through every interaction moment across their various journeys and helps them achieve their desired outcomes" [7]. The changes in customer behavior regarding the expected level and form of digital engagement, directly imply the need for adjustment of companies' communication strategies, but also, to the overall marketing strategies in general, in order to develop and design new digital services that would enable them to acquire, but moreover, to retain their customers.

Customers of XXI century expect to find, experience, and moreover, to subscribe to specific services of companies; customized, and also, customer-ised to satisfy their custom needs. In the era of digital transformation, and intelligent communications with customers, customers' expectations are becoming the key orientation point for companies. Companies need to understand how digitalized customers understand the delivered value, and therefore, to design and implement new strategies for value creation. Most important – companies need to understand how to deliver the value, in a shape and format expected by their customers, just in time, again, as their customers expect. It is a very complex and responsible task for companies to design, execute and coordinate such complex strategies, for instance, omni-channel retailing strategy, and the accountability of this strategy is one of the key issues that must be continuously reevaluated, due to the enormous investments required for its execution.

In an era of digital engagement and the endless opportunities for customers, channel strategy is an outdated concept that should no longer be the primary strategic orientation of companies. A key to business success in a digitally transformed marketing environment are strategies that enable maximum customer engagement. Omni-channel retail strategy is a relatively new, complex strategy designed as a response to the changed customer behavior due to the marketing digitalization. It enables creation of new services for "digitalized" customers. It is related to the variety in customers' purchasing orientations, in order to provide a unique and effective cross-channel customer experience. Customers simply have their expectations of utilizing various channels at different stages of their purchasing process.

The omni-channel retailing strategy provides numerous benefits to the customers, such as convenience, the level and format of product information, and the richness of the purchasing experience (Gensler, Verhoef and Böhm 2012). In addition to traditional physical and online point of sales and stores, newly emerges innovative channels have transformed the customers purchasing and decision making processes to a great extent (Juaneda-Ayensa, Mosquera, & Sierra Murillo, 2016; Picot-Coupey, Huré, & Piveteau, 2016; Piotrowicz & Cuthbertson, 2014; Verhoef et al., 2015b). Although the term omni-channel appeared recently, in the last decade, there is steel evident an indistinct use of the concept titles such as multi-channel, cross-channel, and omni-channel in the theory and practice.

Compared to the multi-channel retailing strategy (offering purchasing opportunities to the customers through various, but separated channels), omni-channel retailing integrates the multiple channels as "a holistic offering to appeal to the heterogeneity in customers' shopping orientations – such as varying levels of 'need for touch', 'need for cognition', or degree of 'selfreliance' – with the aim of providing a seamless cross-channel experience" (Verhoef et al. 2015). Multi-channel refers to having a presence on several channels that then work separately. In an omni-channel environment, the channels work together, in a way that customers can use digital channels for research and experience the physical store in a single transaction process (Piotrowicz & Cuthbertson, 2014). Due to the fact that the channels are jointly managed, customers expect to

have the same brand experience wherever and whenever they interact the company (Piotrowicz & Cuthbertson, 2014).

The newly emerged omni-channel concept in retail has significant practical and also, theoretical implications (Piotrowicz & Cuthbertson, 2014; Bell, Gallino, & Moreno, 2014;). It has a strong impact, both on the marketing environment complexity, and the internal business processes of companies retailers; as well as on creation of innovative purchasing patterns (Picot-Coupey et al. 2016; Verhoef and Lemon 2013;).

The key point is that customer behavior and purchasing habits are continuously evolving, and that companies must be ready to respond to these changed behavior and innovative customer behavioral patterns, or, in other words, "to orchestrate the customer experience" [7]. So called "orchestration" (Clark-Dickson and Cox, 2017) requires incredible organisational commitment in terms of focusing literally on customer centricity, understanding the essentials of customer interaction and customer engagement, and integrating this knowledge about their customers in their strategy, in a way that would be maximum beneficial for their customers, but in the same time, to fulfill the criteria for business processes optimization in companies.

## 4. CONCLUSIONS

Digital transformation occurring in the economies of various states is a global trend. Companies in various sectors of economy actively seek to be engaged in these digital opportunities to a greater or lesser extent. As a rule, key factors as the lack of financial resources, management's misunderstanding of digital transformation processes, the lack of readiness of "internal customers of the company" - personnel, to perceive the elements and digital transformation strategies, incorrect adaptation and implementation of digitalization elements, hamper the active inclusion into current corporate business processes. Retail is quite actively using the most different elements of digital transformation, creating omnichannel spaces and enabling its customers to make shopping in a store or online space much more convenient and comfortable. With proper selection of digital elements, as well as careful analysis of the target audience from the point of view of readiness and need for certain digital services, the retailer can reach a completely new level of communication with the company's key clients by implementing the most effective business model in terms of achieving the required level of customer satisfaction.

Having in consideration that each organisation is experiencing digital transformation in its own unique way, there is a need for constant reconsideration of organisational and technological capabilities in this regard, for the purposes of customer acquisition and retention, but also, by taking into account the internal issues such as business processes optimization and accountability on a short and a long run.

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