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CUSTOMER SERVICE IN THE DIGITAL REALITY. CHALLENGES FOR CONTEMPORARY COMPANIES

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Purpose: The article is aimed at indicating the opportunities for and dilemmas of implementing cutting-edge technology in the customer service area, paying particular attention to the operations of customer service departments in companies.
Design/methodology/approach: This article is aimed at answering the question concerning the potential use of cutting-edge technology in the customer service area in confrontation with the digital skills level and expectations of contemporary consumers. The following methods were used: reference works' review, analysis of secondary sources and reasoning based on a critical analysis of studies carried out by international research and consulting agencies.
Findings: Generally speaking, using cutting-edge technology in marketing contributes to reduced costs and improved customer service, but in certain circumstances excessive use of artificial intelligence may have adverse impact on the customers' satisfaction with the service (chatbot anthropomorphism).
Practical implications: Potential advantages, but also threats relating to using the Industry 4.0 tools for marketing, including but not limited to the customer service area, were indicated.
Originality/value: The article provides insights for the discussion concerning chances and hazards of using cutting-edge technology with respect to customer relations, including but not limited to the artificial intelligence.

Keywords: customer service, digital technology, digital consumers.

Category of the paper: Conceptual paper.

1. Introduction

Cutting-edge digital technology and Industry 4.0 tools enter all areas of company operations, including the marketing one, more and more intensely. New solutions are broadly used for marketing activities. First of all, they offer opportunities for multi-channel communication with customers, learning individual consumers' needs better, customization and service facilitation. Customer service is one of the key areas of the company marketing activities as it contributes to the improved customer satisfaction level, builds their loyalty and

improves sale volumes. Results of the global Salesforce Research results of 2020 revealed that for 91% of the surveyed customers experience of the positive service is a factor encouraging them to purchase from the company again (State of the connected customer, 2020). Moreover, it turns out that the customer happy with the customer service is willing to forgive minor mistakes. This attitude was declared by the majority of respondents (78%).

Studies carried out by many authors prove that using cutting-edge technology and digital tools for marketing purposes offers many benefits, including reduction of marketing costs, increased sale volume, improved customer service level, improved customer satisfaction and loyalty, brand awareness building and acquiring new customers (de Haan et al., 2016; de Vries et al., 2017; Hudson et al., 2016; Kumar et al., 2017; Adam et al., 2020; Melović et al., 2020; Yang, 2021).

New technology is used for marketing not only because of its measurable benefits for the company, but also of the customers' competences and preferences which are changing in line with technological progress (Bonaretti et al., 2020; Štefko et al., 2019; Szwajca, 2021a). Consumers, in particular the youngest, more and more often use the Internet, mobile devices and applications for the purchasing process, from looking for offers to buying. Digitization changes not only the purchase methods and habits of consumers, but also their value systems and life style. A consumer who is termed digital represents a slightly different personality type which translates into new, specific requirements and expectations concerning the company offering and the service method (Szwajca, 2020). Using new technology for service to fulfill the requirements of a digital customer is a serious challenge for today's companies (Szwajca, 2021b). Many authors stress that implementing even the most innovative technology does not guarantee success. They suggest that success may result from skillful use of appropriate tools which enable first to learn the customers and understand their needs and growing expectations, and then to prepare and deliver an attractive offer fast, easily and conveniently (Andriole, 2017; Fabrizi et al., 2019; Vial, 2019).

The article is aimed at identifying opportunities and hazards related to using cutting-edge technology and digital tools in the customer service area of today's, mostly Polish, companies. To achieve that objective, it is necessary to answer the following research questions:

1) What are the opportunities to use and benefits of using cutting-edge technology for marketing and customer service?
2) What are the requirements and expectations of digital customers relating to such service?
3) What cutting-edge technology and digital tools are used in the customer service departments of Polish companies in the context of digital customers' expectations?
4) Are the investment priorities in the customer service area compatible with the customers' requirements and companies' expectations?

The following research methods were used: critical reference works' review, analysis of secondary sources and deductive reasoning based on a critical analysis of studies carried out by international research and consulting agencies (e.g. KPMG, Deloitte).

The article structure, composed of the following sections, is subordinated to the main objective. Section 2 discusses the opportunities to use cutting-edge technology and digital tools for marketing and customer service. Section 3 presents the personality profile and requirements of digital customers. Section 4 presents using digital technology and tools in the customer service departments in Polish companies. Section 5 contains a discussion and conclusions.

2. Opportunities to use cutting-edge technology for marketing and customer service

The dynamic development of cutting-edge digital technology and Industry 4.0 tools contributes to changing the nature and operation opportunities of the company in all areas. This refers to marketing as well, where a digital transformation has taken place for years (Hendrix, 2014; Sharma, 2015; Kim et al., 2021; Krishen et al., 2021). The Internet, social media, systems and mobile devices offer broad opportunities of contacts and building channels of communication with customers, offer development, product promotion and sales. The solutions are improved all the time and reach new and new digitization levels (Fraccastoro et al., 2021). Hoffman et al. (2022) prove that new technology:

- contributes to the development of new types of interactions between customers and companies,
- enables to acquire new data types and use new analytical methods,
- creates marketing innovations,
- requires new strategic marketing framework.

In the area of broadly-taken customer service, such cutting-edge tools as social media, omnichannel communication, Cloud Computing, artificial intelligence (AI) and chatbots, and augmented reality are of particular importance.

Social media (Facebook, Twitter, Instagram, LinkedIn, Pinterest, Massenger, YouTube etc.) are particularly important for the customer communication, customer service and sales when it comes to the youngest buyers (Hanna et al., 2011; Salo, 2017). Social media enable rapid and ongoing contact with customers, sharing information concerning the offer and also obtaining feedback on the offer approval (number of likes) fast. Using social media, the customers share opinions on products or services, create forums and fan clubs, recommend different offers to one another, all the same ensuring free-of-charge advertising for the company which is more effective than the traditional one. Besides, thanks to their global reach, social media enable the company to get international and acquire foreign customers (Arnone,

Deprince, 2016; Fraccastoro et al., 2021). Thanks to the above properties, social media are most broadly used by companies for the sale process (Lacoste, 2016; Itani et al., 2017; Bill et al., 2020; Müller et al., 2018).

Social media are one of many channels used for customer communication by companies, beside e-mails, hotlines, video messengers, traditional mail and face-to-face contacts. This multichannel approach is being replaced by the omnichannel one at present. The concept entails creation of a smart network of integrated channels, including e.g. brick-and-mortar shops, e-shops, social media and mobile devices which enable the customer to use the same offers or promotions in different channels (Gotwald-Feja, 2017; Kaczorowska-Spychalska, 2017). The company may correct the sale offer on an ongoing bases so that the customer could know if the product they are interested in is available. Thanks to integrating data and messages from all channels, the customer could optimize their purchase path, e.g. order the product in an e-shop and collect it in the brick-and-mortar one or handle complaints switching between channels to the one which is more convenient to them at any given time (Chopra, 2018; Gwiaździński, 2020).

Another tool is Cloud Computing, with SaaS being its highly advanced level. SaaS is the service consisting in sharing software in a cloud by the provider who develops and maintains cloud applications, ensures their automatic updates and manages the entire hardware and security solutions. The software is shared with the customers online, with a fee conditional on the resource use, i.e. "pay-as-you-go" (Seethamraju, 2015, p. 476). SaaS provides many business applications, including the ones for sale, marketing and customer service (Mohammed, Zeebaree, 2021). Using SaaS enables the company to reduce costs significantly, obtain operating and innovative benefits, which translates into improved financial results as confirmed by research in this area (Rodrigues, 2014; Loukis et al., 2019).

Artificial intelligence (AI) is evidenced in the structure of automatic machines, devices, robots and chatbots displaying aspects of human intelligence and likely to replace humans in doing more and more complex tasks (Rust, Huang, 2014). Chatbot is a computer program which simulates and processes human speech, enabling to communicate with a digital device as if it were a human being. Chatbots are used to talk to customers in real time. They have numerous advantages. They may operate all day long with no limitations and serve the customer online as they find convenient. What is more, they do not get sick or angry and they are very patient. Robots and chatbots are more and more popular in many sectors (Ivanov, Webster, 2017; Crolic et al., 2022). In hotels or restaurants, virtual bots change customer service into self-service (Fluss, 2017; Berezina et al., 2019), social bots replace humans to welcome customers in service outlets, including the SoftBank's Pepper robot "working" in Pizza Hut (Choudhury, 2016).

AI technology and chatbots have high development potential. AI is anticipated to take over not only more and more analytical tasks, but to be able to complete intuitive and emphatic human tasks eventually (Huang, Rust, 2018). When it comes to the market of chatbots and related technology, the value of this market is foreseen to exceed USD 1.34 billion in 2024

(Wiggers, 2018). It should be pointed out that the opinions vary with respect to using chatbots for customer service. Some authors believe that chatbots will make customer service easier and reduce marketing costs (De, 2018). Other perceive certain disadvantages of the situation and hazards for companies (Kaneshige, Hong, 2018). The hazards are connected with the risk of certain cognitive dissonance and frustration for the customer as a result of contacts with the chatbot. Many companies make them excessively human, giving them names and avatars which may confuse the customers a bit. Crolic et al. (2022), having analyzed some international studies and experiments (e.g. in the ICT sector), discovered that the satisfaction level of customers served by chatbots may be extremely different, depending on the customer's mental state. It was found out that when an irritated or angry customer is served by the chatbot, they have a negative opinion on the service and on the company, and do not intend any further purchase. The researchers discovered that this adverse phenomenon is caused by a certain cognitive dissonance of the customer caused by the anthropomorphism of the chatbot which does not fulfill the inflated expectations of the customer concerning their efficiency. This phenomenon does not apply to the response of customers who were not angry or irritated when the interaction was initiated by the chatbot. Miao et al. (2022) conclude that the existing studies of using avatars for marketing strategies and their efficiency (inciting the customer to buy) have brought about different results so far.

Augmented reality (AR) is the technology enabling to combine the actual reality with the virtual world components. Real-world components recorded by a camera are synchronized with computer artwork and 3D animations, thanks to which it is possible to be in two parallel worlds at the same time. Thanks to using AR, a prospective customer may learn and test an unknown product using suitable mobile devices before buying it online (Scholz, Duffy, 2018; Rauschnabel et al., 2019). For example, IKEA uses the augmented reality to enable the customer not only to arrange furniture in their flat, but also to walk round the flat (Smołucha, 2017). Tan et al. (2022) indicate a potential of that technology to improve sales by reducing customer's uncertainty before buying the product.

3. Service-related requirements of digital customers

The ongoing digital transformation contributes not only to the companies' operational methods but also to the consumers' behavior and decisions. The omnipresent digital reality contributes to changing the customer profile. Reference works describe the consumer evolution model, starting from an analogue customer, through a hybrid and digital one, to Homo Cyber Oeconomicus (Fig. 1).

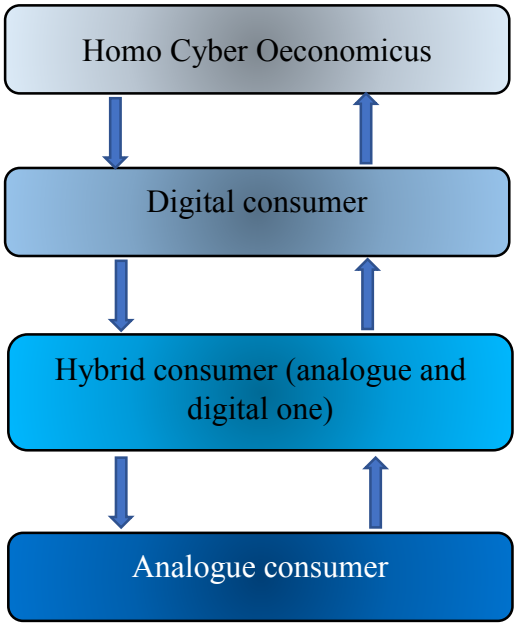

Figure 1. Consumer evolution stages in the context of digital transformation.

Source: Gregor, Kaczorowska-Spychalska, 2018, p. 61.

The analogue consumer is described as a passive recipient of mass-media message sent by the company using traditional media (the press, radio, television). The analogue consumer uses the Internet to a limited degree mainly due to their distrust for this technology and often insufficient computer literacy. The hybrid consumer is characterized by higher digital competence and uses the Internet more eagerly and more consciously. The digital consumer has high digital competence, uses cutting-edge technology, is well informed and conscious of their needs. The Homo Cyber Oeconomicus stage means a consumer who is not only a recipient, but also a co-creator of new technology.

The predominant type at present is the digital consumer who uses digital technology and devices for buying different items and fulfilling their needs. Here, it is worth mentioning that digital competence of Polish consumers, though low when compared to the EU average[1], is getting higher in particular among the youngest consumers from the generation Z. Recently, the pandemic contributed to it (Szwajca, 2022).

The digital consumer not only has high digital competence, but also specific personality traits. The digital consumer is a person (Szwajca, 2020):

- who is well-informed, conscious of their needs and rights and more independent when making decisions,
- who is impatient and strives to achieve comfort,

[1] In terms of Human Capital, one of the components of DESI, Poland ranks 24th among 27 EU countries. 44% of Poles aged 16-74 have at least basic digital skills (the EU average is 56%), and only 21% have secondary digital skills (the EU average is 31%). Source: Poland in the Digital Economy and Society Index. https://digital-strategy.ec.europa.eu/en/policies/desi-poland.

- who is curious of the world, open-minded and pragmatic,
- who is demanding, critical, intolerant of any dishonest, errors and mistakes,
- who is open to fashions and new trends, and thus not much loyal,
- independent, active and creative, expressing their individuality by customizing everything.

The personality changes are followed by the changed requirements and expectations concerning the company offer and also the method and level of service. The digital consumer is highly demanding and expects high standards of quality and service ([Cyfrowy] klient nasz pan, 2019). According to the results of studies by KPGM in 2019, the main requirements of digital customers are focused on customizing and error-free, fast service. Due to the need to express their individuality, the digital customer expects the offer perfectly matching their personal needs and preferences. On the other hand, the impatience and wish for comfort generate high requirements concerning fast and effective service.

Comfort and customization are also the major aspects of service according to the results by Salesforce Research. In the fourth edition of the "State of the connected customer" survey of 2020, digital consumers pointed to comfort as the priority aspect of service once again, perceiving it as fast and efficient service in line with individual preferences: "83% of customers expect flexible shipping and fulfillment options such as buy-online-pick-up-in-store" (State of the connected customer, 2020, p. 15). Comfort is particularly important for the youngest customers from the generation Z (Fig. 2).

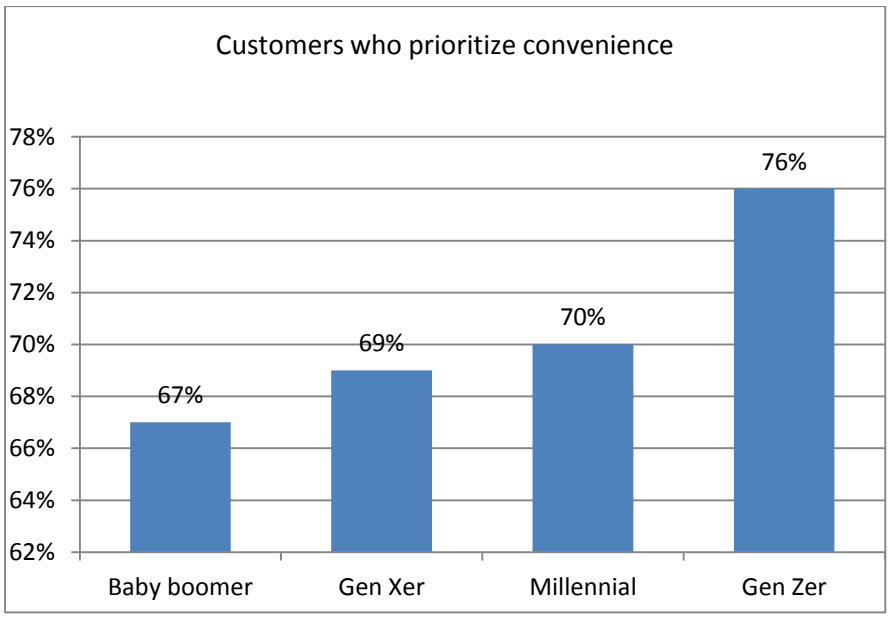

Figure 2. Comfort as a priority aspect of service for different customer generations.
Source: State of the connected customer, 2020, p. 15.

Here, it is worth mentioning the impact of the COVID-19 pandemic on the requirements and expectations of digital customers. Although the pandemic did not change the market habits and behaviors of consumers significantly and permanently (Szwajca, 2022), it changed their preferences to a certain degree. According to the KPMG survey of 2021 (Doświadczenia klientów…), the need to conduct most transactions online caused higher uncertainty and distrust for companies among Polish consumers. Consequently, the consumers indicated that what they appreciate most is the company reliability, easy purchase process and customization.

4. Using cutting-edge technology in the customer service departments of Polish companies as shown in Deloitte surveys

Using cutting-edge technology and digital tools in Polish companies was studied by Deloitte in 2020. 112 companies participated in the surveys, including 55% of large enterprises, 21% of medium-sized enterprises and 24% of small enterprises. The respondents included leaders of Customer Service Departments (CSD). For 31% of companies, CSD was an independent department (mostly in large enterprises). In the other cases, it was a part of another company department (Sales, Marketing or Operations) or was located elsewhere than the company. The surveyed companies represented mostly the following sectors: insurance, professional services for business, banking, technology, retail sales, automotive, ICT as well as transport and logistics. The major objective of the studies was to assess the effect of activities and solutions used by the service for customer satisfaction, with the satisfaction level assessed by the customer service leaders using the score from 1 to 5. The average score of customer satisfaction relating to CSD operations was 3.83 and it differed significantly based on the number of the communication channels operated. Figure 3 presents the communication channels operated by the surveyed CSD. As can be seen, the traditional channels (e-mail, phone, contact form) are still predominant.

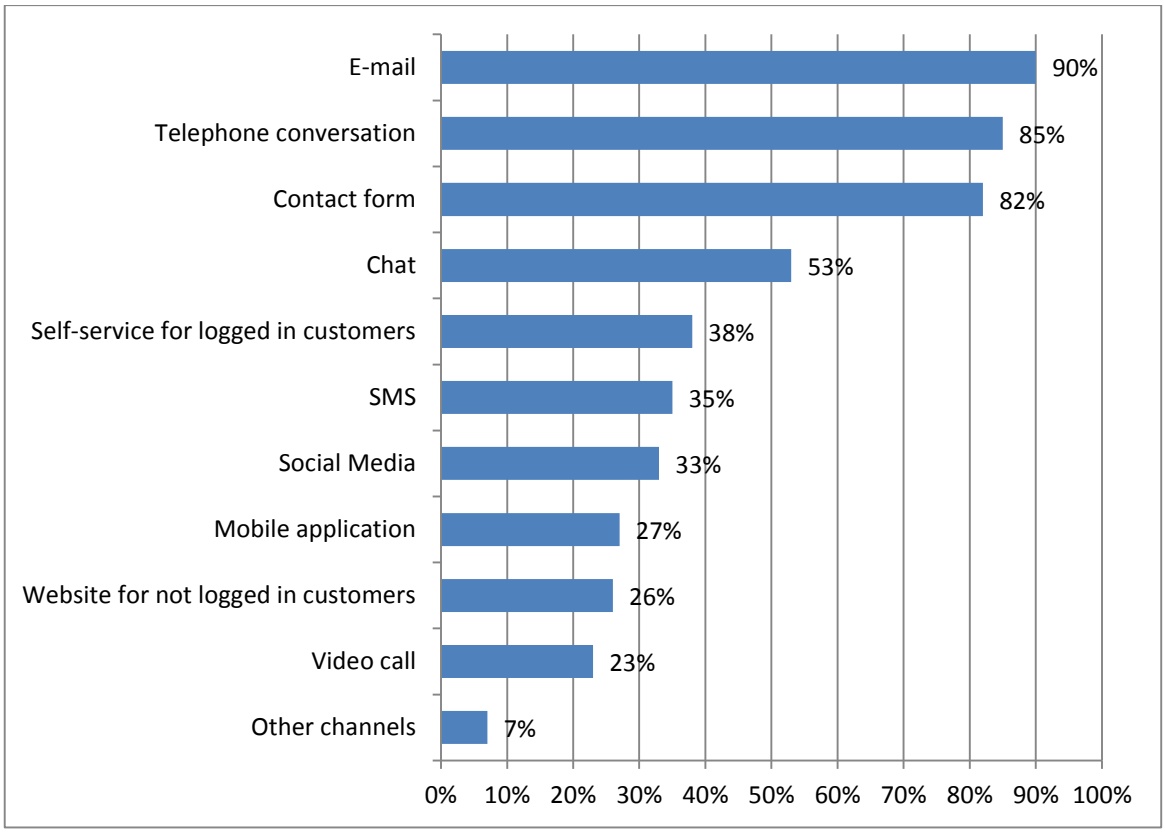

Figure 3. Communication channels operated by the surveyed Customer Service Departments.

Source: Report called Customer Service Excellence 2021 (2021). Study of Customer Service Departments in Poland. Deloitte Digital, p. 8.

It turns out that the customer service departments using more channels obtained higher customer satisfaction score, with the average score for CSDs operating fewer than 6 channels being 3.59, while for CSDs operating at least 6 channels 4.23. This indicates that the customers appreciate the possibility to use different channels to communicate with the company. As mentioned above, contemporary digital customers are more demanding and impatient. They expect immediate, effective service any time. Higher number of communication channels using cutting-edge methods (including self-service, SMS, mobile application) offers improved opportunities to meet those requirements and to establish more lasting and closer relationships with customers. As observed by M. Rakoniewska, head of the Customer Service Centre in Komputronik S.A., the customers want to be given choice with respect to the type of contacts with the company relating to different concerns (Report called Customer Service Excellence 2021, 2021, p. 13). When making a guarantee claim or a complaint, the customers prefer e-mail or the phone as they want to talk to a competent person, an expert, personally. However, when they want to get some information concerning the offer, extra services or promotions, they prefer to use chats and social media. According to M. Rakoniewska, thanks to the availability of different channels and possible customers' migration between them, it is possible to manage customers' traffic and experience more efficiently.

Respondents indicated that one of the most serious obstacles to efficient customer service is the system distribution and absence of an integrated, 360º view of the customer. The notifications from different channels are collected in a single system only in 30% of companies, in 61% of companies they are collected in several systems and in the remaining 9% of companies they are collected in every channel separately. Solving the problem requires using more than 3 systems in 44% of the surveyed companies. Such an approach affects customer satisfaction. As shown in Table 1, the higher number of systems required to solve the problem, the lower the customer satisfaction assessment.

Table 1.
Number of systems versus customer satisfaction

Number of systems	Percentage of companies		Satisfaction level
1-3	56%		3.94
4-6	33%		3.89
7 and over	11%		3.14

Source: Own study based on: Report called Customer Service Excellence 2021, 2021, p. 15.

One of the most serious challenges of CSD is the system of passing customers' concerns to relevant teams and agents. Three methods were identified here, i.e. referring concerns via other people (30%), referring concerns automatically (30%) and independent decision-making by agents (39%). According to the studies, the first method, i.e. referring concerns by other people is the least effective one (the customer satisfaction level scored 3.62). A bit higher score was awarded to referring concerns automatically (satisfaction level 3.82). It turns out, however, that the highest satisfaction level (3.98) was indicated for the independent decision-making by agents. This customer service aspect may be largely improved thanks to using artificial intelligence (AI). Using keywords and natural language processing (NLP) would enable to allocate cases to the most competent people in the given area. Using AI for customer service is one of the trends mentioned for the nearest future by many authors (Kannan, Bernoff, 2019; Fountaine et al., 2019; Guszcza, Schwartz, 2019). AI can not only automate processes which have been carried out by humans so far, but also help to create super-stations operated by robots and super-teams based on human-machine cooperation (Mcllvaine, 2019; Malone, 2018).

The studied companies plan investments in solutions facilitating the course of repeatable processes and solving the most frequent problems for the year to come. Figure 4 depicts priority investments mentioned by the respondents for the following year.

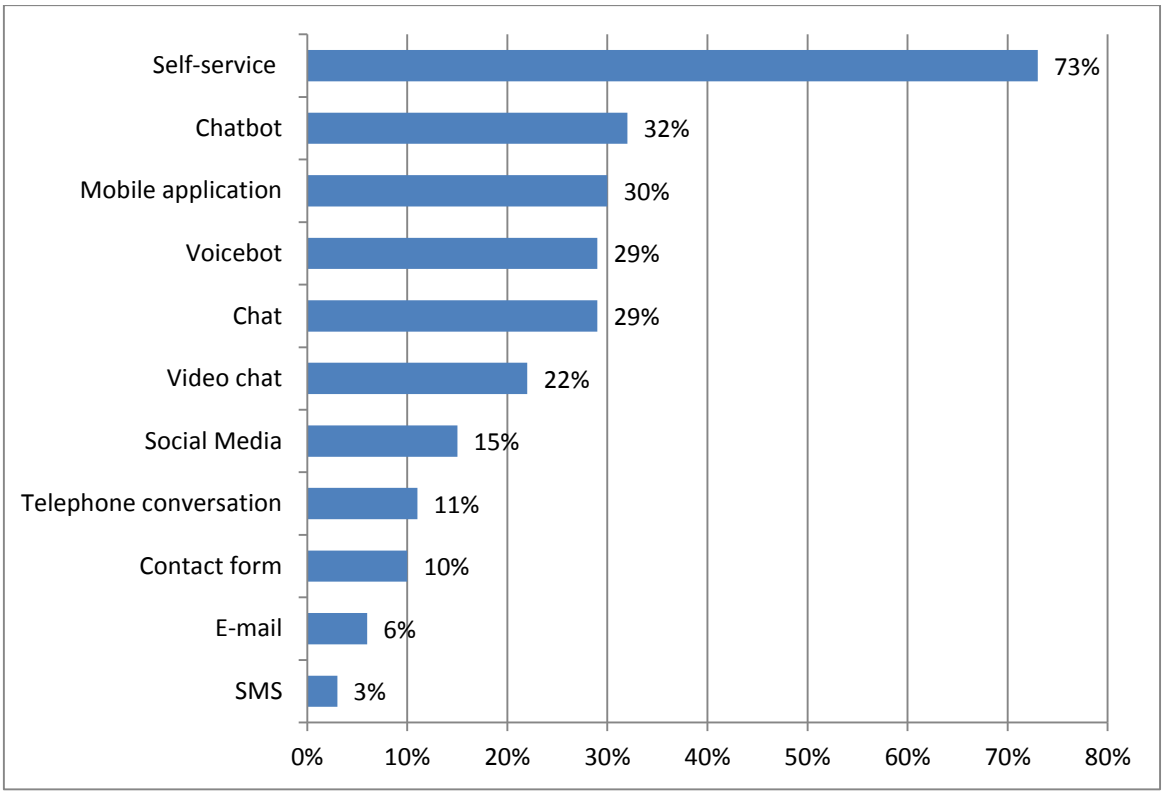

Figure 4. Priority investments in the customer service area.

Source: Report called Customer Service Excellence 2021 (2021). Study of Customer Service Departments in Poland. Deloitte Digital, p. 23.

As shown in Figure 4, self-service is the priority investment for most studied companies (73%). This service method not requiring any contact enables to submit requests and inquiries, order a product or a service, download documents (e.g. invoices, instructions, guarantees), carry out activities concerning personal data and look for products independently. The highest customer satisfaction indexes are connected with the second functionality (product ordering — 4.05) and with the last one (independent product searching — 4.0), although the latter is offered just by 25% of the analyzed companies. More than one third of the studied companies plan to invest in multichannel development, meaning mobile applications, chatbots, voicebots and video chats. Just 15% of companies intend to invest in social media. The traditional channels (telephone conversation, contact form, e-mail, SMS) were indicated as priority investment areas by the lowest percentage of respondents.

Thanks to those investments, the following effects are expected:

- shortened customers' waiting time for response (59%),
- increased customer satisfaction indexes (50%),
- reduced number of issues thanks to self-service (50%),
- reduced number of issues thanks to automation (41%),
- increased sales share (36%),
- increased number of issues solved daily (23%),
- increased number of issues started (12%).

It should be stressed that the pandemic had a major influence on the customer service method. From CSD perspective, the pandemic changed the work method from the on-site to the remote or hybrid one, and also increased demand for new digital technology. According to the surveys, before the pandemic (in 2020) 71% of customer service employees worked solely on-site, while during the pandemic (in 2021) this percentage was just 7%. More than one half of respondents (56%) indicates that the frequency of using the self-service solution by the customers increased as well.

It turns out that the customers intend to use cutting-edge channels to communicate with the company also after the pandemic. According to the surveys by Salesforce Research 2020 (State of the connected customer, 2020, p. 18), more than one half of consumers (58%) declare that after the pandemic they are going to do more shopping online, and 80% of business customers declare continued online transactions after the pandemic.

5. Discussion and conclusions

The progressing digital transformation in companies affects the marketing activities as it generates new opportunities and forms of contact with customers, enables to obtain new data types and use improved analytical methods, and creates marketing innovations. Cutting-edge digital technology and Industry 4.0 tools, including social media, omnichannel, cloud computing, artificial intelligence or augmented reality are of particular use in the customer service area. Thanks to using them, it is possible to facilitate service, improve satisfaction and loyalty of digital customers, which translates into measurable benefits of reduced marketing costs and increased sales. Digital consumers, conscious of their needs, well informed and educated, have high requirements and expect fast, efficient and customized service. The priority aspect of service for digital consumers, especially for the youngest from the generation Z, is comfort.

Implementation of cutting-edge technology and digital tools in the customer-service area is a serious challenge for today's companies as, on the one hand, it is an indispensable investment requiring significant financial expenditure, and on the other entails high risk of a misguided investment. Many authors point to a potential risk, stressing the importance of selecting the appropriate technology and solutions of Industry 4.0. This refers e.g. to contacts with customers. The studies carried out in this respect proved that using artificial intelligence (chatbots), though having immense developmental potential, has also serious limitations due to chatbot anthropomorphism.

Most Polish companies are aware of the need to invest in cutting-edge technology in customer service to satisfy the requirements of subsequent generations of digital consumers and the growing competition. Studies concerning using new technology and digital tools in the

customer service departments of Polish companies in the context of customer satisfaction level revealed that what the customers expect most is the fast and efficient service using many integrated communication channels. Unfortunately, the traditional channels, including e-mail, telephone conversation and contact forms are still predominant in most studied companies. Consequently, for most respondents the priority investment in the customer service area was the development of meta channels, i.e. self-service and mobile applications which enable to solve the issues independently and ensure easy contact with CSD using a chat and forms. More than one half of respondents plan investments in cutting-edge conversations based on artificial intelligence (chatbot, voicehot) and video. Thanks to such investments, the studied companies expect many benefits, including reduced service time, increased number of issues started and solved a day, improved customer satisfaction index and sales growth.

The analyses and conclusions presented in this article provide insights for the discussion concerning digital transformation of Polish companies in the marketing area in the context of competence and requirements of digital consumers. They have management implications as well, as they indicate advantages and limitations of using cutting-edge digital technology and tools in the customer service area.

A limitation of the studies is restricting the analysis to Polish companies and basing on secondary data without any empirical studies. However, the article may provide basis for international comparisons and inspiration to carry out further studies in this field. The studies of efficiency and effectiveness of using cutting-edge technology and digital tools in the customer service area seem particularly important from the perspective of the changing needs and digital requirements of consumers.

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