IBIMA Publishing
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https://ibimapublishing.com/p-articles/46MKT/2025/4648825/
Vol. 2025 (31), Article ID 4648825

The Use of Artificial Intelligence In Customer Service In The Organic Food Market As An Innovation In Marketing*

Ewa KORELESKA

Bydgoszcz University of Science and Technology, Bydgoszcz, Poland

Correspondence should be addressed to: Ewa KORELESKA, ewa.koreleska@pbs.edu.pl

* Presented at the 46th IBIMA International Conference, 26-27 November 2025, Ronda, Spain

Abstract

In today's world, customers have increasing expectations of businesses and organizations in terms of the quality of their service. It seems that the use of artificial intelligence can improve communication with the customer. Although there are many publications on artificial intelligence, there is a lack of research on its application in the organic food market. This article fills in the gaps in this respect.
The aim of the study was to assess the degree of use of chatbots in customer service in the ecological industry. The 2025 study used the method of observing the websites of organic food market participants. The selection of the sample was deliberate.
Based on the research carried out, it can be concluded that the vast majority of selected participants of the bio market did not use chatbots on their websites. Chatbots are one of the most common applications of artificial intelligence in customer service. Companies use them because they provide immediate, round-the-clock communication with the user. Research has shown that only 6% of entities have opted for this type of innovative solutions. This percentage was much higher for stores than for manufacturers. Almost every fifth observed shop window had the above-mentioned Al tool. Almost all respondents used only traditional forms to communicate with the customer – phone number, email and contact form, less often communicators. Such methods may not be sufficient for customers expecting immediate answers to their questions.

Keywords: artificial intelligence, chatbot, marketing, quality, customer service, organic food

Introduction

Modern marketing requires effective tools to attract and retain customers, as well as improve communication with the audience. In this context, the use of artificial intelligence, in particular, Chatbot, can be a promising innovative solution (Krupsky, Vorobiova, Stasiuk, 2023). By Oklander, Panchenko, Boiko (2024) claim that the use of GPT chat and other artificial intelligence tools in marketing has significant potential for success in the digital age,
„ChatGPT is a revolutionary technology that uses advanced artificial intelligence techniques to generate natural language responses to a given prompt or input. It has been used across various fields, from natural language processing to customer service to content creationv" (Deng, Zhou, Wei, 2024). GPT stands for Generative Pre-trained Transformer, a language processing model developed by the American artificial intelligence company OpenAI. (Arviani et al., 2023).

The study examines current trends in the use of GPT chat in marketing activities, noting that it can significantly improve the personalisation of communication and the effectiveness of advertising strategies" (Oklander, Panchenko, Boiko, 2024), retain valuable customers (Deng, Zhou, Wei, 2024), aiding agents in making wiser

Cite this Article as: Ewa KORELESKA, Vol. 2025 (31) "The Use of Artificial Intelligence In Customer Service In The Organic Food Market As An Innovation In Marketing " Communications of International Proceedings, Vol. 2025 (31), Article ID 4648825, https://doi.org/10.5171/2025.4648825

decisions (Li, Y., Xia, GE., Li, Y, 2023), can be used to generate accurate and timely reports, alerts, and insights which can help businesses make more informed decisions, increase yields and improve customer service (Biswas, 2023 a).

While it offers many benefits, there are also some disadvantages to consider, such as its lack of empathy, potential for bias and inaccuracies, limited context awareness, difficulties in scaling, and need for human oversight (Biswas, 2023 b).

Many publications touch on the ethical issues of the use of artificial intelligence (Obaid, Ali, Yaseen, 2023; Maboloc, 2024).

Many publications on the use of artificial intelligence in education (Jagdishbhai, Thakkar, 2023; Mhlanga, 2023, Oranga, 2023, Pérez, Robador Papich, 2023, Kanwal, Hassan, Iqbal, 2023, Osman, Sigane, Rajabova, 2024) and health care (Günay, Öztürk., Özerol, Yiğit, Erenler, 2024, Imran, Hashmi, Imran, 2023, Maksimoski, Noble, Smith, 2024, Porter, Murphy, O'Connor, 2023).

Relatively few studies on the use of artificial intelligence in marketing (Mierzejweski, Koreleska, 2025; Alghizzawi, 2024; Putri, 2024; Kalla et al., 2023; Maijanen, 2023; Restrepo, Gutiérrez, 2023, Saputra, Nasution, Dharma, 2023). No reference to the situation in the ecological industry. This article fills in the gaps in this respect. The aim of the study was to assess the degree of use of chatbots in online customer service in the organic food market.

Material and research methods

The research was carried out in 2025 using the observation method using a measuring instrument - an observation sheet. The subject of the study were the websites of organic food market participants. The choice of the sample was deliberate. Entities that participated in the BioExpo ecological fair in 2024 were accepted for the study. It was assumed that these are the most innovative entities in the ecological industry, where the use of new technologies can be the fastest and largest. 112 exhibitors were checked. It turned out that some of them did not have websites, which was a bit of a surprise. Therefore, 97 exhibitors were accepted for further analysis. First, the websites were evaluated in terms of their attractiveness and functionality for customers. Then, special attention was paid to the offered possibilities of communication with the customer, including the placement of chatbots on websites. Chatbots are one of the most common applications of artificial intelligence in customer service. Companies use them because they provide immediate, round-the-clock communication with the user. In the final part of the research, selected participants of the organic food market, i.e. producers and shops, are subjected to a detailed analysis.
The research was mainly preceded by a literature review on artificial intelligence and innovation.

Benefits and barriers to implementing innovation

In Poland, 13.2% of enterprises conduct innovative activities. The main source of financing for innovative activities of enterprises are their own funds. Innovative activities undertaken by Polish enterprises most often contributed to the overall development of the company (91.7%). They also improved the quality of services and products (75.3%) and increased labour productivity (74.0%). The main barriers to innovation include:

- administrative barriers – 72.9%
- difficulties in recruiting qualified employees – 59.2% of responses;
- lack of time to think about innovation – 54.8%;
- insufficient access to knowledge about the latest solutions / latest trends – 53.7%;
- complicated and not adapted to the specifics of innovative activity legal regulations / ignorance of regulations on the part of the company – 53.4%;
- difficult access to subsidies from EU funds (relatively more often indicated by non-innovative companies) – 51.0%;
- strong competition in the industry – 50.2% (Piotrowski et.al, 2023).

Results

The research was dominated by manufacturers' websites. Their share was 75%. The next group were organic stores (11%), wholesalers (3%) and sales representatives (2%). The remaining entities are organizations operating in the environment of organic producers, such as banks, certification bodies, associations and foundations (9%).

At the beginning of the study, the visual aspect of websites was evaluated, because the first impression can determine whether a user will stay on the site and read its content. Taking into account the visual aspect, it can be stated that the vast majority of exhibitors' websites were comprehensively assessed at the very good and good level (85% of entities in total). Only 15% of websites were rated as correct. When it comes to the rating of companies' websites, the situation was even better, 88% of companies received very good and good ratings. Only 12% of websites were rated as correct. Shop windows were slightly worse prepared (73% of good and very good ratings), which may be surprising. However, here the sample was not much and this may also affect the results obtained. To sum up, it should be emphasized that none of the parties received a bad or very bad grade, which proves the high professionalization of activities in this area.

The criteria taken into account when evaluating this criterion included, m.in, page clarity, readability, sequential information, colors, graphics, animations. All the evaluated pages maintained the linguistic correctness of the text, sequential information and appropriately selected colors.

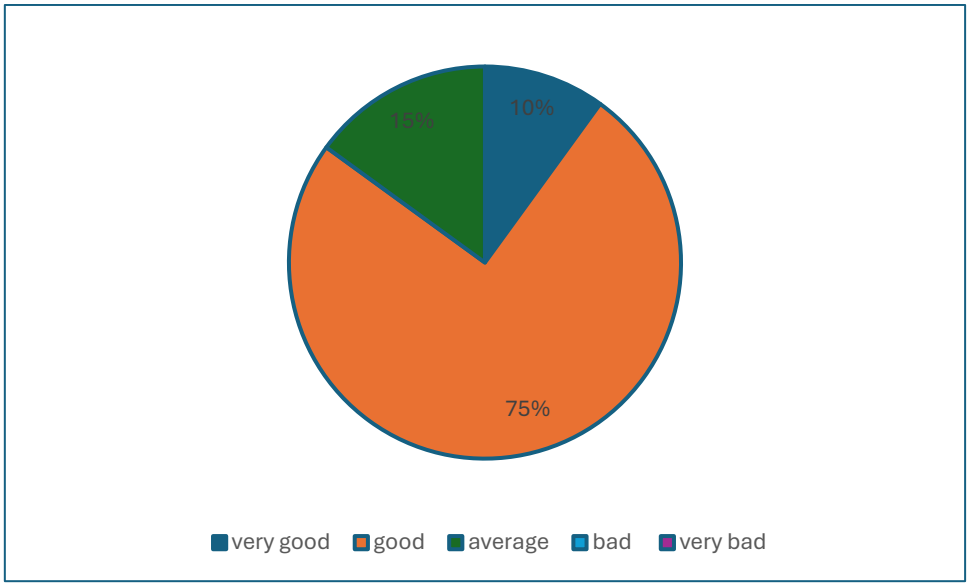

Fig. 1 Assessment of the visual aspect of the websites of the surveyed organic food market participants

Source: Own research

Taking into account the functionality aspect, 70% of organic food market participants received a good or very good rating for their websites. This was a much better grade than in previous studies (Koreleska, Sobiech, 2011, Koreleska, Kuczyńska, 2014). A detailed analysis showed that slightly better ratings were given to stores – 73%, and slightly worse to manufacturers – 67%. Among the factors taken into account in the assessment of this criterion were, m.in, the possibility of choosing the language of the website, the internal search engine and the adaptation of the website for people with disabilities.

As research has shown, only one site was adapted to people with disabilities. For this company, it was possible to make the following changes to the website: font size, space between letters and words, hiding the image, pausing the animation, highlighting the link, changing the structure of the page, introducing contrast and shades of grey, adding a reading mask. Similar results were obtained in earlier studies (Koreleska, Kuczyńska 2014). It is surprising that despite the passage of time, entrepreneurs do not see the need for greater support for people with disabilities.

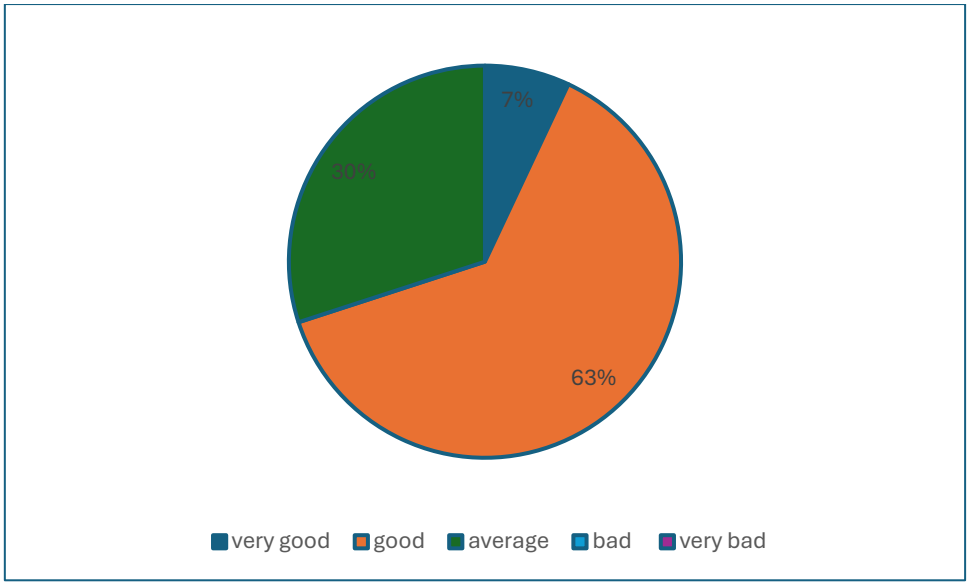

Fig. 2. Evaluation of the functionality of the websites of the surveyed organic food market participants

Source: own research

Another element evaluated was the presence of music on websites. Only 6% of the respondents had such a possibility. A detailed analysis showed that no store introduced this option, while 6% of companies took care of this aspect. It seems that this is an element that can distinguish the company from other entities.

Various sound effects are elements that strongly attract the attention of visitors and allow to create the desired atmosphere at website. People subjected to the influence of such stimuli subconsciously develop certain emotions (e.g. joy, emotion) (Gębarowski, 2010).

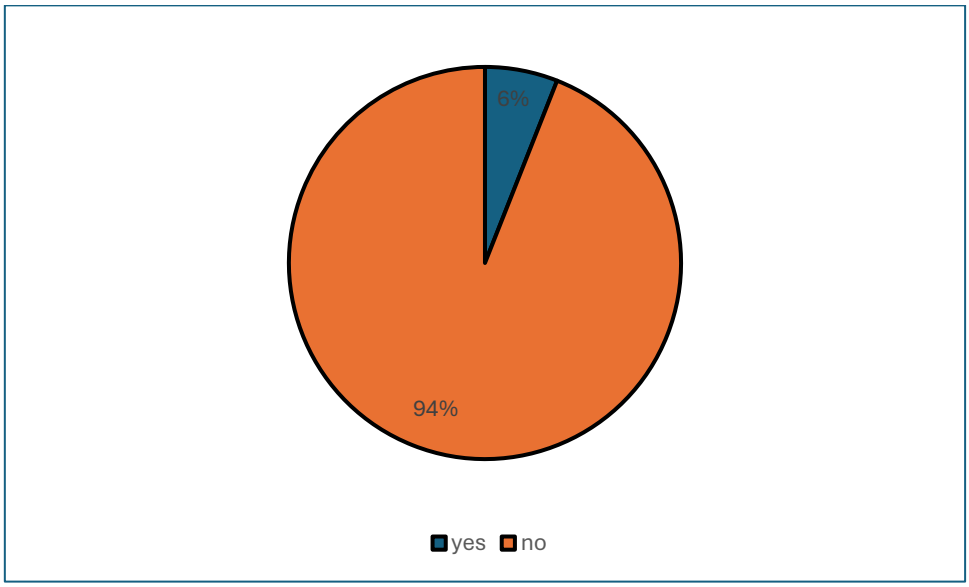

Fig. 3. Music as an element of the website of the surveyed participants of the organic food market

Source: own research

The proposed music on the websites in most cases was well suited to the presented content. This action allowed to attract customers, keep them for longer and better remember the company's offer. A website with built-in music also has drawbacks, as it can slow down loading times and can be a nuisance for some users.

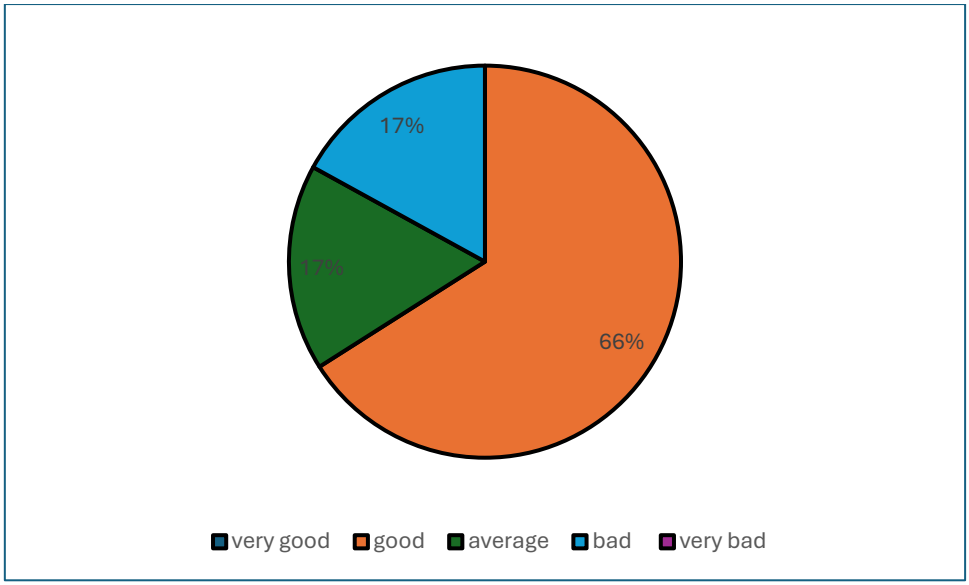

Fig. 4. Evaluation of music on the website of organic food market participants

Source: own research

Finally, the possibility of communication between the company and the customer was evaluated. As part of the research, it was checked whether the website contains basic contact details, including telephone number, email, contact form. It was found that only in one case, contact with the customer may be difficult, because it is only possible by phone or contact form. (no email provided). Personal messengers, such as Messenger, WhatsApp or Telegram, are a very good form of contact. In such a situation, the customer has the feeling that he is addressing a specific person, not an anonymous system. Only three entities had such solutions.
Taking into account the above-mentioned factors, the adopted assessment of communication with the customer via the website was very good and good for 94% of the surveyed entities. Definitely higher for manufacturers (95%) than for stores (91%), but in both cases satisfactory.

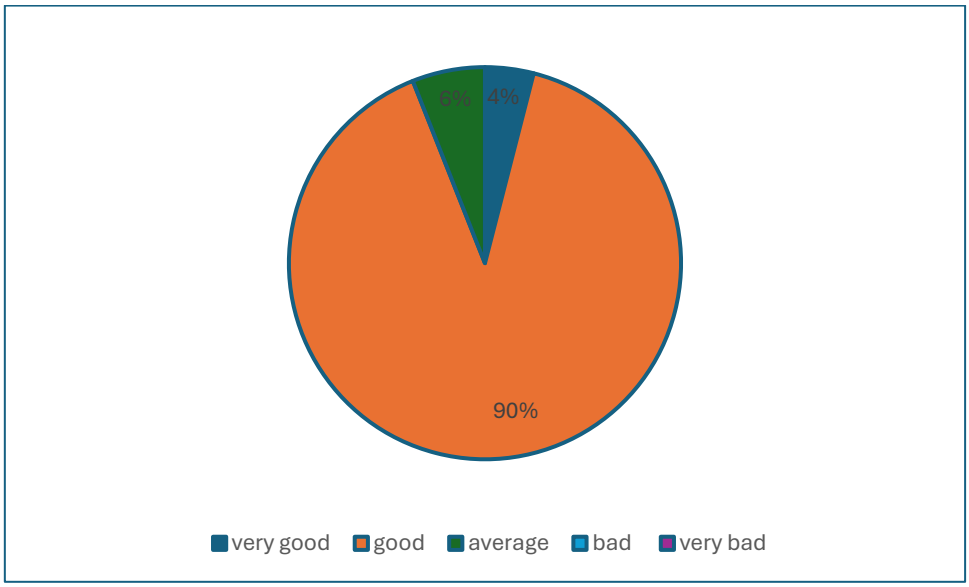

Fig. 5. Evaluation of communication with the customer through the websites of organic food market participants

Source: own research

An even more interactive, convenient and fast form of contact is the use of chatbots, which was offered by only a few entities (6% of respondents). This percentage was much higher for stores (18%) than for enterprises (4%). As you can see, almost every fifth observed shop window had the above-mentioned Al tool, which proves the growing awareness of salespeople and the willingness to invest in new technologies.

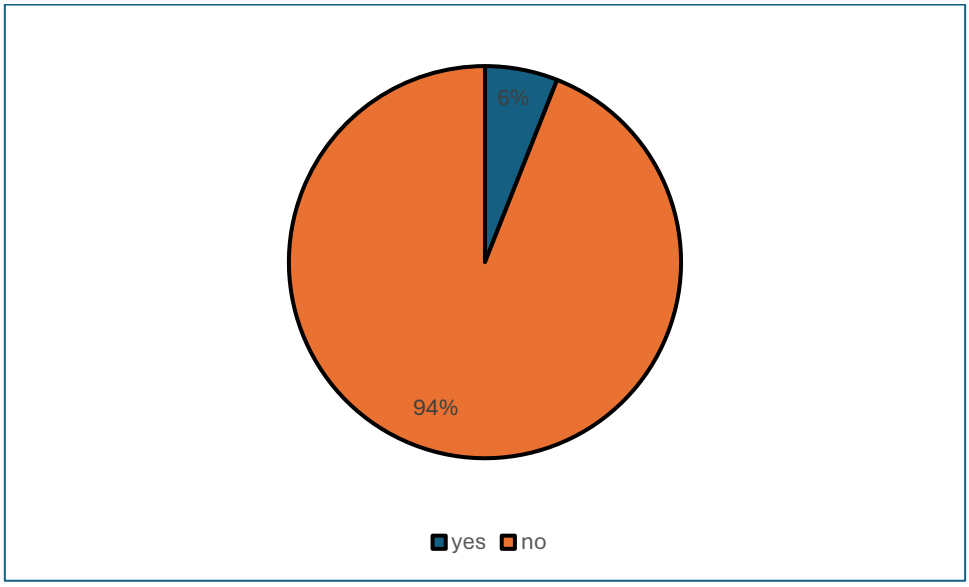

Fig. 6. The use of chatbots on the website of the surveyed organic food market participants

Source: own research

Finally, the chatbots used were subjected to additional evaluation, taking into account their functioning and sophistication. It was found that in 67% of cases, the rating was good or very good.

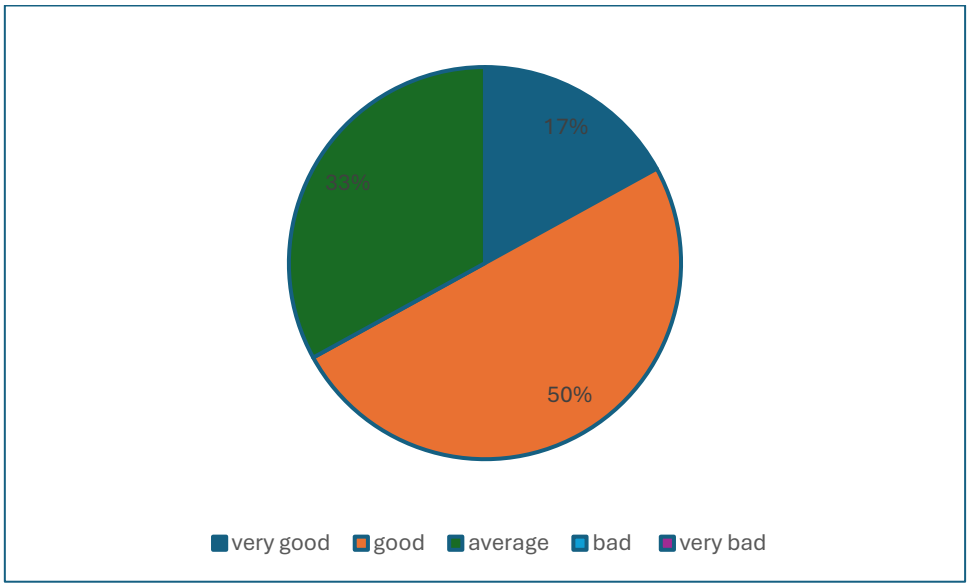

Fig. 7. Evaluation of the chatbots used on the websites of the surveyed organic food market participants

Source: own research

Conclusion

Based on the research carried out, it can be concluded that the vast majority of selected participants of the bio market did not use chatbots on their websites. Only 6% of the surveyed entities decided on this type of innovative

solutions. This percentage was much higher for stores than for manufacturers. Almost every fifth observed shop window had the above-mentioned Al tool. However, the sample size of the stores was small, so it may be subject to error. The results obtained are consistent with the data from the report of the Polish Institute of Economics, where 5.9 percent of Polish entities used some type of artificial intelligence in 2024 (Święcicki, Witczak, 2025).

Almost all of them used only traditional forms to communicate with the customer – phone number, email and contact form, less often communicators. Such methods may not be sufficient for customers expecting immediate answers to their questions.

The evaluation of websites showed that aspects such as visuality and functionality were implemented at a good and very good level for most of the respondents, which will certainly encourage customers to familiarize themselves with the offer and buy. Unfortunately, the adaptation of websites for people with disabilities was not implemented by almost all respondents, which may stop this market segment from taking advantage of the purchase and should be changed in the future.

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