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The perception of using AI in loyalty programmes by consumers

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Abstract

Motivation: The inspiration for conducting this research stemmed from the growing popularity of artificial intelligence in the economy. In addition, digital transformation favours the development of e-commerce, which is associated with the need to care for customers' loyalty to the brand. Due to the increasing frequency of using AI in business operations, including in loyalty programs, an interesting research area has emerged: the impact of this solution on consumers' behaviour.

Aim: The primary objective of this article is to investigate how Polish consumers perceive the use of artificial intelligence tools in loyalty programs. Whereas the detailed aims are to analyse knowledge about using artificial intelligence tools in loyalty programs, identify the disadvantages and advantages of these solutions, and find the dependence between the perception of particular aspects of using artificial intelligence in loyalty programs and the research sample's metric features.

Materials and methods: To prepare for this publication, a review of the latest economic literature and Internet sources related to the analysis of topics was conducted. A survey research with consumers' participation was also conducted. The collected data were analysed statistically to identify interesting dependencies across all samples, considering metric features.

Results: Conducted research enabled a better understanding of consumers' opinions about using artificial intelligence in loyalty programmes. Thanks to this, there is a better understanding of the motives behind the actions of current consumers and the identification of new research gaps.

Keywords: *artificial intelligence; consumer; loyalty*
JEL: *D01; D91; F61; L81*

1. Introduction

The growing popularity of e-commerce and, consequently, an increasing number of opportunities for consumers to shop, has created a greater need to nurture their loyalty to the brand than ever before. One way to impact consumers' loyalty is through the use of loyalty programmes, which have evolved over the years to better adapt to the changing economy. A notable example of their improvement is the incorporation of artificial intelligence into their operations, and this article helps to fill the scientific gap in understanding their situation.

2. Literature review

Artificial intelligence is a sub-discipline of computer science that relies on creating information systems capable of learning and functioning autonomously (PARP, 2023, p. 5). Nowadays, more and more modern enterprises are using artificial intelligence tools, which appeared in the 50s of the last century (Pięta, 2025, p. 70). It is currently also widely used in economic practice, one example being loyalty programmes, which have become an important tool for influencing the decisions consumers make during their purchases (Marketer+, 2025, p. 11). Thanks to the use of loyalty programmes, it is possible to establish long-term relationships with consumers (Motivation Direct, 2025, p. 3). However, it is effective when they are still adapting to the changing market situation (Koy, 2025, p. 294). It is a result of a situation where entrepreneurs, in order to manage their enterprises, must still follow the latest trends and innovations (Koszany & Jakubiec, 2022, p. 19), and artificial intelligence is one of them. Thanks to its algorithms, present-day enterprises have access to a larger amount of data, enabling them to make more informed decisions about how to proceed in business cases (Nowak, 2025, p. 98). Moreover, it is beneficial for competitiveness (Zapolska, 2025, p. 110), as enterprises can stand out. Moreover, the advantage of using artificial intelligence in business, for example, in loyalty programmes, is its ability to learn from earlier interactions with consumers and improve future interactions (Sira, 2022, p. 33). An excellent example is virtual advisors who can improve subsequent interactions based on previous activities (Kozłowska & Rodzik, 2028, p. 8). That is significant because enterprises could better take care of clients. Additionally, it is possible to gain loyal clients who can generate stable incomes, which improves profitability and the value of the enterprise (Wałęga & Kwapniewski, 2021, p. 11). This situation plays a significant role for enterprises because loyal clients are few and finding them is very complicated (Adamska, 2022, p. 23). Additionally, they should be treated as an investment (Aksamit, Bogalecka, Krygier & Piaścik, 2021, p. 17) because they are valuable for enterprises. Consumers perceive that a brand meets their expectations and needs, and are more willing to establish a relationship with which the foundation is based on attachment (Grębosz-Krawczyk & Otto, 2023, p. 487). In addition, research proves that growth of trust towards brands might have a positive impact on the experience connected with the use of artificial intelligence (Surówka, 2025, p. 7). The researches show that using artificial intelligence in loyalty programmes has advantages, but the literature does not define the disadvantages of this solution. Therefore, economic research is closely connected to the analysis of the influence of artificial intelligence on consumer behaviour, especially since loyalty has become an increasingly interesting topic of economics research. The author of this article attempted to fill the gap in this area by conducting original research. The survey questions were inspired by the article from a marketing blog (Makaruk, 2025).

3. Materials and methods

After that, a query of economic literature and straightforward Internet sources was made. The author of this paper conducted a survey research that was later analysed. The research was conducted using an Internet survey, which was carried out from May 9 to May 19, 2025. The survey consisted of 15 questions about research topics and 3 questions regarding metric features. The structure of this Internet survey was designed by the author, taking into account modern economic knowledge about this topic and the aims of this publication. In the research, 390 participants, comprising users of Facebook, Google Classroom, and LinkedIn, took part. The research sample was determined using a research sample calculator, which assumed a 95% confidence level, a fraction size of 0.5, and a maximum error of 5%. The calculator used the formula of a sample size in a finite population to find a research sample (Naukowiec.org, 2025). Because, at the planning stage of the study, the size of the

fraction was not known, the standard parameter value of 0.5 was adopted in this situation (statystyka.eu, 2025).

4. Results

218 women and 172 men who live in Poland participated in a survey research whose results were used in this publication. The first step involved analysing the research sample. Firstly, the author has analysed the age of participants. The age of the majority of participants ranged from 18 to 28 years old, with 76 members falling within this age group. A further 29 and 44 years old, 36 people were between 45 and 60 years old, while 5 individuals were older than 60 years old. To sum up, the dominant group of participants are young people. The following metric question concerned about place of residence. 97 participants lived in the countryside, 31 members in towns with fewer than 10,000 residents, 98 contestants in civic governments with between 10,000 and 100,000 residents, 142 people in cities with between 100,000 and 500,000 residents, and 22 participants lived in towns with more than 500,000 residents. Due to the structure of the research sample, the results cannot be generalised to the entire population. The survey questionnaire was delivered mainly to students, their friends, and family members. Therefore, the study sample has an inconsistent structure. For each metric, some groups are overrepresented, while others are underrepresented. The participants in the survey received 15 questions about artificial intelligence tools used in loyalty programmes. The tools were chosen after an analysis of economic literature and dependable Internet sources. The first one was "How many loyalty programmes do you take part in?". The research involved 290 participants, the majority of whom took part in 1 to 5 loyalty programmes, while a minority participated in 11 to 15 programmes. The full results are shown in Chart 1. Consequently, the majority of consumers prefer a reduced number of loyalty programmes. The second question was "Have you ever met with using of artificial intelligence tools in loyalty programmes?". 304 participants said positive. The full results are shown in Chart 2. As a result, the majority of consumers are familiar with artificial intelligence tools in loyalty programmes. The third question was dedicated to participants who answered positively to the earlier inquiry. The question was "How do you evaluate recommendations of products which appear in loyalty programmes?". 149 participants, the majority of them, marked good, and 9, a minority of them, marked very bad. The full results are shown in Chart 3. In conclusion, it is a tool that consumers find satisfying to use. The fourth question was "How do you evaluate dynamically changing prices which appear in loyalty programmes?". 125 participants, the majority of them, marked this tool average and 12, the majority of them, very bad. The full results are shown in Chart 4. The prevailing response was "average"; as a consequence, participants have a neutral opinion about that tool. To sum up, it could be better adapted to consumers' needs and may be more useful to them. The fifth question was "How do you evaluate individual offers of promotion which appear in loyalty programmes?". 140 members, the majority of whom have given good marks, and 9 participants, a minority of them, have given very bad marks. The full results are shown in Chart 5. Consumers highly rate this tool; therefore, its functionality is likely suitable for their needs. The sixth question was "How do you evaluate individual preparation for clients' newsletters which appear in loyalty programmes?". 130 people, the majority of them, have evaluated it as good and 12 participants, a minority of them, have evaluated it as very bad. The full results are shown in Chart 6. As a result, the tool is also an appropriate adaptation for consumers' needs. The seventh question was "How do you evaluate the use of chats and virtual advisors which appear in loyalty programmes?". 107 members, the majority of them, have marked it good and 21 participants, a minority of them, marked this tool very bad. The full results are shown in Chart 7. This tool is also suitable for consumers' needs. The eighth question was "How do you evaluate individual notifications which appear in loy-

alty programmes?". 114 members, the majority of them, have evaluated well, and 13 participants, a minority of them, marked a very bad answer. The full results are shown in Chart 8. The implement is suitable for consumers' needs. The ninth question was "How do you evaluate the use of individuals designed for clients' email campaigns which appear in loyalty programmes?". 102 participants, the majority of them, gave an average opinion and 21 participants, a minority of them, marked this tool very bad. The full results are shown in Chart 9. Consequently, the tool could be better adapted to consumers' needs. The tenth question was "How do you evaluate the use of artificial intelligence in loyalty programmes in order to cope with notifications and complaints?". The majority of 93 members evaluated this tool as good, while 21 participants, a minority, marked it as very bad. The full results are shown in Chart 10. The instrument is a suitable adaptation for consumers' needs. In the following stage, participants in the research who had interacted with an artificial intelligence tool in loyalty programmes received questions about the influence of AI tools on specific aspects. The eleventh question was "To what extent do you agree with the thesis that using artificial intelligence tools in loyalty programmes influences your shopping decisions?". 102 people, the majority of them, do not have an opinion about it, and 18 participants, a minority of them, definitely agree with this thesis. The full results are shown in Chart 11. The majority of participants do not have an opinion about the influence of AI tools on their shopping decisions, but only one person claimed that they would rather influence their decisions. The twelfth question was "To what extent do you agree with the thesis that using artificial intelligence tools in loyalty programmes improves your engagement with the brand?". 93 participants rather disagree, the majority of them, and 16, a minority of them, strongly agree with that. The full results are shown in Chart 12. To summarise, artificial intelligence tools do not necessarily improve engagement among consumers. The thirteenth question was "To what extent do you agree with the thesis that using artificial intelligence tools in loyalty programmes contributed to your greater satisfaction with the shopping process?". 102 participants, the majority of them, rather agree, and 20, a minority of them, strongly agree. The full results are shown in Chart 13. As a result, artificial intelligence tools could improve satisfaction with shopping. The fourteenth question was "To what extent do you agree with the thesis that using artificial intelligence tools in loyalty programmes has a positive influence on your perception of the brand?". 101 participants, the majority of them, rather agree with the thesis and 23 participants of the research, a minority of them, strongly agree with it. The full results are shown in Chart 14. Research has shown that artificial tools can improve a brand's perception. The fifteenth question was "To what extent do you agree with the thesis that using artificial intelligence tools in loyalty programmes contributes to improving your brand loyalty?". 88 members, the majority of them, disagree, and 18 participants, a minority of them, strongly agree with that. The full results are shown in Chart 15. Artificial intelligence tools don't improve brand loyalty. After comparing the responses with the metrics, only two significant correlations were found: women were significantly more likely than men to have between 6 and 10 loyalty programs (42 women and 22 men indicated this response), and in the 18–28 age group, most respondents had between 1 and 5 loyalty programs. This response was indicated by 206 of 273 respondents.

5. Conclusion

Consumers are becoming increasingly demanding. Moreover, the development of e-commerce continues to increase the number of opportunities associated with shopping. The changes have a negative impact on consumers' loyalty; as a result, caring for their satisfaction is especially important. One way is the improvement of loyalty programmes in progressive businesses, for instance, thanks to the use of artificial intelligence. The re-

search carried out has shown that contemporary consumers generally perceive the use of these tools positively, but there are still areas where the situation could be improved. There is a difference in how consumers perceive individual tools. However, in most cases, it is not possible to distinguish significant correlations depending on the metric features. It is expected that artificial intelligence will play an important role in the functioning of modern enterprises in the near future, and as a consequence, this will impact customers' customs and behaviour. The multifaceted impact of this situation on the global economy will likely underscore the need for further economic research, which will be beneficial in enhancing our understanding of the economic and financial implications of technological advancements associated with the increasing adoption of artificial intelligence.

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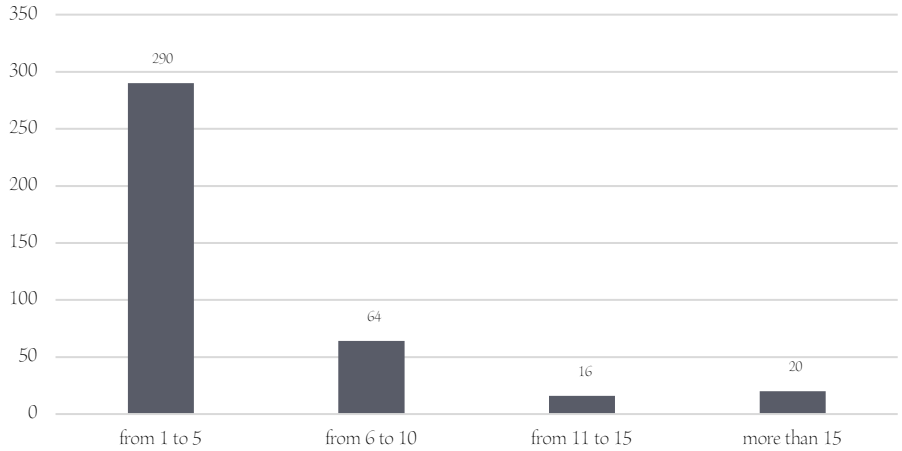
Appendix

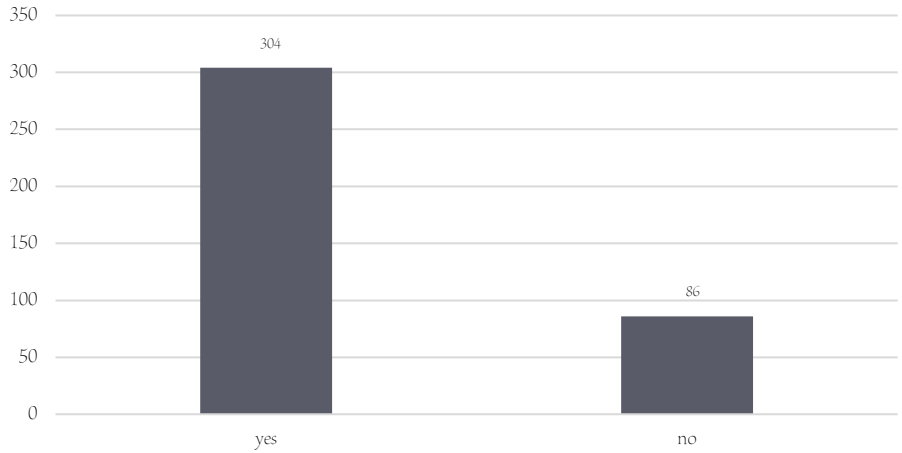
Chart 1.
The number of loyalty programmes in which consumers participate (in number of respondents)



Note: research question 1: How many loyalty programmes do you participate in?

Source: Own preparation based on research.

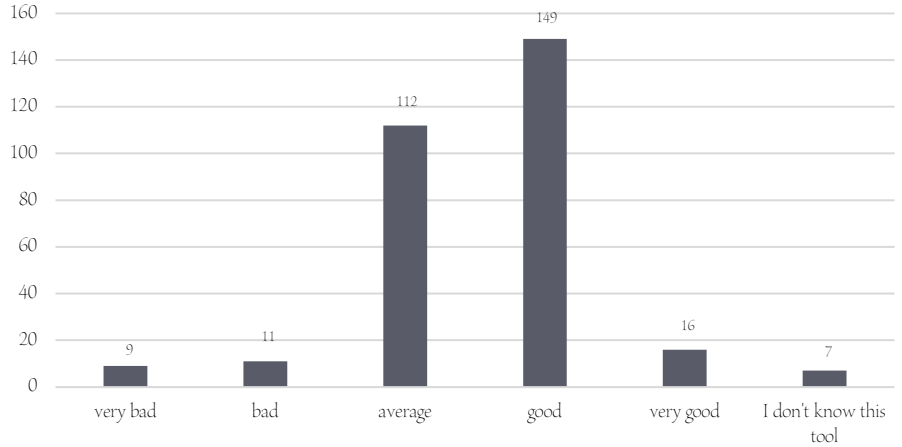
Chart 2.
Consumers' awareness of AI using in loyalty programmes (in number of respondents)



Note: research question 2: Have you encountered the use of artificial intelligence in loyalty programmes?

Source: Own preparation based on research.

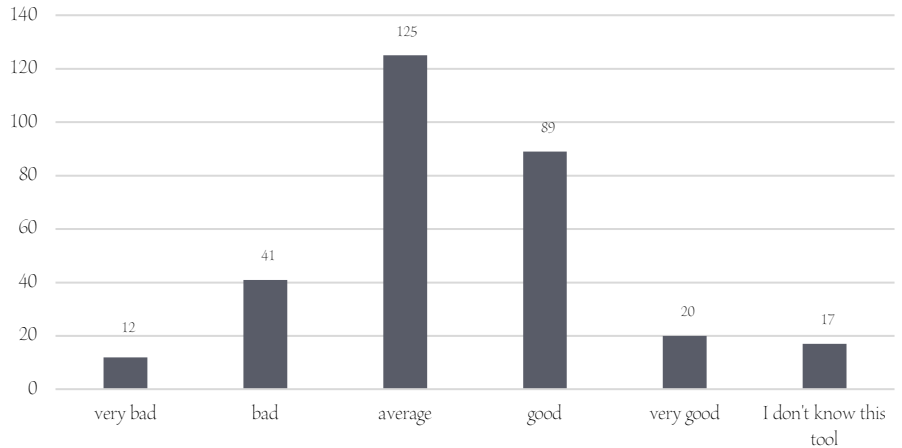
Chart 3.
Consumers' perception of product recommendations appearing in loyalty programmes (in number of respondents)



Note: research question 3: How do you assess product recommendations appearing in loyalty programmes?

Source: Own preparation based on research.

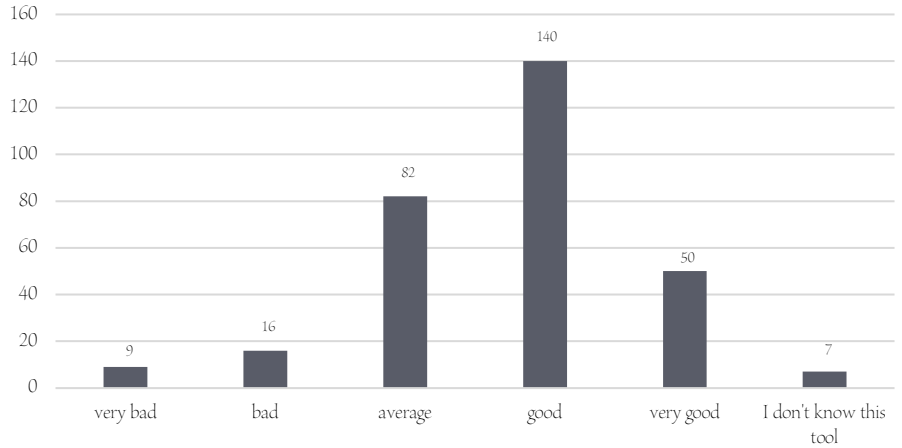
Chart 4.
Consumers' perception of dynamically changing prices appearing in loyalty programmes (in number of respondents)



Note: research question 4: How do you assess the dynamic price changes appearing in loyalty programmes?

Source: Own preparation based on research.

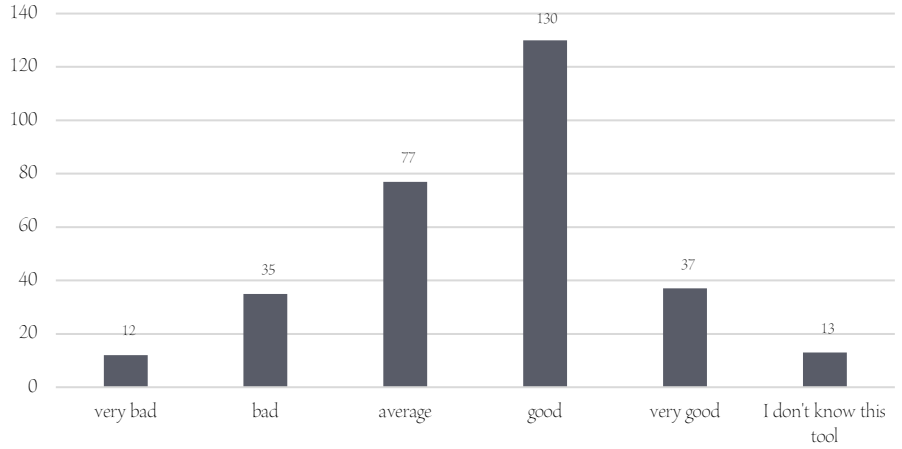
Chart 5.
Consumers' perception of personalised promotional offers appearing in loyalty programmes (in number of respondents)



Note: research question 5: How do you rate personalised promotional offers appearing in loyalty programmes?

Source: Own preparation based on research.

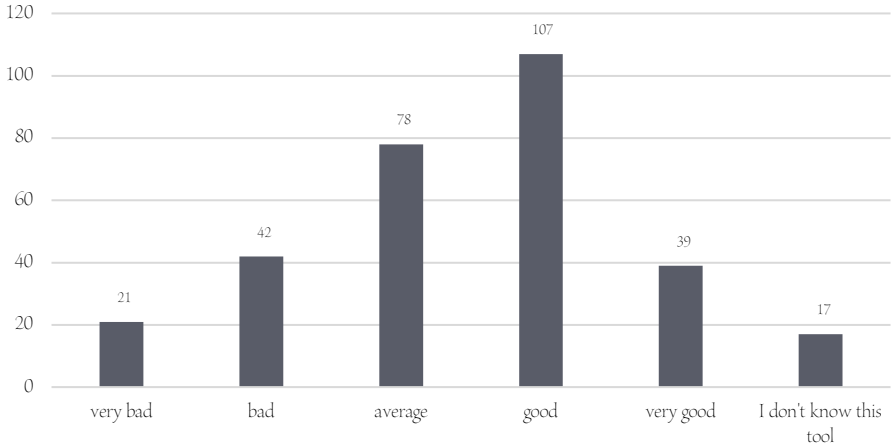
Chart 6.
Consumers' perception of individually prepared newsletters appearing in loyalty programmes (in number of respondents)



Note: research question 6: How do you evaluate individually prepared newsletters for customers appearing in loyalty programmes?

Source: Own preparation based on research.

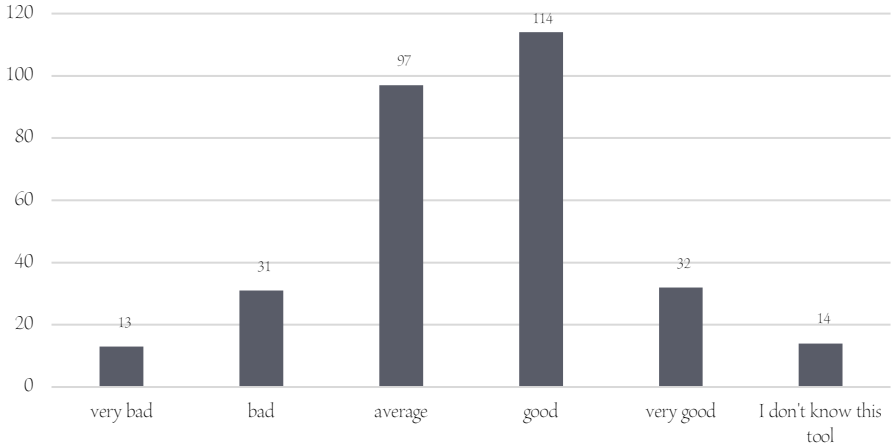
Chart 7.
Consumers' perception of the use of chats and virtual assistants appearing in loyalty programmes (in number of respondents)



Note: research question 7: How do you evaluate the use of chats and virtual assistants in loyalty programmes?

Source: Own preparation based on research.

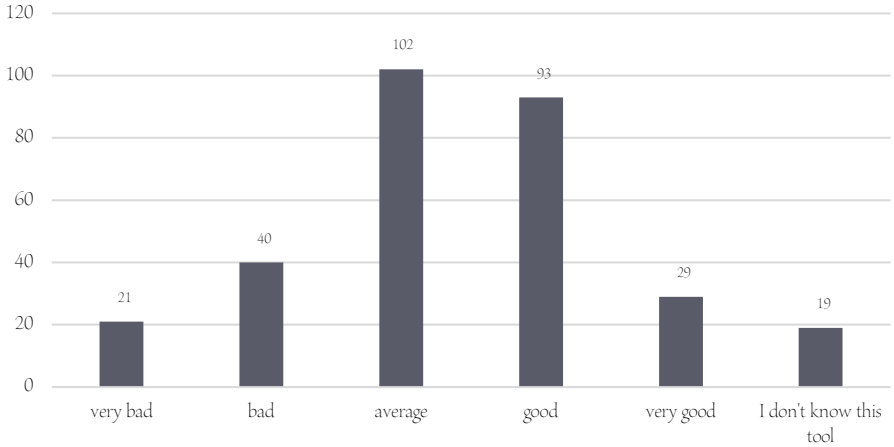
Chart 8.
Consumers' perception of the use of personalized notifications appearing in loyalty programmes (in number of respondents)



Note: research question 8: How do you assess the use of personalised notifications that appear in loyalty programmes?

Source: Own preparation based on research.

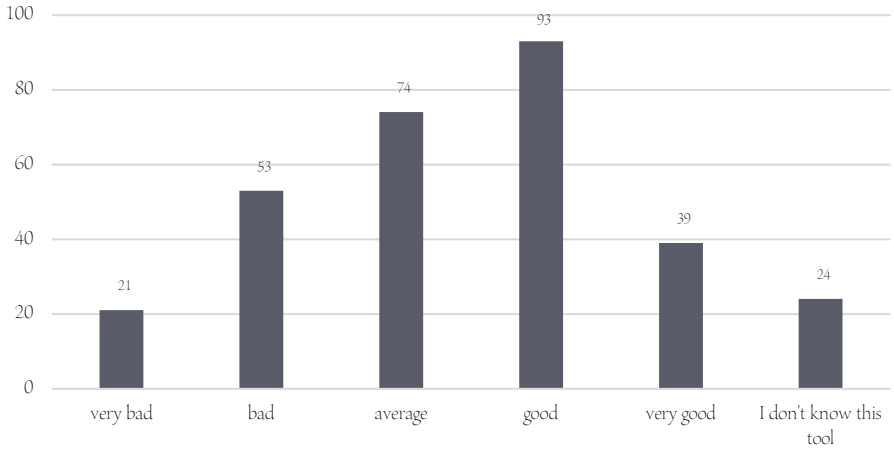
Chart 9.
Consumers' perception of the use of individually designed e-mail campaigns appearing in loyalty programs (in number of respondents)



Note: research question 9: How do you assess the use of individually designed e-mail campaigns for customers that appear in loyalty programmes?

Source: Own preparation based on research.

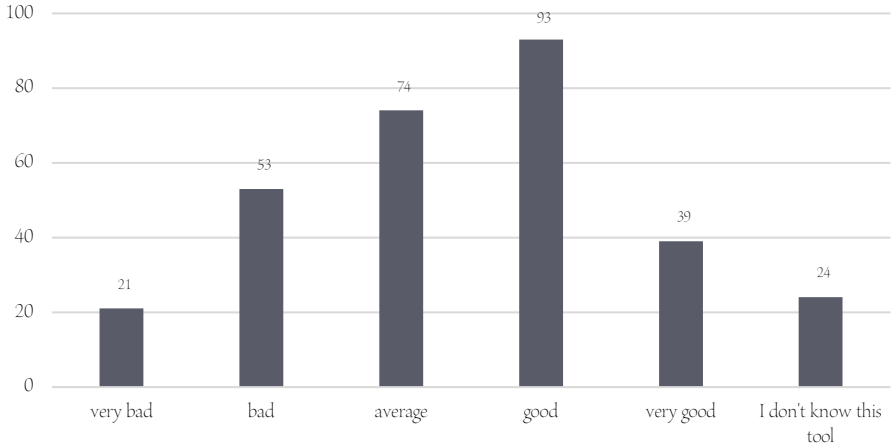
Chart 10.
Consumers' perception of the use of artificial intelligence in loyalty programmes to cope with notifications and complaints (in number of respondents)



Note: research question 10: How do you evaluate the use of artificial intelligence in loyalty programmes in order to cope with notifications and complaints?

Source: Own preparation based on research.

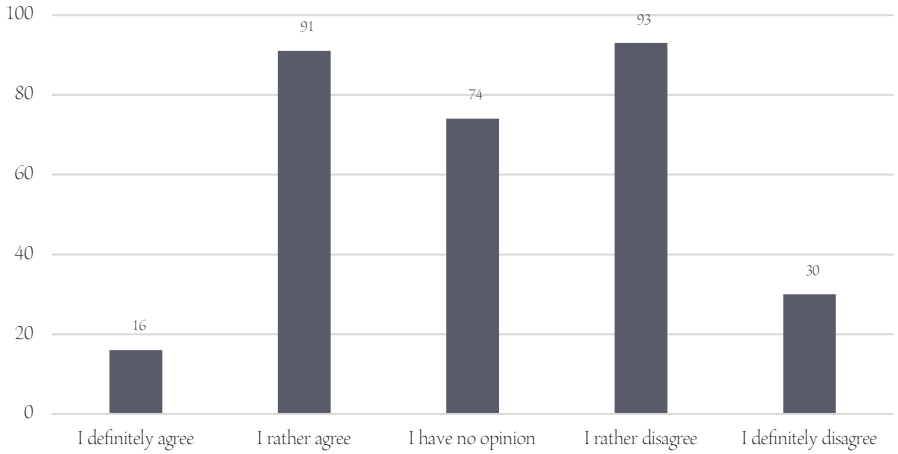
Chart 11.
Level of agreement with the statement that the use of artificial intelligence tools in loyalty programmes influences your purchasing decisions (in number of respondents)



Note: research question 11: To what extent do you agree with the statement that the use of artificial intelligence tools in loyalty programmes influences your purchasing decisions?

Source: Own preparation based on research.

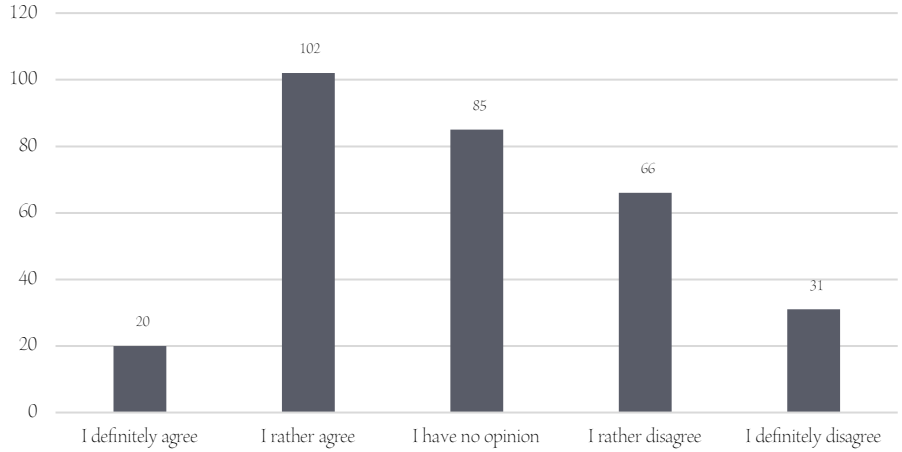
Chart 12.
Level of agreement with the thesis that using artificial intelligence tools in loyalty programmes improves your engagement with the brand (in number of respondents)



Note: research question 12: To what extent do you agree with the thesis that using artificial intelligence tools in loyalty programmes improves your engagement with the brand?

Source: Own preparation based on research.

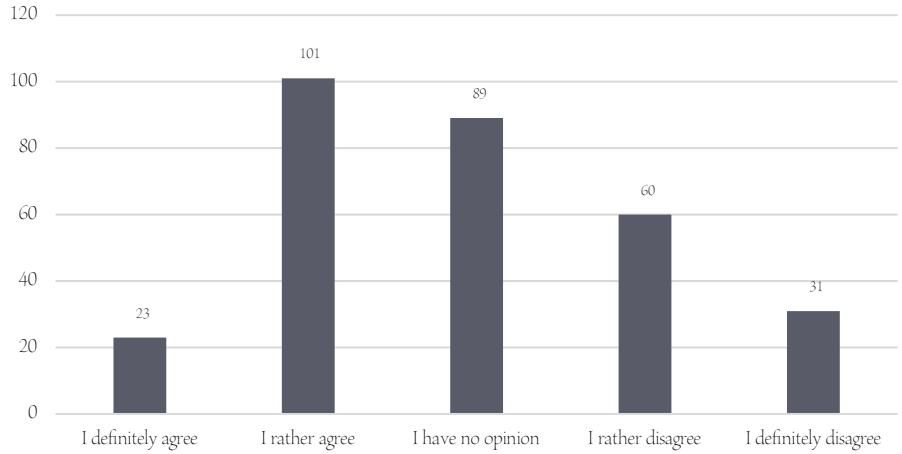
Chart 13.
Level of agreement with the statement that the use of artificial intelligence tools in loyalty programmes influences your purchasing decisions (in number of respondents)



Note: research question 13: To what extent do you agree with the statement that the use of artificial intelligence tools in loyalty programmes influences your purchasing decisions?

Source: Own preparation based on research.

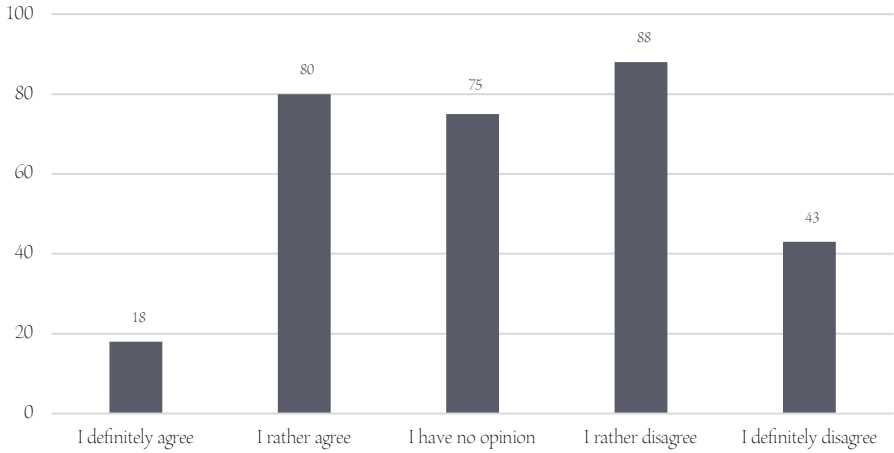
Chart 14.
Level of agreement with the thesis that using artificial intelligence tools in loyalty programmes has a positive influence on your perception of the brand (in number of respondents)



Note: research question 14: To what extent do you agree with the thesis that using artificial intelligence tools in loyalty programmes has a positive influence on your perception of the brand?

Source: Own preparation based on research.

Chart 15.
Level of agreement with the thesis the thesis that using artificial intelligence tools in loyalty programmes contributes to improving your brand loyalty (in number of respondents)



Note: research question 15: To what extent do you agree with the thesis that using artificial intelligence tools in loyalty programmes contributes to improving your brand loyalty?

Source: Own preparation based on research.