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Integration of Chatbots for Sales purposes in Kazakhstan: Benefits and Risks

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Abstract

This study is aimed at analyzing the use of chatbots based on artificial intelligence (generative AI) in sales in Kazakhstan, their advantages and risks, as well as the potential to improve business processes and customer interaction. The study covers a wide range of types of sales, including retail sales, online commerce, the automotive industry, retail clothing stores, banking, securities and others. The study, conducted on the basis of primary and secondary analysis, examines the introduction of chatbots into various sales sectors in Kazakhstan. The initial study included surveys with representatives of various industries, as well as interview with chatbot developer. The secondary research is based on the analysis of scientific research, books and articles on the topic.

It is expected that the results of the study will reveal the effectiveness of chatbots in various industries and provide mitigation plan and recommendations on their integration to increase competitiveness in the market.

Keywords: Chatbots, benefits, risks, artificial intelligence, sales, Kazakhstan, market.

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Introduction

In order to increase sales in Kazakhstan, an urgent topic of research in modern business is the integration of chatbots. Optimizing their activities and ensuring competitiveness, the use of chatbots has become an integral part of strategies for many companies under the conditions of current fierce competition and constantly rapid technological development. The research interest in this topic is due to the potential that chatbots represent as a tool for automating sales processes. Before analyzing the advantages and risks of integrating chatbots, it is necessary to pay attention to the key aspects of their functioning and impact on business processes.

Particular focus will be given to the accessibility of chatbots towards customers, their potential to individualize the user's experience, their social and technological advantages, and their ability to save on operating costs. The problem of the research is that successful cases of integration of chatbots with artificial intelligence in the sphere of Kazakhstani companies' sales are practically absent, due to which their effectiveness is restrained and the question arises of the advisability of the implementation of such technologies in the business environment of the country. This is of significant importance for the development of modern business and improving the quality of customer service.

The purpose of the study is to assess the potential benefits and risks of using chatbots with AI in the sales processes of Kazakhstani companies, as well as to develop recommendations for their integration into business processes. The hypothesis of the study suggests that the integration of chatbots with artificial intelligence into the sales processes of Kazakhstani companies will lead to lower transaction costs, improve the quality of customer service and increase sales.

Our recent survey among specialists in various fields and students of universities in Kazakhstan has become an important stage of our research. The gathered data became a basis of knowledge on a deeper understanding of the impact of chatbots on sales processes in a given country. From the analysis of the responses by survey participants, it was possible to show the main trends, advantages, and risks in the implementation of chatbots into the business sphere in Kazakhstan. It will be possible to draw

informed conclusions and give valuable recommendations for organizations that are interested in the optimization of selling processes with the help of chatbots.

1. Literature review

This review explores key research and theories related to the use of chatbots in marketing and sales, focusing on their potential benefits and existing research gaps.

Margarita Akulich's works, including "Neuromarketing: Use in social networks, advertising and other areas" and "Chatbots and Marketing", provide valuable research into the application of neuromarketing and chatbots in modern business practice. Taking into account the interconnection of the Russian and Kazakh markets within the framework of the Customs Union, studies by Russian scientists, practitioners and experts were also studied.

The work of D. E. Kyzirov and S. Z. Sapakova "Chatbot Assistants: Implementation and Analysis of the Efficiency" is a valuable study that analyzes the methods of creating chatbots, their role in improving user experience and security challenges. The article emphasizes the importance of developing safe and effective chatbots and also suggests promising areas for their use.

Moreover, the book "AI in Marketing, sales and service" by Peter Gentsch offers a detailed guide to the implementation of artificial intelligence and algorithms in business, emphasizing their role in market analysis and interaction with customers through chatbots. This source provides practical knowledge on how to use artificial intelligence technologies to improve sales processes and increase customer engagement.

In addition, Mike Loukides' book "What are ChatGPT and its Friends" reveals the possibilities, principles of operation and limitations of large language models such as GPT-3 and GPT-4. Studying the fundamental aspects of these models provides a deeper understanding of the opportunities and challenges associated with integrating such technologies into sales and marketing strategies.

The literature review highlights the importance of chatbots and artificial intelligence in sales. However, research gaps indicate the need for further study of the consequences and challenges of the introduction of chatbots in Kazakhstan. Our project aims to fill these gaps by providing data and recommendations for the successful implementation of chatbots in sales processes.

2. Research Methodology

As part of the study, a comprehensive methodology was applied, including an analysis of risks and benefits, as well as the use of various data collection methods. As an initial study, an anonymous survey was conducted on the Microsoft Forms platform among representatives of various sectors such as retail, the automotive industry, HR, banking, oil and gas, and others. Additionally, interviews with the chatbot developer and an analysis of relevant articles and research were conducted. This approach allowed us to collect diverse data and identify the main trends and opinions in the market. The data analysis was carried out using qualitative and quantitative methods, which allowed us to get a comprehensive understanding of the introduction of artificial intelligence into the sales sector in Kazakhstan.

3. Risks & benefits of Chatbots

3.1. What are chatbots? Why do we need this?

Chatbots are programs that can automatically interact with people through text messages. They can be integrated into various messengers, websites or applications, giving the user the opportunity to ask questions, receive information or perform certain tasks without interacting with a real person. They will process orders automatically or schedule appointments, thus saving valuable employee time.

Additionally, they will help in increasing business efficiency by analyzing customer data and providing recommendations personally to customers or some marketing offers that help increase sales and customer retention.

3.2. The Role of Chatbots in Sales

Defining the term and understanding the evolution of modern technologies like chatbots, also has its roles with or without customers. Chatbots based on artificial intelligence reproduce human communication in text or voice interaction and provide information in a dialogue form. Chatbots have become one of the tools for expanding a business or startup by offering services to customers. In other words, a reliable virtual assistant. Speed, dynamism, and efficiency. These words characterize the responses of chatbots to customer requests at any time. It's easy to deploy and integrate in a couple of minutes. They are inexpensive and easy to maintain. At the same time, they are effective in predicting queries and preparing suitable responses. An example from Georgia Tech University¹, where one of the professors developed a chatbot to make it simpler for students to understand his subject, serves as proof. Consequently, after three months, the chatbot answered all questions with an accuracy of 97%.

As outlined by Anna Sannikova², from the sales industry, chatbots have shown flexibility to do a number of tasks including but not limited to:

¹ Chakraborty, U., Banerjee, A., Saha, J. K., Sarkar, N., & Chakraborty, C. (2022). Artificial Intelligence and the Fourth Industrial Revolution. Jenny Stanford Publishing.

² An IT professional and blogger with over 15 years of experience

1. Answering the most frequently posed queries;
2. Consulting on the product and services;
3. Disseminating information about specials, discounts, and new products and encouraging the buying process;
4. Recommending products, commodities, and services based on consumer preferences;
5. Processing orders, payments, and delivery;
6. Gathering comments and recommendations;
7. Send individual messages and notifications.

3.3 Benefits of Chatbots

Currently, AI bots for customer service on a website or in a messenger allow customers to quickly and independently resolve their doubts without placing an unnecessary burden on the staff of the contact center.

Mudda Sudhakar claims³ that because the majority of businesses communicated by phone during the pandemic, there was a sharp increase in call centre costs. The waiting time has only increased, and social distancing has made itself felt by many companies. At that time, even the purchase of additional licenses for the service desk and customer service did not have a positive effect, as current chatbots do. The author believes that current chatbots could have been indistinguishable from human intelligence much earlier in the functions of the service desk and customer service if they had introduced artificial intelligence capabilities rather than scripts or robotization during the pandemic period.

Thanks to the evolution of chatbots, most people not only use them as sales assistants but also for life occasions and workflows. Platforms such as ChatGPT, Google Bard, Microsoft Bing, and others are already almost a lifesaver for this generation, while our ancestors tried to find questions and answers

³ Serial entrepreneur, tech leader, prolific author, 40+ patents

through calls to other people, or there were no such resources at all receiving automated, continuous benefits.

Meanwhile, Forbes Kazakhstan states that those business organizations that integrated online before the quarantine began were the least affected during the pandemic. One of the reasons for the successful integration was chatbots. In this regard, it is necessary to determine the features chatbots have and what important benefits they can bring to the Kazakhstani sales market.

For a clear idea of which areas and chatbots impress us so much, we will consider such options as personal user experience, social, technological, and lower operating costs' benefits, as well as their types.

3.3.1 Personal User Experience

Personalization becomes a necessity. At the same time, the digital revolution and the examples of Apple, Google, and Amazon set such high demands that users expect consumerized services at the push of a button on their device of choice that also perfectly understand their personal context. It became apparent that only sophisticated AI could offer this type of experience to users.

Every user visiting any web page is met with the "accept all cookies⁴" function. When this function was clicked, the website owner received the personal data of the website visitor, and he personally tried to notify the guests about the elections and preferences by offering a similar filter. However, the company will sometimes have a lack of mutual understanding and will not always be able to provide high-quality customer service, which can lead to problems in relations with them and losses out of the blue. More is expected from current chatbots, as they personalize data more thoroughly and provide better service. CX Trends⁵ assures that two-thirds of managers (67%) believe that thanks to the chatbot, the relationship with customers will only strengthen in a positive way.

⁴ Web trackers that permit data to be stored on your device for a better user experience and analytics

⁵ A report by Zendesk, published in 2024

Types of Personal User Experience's Benefits:

- ***Personalized Recommendations:***

According to Mikhail Moskvina's words, marketing specialist, to improve sales in modern business, personalized recommendations are an excellent opportunity to raise the profits of each company. It is important for the Kazakh market to understand that by collecting information about the preferences of citizens and using the same data to create personalized recommendations. For instance, in a shopping case⁶ called "Christmas Genie", the chatbot was supposed to be a personal assistant for customers. The author of this case stated that Disney wanted to stand out from competitors, and they did it perfectly, since the introduction of the chatbot simplified the search for the perfect gift for parents, children, or friends during the holiday trading season, using a question tree to determine a suitable product, taking into account the individual characteristics of each family member. Moreover, the digital shopper not only approached with the aim of selling something; it did it with an innovative and creative approach and the ability to tell stories about the product and features, leaving an attractive and pleasant consumer experience. Special attention was paid because the chatbot reflected the values of Disney through its intonation, funny responses to users, and reactions after they entered data by pressing buttons.

- ***Personalized Interactions:***

According to expert Joe Arioto, with individual customer interaction, customers will definitely show a desire to return to the site by adapting the conversation with them. Gradually, the chatbot begins to offer profitable offers both for the business of companies as well as for the purchase of goods from customers depending on their needs, namely promotions, special discounts, promo codes, concessions, and compromises. As an example, you can add a case again⁷, but this time with the advertising game "Rogue One: The Story of Star Wars.". Immersing users in the plot of the film and engaging them in the

⁶ An example from Gentsch, P. (2019). AI in marketing, sales and service: How marketers without a data science degree can use AI, big data and bots (pp. 185–186). Palgrave Macmillan.

⁷Gentsch, P. (2019). AI in marketing, sales and service: How marketers without a data science degree can use AI, big data and bots (pp. 185–186). Palgrave Macmillan.

gameplay was the main task for the chatbot. He also asked users to answer a couple of questions to determine their ability to rebel, after which the players went on a special mission. For a more emotional background, chatbots included a scoring system. If one of the users fell into a trap, he could easily ask his friends for help so that they could join the game. At the end of the game, Easter eggs were recommended as well, which showed a surprise or reaction caused by certain keywords. This increased interest and sympathy for the tryouts, especially for fans of "Star Wars," despite the short passage time.

Zendesk survey indicates that customers anticipate significant improvements in the chatbot service, name in customer engagement, within the next two years. They hold the belief that chatbots would provide a more authentic dialogue with clients, efficiently handling their intricate inquiries and providing tailored propositions. The following findings were gathered based on the received responses:

Current and expected rating of bot performance in typical CX interactions by consumers (see Figure 1 in the Appendix A)

- 65% of customers are satisfied with basic questions reply and 4% expect to see them improving (69% in total).
- 55% of service users are happy with the facilitated process of identifying and finding items that align with their preferences, and 11% hope for the upgrade (66% in total).
- Around 57% of users are delighted to receive correct information, whereas a further 9% per cent point to having better ones (65-66% in total).
- 53% of consumers believe that chatbots provide personalized recommendations and an additional 10% expect chatbots to be better at this in two years (63% in total).
- Approximately 56% of them feel the assistance of chatbots to better understand products and an extra 7-8% wish to see the right changes on it (63% in total).
- More or less 49% of customers noticed that chatbots can answer nuanced and complex questions, plus 8% would like to see this service enhanced (58% in total).

- 47% enjoy having natural conversation and 10% believe in more outstanding development (57% in total).
- Circa 47% of customers see empathic behavior, and 10 percentage points are for the future (56% in total).

3.3.2 Social Benefits

In the absence of consumer feedback, companies face challenges in making educated guesses regarding the quality of their online services and physical presence. Hence, the implementation of contemporary chatbots represents a triumphant resolution for sustained market expansion, enabling an enhancement in the calibre of customer engagement.

- ***Improved Customer Engagement***

During the COVID pandemic, the whole world stayed at home and strictly observed lockdown. People needed to exclude social contact with others as much as possible. The decision of many civilians turned out to be the purchase of goods and services remotely due to security. Outlets or any retail stores were not outstanding ideas for promoting sales to many companies, and all preferences were given to websites. However, companies did not always get what they wanted; refusals were shown instead of a visit. Refusals are site visitors who, after viewing the first page, leave it instantly. The main reason for this problem is poor customer support and a lack of interaction⁸. Companies using chatbots with artificial intelligence allowed customers to see a pop-up window with offers of help from the bot itself when opening a website page. Due to this, many dissatisfied visitors do not leave the site of successful companies due to the corresponding purchasing behavior. Chatbots not only analyze the behavior of visitors but also give them the first touch so that they are not overwhelmed when choosing products.

⁸ Arioto, J. (2023, April 28). How AI Chatbots Help Increase Sales. www.linkedin.com.

- ***Understanding Customer Interests and Needs***

Analyzing the preferences, behaviors, and trends of consumers is an equally essential advantage that should be considered before reinforcing these areas with customers. In this regard, chatbots provide a variety of services and marketing tactics for more successful sales and revenue growth. This is because firms are able to customize their goods by first gaining an understanding of a specific target demographic. Specifically, this allows them to collect all necessary data about clients.

Additionally, chatbots powered by artificial intelligence enable the observation of an overview of customer feedback, the assessment of a company's performance through the use of customer satisfaction surveys, and the growth of the number of paying customers.

3.3.3 Technological Benefits

Kazakhstan values technology just like any other country in the world. It's more critical to a new country wishing to be among the world's innovators by the year 2050. Currently, Kazakhstan ranks 28th in innovation, and it is already among the top 8 countries that provide online services in the world out of 194 countries. The implementation of contemporary chatbots may significantly enhance the local market and offer optimal comfort to prospective online clients. The Kazakh market should increase the frequency of using contemporary chatbots due to their technological advantages, namely in terms of omnichannel integration, round-the-clock availability, multilingual assistance, and lead generation.

Types of Technological Benefits:

- ***Omnichannel integration***

Consumers dedicate a significant amount of time to their electronic devices, engaging in communication through social networks or messaging platforms. Therefore, if individuals have a preference for this mode of communication, it would be beneficial to provide them with the chance to do so. via messaging platforms such as Instagram, Facebook, TikTok, WhatsApp, etc. enables clients to connect with the firm according to their own preferences, via the application of their choice. According

to HBR⁹, the primary benefit of this approach is that it allows the brand to promptly comprehend the customer's desires and provide a swift reaction. An increased number of organizations are offering clients the ability to reach out to them via this channel, and it is very effective. According to a study by Aberdeen Group, organizations that offer multiple channels of communication are capable of retaining customers on average at a rate of 89%.

- ***24/7 Availability***

Regarding accessibility, conventional customer care personnel may not always possess the ability or adaptability to offer assistance due to their restricted working hours. Chatbots provide 24/7 service and can efficiently respond to a wide range of inquiries through automated processes. They minimize waiting times by handling transactions and guiding users through difficult websites or registration procedures. These tasks facilitate the provision of services to both new and existing consumers at a time that is convenient for them, by effectively resolving complex issues. This also pertains to overseas clientele, who vary in their residence throughout different time zones. The availability of dialogue models for prominent languages like ChatGPT and Bard has led to chatbots exhibiting a greater resemblance to human-like behavior in their conclusions and answers.

- ***Multilingual Support***

Chatbots possess the capability to operate continuously and provide immediate responses, as well as the ability to automatically answer FAQs. Furthermore, they may be built to support several languages. Feedback in a single language may not always be helpful and sufficient for firms, as corporate representatives might handle various situations. While staff may possess multilingual skills, there is no assurance that they can swiftly react in a language other than their native tongue, as current chatbots can. Multilingual chatbots effectively cater to a worldwide audience, meeting the specific needs of clients from various locations by providing consultations in their native languages.

⁹ Harvard Business Review

- ***Lead Generation***

A chatbot is a technology designed to effectively engage and capture potential consumers, often known as leads. In contemporary marketing, chatbots have emerged as the most successful technique for lead creation, surpassing the previous methods of enticing leads with complimentary guides, promo codes, discount coupons, and other little incentives. In order to accomplish successful lead generation, it suffices to gather user data, promptly obtain feedback, enhance retention rates, and automate repetitive chores and responses to commonly asked inquiries. These measures effectively save both time and resources. Cold leads (unengaged prospects) transfer into the category of warm leads (interested prospects), and warm leads transfer into the category of hot leads (ready buyers).

3.3.4 Low Operating Costs

Last but not least, the benefits of chatbots are to reduce company costs. The global population is growing every year, which means that the number of customers and demand for products and services will grow either way.

Types of Low Operating Costs' Benefits:

- ***Lower the number of requests for human agents and save costs***

A small financial advantage of companies that use chatbots can make another contribution to the development of sales and profits. In addition, the company will not lose its valuable and experienced representatives, who are stressed on a daily basis and at the same time trying to respond to various customer requests quickly but less efficiently than the artificial intelligence tool itself can do.

87% of customers globally say that chatbots were effective in solving their problems in 2017, Microsoft reports. Thanks to the investment in chatbots, the opinion of customers about the brand will go in a more positive direction, especially in the Kazakh market, where digitalization is highly appreciated.

- ***Reduce support team costs***

The introduction of chatbots in sales also affects the costs of the company's support service. With a round-the-clock routine, the support service will require partial or, in extreme cases, full employment due to high workload (customer requests), and with a monthly subscription payment, chatbots will do this without any complaints.

3.4. Risks of Chatbots

With the introduction of modern technologies into business processes, chatbots are becoming an integral part of sales, providing companies with innovative opportunities to improve customer experience and optimize communication. However, along with the undeniable advantages associated with the use of chatbots, there comes a need for a thorough analysis and assessment of the risks that may arise during their implementation. In this chapter, we will look at the various aspects and categories of risks associated with the use of chatbots in sales in the context of Kazakhstan.

Modern business strives for efficiency, and chatbots are a powerful tool for automating and optimizing customer interaction processes. They are able to promptly provide information, process orders, solve problems, and even conduct dialogues that would seem impossible for a machine. However, despite all the advantages listed above and which often attract the attention of the business community, the introduction of chatbots into the sales sector involves a number of significant risks that require careful analysis and strategic management.

3.4.1. Economic risks

First of all, it is important to pay attention to the economic risks that may arise during the development, implementation and operation of chatbots. Incorrect budgeting, insufficient financing or underestimation of costs can lead to serious financial difficulties for the company. Examples include unforeseen expenses for staff training, updating the chatbot software, or implementing large-scale upgrades to increase its efficiency.

Types of economic risks:

- ***Development and maintenance costs***

One of the main types of risks is unforeseen and significant costs for the development, implementation and maintenance of chatbots. Companies may face high costs for staff training, technical support, as well as updates and improvements to the chatbot functionality.

A chatbot's installation and upkeep can be a technically difficult undertaking that calls for a substantial investment of time and money for both creation and continuing care.

Furthermore, integrating a chatbot with the company's current infrastructure could be challenging. This covers communication with databases, accounting systems, CRM systems, and other essential elements. Employee training will be necessary to achieve this, particularly for those who will be handling its upkeep. Consequently, this is also an expensive procedure. Because incorrect use or a lack of knowledge about the features of the chatbot may result in problems or breakdowns, which would increase expenses even more. Technical expenses are also influenced by the number, complexity, and frequency of upgrades since ongoing technical maintenance may necessitate the engagement of outside developers or the hire of specialists.

Consequently, even if a chatbot's development and maintaining may be essential to its effective functioning, they also include additional expenses that need to be evaluated and factored into the business's overall budgetary plan.

- ***Loss of profit due to low conversion***

Converting prospective clients into actual deals might be challenging for a chatbot. A lack of capacity to provide appealing offerings, inadequate customization, or inefficient engagement tactics might be the reason of this. As a result, the chatbot's installation may not generate the anticipated income for the organization, hence decreasing its economic efficiency.

By the other hand, there's a chance that you won't have the best luck when it comes to closing deals like buying products or services. Technical malfunctions, inadequate payment system

integration, or ineffective sales tactics might be the cause of this. Inadequate transaction fulfillment might result in lost sales opportunities and eroded consumer confidence.

- ***Tax risks***

The introduction of chatbots may lead to a reduction in the need for human resources, which in turn may lead to a reduction in the number of taxpayers. The decrease in national budget revenues caused by the replacement of human jobs by Chatbots can lead to an increase in tax rates and an additional financial burden for companies.

Reductions in the number of employees may also result in a drop in various work-related taxes. Social insurance money and other budgetary initiatives could be impacted by this.

In other words, it may result in lower income for social insurance funds, including pension, health, and social insurance funds, and it may have an impact on the funding of different budgetary programs, such as those related to social security, education, and health, among other social and economic endeavors.

Mitigating economic risks

- First and foremost, thorough financial preparation is required, such as cost analysis for chatbot creation and support. Following that, it is worth considering an equally crucial point: employee training. It is vital to lessen a company's reliance on external developers, which requires to create staff training programs. It is worth emphasizing that the selection of appropriate technology is critical, since using existing and proven platforms to create chatbots may cut initial expenses;
- To improve the user experience, chatbot dialog situations should be analyzed and optimized on a consistent basis;

- It is worthwhile to use A/B testing¹⁰ and closely integrate the chatbot with CRM systems in order to better understand consumer demands and tailor offers, as well as to determine the most effective ways to sales and customer contact. Low conversion can also be avoided by continuously analyzing data and evaluating chatbot performance;
- Employee retraining and training is required in order to prepare them for new duties brought about by technological advancement. Additionally, in order to support society and lessen the burden on social budgets, politicians should create social responsibility initiatives. Furthermore, a balanced approach to taxation that considers the interests of businesses and society at large requires the state to lobby on behalf of corporate interests.

In Kazakhstan, the use of chatbots for sales purposes carries a number of economic risks. But by implementing the aforementioned tactics, businesses can optimize chatbots' potential advantages for both industry and society, while also lowering the risks connected with their adoption.

3.4.2. Social risks

The next important aspect is social risks. In today's society, where attention to detail and an individualized approach are valued above all else, there is a danger that the use of chatbots may cause negative attitudes from consumers. Preference for human communication and concerns about the replacement of workplaces with automated systems can lead to the loss of the customer base and other unpleasant problems.

¹⁰ A marketing research approach in which two (or more) versions of the same item are directly compared to see which produces the greatest results

Types of social risks:

- ***Customer rejection***

Currently, chatbot technologies can simulate conversation, but they are limited in their ability to truly understand and respond to human emotions. This can cause customers to feel dissatisfied and disappointed.

- ***Fear of job loss and discontent of citizens***

With the implementation of automated chatbots, there may be a public fear of job losses. This may affect public attitudes towards companies implementing technologies that reduce the number of human work places. As mentioned before under economic risks, residents, particularly those who anticipated state help, may become dissatisfied with the decline in social program financing as a result of fewer workers being liable to taxes and mandated insurance premiums. Social conflicts may result from this, and managing public expectations may need more work.

- ***An immobile lifestyle and health***

The possible growth of an immobile lifestyle among consumers who turn to chatbots to order goods and services is becoming a social risk. An expansion of online purchases through chatbots can contribute to a decrease in physical activity and, as a result, an increase in the number of people with excess weight and various diseases associated with a sedentary lifestyle.

- ***Isolation and social skills loss***

The ability to make all purchases and orders of services from home via chatbots can lead to social isolation and loss of communication skills in the real world. This aspect can have a negative impact on the psychosocial state of people.

Mitigating social risks

- Businesses should create and advertise training courses on the uses and constraints of chatbots, as well as use machine learning techniques to enhance the chatbots' comprehension of and responsiveness to client emotions;
- It is worthwhile to run awareness efforts to allay citizens' fears of losing their jobs by highlighting how the adoption of chatbots may boost employment and the economy;
- Within the context of corporate responsibility, it's critical to advance the concepts of an active lifestyle and healthy living, and to include chatbot features that encourage physical exercise and provide advice on leading a healthy lifestyle;
- It would be beneficial to build chatbot features that promote in-person communication, such as offering coupons for group activities or savings at nearby businesses to fortify social bonds.

Companies may reduce potential social hazards and establish a favorable view of chatbot technology by engaging in proactive public engagement, communicating openly, and using chatbot technology responsibly. The demands and concerns of users must be considered when implementing technology, social responsibility must be balanced, and an atmosphere must be created where chatbots are acknowledged as a necessary and valuable component of contemporary society, helping businesses as well as their clientele.

3.4.3. Reputation risks

Reputational risks, which are closely linked to social risks, are crucial to the effective use of chatbots. The company's reputation may be harmed if a chatbot proves to be unreliable, gives misleading information, or—more importantly—becomes a vehicle for the dissemination of unfavorable information. Reputational hazards are becoming more significant and pertinent in a world where social media and the Internet make it easy for information to spread.

Types of reputation risks:

- ***Mistaken answers***

Existing datasets are used to teach modern chatbots. They are able to learn pertinent information and provide well-reasoned answers as a result. The quality of the answers is mostly determined by the quality and quantity of the original material. Improper use or manipulation of the material can lead to undesirable consequences. Lies, for instance, have the ability to proliferate and feed the notion of fake news¹¹.

Over time, feedback loops will become a more serious threat. What occurs when chatbots are taught using their own generated data? As a result, systems reinforce and approve inaccurate data as gospel, which will undoubtedly harm the company's reputation.

- ***Loss of customer trust***

Big companies like Microsoft and Google are under pressure from the competition to outperform ChatGPT¹² when they see it receiving a lot of attention. To stay ahead of the competition, they must find a way to differentiate themselves in the market. In order to do this, they choose to scale back or eliminate the ethical teams that typically make sure that their technology is utilized in compliance with established standards and guidelines. After the first chatbot was introduced, Kazakhstan may see a similar situation. While this could appear to benefit businesses in the short term by increasing sales, over time it might lead to issues. People will lose faith in the system and accept it less whenever an ethical issue occurs. It requires a lot of effort and time to rebuild trust after a setback, according to research on human-machine interaction.

¹¹ Ruef, M. (2023, March 23). Modern Chatbots: Advanced Dangers and Risks

¹² An extensive language model developed by OpenAI that generates text and provides answers using deep learning

Mitigating reputation risks

- Companies should maintain high ethical standards while simultaneously emphasizing their responsibility to users, society, and competitors in order to reduce the risks connected with ethical teams. They should also make sure that their activities and plan are made apparent to the public;
- Prior to implementing new technologies, it is crucial to carry out ethical audits, impact analyses, and compliance with laws, regulations, and standards like the GDPR and other regulatory norms;

These actions, in general, give companies the means to improve their standing in the marketplace, lower the risk to their reputation, and cultivate favorable opinions among the general public and customers.

3.4.4. Data safety risks

With the increase in the volume of information processed by chatbots, the importance of ensuring data security also increases. The possibility of unauthorized access to personal data of customers or leakage of confidential information can lead to serious consequences. Specialized attacks, such as phishing or hacking, pose real threats to data security that require careful monitoring and proactive measures to prevent incidents.

Chatbots have been around for a long time, but the introduction of key language models such as ChatGPT and Google Bard¹³ has given the chatbot business a fresh lease on life. Millions of people worldwide use AI chatbots, but there are some significant privacy dangers to consider if you wish to test one of these software programs¹⁴.

¹³ Chatbot with artificial intelligence from Google

¹⁴ Know About 3 Chatbot Risks in 2024 - digitalchic.pk (October 5, 2023)

Types of data safety risks:

- ***Data collection***

Large language models are trained on massive volumes of data in order to offer information. Science Focus reports that in just the training phase, ChatGPT-4 received 300 billion words of data¹⁵. This isn't directly lifted from many encyclopedias. Instead, to train their algorithms, chatbot developers pull a lot of data from the Internet. Data from books, movies, articles, blog posts, Wikipedia entries, comments, and even review websites can be used for this. However, some of the aforementioned sources might not be used in training depending on the chatbot developer's privacy policy. A lot of people who use ChatGPT say it's unreliable. What exactly makes this the case?

According to the Ars Technica article, ChatGPT does gather personal data that is acquired without authorization. Contextual integrity is the idea of using someone else's knowledge solely in the context in which it was first used.¹⁶ It was discussed in the same article. Data about individuals may be compromised if ChatGPT compromises this contextual integrity.

The General Data Protection Regulation (GDPR) compliance of OpenAI¹⁷ is another issue in this regard. The European Union is using this rule to safeguard the personal information of its citizens. Concerns over ChatGPT's compliance with GDPR have prompted inquiries into the platform from a number of European nations, including Italy and Poland. Due to privacy concerns, ChatGPT was briefly prohibited in Italy.¹⁸ Due to the proposed AI regulations, OpenAI even attempted to leave the EU; however, this threat was eventually withdrawn.

Although ChatGPT is by far the biggest chatbot AI has, privacy issues with chatbots don't begin or end with this company. You run the risk of your interactions being exploited or extremely sensitive information being utilized as training data if you use a chatbot that seems suspicious and has a poor privacy policy.

¹⁵ An article published by Alex Hughes in the "BBC Science Focus magazine" (September 25, 2023)

¹⁶ An article published by "Uri Gal, The Conversation" in Ars Technica, an online news and analytical publication dedicated to information technology

¹⁷ An American scientific research organization engaged in developments in the field of artificial intelligence

¹⁸ An article published by Imran Rahman-Jones on BBC News (<https://www.bbc.com/news/technology-68128396>)

- ***Data stealing***

As chatbots gained traction, fraudsters started to actively target this market. With the rise in popularity of the OpenAI chatbot in late 2022, fraudsters started using fake websites and plug-ins connected to chatbots to steal personal information by impersonating reliable sources.

MUO¹⁹ revealed in March 2023 about a fraudulent ChatGPT Chrome plugin that was harvesting Facebook login credentials. The plugin has the ability to harvest user data and breach known accounts by using the Facebook backdoor. This is but one of several phony ChatGPT services that are intended to trick gullible people.

- ***Malware infestation***

When using a suspicious chatbot, it's easy to unknowingly discover that it offers connections to dangerous websites. The entire purpose of the platform can be to disseminate malware and fraudulent activities through harmful links if the service providers have illicit objectives.

As an alternative, hackers may infiltrate a trustworthy chatbot provider and utilize it to disseminate malware. This virus can infect hundreds or possibly millions of users if a large number of people use this chatbot. Caution should be maintained, as fake ChatGPT apps have also appeared on the App Store.

Mitigating data safety risks

- From the point of view of users, you need to delete your chat logs regularly to minimize the risk of leakage of sensitive data. If a chatbot like Claude²⁰ is used, it is worth monitoring data storage, ensuring security when interacting with the product. It's always preferable to confirm that the website you're being sent to is safe from harmful design;

¹⁹ The largest online publication founded in 2007 about technologies on the Internet

²⁰ A language model from the company "Anthropic AI", which can search for relevant information on the Internet and conduct a meaningful conversation

- Chatbot developers, in turn, should improve privacy policies in the learning process by limiting access to confidential information from sources such as social networks, also regularly update security policies and keep users informed of changes to maintain their trust. And the introduction of additional authentication measures and login notifications will help prevent unauthorized access and data theft;

Following these recommendations will help minimize risks and ensure safe interaction with chatbots, preventing leakage and inappropriate use of user data.

Usually, chatbots are not initially aimed at collecting data or harming users. It all depends on the company that owns the chatbot. This is what people need to beware of. Establishing end-to-end encryption, conducting frequent security assessments, and adhering to data protection laws are crucial actions for fostering consumer confidence and efficiently protecting their personal information.²¹

3.4.5. Legal risks

The most legal risks are associated with insufficient regulation or deregulation. The producers of AI, smart robots and chatbots are mostly incorporated in the USA, countries of EU and India.²² Regulation of AI and chatbots in these countries is skyrocketing: since 1990s the lawmakers of the abovementioned countries started to determine the status of the smart robots.²³ Now, having determined the status of AI, they are developing another legal issues related to use of AI and chatbots: privacy law, intellectual property rights and antitrust issues.²⁴

As regards Kazakhstan, the regulation of AI is very poor. The beginning of regulation of AI, including the chatbots, in Kazakhstan is counted from the moment of amendments to the Law on

²¹ Do Chatbots Increase Sales? What do you think | NativeMsg (February 23, 2024)

²² The Future of Chatbots: 80+ Chatbot Statistics for 2024 (tidio.com)

²³ Rosario Girasa, Gino J. Scalabrini. Regulation of Innovative Technologies. Blockchain, Artificial Intelligence and Quantum Computing. Palgrave MacMillan, 2022. – 236p.

²⁴ Ibid.

Informatization²⁵ (hereinafter - the "Law") in June 2020. According to the above amendments, the Law introduced a new concept of "intelligent robot" and its definition, as well as, the rights and obligations of the owner, and holder, of intelligent robot. The fact of poor regulation causes the following risks.

Types of legal risks:

- ***Liability issues***

As intelligent robot is lifeless creature, the Kazakh laws, likewise the foreign laws, impliedly stipulate that the owner and holder will be liable for any damage caused by their intelligent robot²⁶. However, neither the Penal Code²⁷, nor the Code on Administrative Infractions²⁸ stipulates the offenses related to the activity of intellectual robots and its owner and proprietor, and punishment for such offenses. This is one big gap and legal risk.

- ***Consumer rights protection***

Since, this research proposes the risks in marketing, it is very important to consider the legal risks associated with consumer protection. The main consumer law of the country is the Law on Protection of Consumer Rights (the "LPCR")²⁹. According to Article 7.3, the consumer has the right to "receive information about the product (work, service), as well as about the seller (manufacturer, performer)". Unfortunately, due to technical and technological imperfections of chatbots used in the market of Kazakhstan, the consumer receives incomplete and sometimes incorrect information about goods, works and services. Consequently, the risk of breach of the consumers rights, stated in Article 7.3 of the LPCR, is very high.

²⁵ Law on Informatization, Law of the Republic of Kazakhstan dated 24 November 2015 № 418-V; Law on amendments and supplements to the laws of the Republic of Kazakhstan on issues of regulation of digital technologies, Law of the Republic of Kazakhstan dated 25 June 2020 № 347-VI 3PK

²⁶ Art.18-1 of Law on Informatization

²⁷ Penal Code of the Republic of Kazakhstan, the Code of the Republic of Kazakhstan dated 3 July 2014 No. 226-V of the Law of the Republic of Kazakhstan

²⁸ Code on Administrative Infractions of the Republic of Kazakhstan, the Code of the Republic of Kazakhstan dated 5 July 2014 No. 235-V

²⁹ Law on Protection of Consumer Rights, Law of the Republic of Kazakhstan dated 4 May 2010 No. 274-IV

- *Personal data protection*

The most sensitive and risky point is the automated processing of the personal data. In order to understand how this issue is regulated by the e-shops using chatbots in Kazakhstan e-sales, this research reviewed the user agreements of the Kazakhstan's giant e-shops as Kaspi and Marwin.

During review of the user agreements and policies it has been found that some companies may regulate expressly the protection of personal data provided by chat bots³⁰, some of them do such regulation impliedly "by providing the personal data on the website, the user agrees to the transfer and processing of personal data"³¹. Since in order to use the Marwin bot on website, the user needs to enter his/her name and phone number, i.e. personal data, users of Marwin impliedly transfers the personal data, and grants the processing rights of the personal data, to Marwin bot. But, for a consumer without sufficient legal literacy, such implicit clause may be ambiguous.

As analysis shows, for e-shops it is better to use express clause in user agreements or privacy policies like in Kaspi Magazin («Каспи Магазин») LLP, in order to avoid controversies from the consumer's side.

In Kazakhstan, as practice shows, there are still no known disputes between consumers and sellers, as a local mindset does not take seriously not only the use of chatbots, but also raising the court trial against chatbots. However, in nearest 5-10 years, the Kazakhstan community may change its mindset, therefore, the following recommendations can be proposed to reduce or mitigate the legal risks.

³⁰ Clause 9 of the User Agreement of the e-shop Kaspi Magazin («Каспи Магазин») LLP (the "LLP") stipulates that "... the use of automated systems on the Internet resource for interaction and transfer of information from the sender to the recipient and vice versa in the form of text message responses, i.e chatbots, means granting consent to LLP for collection and processing, including dissemination, transfer, including cross-border processing ... LLP's affiliates", located at www.kaspi.kz

³¹ Clause 10.2 of the Rules on sales of goods of Meloman Home Video («Меломан Home Video») LLP, located at www.marwin.kz

Mitigating the legal risks

In order to exclude the legal gaps, it is important to develop the laws related to intelligent robots in the short-term. As the liability issues are crucial point, it is important to amend the relevant laws. Use of AI in whole, and separately the intelligent robots and chatbots may cause different offenses. So, the lawmakers, during drafting the amendments related to punishment of offences caused by use of chatbots, have to note the individual features of chatbots and differentiate them from the features of AI system in whole.

It seems that the most controversies related to provision of proper information by the chatbots for the consumers are caused by a mere technical solution of chatbots, not by omission of the lawmakers.

3.5. The Future of Chatbots

The fact that chatbots will be used significantly more and continue to advance in sophistication is one of the most obvious trends for 2024. Chatbots will be utilized in marketing, human resources, operations, and customer support in addition to data collecting. Their versatility makes them a desirable choice for e-commerce sites, business-to-business enterprises, real estate, healthcare, and educational institutions.

What percentage of companies make use of chatbots?

Approximately 25% of companies currently utilize chatbots. However, it is worthwhile to examine chatbot usage in businesses of various sizes in more detail. Any size of business may profit from chatbot technology. However, small enterprises are more prepared than giant corporations to adopt new technology, as Tidio³² has found. This is due to the fact that they frequently lack resources and must come up with more efficient ways to communicate with their clients (see Figure 2 in Appendix A).

³² A company that provides a set of online chats, chatbots, support tools and artificial intelligence solutions to help brands of any size promote their business by creating real connections with their customers.

Chatbot Conversion ratios

Additionally, Tidio polled respondents in 2021-2022 who were residing in the top 5 chatbot-using countries, which included the US, India, Germany, the UK, and Brazil. They created a comprehensive list of chatbot interaction statistics based on the data they had gathered (see Figure 3 in Appendix A). For instance, we may anticipate that 6% of users would reply to our chatbots and provide a rating if they ask for a CSAT rating.

What do customers expect from chatbots?

According to the Tidio poll, clients rank rapid response as their top concern (see Figure 4 in the appendices). It's interesting to note that the results exactly align with the objectives of businesses looking to implement chatbots on their websites (see Figure 5 in Appendix A).

Chatbots with generative AI

Since the release of OpenAI's ChatGPT, generative AI has grown to be a hugely popular commodity in business. The worldwide generative AI market is expected to reach \$103.74 billion by 2030, up from \$10.16 billion in 2022, according to GlobalData's [Generative AI Growth Analysis](#). Furthermore, because customers are so demanding when it comes to speed and comfort when engaging with customer care, the usage of generative AI chatbots for customer support has increased dramatically. According to a [LivePerson study](#) conducted in August 2023, customers detest traditional Interactive voice response (IVR) systems. In fact, 57% of respondents said they would rather clean the toilet and 41% said they would rather wash a load of laundry than use an IVR.

As for the Kazakhstani market, our team conducted a survey of 66 people from different fields of activity (banking, construction, sales, HR, IT, oil and gas, etc.), 94% of whom have already met chatbots when shopping online (see Figure 1 in Appendix B). Based on the responses received, the following results were collected:

1. For what purposes do people usually use chatbots when shopping? (see Figure 2 in Appendix B)

- “Getting product information” was mentioned by 74% of the participants;
- “Assistance in placing an order” was noted by 42% of respondents;
- “Product selection assistance” was noted by 36% of respondents;
- “Tracking delivery” was noted by 30% of the respondents.

2. How satisfied are they with the chatbot service when shopping? (see Figure 3 in Appendix B.)

- Almost half (48%) of the respondents noted “Rather satisfied”;
- 22.7% noted “Rather not satisfied”;
- 15% said they were completely satisfied with the service;
- Only 7.6% of respondents noted “Not satisfied at all”.

3. What advantages of using chatbots in the shopping process have you noticed?

Almost all survey participants noted 24/7 availability, response speed of chatbots and minimizing the likelihood of misinformation.

4. What concerns or disadvantages do people see in using chatbots when shopping?

People are afraid of untimely data updates, chatbot overload, system failures, and information leakage.

Below are some of the survey respondents' responses:

- *“Probable fraud (not always)”*;
- *“Incomplete information or no answers for non-standard questions”*;
- *“The feeling is that they are not well equipped with functions. Most often, they respond only to a limited set of phrases. If they had a more complicated system like ChatGPT, it would be better. After all, user requests often remain misunderstood”*;
- *“Bots often cannot understand a question from a client, they are constantly trying to change the topic of the question. If the chatbot system is improved, perhaps these shortcomings will not be there”*.

5. Do people prefer to communicate with chatbots or live operators when dealing with issues related to purchases? (see Figure 4 in Appendix B.)

- 57.6% of respondents answered “Depends on the situation”;
- 39% of people prefer to communicate with live operators;
- And only 9% chose to communicate with chatbots.

6. To what extent are chatbots able to personalize the service process during purchases? (see Figure 5 in Appendix B.)

- 52% of people gave the answer “Good enough” to this question;
- “Not very good” was noted by 30% of respondents;
- 12% of them answered “Very well”.

7. Do people's interactions with chatbots influence the decision to make a purchase? (see Figure 6 in Appendix B.)

- “Yes, they have a significant impact” – 25.75%;
- “Rather influence” – 31.8%;
- “Do not affect” – 36%.

8. What features or improvements would people like to see in chatbots when shopping? (see Figure 7 in Appendix B.)

- 65% would like to see the exact answers to the questions;
- Also, 62% of them would like a better understanding of their needs;
- 30% of respondents expect chatbots to communicate more humanely.

9. The role of chatbots in the future in sales. (see Figure 8 in Appendix B.)

- Slightly more than half (51%) of respondents believe that chatbots will play an important role;
- 36% answered “It will make some difference”;

- Only 4.5% of people do not believe in the future of chatbots.

Given the high level of satisfaction with the use of chatbots when shopping, as well as their wide range of applications, we can expect further growth in the use of chatbots among consumers. More than half of the respondents believe that chatbots will play an important role in sales in the future. This indicates that local companies should actively use chatbots to improve their sales strategies and customer service.

In addition to the survey, an interview was conducted with the developer of a chatbot for the Career Center of the Maqsut Narikbayev University. It was clear from his answers that the lack of chatbots with generative artificial intelligence (AI) in the Kazakh market may be due to several factors:

- Lack of specialists: Perhaps there are not enough qualified specialists in the field of generative AI in Kazakhstan who are able to create and maintain such products.
- Limited resources: Companies may face funding and resource constraints to develop and implement sophisticated chatbots with generative AI.
- Lack of understanding: Most likely, local companies have not yet realized the full potential of generative AI in the field of chatbots or do not see sufficient demand for such products from consumers.
- Market conditions: It is quite possible that the specifics of the Kazakh market or its size may make the development and implementation of chatbots with generative AI less of a priority compared to other markets.

In general, based on the presented data, it can be concluded that the introduction of chatbots in the Kazakh market is possible and even desirable, however, in order to achieve the full potential of this technology, it is necessary to pay attention to the development of functionality, training and improvement of the system in response to user needs.

4. Examples of world market leaders

Artificial intelligence chatbots have become an integral part of the strategies of many global retail leaders such as Amazon, Alibaba and Walmart. These companies are actively implementing chatbots to improve sales processes, customer service and interaction with suppliers.

Amazon, realizing its "everything for the customer" strategy, has developed an Alexa chatbot and Echo smart speakers that offer personalized recommendations and facilitate the shopping process. Through deep learning and data analysis, Amazon provides customers with accurate and useful offers.

Alibaba has also successfully applied artificial intelligence to improve the customer experience. The AliGenie service and the Dian Xiaomi chatbot help customers quickly find the right products and receive personalized recommendations.

Walmart uses voice orders and text chat for convenient shopping and communication with customers. In addition, the company automates the processes of negotiations with suppliers using chatbots, which leads to lower costs and improved terms of cooperation.

All these companies understand that chatbots and artificial intelligence are not just fashionable technologies, but powerful tools to improve business efficiency and meet customer needs. Their experience demonstrates the potential of chatbots in modern retail business and inspires Kazakhstani companies to follow their example.

5. Recommendations for Kazakhstani companies

When developing chatbots for Kazakhstani companies, the following recommendations should be taken into account, based on the experience of Peter Gentsch³³:

³³ German entrepreneur, scientist, researcher, writer, and management consultant with a focus on generative AI, data science, and digital management

- 1. Understanding the context of use:** Kazakhstani companies should take into account that users of messengers such as Messenger are used to interacting with each other in a variety of ways, including communication, games, sharing GIFs and memes. Therefore, the development of chatbots should strive to create a natural and understandable environment for users.
- 2. Creating a unique atmosphere:** Business chatbots must have an identity and a "world" corresponding to the company's brand. It is important to determine the tone of voice and create an environment that immerses the user in the atmosphere of the brand.
- 3. Flexibility and adaptability:** Chatbot developers must be prepared for unexpected requests and situations. It is necessary to pay attention to the answers to atypical user questions and create reactions that cause a smile or surprise.

Chatbot development is a creative process that requires flexibility and continuous learning.

Kazakhstani companies can start small, experiment and gradually improve their chatbots, based on the experience and recommendations of experts in this field, including Peter Gentsch.

Conclusion

The study confirmed the hypothesis about the potential of chatbots with artificial intelligence to optimize business processes and improve customer experience in Kazakhstan. The results showed that chatbots can reduce transaction costs, improve the quality of service, and increase sales.

However, it is necessary to take into account their potential risks and limitations, especially in the context of the low market readiness for innovation and the limited number of successful chatbot implementations in Kazakhstan.

The recommendations resulting from this research can serve as a basis for developing strategies for introducing chatbots into the business processes of Kazakhstani companies, helping them adapt to the requirements of the modern market and remain competitive.

References

1. Adam, M., Wessel, M., & Benlian, A. (2020). AI-based chatbots in customer service and their effects on user compliance. *Electronic Markets*, 31(2), 427–445. <https://doi.org/10.1007/s12525-020-00414-7>
2. Adamopoulou, E., & Moussiades, L. (2020). Chatbots: History, technology, and applications. *Machine Learning with Applications*, 2 (100006). Sciencedirect. <https://doi.org/10.1016/j.mlwa.2020.100006>
3. Alisher Assylbekov, (Red Crescent of Kazakhstan). Kazakhstan. Chatbots: A Conversation with the Community (A case study).
4. Arioto, J. (2023, April 28). How AI Chatbots Help Increase Sales. www.linkedin.com. <https://www.linkedin.com/pulse/how-ai-chatbots-help-increase-sales-joe-arioto/>
5. Bakysh A.Kh., Razakhova B.Sh. (2019, December 15). Relevance of chat-bots in Kazakhstan.
6. BenMark, G., & Venkatachari, D. (2016, September 23). Messaging Apps Are Changing How Companies Talk with Customers. *Harvard Business Review*. <https://hbr.org/2016/09/messaging-apps-are-changing-how-companies-talk-with-customers>
7. Chakraborty, U., Banerjee, A., Saha, J. K., Sarkar, N., & Chakraborty, C. (2022). *Artificial Intelligence and the Fourth Industrial Revolution*. Jenny Stanford Publishing.
8. Cheong-Trillo, N. (n.d.). Benefits and Barriers of Chatbot Use in Education. pressbooks.pub. <https://pressbooks.pub/techcurr2023/chapter/benefits-and-barriers-of-chaptbot-use-in-education>
9. Clark, S. (2023, September 1). The Evolution of AI Chatbots: Past, Present and Future. <https://www.cmswire.com/digital-experience/the-evolution-of-ai-chatbots-past-present-and-future/>
10. Demery, P., & 2013. (2013, December 31). Why an omnichannel strategy matters. *Digital Commerce 360*. <https://www.digitalcommerce360.com/2013/12/31/why-omnichannel-strategy-matters/>

11. Generating Leads Using a Chatbot: How to Create an Effective Scenario. (2024, May 2). Developers.sber.ru; Developer Sberbank. <https://developers.sber.ru/help/salutebot/lead-generation-with-chatbot>
12. Gentsch, P. (2019). AI in Marketing, Sales and Service. How Marketers without a Data Science Degree can use AI, Big Data and Bots. <https://oceanofpdf.com/authors/peter-gentsch/pdf-epub-ai-in-marketing-sales-and-service-how-marketers-without-a-data-science-degree-can-use-ai-big-data-and-bots-download-98028428333/>
13. Hamada, M., Temirkhanova, D., Serikbay, D., Salybekov, S., & Omarbek, S. (2021, March 22). Artificial Intelligence to Improve the Business Efficiency and Effectiveness for Enterprises in Kazakhstan. SAR Journal - Science and Research, 34–41. <https://doi.org/10.18421/sar41-06>
14. Hossain, M., Habib, M., Hassan, M., Soroni, F., & Khan, M. M. (2022, June 6). Research and Development of an E-commerce with Sales Chatbot. 2022 IEEE World AI IoT Congress (AIIoT). <https://doi.org/10.1109/aiiot54504.2022.9817272>
15. How can you capture and qualify leads with chatbots? (n.d.). Digital Marketing. <https://www.linkedin.com/advice/0/how-can-you-capture-qualify-leads-chatbots-skills-digital-marketing#how-to-design-a-chatbot-for-lead-capture?>
16. Labadze, L., Grigolia, M., & Machaidze, L. (2023). Role of AI chatbots in education: systematic literature review. International Journal of Educational Technology in Higher Education, 20(1). <https://doi.org/10.1186/s41239-023-00426-1>
17. Loukides, M. (2023). What Are ChatGPT and Its Friends? Opportunities, Costs, and Risks for Large Language Models.
18. Marr, B. (2024, March 24). Generative AI in Practice: 100+ Amazing Ways Generative Artificial Intelligence is Changing Business and Society. Wiley; 1st edition. https://www.amazon.co.uk/Generative-AI-Practice-Artificial-Intelligence/dp/1394245564?trk=article-ssr-frontend-pulse_little-text-block

19. McConnell, B. (2023, February 14). The 11 Top Benefits of Chatbots in 2023. Social Media Marketing & Management Dashboard. <https://blog.hootsuite.com/benefits-of-chatbots/>
20. Michael Kosta Loukides. (2023). What are ChatGPT and Its Friends? Mike Loukides.
21. Microsoft. (2017). 2017 STATE OF GLOBAL CUSTOMER SERVICE REPORT 2 2017 STATE OF GLOBAL CUSTOMER SERVICE REPORT. (p. 29)
<https://info.microsoft.com/rs/157-GQE-382/images/EN-CNTNT-Report-DynService-2017-global-state-customer-service-en-au.pdf>
22. Moskvina, M. (2023). 12 Chatbot Features to Improve Your Sales. Tenchat.ru.
<https://tenchat.ru/media/1260227-12-vozmozhnostey-chatbotov-chtoby-uluchshit-vashi-prodazhi>
23. Muzammel, M., Salam, H., Hoffmann, Y., Chetouani, M., & Othmani, A. (2020). AudVowelConsNet: A phoneme-level based deep CNN architecture for clinical depression diagnosis. Machine Learning with Applications, 2, 100005.
<https://doi.org/10.1016/j.mlwa.2020.100005>
24. Müller, V. (2015). Artificial intelligence.
25. Ross, J. (2023, December 14). AI Chatbots: Navigating Benefits and Risks in Digital Security. Wedgwood Insurance Limited. <https://wedgwoodinsurance.com/blog/cyber-awareness/ai-chatbots-navigating-benefits-and-risks-in-digital-security/>
26. Ruef, M. (2023, March 23). Modern Chatbots: Advanced Dangers and Risks.
<https://www.scip.ch/en/?labs.20230323#:~:text=Modern%20chatbots%20such%20as%20ChatGPT>
27. S.Z. Sapakova, D.E. Kyzyrov (2023). Chatbot assistants: Implementation and Analysis of the efficiency.
28. Sannikova, A. (2024, January 21). Chatbots for marketing and sales. Medium.
<https://medium.com/@nikovasan/chatbots-for-marketing-and-sales-54181a28306b>

29. Stefanowicz, B. (2024, March 19). 16 Essential Benefits of Chatbots [+ Challenges in 2023]. Tidio; Beata Stefanowicz. <https://www.tidio.com/blog/benefits-of-chatbots/#benefits-for-business>
30. Sudhakar, M. (2021, January 20). Council Post: Chatbots: The Great Evolution to Conversational AI. Forbes; Muddu Sudhakar. <https://www.forbes.com/sites/forbestechcouncil/2021/01/20/chatbots-the-great-evolution-to-conversational-ai/?sh=1a9e0a374d0e>
31. Sundareswaran, V. (2021, June 16). Chatbots are on the rise. This approach accounts for their risks. World Economic Forum; Venkataraman Sundareswaran. <https://www.weforum.org/agenda/2021/06/chatbots-are-on-the-rise-this-approach-accounts-for-their-risks/>
32. TengriNews (2023, April 11). What place does Kazakhstan occupy in the world digitalization ranking? The Main News of Kazakhstan - Tengrinews.kz. https://tengrinews.kz/kazakhstan_news/na-kakom-meste-kazahstan-v-mirovom-reytinge-tsifrovizatsii-496139/
33. Weise, K. (2023, November 28). Amazon Introduces Q, an A.I. Chatbot for Companies. The New York Times. <https://www.nytimes.com/2023/11/28/technology/amazon-ai-chatbot-q.html>
34. What is the future of Kazakhstan's digital market? (2020, October 11). Wwww.forbes.kz. https://forbes.kz//process/internet/kakoe_buduschee_jdet_digital-ryinok_kazahstana/
35. ZEMČÍK, Mgr. T. (2019). A Brief History of Chatbots. DEStech Transactions on Computer Science and Engineering, aicae. <https://doi.org/10.12783/dtcse/aicae2019/31439>
36. Zendesk. (2024). CX Trends: Unlock the Power of Intelligent CX. In Zendesk: CX Trends 2024 (p. 10). Zendesk. <https://cxtrends.zendesk.com/reports>

List of figures (Global statistics)

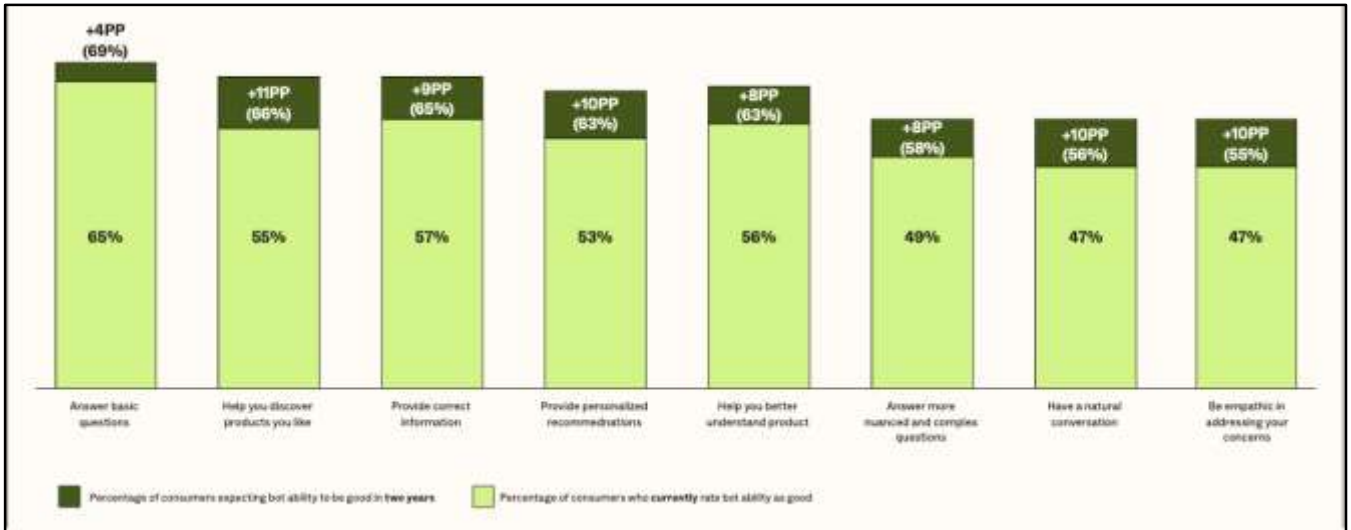


Figure 1. Current and expected rating of bot performance in typical interactions by consumers

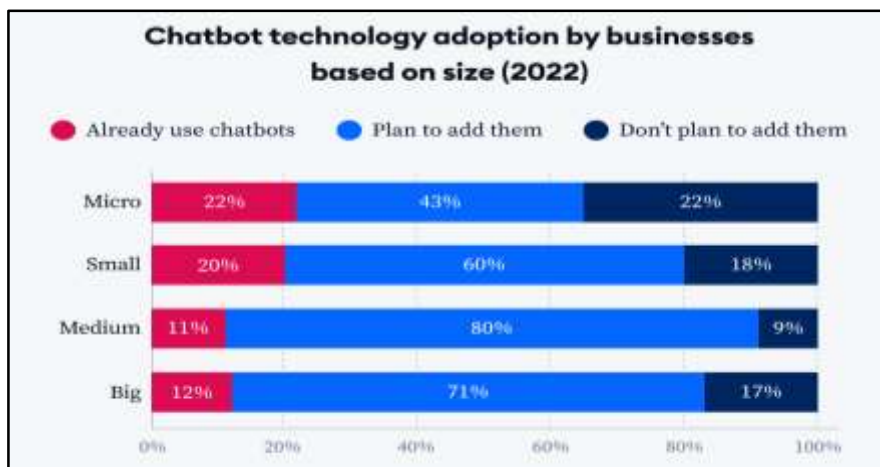


Figure 2. How well are enterprises prepared for the introduction of chatbots

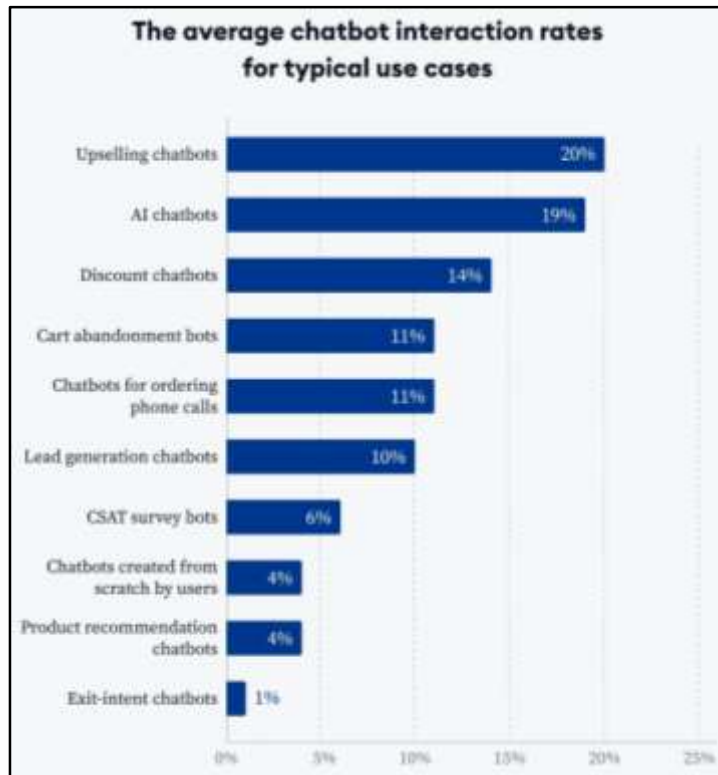


Figure 3. Percentage of website visitors that engaged with the chatbot (calculated from information gathered from about 50,000 websites running Tidio-based chatbots in 2021–2022)

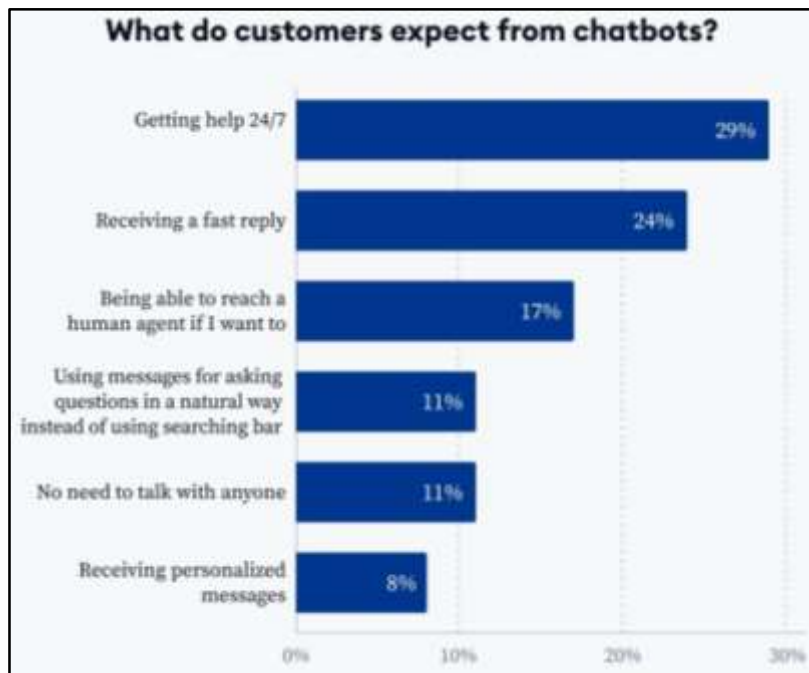


Figure 4. Customer expectations from chatbots

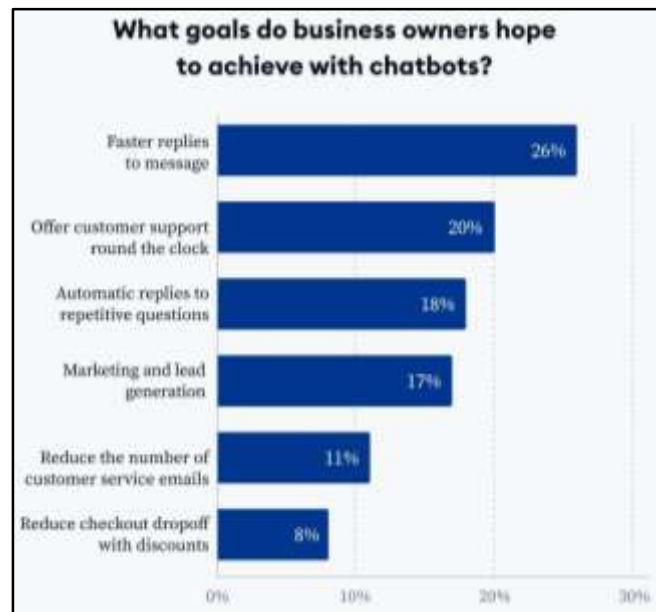


Figure 5. What customers expect from chatbots

Chatbot statistics: bonus points

Here are some additional Tidio data points that demonstrate how chatbots affect HR, finance, and healthcare.

Chatbots in HR:

- Career websites that use chatbots to communicate with job seekers receive 95% more leads;
- Bots enable many HR departments save up over 12,000 hours of labor each year.

Healthcare chatbots:

- The market for chatbots in the healthcare industry is expected to reach \$543 million by 2026;
- Medical chatbots provide health data to about 52% of US patients;

Chatbots in the healthcare industry save up to 3.6 billion US dollars annually globally.

List of figures (Survey results)

Quantity of respondents: 66

Number of questions: 13 (8 - multiple choice; 5 - open ended)

Question 1. *Have people met chatbots when shopping online?*

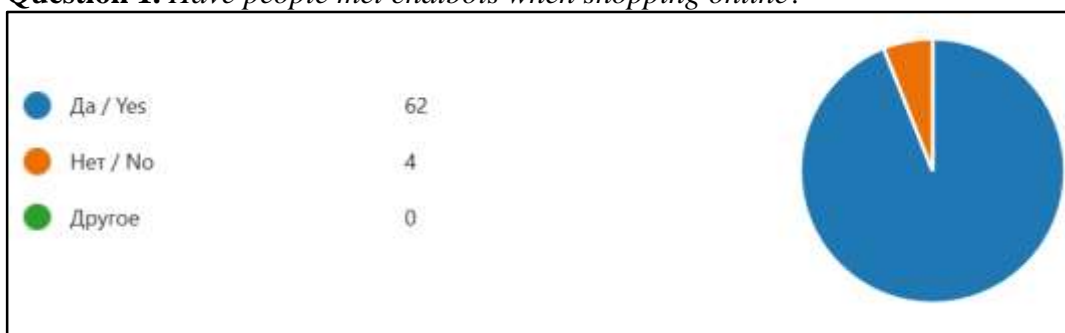


Figure 1.

Question 2. *For what purposes do people usually use chatbots when making purchases?*

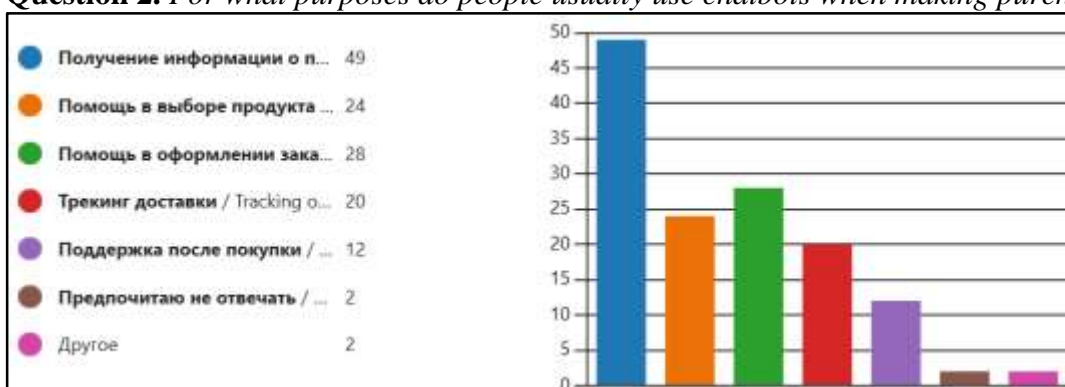


Figure 2.

Question 3. *How satisfied are users with the chatbot service when making purchases?*

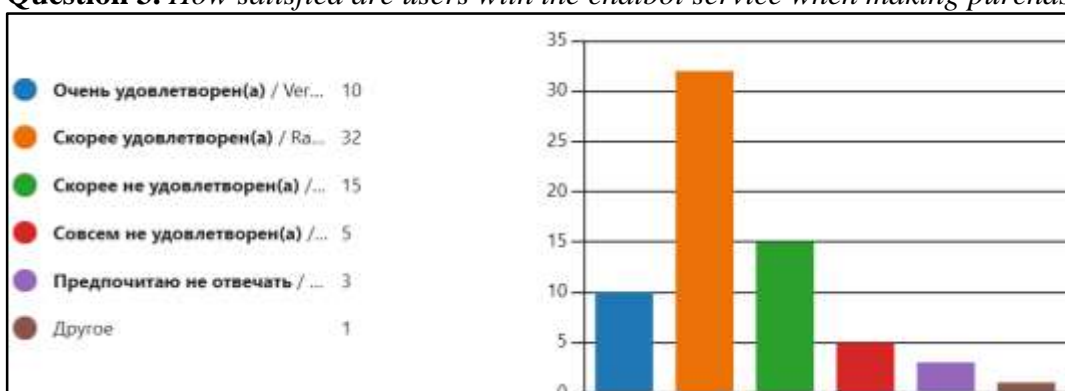


Figure 3.

Question 4. What kind of communication do people prefer when solving shopping-related issues?

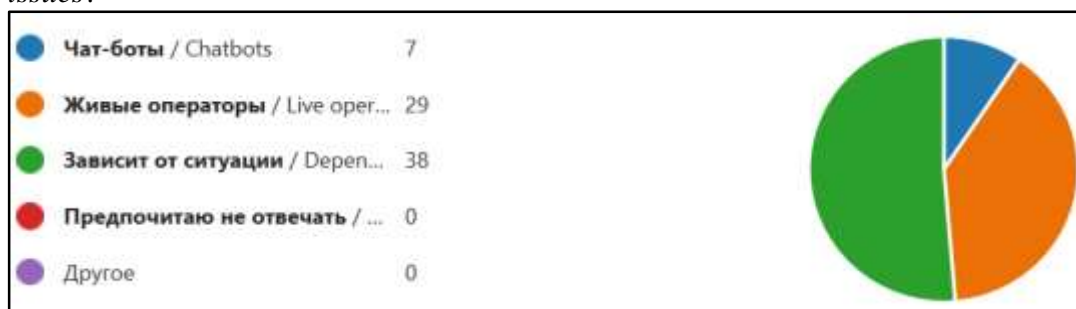


Figure 4.

Question 5. The degree of chatbots' ability to personalize the service process during purchases?

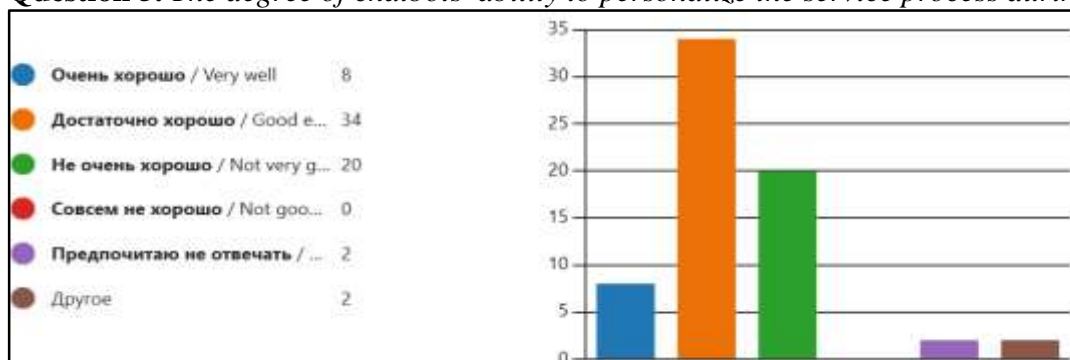


Figure 5.

Question 6. The impact of people interacting with chatbots on making a purchase decision?

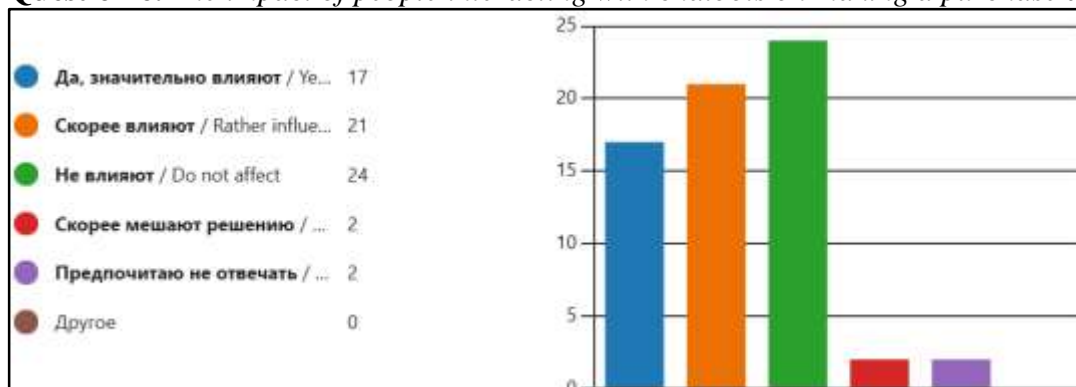


Figure 6.

Question 7. *What features or improvements would people like to see in chatbots when making purchases?*

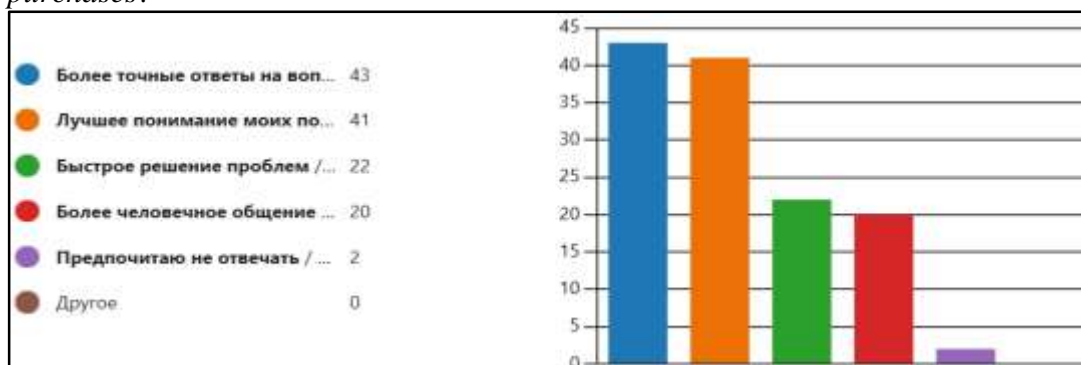


Figure 7.

Question 8. *The role of chatbots in sales in the future according to people*

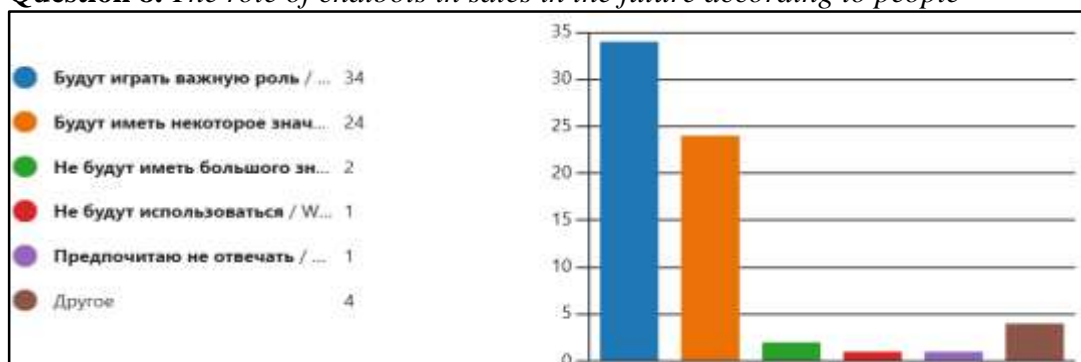


Figure 8.

The full summary of the survey results can be viewed at the following link:

<https://forms.office.com/Pages/AnalysisPage.aspx?AnalyzerToken=4HT0P45b7XICjiYHGV4K9En7M4AM3I2a&id=Xrt02RkdSES8RYx6HHNOTV6-ZuQXxTdEiMRVZuj1m25UQjBBNDZaNEZLVFIPWjQ1MVZHMkNaN0YxNC4u>

List of Abbreviations

- **AI** - Artificial Intelligence
- **GDPR** - The General Data Protection Regulation
- **MUO** - Make Use Of
- **IVR** - Interactive Voice Response
- **AWS** - Amazon Web Services
- **FAQ** - Frequent Asked Questions