

BENEFITS OF UTILIZING ARTIFICIAL INTELLIGENCE TOOLS TO ANALYZE ONLINE CUSTOMERS' FEEDBACKS

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Abstract A company's ability to attract customers has a significant impact on its business advantage. When it comes to increasing revenue and retaining loyal customers, the ability to strategically collect, evaluate, and use customer feedback and data to improve services and products is critical. Artificial intelligence tools help businesses save time and resources by automating and evaluating consumer data with greater accuracy and speed. This thesis analyzes the advantages of SI in analyzing online customer feedback.

Аннотация Способность компании привлекать клиентов оказывает существенное влияние на ее бизнес-преимущество. Когда дело доходит до увеличения доходов и удержания лояльных клиентов, способность стратегически собирать, оценивать и использовать отзывы и данные клиентов для улучшения услуг и продуктов имеет решающее значение. Инструменты искусственного интеллекта помогают предприятиям экономить время и ресурсы за счет автоматизации и оценки потребительских данных с большей точностью и скоростью. В этом тезисе анализируются преимущества СИ при анализе отзывов онлайн-клиентов.

Annotatsiya Kompaniyaning mijozlarni o'ziga jalb qila olish qobiliyati uning biznes sohasidagi ustunligiga sezilarli ta'sir ko'rsatadi. Daromadni oshirish va sodiq

mijozlar safini saqlab qolish haqida gap ketganda, xizmatlar va mahsulotlarni yaxshilash uchun mijozlarning fikr-mulohazalari, ma'lumotlarini strategik to'plash, baholash va foydalanish qobiliyati katta ahamiyatga egadir. Sun'iy intellekt vositalari korxonalariga iste'molchi ma'lumotlarini yanada aniqlik va tezkorlik bilan avtomatlashtirish va baholashda vaqt va resurslarni tejashga yordam beradi. Ushbu tezisda onlayn mijozlarning fikr-mulohazalarini tahlil qilishda SIning afzalliklari tahlil qilingan.

Introduction In today's digital age, organizations that want to better understand and serve their customers can benefit greatly from monitoring online consumer feedback. It has become evident that utilizing core artificial intelligence (AI) capabilities such as machine learning and big data analytics is critical to this effort. This study examines the analysis and interpretation of online consumer comments using AI-powered approaches. Through a discussion of the methodology and case studies associated with this strategy, we seek to highlight how it might be utilized to extract relevant information from the huge volume of user-generated content scattered across multiple online channels. Analyzing comments from online consumers using artificial intelligence (AI) entails a variety of approaches for extracting relevant insights from massive amounts of textual data. Businesses can use sentiment analysis to characterize comments as favorable, negative, or neutral, providing a more detailed insight of consumer opinions [3]. Topic modeling tools, such as Latent Dirichlet Allocation (LDA) [1] and Non-negative Matrix Factorization (NMF) [2], allow for the discovery of common themes in consumer feedback, simplifying the identification of significant concerns and trends [4]. Furthermore, AI-powered user profiling enables firms to build extensive profiles of their customers based on their remarks, allowing for targeted marketing strategies and product recommendations. Businesses can use these AI-powered solutions to extract actionable information from online consumer feedback, resulting in improvements in product offerings, customer experiences, and overall business success.

Chatbots and virtual assistants powered by artificial intelligence have become essential tools for enhancing customer satisfaction and engagement (Figure 1). These smart technologies can handle client inquiries, make targeted product recommendations, and facilitate smooth transactions, delivering instant assistance and convenience around the clock. According to Juniper Research, by 2022, the widespread usage of chatbots is predicted to save enterprises \$8 billion per year, indicating the tremendous influence these technologies have on cost optimization and operational efficiency. Beyond cost savings, AI-powered chatbots [5] allow businesses to strengthen relationships with their customers through tailored messaging, proactive problem-solving, and round-the-clock accessibility, which increases client loyalty and brand promotion.

COMPARATIVE ANALYSIS OF ARTIFICIAL INTELLIGENCE TOOLS

When researching techniques for leveraging AI to boost consumer engagement and pleasure, it is critical to examine specific tactics employed by companies such as Sephora. Sephora's plan is an excellent example of how artificial intelligence may be used to transform the user experience in the retail cosmetics business.

Virtual try-on experiences. Sephora's Virtual Artist function is an example of an innovative use of AI to boost customer engagement. Virtual Artist uses augmented reality (AR) technology to allow people to virtually experiment on beauty products through the Sephora website or mobile app (Figure 1). This function accurately replicates how various makeup items may appear on the user's face in real time using powerful facial recognition algorithms [6]. Virtual Artist provides a realistic and engaging try-on experience by overlaying virtual cosmetic products onto the user's live camera feed using AI-driven image processing algorithms. Sephora has transformed the cosmetic try-on experience with its Virtual Artist, which employs cutting-edge AI and AR technology. Using facial recognition and mapping techniques, consumers can virtually try on a variety of beauty products in real time.



Figure 1. Virtual assistant of Sephora

Sentiment analysis, often known as opinion mining, is a technique for identifying the emotional undertone of text data. Its purpose is to understand the attitudes, ideas, and feelings expressed in online mentions, reviews, and other written information. To classify sentiment as positive, negative, or neutral, the text must be preprocessed to remove noise, features extracted using methods such as bag of words or word embeddings, and algorithms ranging from rule-based systems to machine learning and deep learning models such as Naive Bayes, SVM, RNNs, and transformers like BERT (Figure 2).

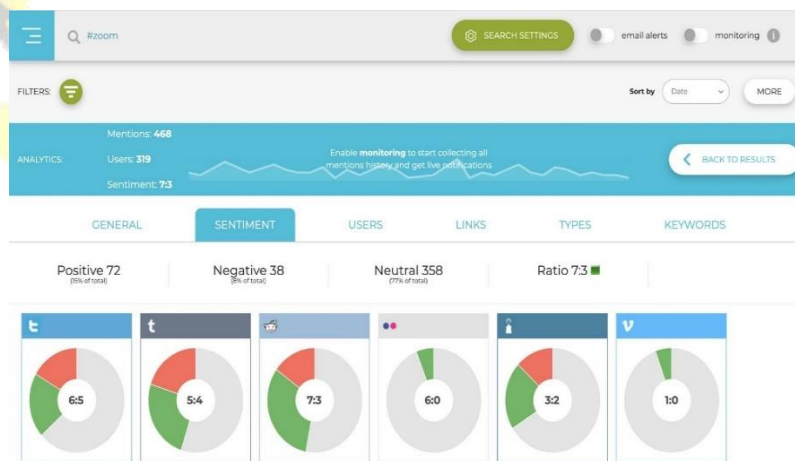


Figure 2. The best sentimental analysis tools

Conclusion In summary, the use of artificial intelligence (AI) in marketing has transformed how businesses connect with their customers. AI-powered solutions help to personalize the customer experience, identify consumer preferences, and increase

marketing performance. According to Salesforce research, 81% of marketing directors believe AI gives organizations a competitive advantage by giving a deeper insight of consumer behavior. Conversion rates can rise by 8–20% with AI-powered tailored marketing activities. Additionally, AI aids in the forecast of future trends and customer behavior by marketers, helping them to prepare and make smarter judgments. By facilitating real-time engagement, AI systems also improve customer care, increasing customer happiness and loyalty.

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