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IMPROVING INDICATORS OF DIGITAL MARKETING USING ARTIFICIAL INTELLIGENCE

Abstract. In recent years, artificial intelligence (AI) has become a growing trend in various fields: medicine, education and the automotive industry. AI also reached a business, namely the marketing department of various businesses. The goal of the article is to research how deeply AI is used in digital marketing. The authors asked two research questions - which areas of AI are used in marketing and what are the positive effects of chat bots on a business. To answer these questions, the authors conducted a study of secondary data with examples of AI used for marketing purposes. An analysis of the collected examples shows that AI is widely implemented in the field of marketing, although applications are at the operational level. This may be the result of the careful implementation of the new technology, still at the level of experimentation with it. The uncertainty of the results of the implementation of AI can also affect caution when applying these innovations in practice. The collected examples proved that AI affects all aspects of the marketing structure, affecting both consumer value and the organization of marketing and business management. This document is important for the business, especially the idea of introducing artificial intelligence into marketing, developing innovation, and ideas on how to incorporate new skills into the marketing team needed for new technology.

Keywords: artificial intelligence, machine learning, big data, digital marketing, marketing strategy.

Аңдатпа. Соңғы жылдары жасанды интеллект (ЖИ) әртүрлі салаларда: медицина, білім және автомобиль өнеркәсібінде өсіп келе жатқан үрдіске айналды. ЖИ сонымен қатар бір бизнеске, атап айтқанда әртүрлі бизнестің маркетинг бөліміне жетті. Мақаланың мақсаты - сандық маркетингте ЖИ қаншалықты терең қолданылатындығын зерттеу. Авторлар екі зерттеу сұрақтарын қойды - маркетингте ЖИ-дің қай бағыттары қолданылады және бизнеске чат боттардың оң әсері қандай? Осы сұрақтарға жауап беру үшін авторлар маркетингтік мақсаттарда пайдаланылған ЖИ мысалдары бар қайталама деректерді зерттеу жүргізді. Жиналған мысалдарды талдау ЖИ маркетинг саласында кеңінен

қолданылатынын көрсетеді, дегенмен қолданбалар операциялық деңгейде. Бұл жаңа технологияны тәжірибе деңгейінде әлі де мұқият іске асырудың нәтижесі болуы мүмкін. ЖИ енгізу нәтижелерінің белгісіздігі де осы жаңалықтарды тәжірибеде қолдану кезінде сақ болуға әсер етуі мүмкін. Жиналған мысалдар ЖИ тұтынушылық құндылыққа да, маркетинг пен бизнесті басқаруға да әсер ететін маркетинг құрылымының барлық аспектілеріне әсер ететіндігін дәлелдеді. Бұл құжат бизнес үшін маңызды, әсіресе маркетингке жасанды интеллект енгізу, инновацияны дамыту, жаңа технологияға қажет маркетингтік топқа жаңа дағдыларды қалай енгізу туралы идеялар.

Түйін сөздер: жасанды интеллект, машиналық оқыту, үлкен мәліметтер, сандық маркетинг, маркетинг стратегиясы.

Аннотация. В последние годы искусственный интеллект (ИИ) стал развивающейся тенденцией в различных областях: медицина, образование и автомобилестроение. ИИ также достиг бизнеса, а именно отдела маркетинга различных бизнесов. Целью статьи является исследование того, насколько глубоко ИИ применяется в цифровом маркетинге. Авторы задали два вопроса исследования - какие области ИИ используются в маркетинге и какие положительные последствия чат боты дают бизнесу. Чтобы ответить на эти вопросы, авторы провели исследование вторичных данных с примерами ИИ, использованными в маркетинговых целях. Анализ собранных примеров показывает, что ИИ широко внедряется в области маркетинга, хотя приложения находятся на операционном уровне. Это может быть следствием тщательного внедрения новой технологии, все еще на уровне экспериментов с ней. Неопределенность результатов внедрения ИИ также может повлиять на осторожность при применении этих нововведений на практике. Собранные примеры доказали, что ИИ влияет на все аспекты структуры маркетинга, влияя как на потребительскую ценность, так и на организацию маркетинга и управлению бизнесом. Этот документ имеет значение для бизнеса, особенно идеи по внедрению искусственного интеллекта в маркетинг, разработке инноваций и идеи о том, как включить новые навыки в команду маркетинга, необходимые для новой технологии.

Ключевые слова: искусственный интеллект, машинное обучение, большие данные, цифровой маркетинг, маркетинговая стратегия.

Introduction

The essence of marketing has not changed, but the way of communication has changed marketing. It changes every day. That is where the big shift happened. The art of storytelling is plentiful, but the key to this is how we tell the story and the means by which we tell the story. The big changes that will happen in marketing, as well as in business, are artificial intelligence and machine learning. - Sanjiv Mehta, CEO and MD of Hindustan Unilever Ltd.

It is not so difficult to say that in the future marketing will increasingly use AI. Even today, the components of an artificial intelligence-based approach are pretty much in place. Modern marketing is becoming more quantitative, targeted and tied to business results. Ads and promotions are increasingly being adapted to individual consumers in real time. Companies use several channels to access customers, but they are increasingly using digital content. The company's marketers still work with agencies, many of which have developed their own analytical capabilities. - Thomas H. Davenport.

Main part

AI has so far attracted the attention of engineers, IT experts and analysts, but now it goes beyond its traditional fields of activity, making an increasingly noticeable footprint in the field of management and marketing. The ever-growing volume of consumer data available online, in big data systems or mobile devices, makes AI an important marketing ally, since it is based on data analysis in almost all areas of its application. Marketing takes advantage of the data to a large extent - from studying consumer needs, analyzing the market, understanding customers and competition information, conducting events in various communication or distribution channels, and measuring the results and effects of adopted strategies. Marketing is becoming a natural beneficiary of the development of information technology. The proximity of both domains allows for a synergistic effect. Therefore, it seems important to emphasize the potential of artificial intelligence and available AI-based tools and discuss the commercial application of AI in the field of marketing.

In 2013, the American Marketing Association approved a new version of the definition of marketing. According to the association, "marketing is an activity, a set of institutions and processes for creating, exchanging, delivering and exchanging offers that are valuable to customers, customers, partners and society as a whole".

A critical aspect of marketing is providing value to customers, while value can represent various aspects of a product, such as products, ideas, services, information, or any type of solution that satisfies customer needs.

McCarthy proposed the idea of a “marketing mix” as a conceptual framework that brings marketing planning to life. Although the marketing mix is not a scientific theory, its tools can develop both long-term strategies and short-term tactical marketing programs. McCarthy refined Borden's previous concept of target market satisfaction. He grouped 12 Borden elements (product planning, pricing, branding, distribution channels, personal sales, advertising, promotion, packaging, demonstration, service, physical processing, fact finding and analysis) into four elements called 4P: product, price, promotion and place. Further improvements have been made in the concept of marketing, such as the addition of another P - people, processes, physical evidence, although the idea of 4P is still widely used and accepted. AI could be used in Promotion part of 4P, because this part covers advertising, messages, conversation, a lot of data, where AI could show results.



Figure 1. The 4 P's of marketing mix
Source: Author

Methods

Before companies can begin implementing AI marketing solutions, it is better to understand the parts and components of AI and how they make them work faster, easier and more efficiently. The following are explanations of AI components based on Brookings Institutions definitions:

Artificial intelligence is a collection of machines that respond to stimulation in the same way as humans. He can make decisions that usually require human experience. For example, chat bots in messenger, that automatically answer for customers questions.

Machine learning is a technology that analyzes huge amounts of data to identify trends and receive information. It provides AI systems with the ability to automatically learn and improve. For example, Smart Bidding in Google Ads.

Smart Bidding is a subset of automated bid strategies that use machine learning to optimize for conversions or conversion value in each and every auction—a feature known as “auction-time bidding”.

Data science is the study of where information comes from, what it means and how it can be interpreted. For example, there are a lot of data in Google Analytics and Yandex Metrika of each company.

Typically, all three of these technologies go hand in hand. They give marketers the opportunity to understand the sheer volume of data in order to inform them of creative and strategic decisions.

Most companies already know about live chat bots or artificial intelligence systems that you communicate with in instant messaging, and many already use this feature on their site. But have you ever thought about updating traditional chats with AI-based chat bots? The time has just come to do this. Recently, National Australian Bank launched a customer support chat chat to help customers find answers to common banking requests. The bot is able to answer more than 200 common questions related to banking.

There are a huge number of programs for creating business logic for chat bots in the Facebook, Telegram and WhatsApp messengers. After analysis and a series of tests of these programs, the most stable and successful was revealed, and this is Xenioo.

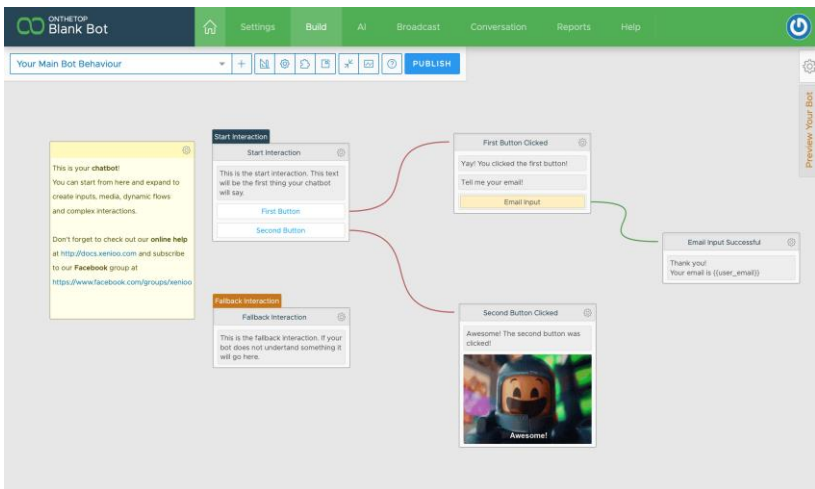


Figure 2. Logic of sample WhatsApp chat bot in Xenioo
Source: Author

As the experiment we developed WhatsApp bot and forwarded people from Facebook and Instagram ads to this chat bot. Before it was just usual WhatsApp of company, where manager answered for questions of clients only at the working hours. But companies launches ads around the clock and everyday. It means that customer could write to manager of company at anytime, it could be early morning or late night. As the experiment shows WhatsApp chat bot have positive effect to customer relationship.

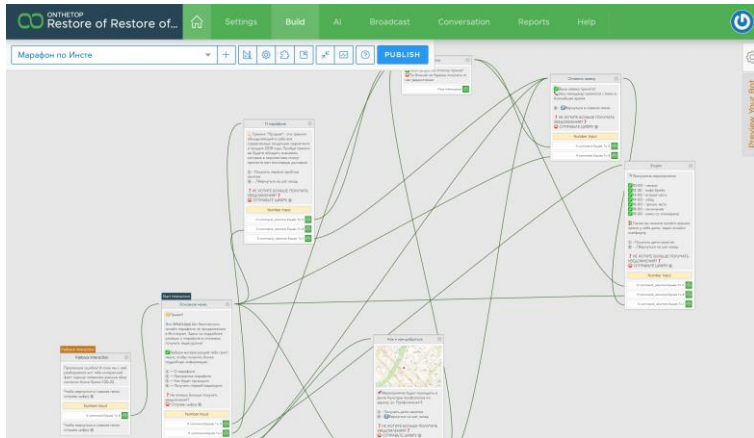


Figure 3. WhatsApp chat bot in Xenioo

Source: Author

In Figure 4 is screenshot of how WhatsApp chat bot works. For this research authors developed simple chat bot, we could make it more complicated and complex, functionality depends on goals of business.



Figure 4. How WhatsApp chat bot works
Source: Author

Results

In the Figure 5 we see how many click Facebook Ads campaigns get. Totally it is 3 352 clicks and all people, when clicked to the button in the ads, were forwarded to usual WhatsApp and chat bot. And the huge number of click of ad campaigns were gotten at the evening, after 7PM till 6 AM. Using WhatsApp chat bot we have automated communication with client and managers got more conversional leads, because requests from clients were qualified and they are ready to buy product of company. Lead processing time reduced from 1 working day to 8 minutes without losing quality.

	Название кампании	Статус показа	Стратегия ставок	Бюджет	Результат	Охват	Показы	Цена за результат	Потраченная сумма	Зав...
<input type="checkbox"/>	Djuzerre - Трафик v4	Выключено	Минимальная цена	500,00 р. Ежедневно	995 Клики п...	52 400	68 121	1,53 р. За клик по ссылке	1 518,08 р.	Непр...
<input type="checkbox"/>	Djuzerre - Трафик v3	Выключено	Минимальная цена	500,00 р. Ежедневно	1 055 Клики п...	56 304	67 083	1,47 р. За клик по ссылке	1 545,97 р.	Непр...
<input type="checkbox"/>	Djuzerre - Трафик v2	Выключено	Минимальная цена	500,00 р. Ежедневно	946 Клики п...	78 112	91 165	1,53 р. За клик по ссылке	1 448,38 р.	Непр...
<input type="checkbox"/>	Djuzerre - Трафик	Выключено	Минимальная цена	500,00 р. Ежедневно	356 Клики п...	19 810	24 929	4,83 р. За клик по ссылке	1 720,35 р.	Непр...
> Результаты, число к					3 352 Клики по ...	129 215 Пользова...	251 298 Всего	1,86 р. За клик по ссылке	6 232,78 р. Всего потрачено	

Figure 5. Facebook Ads Manager. Source: Author

According the research of “99 Firms” that 79% of customers prefer chat for getting their questions answered quickly. Here are the benefits of customer service using WhatsApp chatbots from our research:

- Zero customer wait time
- 24X7 availability
- Ever-expanding knowledge database
- Chat bots have the ability to route complex queries to human

Bots can also announce new product launches and share information about discounts and coupons to drive user engagement up. The data collected by these chatbots throughout customer interactions helps marketers develop insight on consumer behavior and mindset – and, again, they do this at scale.

Thus, ML-powered chatbots not only help digital marketers save money, but also ensure better business outcomes.

Discussion

Implications for marketing

The authors analyzed the collected examples and synthesized how these examples reflect the marketing structure. The findings are presented in Table 1. Each proven example shows that AI affects every area of the marketing program. This penalty is especially important for practitioners who are responsible for developing innovations, since AI affects the entire spectrum of marketing activities. In addition, AI applications that extend the core product require an

innovative design approach to find ideas that fit ideas that go beyond a product or even a category. This is important for the implementation of AI in the field of “product” and “promotion” in the marketing mix program.

Table 1. Areas of the impact of AI on marketing mix Source: Author

Product	Price	Promotion (Brand)	Place (Sales and Distribution)
New product development	Price management	Creating a unique experience	Convenient shopping
Hyper personalisation	Dynamic price matching to customer profile	Personalised communication	The faster and simpler sales process
Automatic recommendations		Creating the wow factor and offering benefits	24/7 customer service (chatbot)
Creating additional value		Elimination of the process of learning product categories	Purchase automation
Additional solutions beyond product category		Positive impact on the customer	Service-free shops
		Minimised disappointment	Consultant-less customer support
			New distribution channels
			Merchandising automation

The analysis of the collected cases shows that AI activities have a two-way impact on marketing. On the one hand, the consumer is the beneficiary of the changes, but on the other hand, new solutions affect all ongoing marketing activities.

Conclusion

When it comes to marketing management, AI has a significant impact on contemporary practices, and will surely require a new approach to tasks fulfilled in marketing teams:

- Elimination of laborious and time-consuming activities. AI automates routine and repeatable tasks (e.g. data collection and analysis, image search and adaptation/processing).
- Bigger significance of creative and strategic activities. Precise analyses performed by AI increases the role of creative and strategic activities to build competitive advantage.

- Developing new competences in the marketing team. AI requires incorporating data scientist skills as well as an understanding of the new technology possibilities in the marketing team.
- A new marketing ecosystem. The complexity of AI increases the role of companies producing AI solutions. Due to the current level of AI advancement, there is a need to develop a new model of cooperation with AI entities offering data engineering or ML tools.

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