

Chatbots as a Content Distribution Tool Used by Media Publishers

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ABSTRACT

Conversational applications (e.g. Facebook Messenger, WhatsApp) are becoming one of the most important sources of obtaining information by readers (Kalogeropoulos, 2018). This trend is forcing media publishers to change their current content distribution model. Since 2017, the popularity of chatbots on the Facebook social site has been growing steadily. This also applies to the media publishers who use social platforms in their communication strategy. **Scientific objective:** The paper presents different approaches of media publishers to using chatbots in the processes of content distribution to readers. The author in the paper discusses features of chatbots, cases of their applications and presents a theoretical review of the advantages and disadvantages in their adaptation. The presented analyses focus exclusively on chatbots as a tool for distributing journalistic content to readers through the Facebook Messenger conversational platform. **Research methods:** Analysis of the literature on the subject, Internet sources, an empirical microanalysis, and author's observations and experience of using chatbots. **Results and conclusions:** Chatbots, that belong to the profiles of media publishers analyzed in this paper, are mainly used to send readers links to the materials placed on the websites of these media. As programs, they lack the function of encouraging users to engage in conversations with them, which, next to the informational value, should be their main feature. The use of chatbots by publishers is somewhat responsive to changing trends in content consumption, but it is difficult to state unequivocally that publishers are using the full potential of this technology. **Cognitive value:** The paper joins the discussions focused on the use of modern technologies in journalism and the changing habits of content consumption by readers. The material also deals with issues related to the phenomenon of media content personalization in relation to the readers' interests.

KEYWORDS

conversational application, chatbot, Internet journalism, personalization



New forms of journalism, associated with both journalistic techniques and information distribution, arose with the emergence of the next-generation of Internet called Web 2.0 (O'Reilly, 2005)—a term popularized since 2004 by Tim O'Reilly and Dale Dougherty. Since then, various processes have been implemented in editorial offices of Internet-based media to both improve the work of a team of journalists and increase the reach of a given medium by using modern technologies.

Journalists and the news are where their readers are. The media have long ceased to limit distribution of their materials to traditional tools (printed press, radio, and television). Research from the Pew Research Center (2018) shows that the number of recipients using social platforms to read the latest news from the world is increasing from year to year. This fact forced media broadcasters to find a way to make the best use of the social communication channel to interact with their audience.

Recently, chatbots operating on conversational platforms or in applications have become one of the popular tools eagerly used by broadcasters. Chatbots are defined as programs that are able to respond to text and even voice messages (Shevat, 2017). These programs stimulate human reactions, which means that they act as applications in natural language. They are programmed in such a way as to react, for example, to a keyword in a given message. The more advanced ones use machine learning techniques, thanks to which chatbots are able to customize their answers based on specific words contained in the query addressed to them.

Chatbots gained their commercial popularity in 2016. At that time, Facebook Inc. enabled developers to create chatbots on the Facebook Messenger application that contact users on behalf of brands (Yeung, 2016). Through chatbots, companies have enabled consumers to communicate with the brand from a social platform at any time. From official data of Facebook Inc. it follows that in 2018, Facebook Messenger had 300,000 chatbots (Johnson, 2018).

Why Have News Sites Become Conversational?

Research from the Pew Research Center (2018) confirms that social media platforms (Facebook, Twitter) are becoming an increasingly important source of news for Americans. In the rankings they occupy positions very close to the level of respondents' indications for printed newspapers (a similar trend can also be observed in other countries). Every fifth respondent admits that he / she uses social media to read the news. This result is slightly higher compared to the number of respondents for whom printed newspapers are still the main source of the latest news. In 2017, the group of respondents using social networking sites to read the news was roughly the same as the group using printed newspapers for this purpose.

Research conducted by the Reuters Journalism Research Institute and the University of Oxford are of key importance for considering the use of chatbots in distributing the news through the media. They show that since 2016 there has been a noticeable decrease in the number of Facebook users (Kalogeropoulos, 2018). This is particularly true of countries that have been affected by the public debate on disinformation. At the same time, there was an increase in the number of recipients using conversation applications.¹ The results suggest changes in the

¹ It is difficult to separate social networks from conversational applications—one can try to do this based on the main purpose of the users using them. Accordingly, one can assume that although Twitter and Instagram have a messaging function, the exchange of information between user A and user B is not their main feature. Similarly, in the case of the Snapchat application, launched as an application for ephemeral messages, which, although it currently has the function of sending and receiving private messages by users, are not considered as a conversational application.

behavior of social media users who move from open platforms (such as Facebook or Twitter) to closed conversational applications (Kalogeropoulos, 2018). This trend has forced media publishers to adapt to the readers' preferences and find ways to reach them using tools that they increasingly use.

Chatbots from the perspective of media publishers create the possibility of interaction between the recipient and the Web portal within a specific conversational platform, and so the recipient has quick access to content of the topic he / she is interested in, without having to open a website in the search engine or a dedicated mobile application. In most cases, however, when chatting with the chatbot, the user only receives links to articles. If the user wants to read them, he / she must click on the button and then be taken to the publisher's website. This process is much easier and faster than entering a specific website address. In addition, publishers have equipped some chatbots with functions to engage the user in conversations with them, which may increase the readers' loyalty to a particular medium.

The use of conversational formats to present the news forced publishers to have a creative approach to both editorial issues and content presentation. The dialogue with chatbots, carried out on the Facebook Messenger application, maintains the characteristics of conversation in conversational applications. Chatbot uses emoticons and GIFs in its replies; speaks in a short and concise manner—appropriate for Internet communication.

How Do the Media Use Chatbots?

On the website of the World Association of News and News Publishers (WAN-IFRA for short) the topic of chatbots was presented as one of the most important trends in news editorials. With this tool, publishers give readers the opportunity to personalize the content that reaches them, depending on their tastes and needs (Flueckiger, 2017). This is a big change, especially in the context of the process of consuming content by recipients. Thanks to chatbots, the recipient can, regardless of the time of day, ask for the information he / she is interested in, without having to manually search for content on the Internet. In response to sending a message consisting of at least one word, e.g. "technology," chatbot sends links to articles related to this topic, which appeared on the given portal recently.

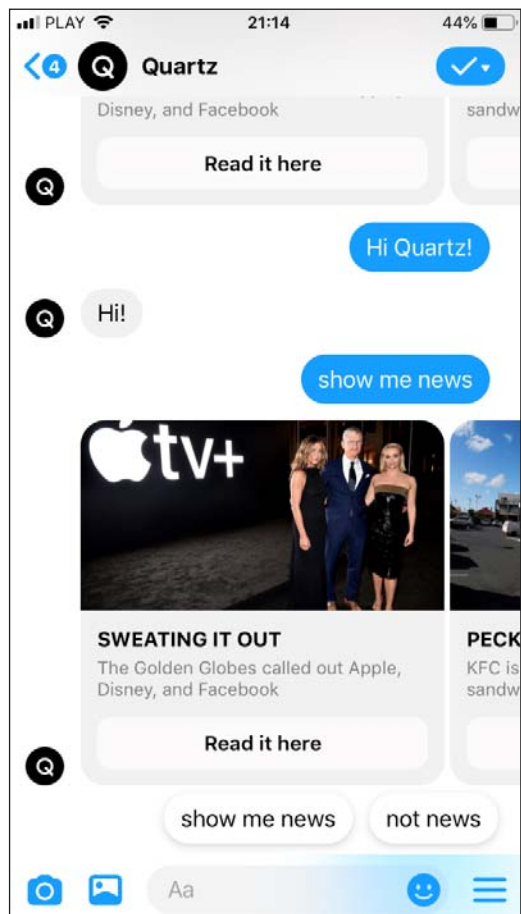


Fig. 1. Extract from the Conversation with the Quartz Chatbot Carried Out on the Facebook Messenger Application

Source: Own material.

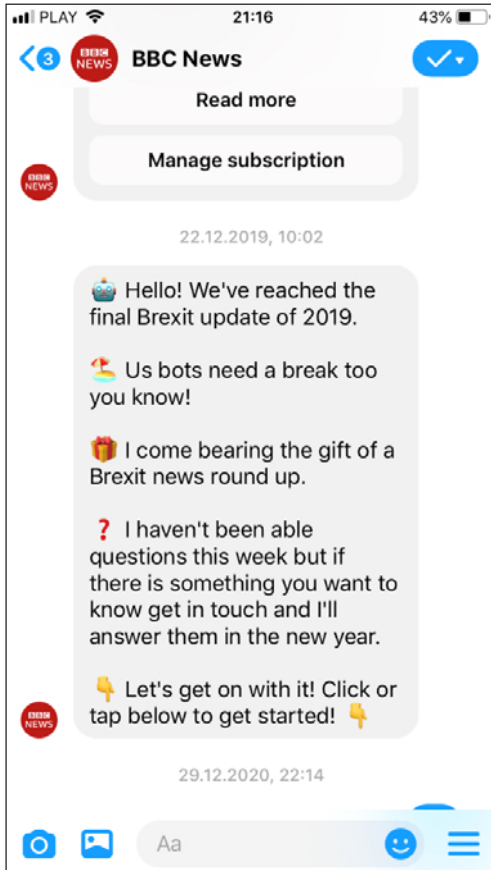


Fig. 2. BBC News Chatbot Using Emoticons in a Message

Source: Own material.

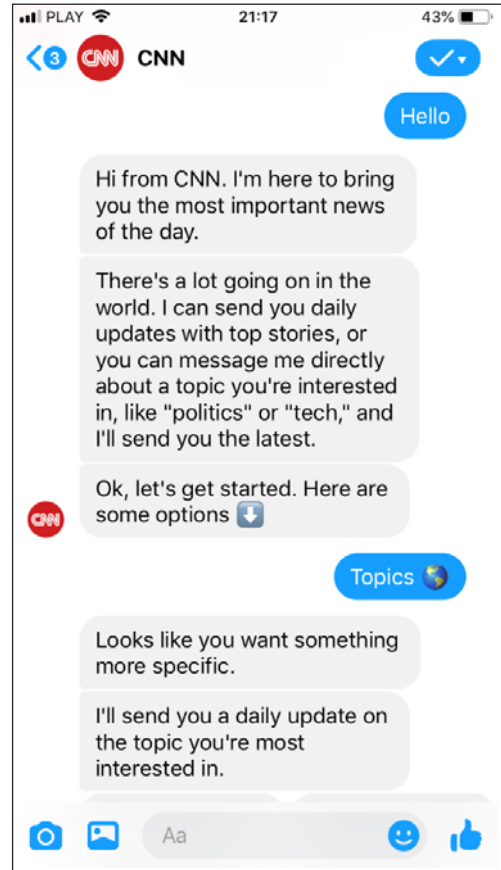


Fig. 3. Extract from the Conversation with CNN Chatbot (Welcome Message)

Source: Own material.

Chatbots are also used to present readers with a broader context of certain events, especially if they show some continuity and complexity. It is worth quoting the solution used by the BBC News editorial team and prepared by the BBC News Labs unit (researching innovations in the information media industry), called chatbot as part of the article (in-article chatbot). The project consisted of adding a conversation window in the content of the article, in which the reader through conversation with a chatbot (asking specific questions) could learn more about the topics covered in the article. Chatbots in this form were used by the editors during the general elections in the United Kingdom (BBC News Labs).

BBC News also uses chatbots to provide readers with knowledge related to climate change (Confused about climate change? Talk to our chat bot, 2019). Users who decide to use the chatbot on the Facebook Messenger app every Wednesday get an alert inviting them to explore climate topics, from rising temperatures to new ways to deal with global warming. During the conversation, they can choose the issues they are most interested in and learn more about them. Chatbot enables users to better understand the climate challenges that face the world and

humanity. What is more, it also helps to identify actions that can be implemented in everyday life to become more environmentally friendly.

Another example of a publisher using chatbots is the VentureBeat portal, which is one of the most popular blogs dealing with the latest events in the technology industry. In this case, users are dealing not with a text chatbot on the Facebook Messenger application, but with a voice bot running on devices that support Google Assistant, which provides them with personalized messages.

VentureBeat, presenting its strategy for using voice chatbots, presents four elements of personalization, which, according to the editors, are key to ensuring and maintaining audience engagement (Grensing-Pophal, 2017). Those are:

- serendipity—based on the preferences of the users and past behavior, chatbots are able to recommend stories that may interest readers before they start looking for that content;
- unlearning—bots can not only predict potential future interests, but can also detect and eliminate topics that the user is probably not interested in;
- recency—bots enable readers to be up to date with the latest information about their interests;
- learning—probably the most powerful function of bots is the ability to learn based on the user's behavior and how he / she consumes content.

Presentation of The Wall Street Journal and Quartz Chatbots Operations: Empirical Microanalysis

The author, in order to better understand how chatbots work, made an empirical microanalysis, which consisted of conducting regular conversations with selected chatbots for seven consecutive days. The selection of chatbots subjected to the study took into account the conditions: [1] chatbot had to run on the Facebook Messenger application, [2] chatbot had to be launched by a known and popular publishing company.

The Wall Street Journal Chatbot: Description of Operation

The Wall Street Journal (WSJ) is one of the most recognized publishers in the world. The topics of the articles, appearing both in the paper and online edition, include issues related to business, finance, and economics. WSJ Bot was launched on the Facebook Messenger application in 2016. Its main purpose is to provide users with the latest news that can be divided into two groups:

1. events from the world of finance and economics, and
2. updates on the US stock market, along with listings of companies and major indexes.

Already during the first interaction with the WSJ chatbot, the user is informed that every day he / she will receive alerts with breaking news (in the form of messages on the Facebook Messenger application).

In addition to automatically sent alerts (in the morning), the user can independently, at any time of the day, ask for the latest news by sending the message “Latest news.” In both cases, chatbot sends links to articles in response (maximum 5). The content is presented in a carousel format consisting of several images together with headlines (in the lists there are also links to podcasts prepared by the editors), as shown in Figure 1. Clicking on the “Read more” opens the content of the selected article in a new tab on the wsj.com domain.

The user has the option of asking for latest news in a selected subject area. To do this, he / she must send a message, e.g. “politics news,” “business news,” “life & arts news.” The thematic ranges coincide with the categories of articles specified on the publisher's website.

An additional functionality of the WSJ chatbot is sending the user updates regarding the listing of companies from the US Stock Exchange. The users should add companies that interest them

to their portfolio to receive regular, automatic updates. The consumer performs this action by sending a message with the company's ticker symbol (the official code used to uniquely identify it on the market). In response, the WSJ chatbot presents the company card. Clicking the "Follow" button will add it to user's portfolio. From then on, the user will receive daily updates on the listings of all companies added to the portfolio in this way.

The user can also at any time ask for information regarding the listing of the selected company by sending a message with its symbol. Chatbot, after receiving the message "Today's market," as in the case of the presentation of the latest news, presents the quotations of major indexes.

At the end of January 2020, the publisher of the Wall Street Journal decided to temporarily discontinue chatbot on Facebook Messenger. The publisher did not state the reason for this decision in the messages sent to the users, instead the users were encouraged to subscribe to the editorial newsletter "What's News," which presents the most important world events and the latest market information every day.

Quartz Chatbot: Description of Operation

Quartz is an international online publisher, content of which is focused on topics related to global economy. Journalists directly report events from, among others, the United States, United Arab Emirates, Hong Kong, Africa, and India. Quartz started its activity in 2012, currently it belongs to the Japanese media company Uzabase. The publisher's headquarters are in New York City.

Quartz journalist materials appear on various platforms (on their own website, in social media, content aggregation applications). The publishing team uses modern forms of journalism, implementing them in their communication strategy. In 2016 Quartz launched Quartz Bot Studio, which has prepared a dedicated chatbot for website readers using the Facebook Messenger application.

The main functionality of the Quartz chatbot is to present users with the latest news. Like the WSJ chatbot, Quartz does this by sending links to articles published on the qz.com website. The user asks for the articles by sending the "Show me news" message. Quartz bot does not send messages as daily alerts, its creators did not foresee this feature in its settings.

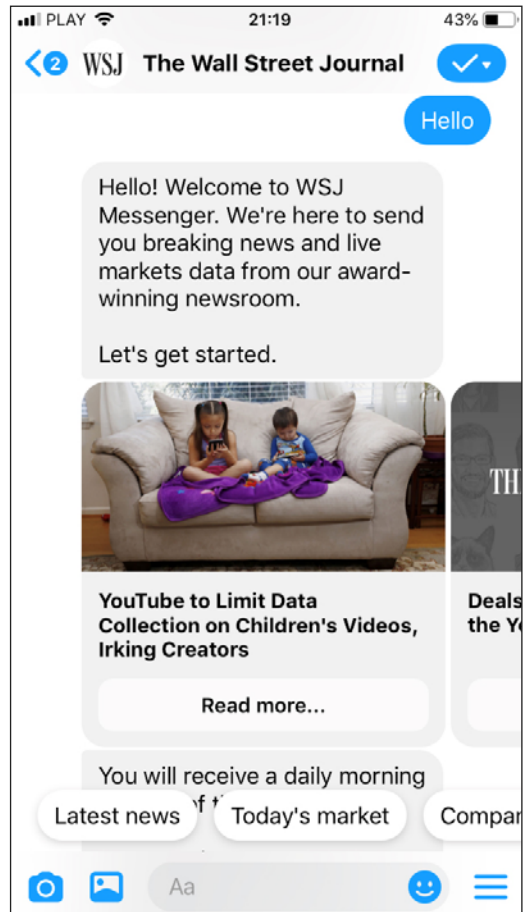


Fig. 4. Extract from the Conversation with the WSJ Chatbot (Welcome Message)

Source: Own material.

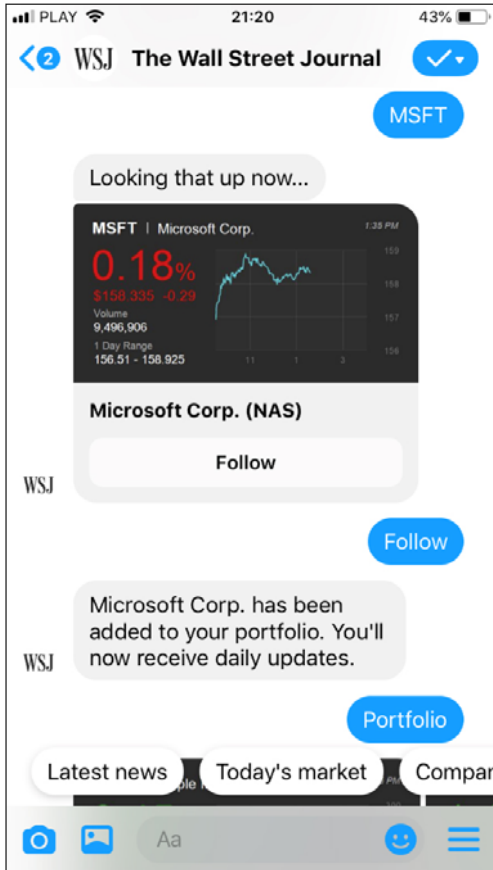


Fig. 5. Extract from the Conversation with the WSJ Chatbot. The User Adds the Company's Listing Card to Portfolio

Source: Own material.

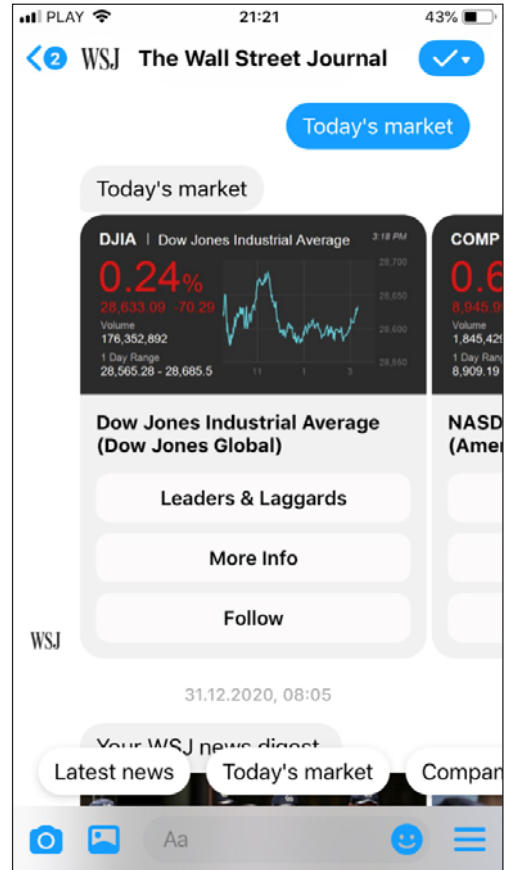


Fig. 6. Extract from the Conversation with the WSJ Chatbot on the Listing of Stock Indexes (after clicking the "More info" button, the user will be presented with a new card with stock quotes, he / she can also check the highest and lowest quotes "Leaders & Laggards")

Source: Own material.

The presentation of the news headlines, as in the case of the WSJ chatbot, has the form of a carousel, with the main graphics of the text and the headlines. After clicking on the "Read it here" button, the content of the article is opened in a separate tab on the qz.com domain.

An important feature of the Quartz chatbot are its conversational functions. In addition to presenting the latest news from the publisher's portal, chatbot can talk to the user on various topics called by the creators "Obsessions."

"Obsessions" are in-depth analyzes of topics related to global economy. However, these are not issues that the user proposes himself / herself, but selects them from the Quartz chatbot proposals. Conversations are triggered by the user sending a "Not news" or "Obsessions" message.

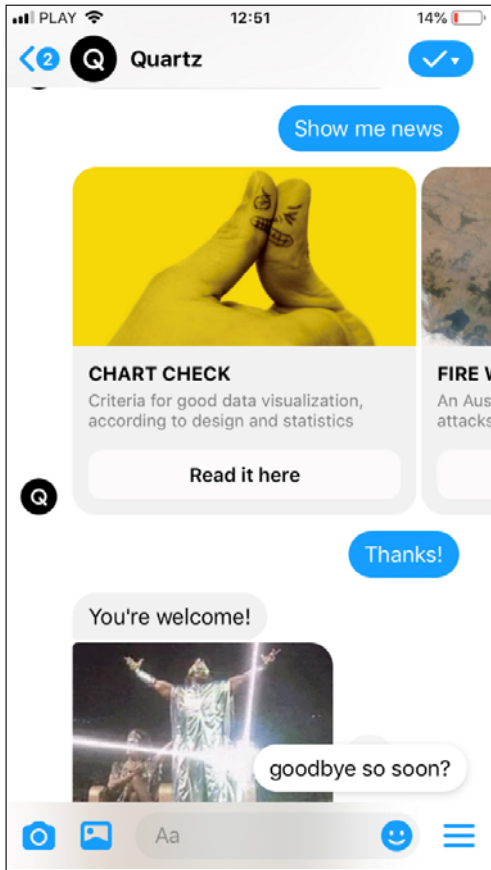


Fig. 7. Extract from the Conversation with the Quartz Chatbot. The User Asked for the Latest News

Source: Own material.

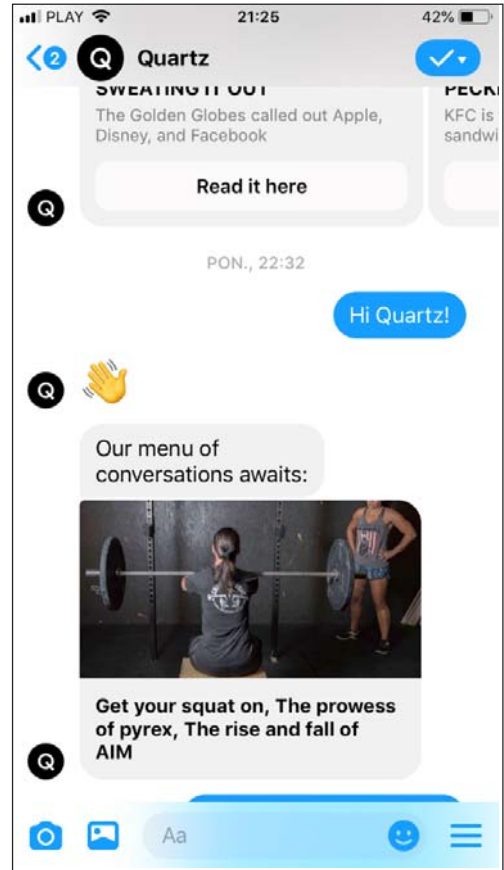


Fig. 8. Extract from the Conversation with the Quartz Chatbot. Chatbot Presented “Obsessions”—Issues for Conversation

Source: Own material.

The user conducts conversations with the Quartz News chatbot by clicking on the predefined buttons (which are usually single words), offering answers to chatbot messages. The disproportion between the length of the content in chatbot messages and the predefined responses for the user is significant (Fig. 9).

During conversations about “Obsessions,” Quartz chatbot uses many visual elements, such as emoticons and GIFs, typical for conversations in conversational applications. It also provides links to articles that have appeared on other websites, such as *The New Yorker*. Its statements are kept in an unofficial style.

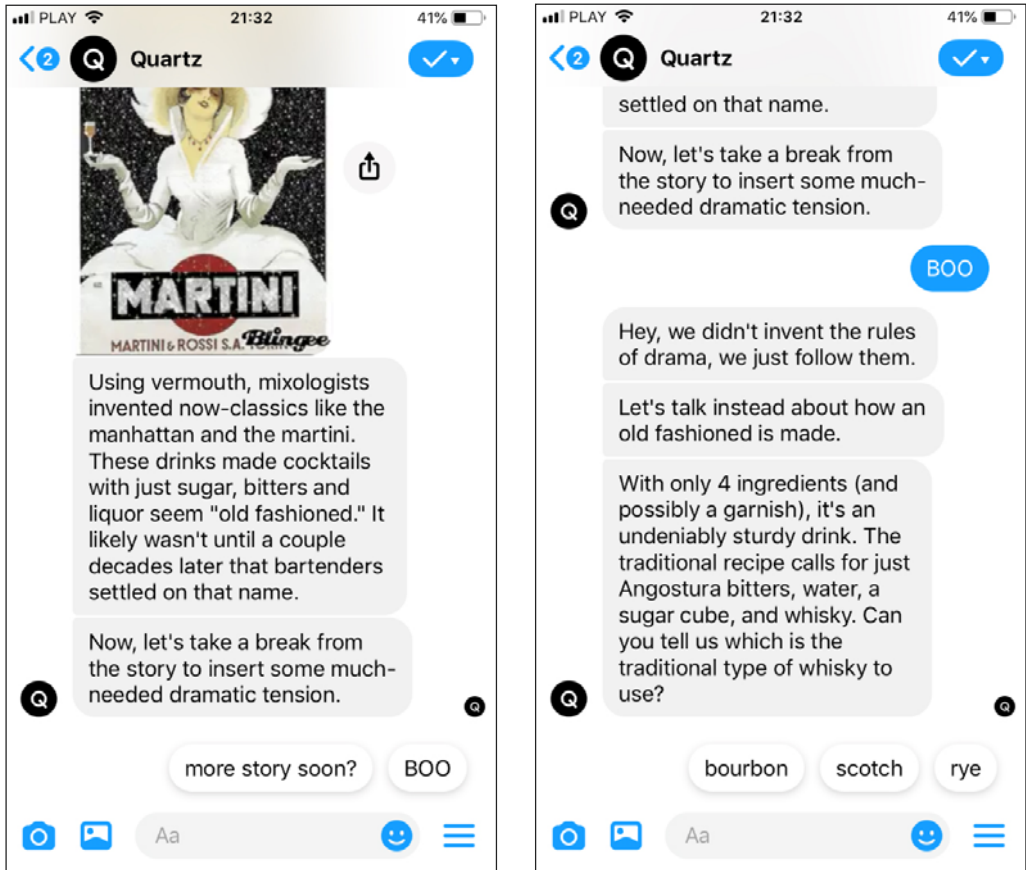


Fig. 9. Extract from the Conversation with the Quartz Chatbot. The Application Offers the User Predefined Responses to Chatbot Messages

Source: Own material.

Observations and Conclusions from the Conducted Microempirical Analysis

The author used the WSJ and Quartz chatbots for seven consecutive days. The average time of a single interaction with the WSJ chatbot lasted about five seconds. WSJ bot sent its first message at around 8 a.m. saying “Your WSJ news digest,” with links to five articles. It has always been the content that is on the home page of the publisher’s website. The author opened and read on average three articles from each daily update.

In the case of the Quartz chatbot, messages were triggered by the author twice a day (at around 8 a.m. and at around 3 p.m.). As in the case of the WSJ chatbot, the materials presented by chatbot could be found on the main page of the Internet portal, usually in the column called “Latest Quartz Stories.”

In the author’s opinion, using the WSJ chatbot on the Facebook Messenger application was convenient and easy, and learning about its basic functions was not time-consuming. However, it is difficult for the author to specify any particular features of the WSJ chatbot that could change her reading habits. Interactions with the chatbot, even regular ones, could not completely

eliminate the need to visit The Wall Street Journal website. WSJ bot, in the experience of the author with the publisher, was only a tool thanks to which she received updates on selected topics in the form of cards with links to articles.

WSJ chatbot does not have conversational features. Conversation with it is done by sending messages in the style of commands, written by oneself or selected from predefined proposals. Chatbot developers have prepared buttons that just click to let WSJ chatbot perform specific actions. The author attempted to ask for latest news using natural language phrases other than the “Latest news” command, such as: “Hi WSJ, what’s up?,” “What is going on in the world?,” “What are the latest headlines?.” However, none of them were understood correctly by the chatbot.

Despite basic functions, WSJ chatbot, when asked about the latest news on a specific issue, was able to correctly combine articles from the *wsj.com* website with the keyword given in the author’s message (Fig. 12).

In addition to the visual presentation of articles and index quotations or specific companies, WSJ chatbot does not use any graphic elements typical of communication carried out using conversational applications. On the other hand, the only element that is used to engage the user are automatically sent updates that prompt one to open the conversation window and view the content of individual articles.

In the case of the Quartz chatbot, the average time of a single interaction between it and the author was about 3 minutes. A significant part of each chatbot conversation was conducted on a specific topic, thanks to which, according to the author, interactions with the Quartz chatbot were engaging and cognitive. It is worth noting that many of the issues that chatbot proposed were related to currently popular cultural and social problems.

The creators of the Quartz chatbot argue that it has been prepared in such a way as to analyze and learn the behavior of the user with whom they regularly talk, to better respond to their needs and adapt to their habits (Seward, 2018). In the author’s opinion, however, after the study, the chatbot did not show any changes in the conversations regarding the subject or style of communication. It is difficult to state unequivocally whether it was caused by too short analysis time or too low conversation intensity.

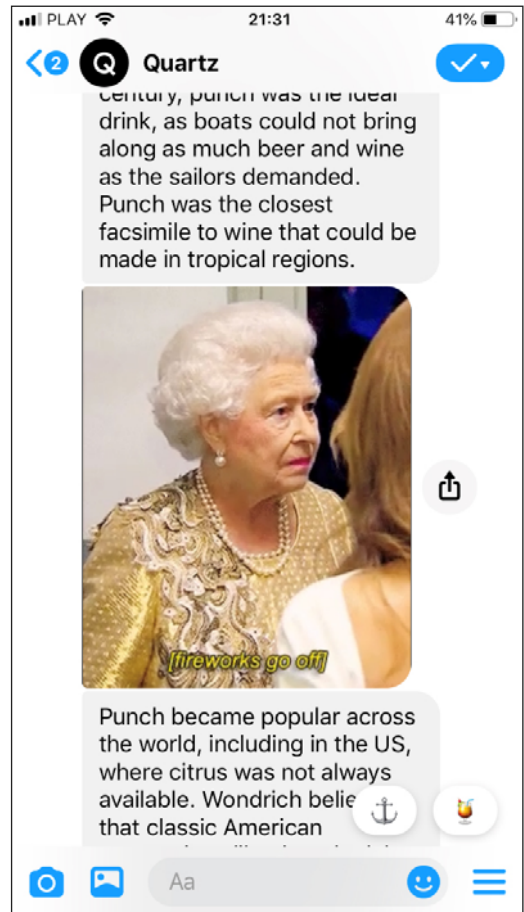


Fig. 10. Extract from the Conversation with the Quartz Chatbot. Chatbot Message Using a GIF
Source: Own material.

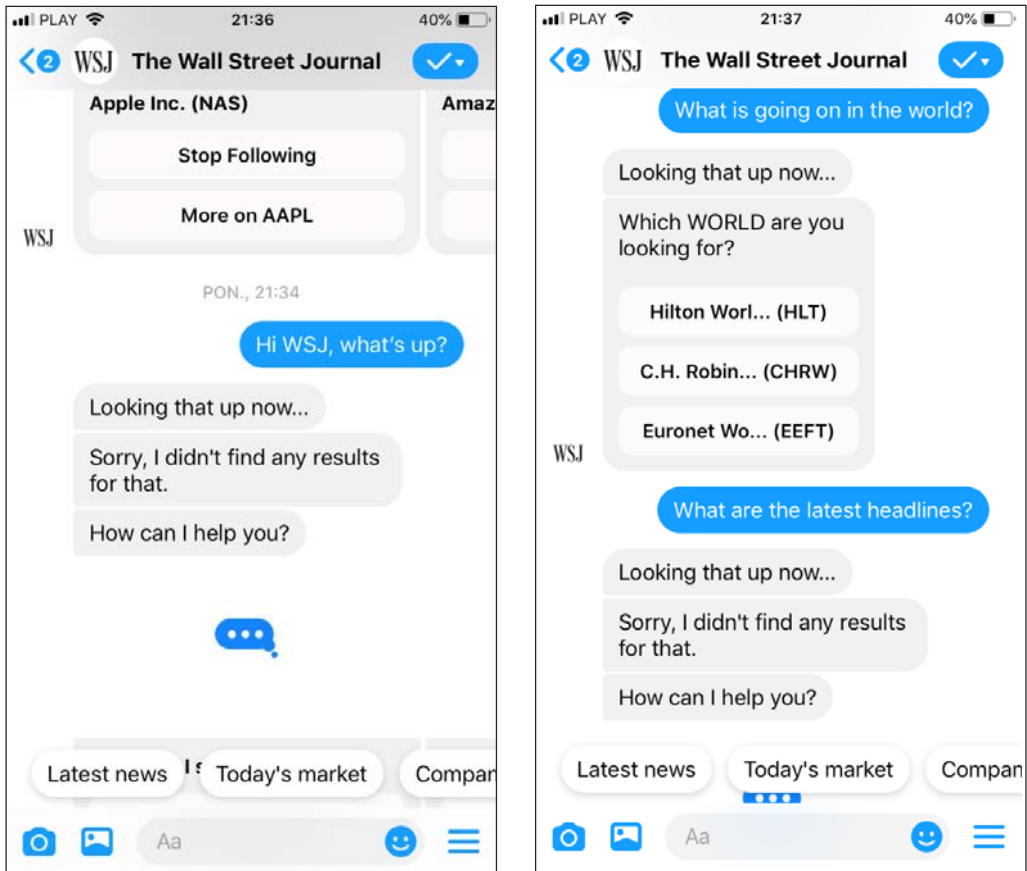


Fig. 11. Extract from the Conversation with the WSJ Chatbot in Which It Did Not Understand the User's Questions Regarding the Latest News

Source: Own material.

In the case of conversations about “Obsessions,” conversations with the Quartz chatbot were always conducted according to the scenarios set by its creators. This means that the chatbot was not able to answer the author's questions about other topics, even though it understood common news—questions like “How are you?.” This fact meant that in the experience with the Quartz chatbot the author was always the initiator of the conversation, however, she did not have a complete impact on what topic will be raised during it (the author could only choose it from the proposed ones).

Chatbot did not send the author automatic alerts or invitations to conversation, the conversation with it was always conducted when the author wanted to and had time for it. Therefore, it is not possible to specify functions of the tool that encourage the user to interact regularly with the chatbot, and thus deepen the relationship between the user and the publisher. The author noticed, however, that knowingly starting a conversation with the Quartz chatbot meant that a single interaction with it lasted much longer than with the WSJ chatbot. Importantly, it also had specific features of the conversation conducted in the mobile application environment.

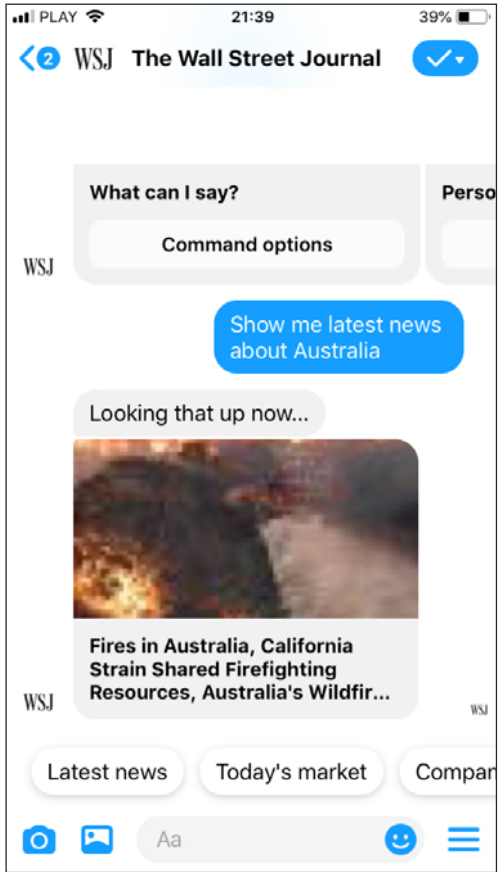


Fig. 12. Extract from the Conversation with WSJ Chatbot. The User Asked Chatbot About a Specific Event
Source: Own material.

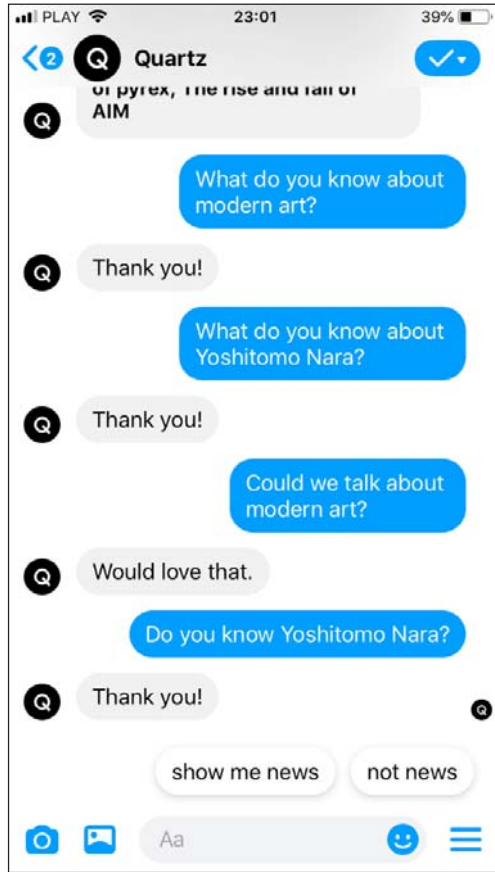


Fig. 13. Extract from the Conversation with the Quartz Chatbot, During Which the Chatbot Did Not Understand the User's Question
Source: Own material.

Chatbots As a Tool for Personalizing Content in the Media

The users create a kind of their own publishing cycle of the media they read by specifying their preferences for chatbots, and they contract their topics almost anew by choosing the content or topics for conversations that interest them most. For example, when conversations with a chatbot launched by a general-theme portal bring up messages related only to technology, the user may perceive this publisher as a technology service, not a general theme.

Content personalization features offered to readers through chatbots prompt one to consider the topic from a prosumer perspective. The concept of prosumption first appeared in 1972, when Marshall McLuhan and Barrington Nevitt (1973, p. 171) argued that with the development of new electronic technologies, consumers can increasingly become a producer. The concept of prosumption first appeared in 1980 in the book by Alvin Toffler (1970). He characterized it then as a concept present in pre-industrial societies (which he called the "first wave") in which there was no clear level of consumption and production.

Wolny (2013, p. 152) calls prosumption the effect of a trend in which consumption becomes part of the production process, and vice versa. The result of this process is a product that meets the expectations and needs of the consumer. Consumers, by making individual decisions and choices, become somehow co-creators of a given product or service (Wolny 2013, p. 152). Prosumption causes that the consumer is responsible for some elements that are part of the production process. It has a significant impact on the final shape of the product, the consumer designs and constructs it according to his / her preferences. All so that it fully meets his / her individual needs. From the point of view of economic sciences, prosumption is defined as the actions taken by the consumer that create value, as a result of which a product is produced, which is eventually consumed by the consumer, and these activities become the consumer's experiences with the product. The consumer is involved in the prosumption process. The prosumer is a participant in the process of prosumer, i.e. a consumer who produces a product in order to consume it on his / her own, in other words—a product manufactured for his / her own use. A prosumer's lifestyle now leads the way in many areas of our lives, especially in times of open access to the Internet, thanks to which we, as consumers, can easily share our opinion on a given product or service or present our requirements to the manufacturer. Manufacturers enable consumers to interfere in their products more and more. This means that they partially lose control over the final result of their work, but thanks to this they maintain a long-term relationship with consumers. In the case of products created in cooperation with users, it is also easier to gain new customers. In the process of prosumer, the consumer is particularly involved in the production process, which has a technological level that allows him / her to independently and easily adapt the product to individual needs.

It is possible to specify several dimensions in which chatbots launched by publishers can help users to customize (according to their preferences) the information that reaches them by analyzing the way chatbots work. The first and also seems the most common, is the selection of time and frequency at which information reaches the recipient. The second is the selection of content topics, and the third is the contextual selection (which is possible in chatbots using advanced machine learning functions).

The more personalized the experience of chatbot recipients, the greater the likelihood that users will engage in this experience—this means not only an increase in reader loyalty to a given magazine or journal, but also many new business opportunities for publishers. If content is always relevant and interesting, and what is more, delivered in the right quantities and at the right time of day, recipients usually consume more (readership increases), and this allows publishers to increase ad rates. Knowing the interests of the recipients allows better management of the ad, as well as presenting it to the appropriate target group, which directly translates into an increase in sales. The transition from global emissions to almost nanocasting, which serves the delivery of personalized content, i.e. specific topics to specific recipients, increases their involvement. Content personalization can also generate other revenue models for chatbots, such as native content or dedicated paid subscription offers.

The Key Challenges of Chatbot Development on the News Sites

Chatbots are considered one of the tools to help build readers' personal experience with a given medium. It is worth noting, however, that the functionalities that chatbots are equipped with on Facebook Messenger are quite limited, at least at the moment. They mainly concern the possibility of choosing general thematic aspects (e.g. technology, politics, business) or time (in terms of the frequency of sending news, e.g. once a day, three times a day). The user has no influence on the tone of the information that is sent to him / her, e.g. articles glorifying leftist values.

Recently, however, it can be seen that media publishers face many restrictions on the use of chatbots to interact with their readers through conversational applications that negatively affect the legitimacy of implementing or developing chatbots. Martin Belam, a reporter from *The Guardian*, indicates that one of the many challenges in this context may be the limited conversationality of chatbots (Mayhew, 2016). The internauts use conversational platforms primarily to conduct conversations with other users in a natural and direct way. They want to use chatbots similarly. In addition, it also forces the conversation application environment. So if the functionality of a given chatbot is limited only to sending users links to specific articles related to the keyword, and it cannot answer more advanced questions, then in many cases the expectations of the recipient will not be met, and he / she will not be involved in using the tool. Of course, there are advanced chatbots that can run with conversation almost at the human-human level, but most often they are created for other purposes and by using advanced programming methods, natural language processes, and broadly defined artificial intelligence.

Another important issue raised in the context of chatbots is ethics. By using conversation platforms to talk to loved ones, users count on them to be talking only between them. Similar expectations may occur during conversations with chatbots. Therefore, it may happen that the user will not be aware that his / her conversation in the application can be analyzed by the team preparing the chatbots and responsible for its results.

Emily Withrow, director of the Quartz Bot Studio, claims that the main mistake of many media organizations is thinking of chatbots as a way to reach new website audiences (International Information Agency Vector News, 2019). According to Withrow, it is much more effective to see the chatbot as “its own medium.” This means that chatbot, operating in an environment of social platforms, requires a completely different preparation than the text on the website. First, it concerns a different writing style. In the Quartz editorial team, admits Withrow, there is a group of writers and editors who prepare content exclusively for the Quartz chatbot. Content on the site is prepared separately for the needs of the portal and chatbot (Rhodes, 2016).

Chatbots can influence the increase of loyalty of recipients towards a given medium by engaging them in the consumption of produced content. Increasing the readership of a given publisher, on the other hand, leads to an increase in the number of recipients of advertising and higher profits for media entities. However, for the strategy of using chatbots to bring such effects, publishers must use appropriate technology. The mechanisms used should be much more advanced than simple algorithms that only allow users to send links to articles according to a specific topic. It is currently difficult to say if all publishers who have decided to use chatbots in their communication with readers achieve satisfactory results. This situation may be related to unequal access to advanced technologies and different levels of skills in using them. This is especially true of regional and local publishers whose budgets are much lower than those of large international media corporations (Diakopoulos, 2017; Flew, Daniel, Spurgeon, & Swift, 2012; Thurman, 2019).

Chatbot As One of Many Signs of Changes in the Media

Alexisi Llyod (2015), former design and innovation manager at The New York Times R&D Times Lab, published one of the most important articles on technological changes in information media in 2015, entitled “The Future of News is Not an Article.” In the introduction, Llyod referred to two events that concerned news reading solutions that were introduced by one of the largest technology companies in the world, Facebook and Apple. In the case of Facebook, these were Express Articles (Facebook) in the case of Apple—the Apple News application, which allows one to format the content so that the articles operating within this application look like taken from publishers’ websites. Both events sparked a heated debate in the media environment,

what exactly these movements mean for the future of these platforms and their relations with publishers. Lloyd pointed out that both Facebook and Apple, which undeniably have tremendous power to shape the future of the news itself, have focused on a future that takes the shape of an article. The form and structure of message distribution proposed by both companies have not been questioned, although the form was largely developed in response to the limitations of print media. Lloyd therefore suggests that publishers should rethink and update the content preparation and publication processes. As he indicates, thanks to the availability of new technologies, they have almost unlimited possibilities to shape the future of the global market and media.

The development of new technologies has caused radical changes in the media. With the development of the Internet and the progressive phenomenon of media convergence, editors began to increasingly use various digital tools, creating and then distributing information. The convergence of media considered by media experts from a technological perspective relates to three issues: the network, production, and distribution (Flynn, 2001, p. 12). In the case of the news networks, considerations are primarily related to the Internet. It is worth noting that the most important impact on current messages delivered to users have changes in the production and distribution process. In the case of the former, the media, unlike in the past, are now able to prepare content once and then deliver it to users through various channels. This idea can be summarized as “write once, publish anywhere.” In the case of distribution, convergence refers to the last element of the content consumption process by the reader. According to Flynn (2001, p. 12), in the future the media will have to adapt to a situation in which only one way of access to different types of digital networks through a single device will be possible, which will combine the various features of today’s media. Given the above predictions related to media convergence, changes in recipient behavior and the development of technology, publishers will be forced to look for new ways to reach information with readers.

Algorithms, which play one of the most important roles of media functioning on the Internet, affecting most aspects of social life are another important aspect of changes in the digital world. The media must bear this in mind if they want to know what is going on in the world and to ensure “algorithmic accountability” (Tatalovic, 2018, p. 3).

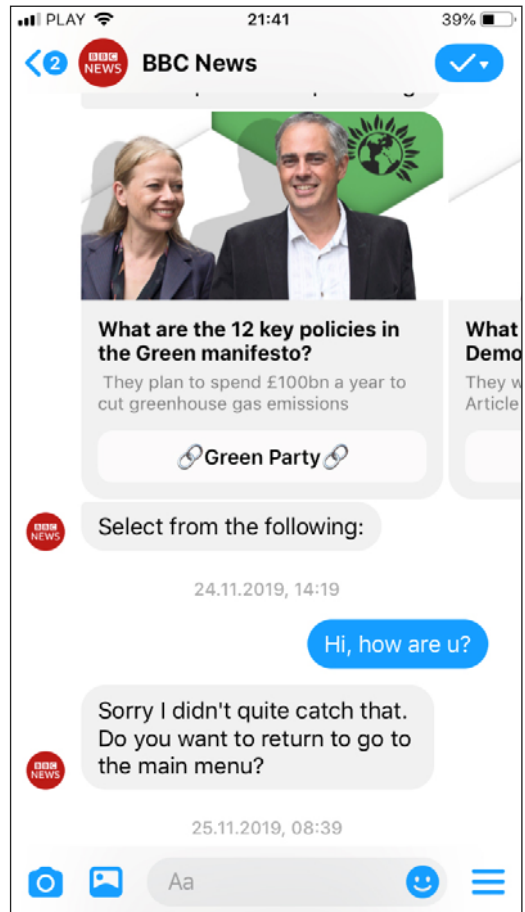


Fig. 14. Extract from the Conversation with the BBC News Chatbot. Chatbot Did Not Understand the User’s Message

Source: Own material.

Summary

The changes taking place in journalism are dictated by the need to adapt to the turbulent technological development that is taking place in today's world and is happening somewhat beyond journalism. With the growing popularity of conversational applications that have changed content consumption patterns by a globalized audience, the media has been forced to find a way to adapt their operating model to readers' new habits.

Considering the analyses presented in this paper, it seems that media publishers have not fully exploited the potential of chatbot technology. Chatbots proposed to readers do not engage them in conversation, they are rather another form of sending links to articles placed on websites. Chatbots in this edition can certainly not be called a tool for constructing reality in which the latest news is transmitted to readers in the form of conversations similar to those they are used to using conversational applications. It is also difficult to reach any official publishers data about user involvement in using these tools.

An additional argument confirming the validity of this conclusion is the fact that The Wall Street Journal Chatbot has ceased to be available to users since February 2020. Due to the lack of official announcements in this matter (users only received a message in the chat window of the Facebook Messenger application), the author was initially difficult to assess the motives of this decision. In direct contact with a representative of The Wall Street Journal, however, she found out that the team responsible for implementing innovation in the editorial office had indeed decided to end the project. It was also confirmed that the editors of the daily were investigating the use of other modern formats for transmitting content to recipients, not excluding the possibility of restarting chatbots in the future.

Chatbots as a tool for distributing content to recipients are only a small part of the issue of algorithm in journalism. An interesting issue, worth separate analysis apart from considering how to distribute content, is the perspective of bots, functionalities of which adapted to journalistic narrative platforms change a number of professional practices. This is because they take over the duties assigned so far to editorial staff. Interestingly, they do not undermine the legitimacy of the profession of a journalist, but even increase its value.

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