Linguocommunicative Strategies and Technologies of Conversational Commerce in English-Speaking Chatbots

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Abstract. The article presents the results of studying linguocommunicative strategies and technologies of conversational commerce in English-speaking chatbots. The creation of chatbots as one of the priorities of innovative scientific and technical activities is based on natural language processing technologies as an interdisciplinary field of scientific and practical knowledge located at the intersection of computer science and linguistics and enabling computers not only to understand human, i.e. natural language, but also generate it and enter human-to-chatbot communication. In the course of a comprehensive analysis of theoretical data and empirical material, the role and place of chatbots in modern conversational commerce is established, on the basis of popular chatbots used by various companies a nomenclature of linguocommunicative strategies and technologies used for effective human-to-chatbot client-oriented communication is formed and the linguistic means of the realization of these strategies are examined and described.

1 Introduction

The main means of communication between people, of course, is natural language. Therefore, first of all, verbal communication acts as a key factor, since it is the basis for involving people in such activities as business, education, trade, politics, social activities, religious life, etc.

Nevertheless, progress in the application of technology in everyday life has revolutionized the field of communication creating conditions and prerequisites not just for interaction but also for communication between people and computers today. In fact, nowadays we already live in a reality where computer systems process and generate natural language.

Regarding the previous remarks, the considerable interest of numerous scientists and researchers in the problem under consideration is quite understandable [1-8]. The application of advanced methods can solve various problems related to Natural Language Processing (NLP), such as sentence splitting, parts of speech tagging, generating dependency graphs,

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creating an appropriate dictionary, correlating various dictionary components, setting context, extracting semantic values, or converting unstructured data into a structured format.

Considering the use of effective technologies and methods of artificial intelligence (AI) in recent years, J. Goldberg offers the following definition for NLP: "NLP is a collective term referring to the automatic computational processing of human languages. This includes both algorithms that accept human-created text as input, and algorithms that produce natural-looking text as output" [9, p. 346].

NLP, as an interdisciplinary field of scientific and practical knowledge located at the intersection of computer science and linguistics and enabling computers to understand human, i.e. natural language, is one of the most popular areas of data science today. Having existed since the invention of computers and being based on the human desire for computers to understand our language, over the past decade it has gained great popularity both in industrial and academic circles.

Indeed, it was the development of technical equipment and computer technologies that led to incredible achievements in the field of NLP. The technologies of speech synthesis and recognition are becoming as popular as the technologies working with written texts. The development and mass implementation of virtual voice assistants shows how far scientists have advanced in this field.

2 Research Methodology

Communication is an important factor that builds relationships between individuals as well as between organizations and individuals. Interaction between people from different countries has become much more comfortable due to various electronic translators. However, with the development of NLP, communication between people as well as people and organizations has become much easier, and the ignorance of a foreign language has ceased to be an obstacle to interaction and mutual understanding between people and business.

More and more often there appear some news about the launch of new messaging services by various companies which indicates their transition to conversational commerce. The term "conversational commerce" was first used by Chris Messina [10] in 2016 and in just a few years it has become a fundamental strategy for increasing sales and customer loyalty in e-commerce.

Conversational commerce is a system of direct communication between a brand or business and its customers via instant digital messages exchanged on different electronic platforms such as WhatsApp, Facebook Messenger, iMessage, Viber, Alexa, Amazon, Yandex Alice and which include the ability to make purchases online.

According to the definition proposed in M. Kammer’s article [11], "conversational commerce is an opportunity to offer personalized, "chat-like" purchases using advanced communication technologies, primarily messaging applications."

This phenomenon is not accidental: people exchange more and more messages every day, and sending voice recordings has become one of the most common means of communication saving time and effort. It became quite logical to predict the next step: consumers will soon want to communicate with brands and stores as quickly and easily.

The rapid development of conversational commerce technology, which is based on the integration of linguistic and computer-mediated approaches [12-14], is primarily due to the widespread use of various voice assistants as well as digital messaging services.

The rapid development of NLP technology and AI systems has made it easier for conversational trading to use more complex and advanced services.

Buyers tend to prefer this more direct and human (or human-like) contact, and companies that use conversational commerce soon notice an improvement. This technology provides up
to 4 times more sales conversion than traditional purchase channels [15]. Therefore, the future belongs to the solutions that are more adapted to e-commerce and business.

Customers today have become more demanding not only about the way they make purchases, but also about the way they communicate with brands. That's why traditional online services, such as the “Contact Us” form, are simply unable to give competitive advantages. That's why companies continue to implement chatbot marketing strategies and use them to improve the efficiency of their business in all areas.

The word “chatbot” is formed by combining two parts - “chat” and “bot” which is an abbreviation of the word “robot”. A chatbot is, in fact, a robot with which it is possible to communicate online using text or text-to-speech transformation. A chatbot consists of some special software based on artificial intelligence which replicates a human conversation.

Hence, chatbots are also known as conversational bots or agents. They stimulate verbal interaction with users based on a predefined set of events and conditions that are triggered automatically according to the user's reaction.

Chatbots usually represent a dialog interface between a consumer and a machine. These are applications that have a linguistic structure that allows them to ask a question and try to find an answer. They implement strategies of large-scale individual communication between brands and their customers using advanced AI technologies.

Chatbots create conversations, not messaging, which significantly improves the quality of customer service and their satisfaction with both the process and the result of making a purchase.

P. Dunay [16] adheres to the point of view that dialog interfaces will continue to develop. Regardless of whether consumers are texting or talking to them, “automated systems like bots will almost certainly play a role in our future lives”.

However, in order for a natural dialogue between a person and a bot to be possible, chatbots must have a certain understanding of human language. And that is where linguistics - the science of human languages - comes to the rescue.

So, with the help of NLP and linguistics, conversational AI bots should be trained to understand human language [17]. In addition, chatbots should also respond as humans.

Thus, conversational AI is more than just teaching a bot a few words. Chatbots perform social roles related to the representation of themselves as interlocutors; therefore, the development of the chatbot's language capabilities in accordance with the stereotypes of its social category, according to many researchers [18-23], is crucial for the success of this technology.

In fact, chatbot designers, using linguistic data and employing certain linguocommunicative strategies and technologies of common colloquial speech, teach their creations to understand human language and communicate in it.

As the examples of the successful implementation of the innovative technologies in the client-oriented communication activities of companies, i.e. chatbots in conversational commerce, we shall consider a number of chatbots from the standpoint of the linguocommunicative strategies and technologies they use in human-to-chatbot communication.

To solve the task set, a comprehensive analysis is used including the methods of linguostylistic, structural-semantic, compositional, contextual-interpretative and linguopragmatic content analysis, as well as the descriptive method involving observation, comparison, generalization and logical-semantic interpretation of the data obtained.

3 Results and Discussions

Chatbot of Heek. As the first one of the list of the best examples of chatbots to be regarded we shall consider a tool for creating websites designed by the company “Heek” which
allows exclusively through the communication with their chatbot to solve all the problems about creating the desired site (Fig.1).

Fig. 1. Chatbot of Heek (https://www.heek.com).

In the present dialogue we observe the use of several linguocommunicative strategies of the chatbot while communicating with a client. And the first one of them is the strategy of greeting implemented through the use of an informal colloquial version of the greeting “Hello” as well as the strategy of self-presentation implemented through the act of self-naming (“I’m Heek”).

Next we find the representation of the linguocommunicative strategy of a call for joint activity implemented through the repeated use of the imperative mood in two consecutive sentences “Let’s create your new website!”, “Let’s start with your job.’ The first one of them is an exclamatory sentence which creates additional expressiveness and adds emotionality to the statement. In addition, the implicit representation of the same strategy, i.e. a call for joint activities, implemented through the use of the unifying pronoun of the first person “we”, is also found in the last phrase of the dialogue: “… we need to create your account”.

Similar emotionality with the addition of some positive evaluation is also noted in several subsequent remarks of the chatbot implementing the linguocommunicative strategies of approval and positivising the utterance: “Good choice!”, “OK!”, “Awesome”.

Like a human being, the chatbot under discussion uses various communicative types of sentences in its speech, in particular, an alternative question: “Would you like you website to have several pages or everything on one page?”.

The chatbot also uses the linguocommunicative strategy of polite advice using the Subjunctive mood: “I would recommend having a multiple pages website”.

**Chatbot of Taco Bell.** Among the first ones to introduce the conversational commerce there are such striking examples as Tacobot from the fast food chain “Taco Bell” which allows to make orders via text message (Fig. 2).

Fig. 2. Chatbot of Taco Bell (https://tacobot.tf).
In the presented example of the beginning of the dialogical communication we see the use of informal conversational greeting variants “Hey there” and “Hello” used by both sides of the communication act which testifies to the use of the linguocommunicative strategies of greeting and self-presentation (“I am your TacoBot”). Moreover, the special attention should also be paid to the fact that the welcome remark from TacoBot, as opposed to the client's remark, is presented in the form of an exclamatory sentence which testifies to the fact of giving more expressiveness and emotionality to the statement with the help of punctuation marks.

In addition, the repetition of the 2nd person pronouns you and your used by TacoBot indicates deliberate helpfulness and customer orientation.

**Chatbot of 1-800 Flowers florist network.** Customer orientation and care are also explicitly presented in the following example where the artificial intelligence system – the chatbot GWYN of the 1-800 Flowers florist network (https://florist.1800flowers.com) - analyzing the previous purchases and user requests independently makes reasonable suggestions for the selection of individual bouquets (Fig. 3).

![Image](https://florist.1800flowers.com)

**Fig. 3.** Chatbot of 1-800 Flowers florist network (https://florist.1800flowers.com).
As it can be seen from the presented example, the same conversational strategies are used, namely the use of another variant of the informal colloquial greeting “Hi”; the repetition of the 2nd person pronoun you as well as giving more expressiveness and emotionality to the utterance through the use of punctuation marks in the exclamatory sentence.

**Chatbot of Amtrak.** Next, we pass to the analysis of the chatbot Amtrak presenting a railway passenger company operating in the USA, Colombia and some parts of Canada.

The chatbot on their website is a very simple and exciting alternative to booking tickets in the traditional way. You can find out information and book tickets simply by chatting with their chatbot Julie (Fig. 4).

![Chatbot of Amtrak](https://www.amtrak.com)

**Fig. 4.** Chatbot of Amtrak (https://www.amtrak.com).

Still we see the use of the chatbot greeting and self-presentation strategies. The distinctive features of the presented dialogic communication is that, firstly, it is built in a Q&A format, and secondly, unlike the cases we have previously considered, Julie as a chatbot is presented with a photo of a pretty smiling girl. And this is designed intentionally and aimed at creating a positive attitude of the company's client.

Let's just add that the chatbot Julie from Amtrak has become a real hit among users. She has all the answers an Amtrak user might need. And, thus, this is one of the most successful examples of communication with a chatbot, since it not only communicates with people, but also answers about 50,000 calls per day which is more calls per day than one Amtrak customer service employee handles in a year.

**Chatbot of Hazel.** Proceeding, we note that chatbot Hazel is a tool for ensuring effective management of a team. This example of a website chatbot provides various benefits, such as understanding what the team is facing, recommendations on growth plans, and providing feedback.

In addition, Hazel gives the opportunity to conduct weekly checks while managers identify their strengths and weaknesses that require improvement (Fig. 5).
In the presented example of dialogic communication with the chatbot we note the use of both the previously considered linguocommunicative strategy of greeting accompanied with a corresponding smiley face and the linguocommunicative strategy of support implemented, firstly, through the phrase “don’t worry”, and secondly, through the complex construction of the statement “Your team seems to be overwhelmed by conflicting priorities...here’s how you can fix this...” in which the first part is represented with a statement about the presence of a problematic situation, and the second one offers its solution.

In addition, an important characteristic of the chatbot in question is its use of the linguocommunicative strategy of personalization which is expressed in addressing the communicating person by name. In addition, this chatbot is able not only to chat when the user wants it but also to retransmit the relevant messages and notifications to other corporate users.

Separately, it is necessary to focus on the choice of linguistic tools used by the chatbot. Almost all of them, whether they are lexical ones (a colloquial idiom – “to be in one’s mind”, a phrasal verb - “to check in with”, a filler word – “like”) or syntactic ones (contractions - “here’s”, “what’s”, “don’t”), refer to the characteristics of live interpersonal conversational communication.

It should also be noted that a person in a dialogue with a chatbot tends to use simplified linguistic constructions. This applies both to separate words and to the structure of sentences as a whole. The fact of using a simplified language is an incentive for a more thorough selection of the source data used to create chatbots.

**Chatbot of Capital One.** Capital One is a diversified bank that offers a broad array of financial products and services to consumers, small business and commercial clients. Capital One has one of the most widely recognized brands in America. The Bank offers checking, savings, CDs and loan products, investment, trust and other financial services. The chatbot of this bank named Eno, which on the basis of homophony is consonant with the phrase “You know”, helps the clients to manage their money affairs. This bot is an example of an e-commerce chatbot. Users can view their transactions, track account balances, and analyze their spending habits.

Eno regularly monitors the linked account and updates the user's information in case it supposes that some unusual expenses have been initiated. In addition, Eno sends an update if it suspects that a duplicate charge has been made or any other error has been made. To ease a busy life, Eno reminds the client of bills and makes paying them as easy as sending a smiley face (Fig. 6).
In the screenshot we see the implementation of the discussed above linguocommunicative strategies of greeting (the greeting “Hi”) and personalization (addressing a client named Lauren). In the presented example we also note the use of an elliptical sentence (“Just reminding you...”) which characterizes the chatbot's speech as conversational.

It is the personalization that makes it possible for the client to have not only a personal banker, but also a personal "bankerbot". Eno makes the communication process easier, more interesting and entertaining by providing the opportunity to respond with emoticons. Thus, Eno is one of the best examples of chatbots for communication since it easily simulates the process of live real communication with a person in an informal setting.

**Chatbot of Seattle Ballooning Company.** Seattle Ballooning Company offers its customers hot air balloon flights in Seattle, Washington State. Their chatbot Holiday Balloon can responds to all the requests that the user may have (Fig. 7).

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**Fig. 6.** Chatbot of Capital One (https://www.capitalone.com).

**Fig. 7.** Chatbot of Seattle Ballooning Company (https://seattleballooning.com).
In the presented example, we see the use of the linguocommunicative strategy of greeting implemented through use of the greeting “Howdy!” which has gone through a number of stages of phonetic, syntactic and lexical transformations turning from an interrogative greeting sentence into a greeting word: How do you do? > How do ye? > Howdy!

Also in this case we note the presence of the linguocommunicative strategy of approval implemented through the use of an exclamation sentence: “What a wonderful idea for a present!”.

It should be noted that this chatbot, thanks to its programmed optionality, forces the user to continue communication all the time thereby pushing him down the marketing funnel, i.e. a special scheme for attracting customers who are not familiar with the brand, turning them into leads and converting them into buyers. This marketing technology of a chatbot imitating a human conversation turns out to be quite successful.

**Chatbot of Grubhub for Work.** Grubhub for Work is a takeout and delivery marketplace that enables more than 5,000 businesses to place meal orders, manage spending in a straightforward and effective manner, and enjoy delicious food from some of the thousands of restaurants listed on Grubhub.

The company uses “GrubBot” which helps users to place orders without any hassle. In addition, it also questions users about anything and everything relevant to fulfilling those requests (Fig. 8).

![Fig. 8. Chatbot of Grubhub for Work (https://www.grubhub.com).](https://www.grubhub.com)

Within the framework of the presented dialogue with GrubBot, the chatbot resorts to the linguocommunicative strategy of positivising the utterance by using various degrees of comparison of adjectives (mainly comparative and superlative): “better”, “best”, “more”, “the most interesting”, “easier”.

We also note the use of the interjection “Ah” and intensifier “pretty” characteristic of the colloquial speech.

It is necessary to emphasize the simplicity and aesthetically pleasing visual appeal that GrubBot offers. It provides the user a selection of available options at the very beginning and allows the user to decide where he wants to move the conversation. These options are extensive, but at the same time accurate. If the user is still not satisfied, he can contact the
team using the ‘Contact Us’ option. All these advantages undoubtedly make it possible to consider this chatbot successful from a communicative point of view.

**Chatbots of Duolingo.** Duolingo, a popular application for learning foreign languages, by introducing a chatbot into the educational and communication process, provided its users with an exciting and interesting experience in developing their language and communication skills. Their bots offer the students the opportunity to practice their skills and knowledge in an unobtrusive way. Thus, Duolingo offers two advantages: communication with a chatbot and an effective interactive method of learning a foreign language.

Countless foreign language learners are familiar with the indecision and stiffness that arise when trying to have a conversation in a non-native language. This is where the Duolingo chatbot, programmed to use the linguocommunicative strategies of talkativeness, sociability and friendliness, comes to the rescue which allows its user to practice linguocommunicative skills in a comfortable and positive atmosphere.

The company offers some options of various personalized bots for teaching foreign languages that suit different users and their individual learning styles (Fig. 9).

![Fig. 9. Chatbots of Duolingo (https://www.duolingo.com).](image)

To make talking to the bots a more compelling, the company tried to give its different bots personalities and certain common occupations: there is Chef Robert, Renée the Driver and Officer Ada, for example. They can react differently to the user’s answers (and correct him if necessary), but for the most part, the idea here is to mimic a real conversation. “These bots also allow for a degree of flexibility in answering that most language-learning software simply is not designed for. When the user is totally stumped for words, though, Duolingo offers a “help my reply” button with a few suggested answers. Though for now, the user can only apply text to talk to the bots, over time, Duolingo plans to allow for spoken conversations as well” [24].

**Chatbot of OrderMark.** OrderMark is an online service that helps food delivery companies to develop and manage their online orders. The chatbot on their website allows both old and new customers to find answers to their questions in just a few clicks (Fig. 10).
The very communication with the OrderMark chatbot begins to unfold with the phrase “We are here to help” accompanied with a positive smiley face. Such a beginning implements the linguocommunicative strategy of openness and positive attitude which is also embodied in the sentence “there's no commitment”. In addition, we observe the use of the motivational exclamatory sentence “Let's do this!” as the embodiment of the linguocommunicative strategy of calling for joint activity.

**Chatbot of LeadMD.** LeadMD is a revenue performance consulting company that provides various useful services, such as marketing automation, sales promotion and CRM implementation. Their bot is extremely useful in helping customers to get access to the information they need immediately. The LeadMD bot prioritizes clients' time thus enhancing LeadMD’s chatbot marketing strategies (Fig. 11).
As it can be seen on the presented screenshot, the communication with the LeadMD chatbot begins with the use of the informal colloquial phrase “Hey there” which actually indicates the use of the linguocommunicative strategy of greeting.

And then, by asking a general question to his communication partner, the chatbot suggests making a choice in favor of one of the possible options for a programmed answer. Moreover, this is not just a choice between Yes/No, but a polite answer using the adverbs “thankfully” and “honestly” which can be regarded as the use of the linguocommunicative strategy of positivising the utterance.

Moreover, the third response option is a remark which contains a simile as a stylistic device “No, our pipeline is as dry as the Sahara” in response to which the chatbot uses the linguocommunicative strategy of expressing regret and sympathy realized by means of the colloquial elliptical phrase “Sorry to hear that”.

The LeadMD chatbot ensures that every conversation is to the point. The bot also offers a copy of the chat, which is certainly a unique feature compared to other similar chatbots. It also provides the users with the ability to share their email addresses to facilitate the company's efforts to attract potential customers. This feature can also help to track the customer's trajectory more effectively.

**Chatbot of OUTGROW.** As another example, let's turn to the discussion of the chatbot built in the interactive marketing blog of the OUTGROW company (Fig. 12).
This chatbot, as well as other previously considered ones, implements the linguocommunicative strategy of greeting with the use of both the “Hey there” option and the “Hi there” option accompanied with the greeting emoticons both in the form of emojis and made up with punctuation marks (brackets and colons).

When trying to close the site page, the chatbot in a pop-up window makes a polite request with possible answers as well as with the possibility of answering by pressing the appropriate number. In this case the chatbot demonstrates the linguocommunicative strategy of willingness to cooperate with the help of the phrase “Reply with 1, 2, 3 or 4 and we’d love to help ;).”

4 Conclusions

Chatbots are becoming more useful than ever before. Numerous companies are beginning to incorporate chatbot marketing techniques and chatbot examples where they can. A few examples of popular companies using chatbots online are presented in the given article. Various industries like the airlines, food, financial, educational services and healthcare industries are relying more and more on chatbots for business to fulfill their marketing needs.

Of course, not all companies now can launch their own virtual or voice assistants. But by means of integrating new innovative technologies such as chatbots based on artificial intelligence they can gradually start to adapt the content of their websites. Moreover, chatbots can be embedded into apps. Certain companies have also started incorporating amazing chatbot ideas in their apps to provide seamless and personalized experiences to their users.

Conversational artificial intelligence chatbots either on websites or as apps can consolidate multiple communication channels into one. Chatbots create conversations, not messaging, which significantly improves the quality of customer service and their satisfaction with both the process and the result of making a purchase.
Using different linguocommunicative strategies and technologies chatbots perform social roles related to the representation of themselves as smart and efficient interlocutors; therefore, the development of the chatbot's language capabilities in accordance with the stereotypes of its social category is crucial for the success of this technology.

The conversational style used in conversational commerce compensates for the lack of personalization and a lively, albeit computer-mediated, human attitude in the process of making purchases.

A successful chatbot must be able to understand the language, and it is here that the key role is given to the linguistic approach based on knowledge of the language and verbal communication.

Conversational commerce realized with the help of chatbots provides its advantages for each of the parties. So, among the advantages of conversational commerce for buyers are the following: convenience, speed, human orientation, shopping tips, personalized recommendations and offers, safer payment methods, technical assistance, real-time response 24/7 without waiting and even just fun.

The advantages of conversational commerce for sellers include the following: improved customer service, increased customer loyalty, promotion of online reviews, fast feedback, cross-selling and sales promotion opportunities, more accurate logging of information and conversations, analysis of user behavior, automation of processes.

So, conversational chatbots are the present and future of smart marketing, and they are absolutely worth it.

References