Chapter 10
A Review on Chatbot Personality and Its Expected Effects on Users

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ABSTRACT

The main objectives of this chapter are to provide an overview of chatbot personality dimensions and to analyze the expected impacts on user behavior. To accomplish these objectives, the chapter provides a detailed review of the main contributions in the literature regarding this topic. It highlights the chatbot personality characteristics that are expected to foster user satisfaction, trust, loyalty, and engagement. This information is useful for both practitioners and researchers, particularly related to customer service, as it provides clear guidance on what characteristics to incorporate in chatbots and on what factors need to be further studied in the future.

INTRODUCTION

In recent years, due to technological advances in machine learning, there has been a great development and growth in the use of artificial intelligence (Smestad & Volden, 2019). Artificial Intelligence (AI) can be defined as a "technological science that researches and develops theories, methods, technologies, and application systems

DOI: 10.4018/978-1-6684-6234-8.ch010

for simulating, extending, and expanding human intelligence" (Yang et al., 2021, p. 1). AI has been used to facilitate and improve customer relationships and service namely by the creation of chatbots.

A chatbot (short for "Chat Robot") consists of a "computer program that communicates with a human being through text or voice messaging in real-time, in a way that is very personalized" (Chandel et al., 2019, p. 1). This type of program uses AI algorithms and natural language processing technology to create an intelligent response, which is based on the programmers' human input. The goal is to create conversations that increasingly resemble human-to-human interaction so that it is virtually impossible to distinguish (Chandel et al., 2019).

The use of this technology grew abruptly from 2014 when a large investment was made in this area of virtual assistance, and several assistants were already being used for simple tasks (Grudin & Jacques, 2019). However, even in 2010, the emergence of Siri, Apple's voice chatbot, had already revolutionized the market with its possibility of interaction based on human language. The fact that large companies are starting to use AI has created a growing interest in the public (Rapp et al., 2021). Chandel et al. (2019) note that chatbots have been implemented in quite different business areas, but with a high incidence in consumer service centers, e-commerce platforms, healthcare areas, and messaging applications. According to Insider Intelligence (2021), retail turnover via chatbots will reach $142 billion in 2024, in contrast to $2.8 billion in 2019.

Given their wide applicability, virtual assistants can be created with different goals, defined by the organization they represent. Grudin and Jacques (2019) propose the categorization of chatbots into three groups – "virtual companions", which create relationships and maintain conversations on any topic (where the personality issue is most notorious), "intelligent assistants", which carry out conversational short stories on any topic, and "task-oriented chatbots", which are smaller in scope and deeper in knowledge, focusing on creating succinct conversations.

According to Følstad and Skjuve (2019), the greatest motivation for users to choose the chatbot is its ability to offer adequate assistance, help them, and present relevant information. Still, the performance of this type of program must be able to progressively approach the behavior of a human assistant. One relevant way to do it is to attribute personality to chatbots, aiming to create a strong image and identity and to influence users' satisfaction.

Personality can be defined as "the enduring set of traits and styles that he or she exhibits, which characteristics represent (a) dispositions (i.e., natural tendencies or personal inclinations) of this person, and (b) ways in which this person differs from the "standard normal person" in his or her society" (Bergner, 2020, p. 4). In the past, personalities have been attributed for instance to brands. In this regard, brand personality is described as "the set of human characteristics associated with a brand"