

Title:

ARTIFICIAL INTELLIGENCE SYSTEMS DEVELOPED FOR OPTIMIZING ONLINE COMMUNICATION BETWEEN CONSUMERS AND COMPANIES

Abstract

In the digital era, personal data represents an extremely valuable resource, playing a crucial role in economic, social, and technological development. The rapid progress of digital technologies and communication platforms has led to an accelerated increase in the volume and variety of data collected, stored, and analyzed. Users' personal data includes both identifying information, such as name, address, and geographic location, as well as information regarding interests, consumer preferences, geographic location, and much more. This data is used in many fields, such as e-commerce, marketing and advertising, financial services, and social networks. Its use aims to optimize the services and products offered to consumers, particularly in e-commerce, where communication between companies and consumers occurs exclusively in the digital environment, as well as for the development of artificial intelligence (AI) systems. Thus, personal data symbolizes the "fuel" necessary for the efficient operation of a large number of companies (e-commerce, advertising, social platforms, financial services, etc.) as well as intelligent systems, helping them to discern various behavioral patterns, anticipate needs, and personalize user experiences. Therefore, personal data and artificial intelligence systems are fundamental in the communication between companies and consumers. However, the use of personal data by companies must be conducted with adherence to clear norms and rules to protect users' rights and privacy. Hence, it is necessary to ensure a balance between the excessive use of personal data and the protection of individuals' rights.

The general objective of the thesis is to analyze consumers' perceptions and attitudes towards artificial intelligence systems used in the digital environment, aimed at improving their interaction with companies. To achieve this objective, three secondary objectives have been defined:

The first secondary objective of the research is to analyze consumers' perception regarding the collection and use of personal data in the digital environment (cookies, browsing history, and

social networks), their level of awareness of the associated risks, and their attitudes toward the use of this data for advertising purposes.

The second secondary objective aims to identify the factors influencing users' willingness to provide personal data, identifying the risks associated with data collection on social networks and analyzing the impact of data protection on the decision to purchase AI-based devices, as well as the importance of empathy in perceiving the threats related to the use of this data.

The third secondary objective is to evaluate the credibility of information provided on social platforms (one of the most used communication channels between companies and consumers) and its impact on data protection, analyzing the role of social networks in the dissemination of information and how consumers perceive the truthfulness of digital news.

I contributed to the completion of eight studies, the first two of which were quantitative studies analyzing consumers' perceptions of the risks associated with data privacy in the digital environment. The third quantitative study represents my original contribution to the thesis, in which I analyzed the impact of artificial intelligence systems in the financial sector aimed at improving communication with consumers. The fourth study I contributed to is a qualitative one, where I analyzed the risks associated with data collection on social networks, one of the most widely used digital media today. The following two quantitative studies focused on data protection as a predictor for purchasing AI devices, as well as the role of empathy in consumers' relationships with AI devices. The last two studies analyzed the impact of breaking news and the credibility of social media platforms and online news sites as sources of information for consumers.

For the studies, online questionnaires were conducted between 2018 and 2024. The questionnaires included specific items related to the research topics, evaluated on a Likert scale from 1 to 7. Additionally, hypotheses were formulated, and mediation models were used, performed with the Smart-PLS 3.3.3 software.

The connection between these studies is based on the common theme of the influence of technology and personal data on consumers, highlighting the risks and benefits associated with the use of these technologies. Each study addresses different aspects of the relationship between consumers and digital technologies, from data privacy to the impact of artificial intelligence on financial behavior and the perception of news on social networks.

The studies were limited by the sample size and the geographical focus on Romania, which may limit the generalization of the results to other national contexts. Future studies should expand the analysis internationally and include additional variables, such as the impact of artificial intelligence systems on communication between companies and consumers in the context of digital innovation and automation.

Keywords: personal data, e-commerce, artificial intelligence systems, social media platforms, AI devices

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