ECONOMIC SCIENCES

ECONOMIC BENEFITS OF IMPLEMENTING AN INTELLIGENT CHATBOT FOR KNOWLEDGE MANAGEMENT IN A IT COMPANY OPERATING IN A REMOTE, DISTRIBUTED ENVIRONMENT

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Modern trends in knowledge management are focused on more interactive and accessible ways of utilizing knowledge. In particular, emphasis is placed on the automatic capture of knowledge from various sources into knowledge repositories, which are integrated into interactive systems that effectively process and utilize this knowledge. Through an intuitive interface, these systems allow users to directly search for and access the required information.

An example of such a tool is an intelligent chatbot built using natural language processing models. These models can work with various types of speech data, such as text, audio, and images, and are employed for a range of tasks, including semantic similarity detection, machine translation, text classification, speech recognition, text generation, and many others.

The chatbot utilizes information from various organizational sources, such as emails, documents, internal databases, and other knowledge management systems, providing employees with a convenient unified interface for searching answers to their questions.

The economic benefits of implementing an intelligent chatbot in an organization is achieved by reducing the time spent searching for necessary information, increasing employee productivity, and improving HR metrics.

Time reduction. According to studies [1; 2], IT employees spend about one-third of their working time searching for necessary information. These substantial time expenditures are caused by:

- the large number of information sources within the company, such as messengers, CRM systems, emails, etc.;
- outdated or irrelevant documentation within the organization;
- a lack of knowledge on where to search for the required information.

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It is not only about searching for information. Time is also needed to analyze each data fragment and decipher what constitutes irrelevant noise and what is valuable knowledge. It is no surprise that intelligent search technologies, which provide answers to queries and interpret the retrieved content, are among the most sought-after applications of language models [3].

The estimation of time saved through the implementation of tools based on language models largely depends on the specific nature of the employees' work within the company. For instance, the experience of implementing such technologies among support engineers, who constantly respond to customer inquiries, revealed approximately a 23% reduction in the time spent resolving cases [4].

Increased Productivity. In a remote work environment, significant attention is given to analyzing employee productivity and qualifications, particularly their ability to make quick and independent decisions. Unfortunately, research shows that nearly 30% of employees are unable to find urgently needed information in a timely manner [5]. Tools and technologies designed to ensure easy access to information can serve as an effective solution to this problem.

HR Metrics. The stress and difficulties associated with finding the necessary information impact employee retention. Over 35% of employees reported that the complexity of searching for required information significantly exhausts them, and more than 18% of respondents indicated that this leads them to consider leaving the company [5].

Thus, the implementation of an intelligent chatbot within the organization is economically effective and enhances both productivity and employee morale.

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