





Advanced Engineering Days

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Internet of things in the development of future businesses in Albania

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Cite this study: Mema, B., Basholli, F., Xhafaj, D., Basholli, A., & Hyka, D. (2023). Internet of things in the development of future businesses in Albania. *Advanced Engineering Days*, 7, 139-141

Keywords

IoT
Business
Network
Technology

Abstract

Internet of Things (IoT) refers to a technology that connects various devices and objects, leading to a digital revolution in different aspects of life. It has the potential to create highly efficient and rewarding smart environments for individuals. The IoT not only impacts our daily lives but also significantly influences how we work and conduct business. This article focuses on IoT technology and how it affects businesses, emphasizing how crucial it is for such organizations to be ready for and able to adapt to the changes it brings. Let's see if SMEs (Small and Medium Enterprises) in Albania can benefit from the further advancement of IoT (Internet of Things), what are the expectations, possibilities, and potential risks that may arise on this journey.

Introduction

This work aims to study Internet of Things (IoT) and explain their importance, especially in the field of economic development and their increasing significance in the coming years and decades, as well as the crucial role they will play in the development of future businesses. Due to the fact that the future of many businesses will depend on their relationship with AI and IoT, their investments in the development of these technologies, and their undeniable importance, these were the main areas for choosing these two areas of study. With this research, I intend to explore how these technologies can assist businesses, companies, and various institutions in developing their products, services, and operations. The purpose is to understand the potential opportunities and challenges related to their implementation and to comprehend the general concerns of employees and policymakers regarding these advancements [1]. Businesses have always tried to find practical and intelligent ways to reach consumers or service seekers, adapting their products and services to the market's demands and current trends. This work aims to explain the new and latest approaches to this issue, to present the current and potential future scenarios, and to demonstrate how the use of Artificial Intelligence and the integration of the Internet of Things can support and facilitate such endeavors [2]. The methodology used in the analysis and research is primarily qualitative, based on theoretical foundations, considering concrete information derived from researchers and official economic publications related to AI and IoT. However, this research also includes quantitative methodology with practical, numerical, comparative data, as well as information obtained from surveys [3].

Material and Methods

This work aimed to analyse the economic impact of Artificial Intelligence (AI) and the Internet of Things (IoT) on existing businesses and their potential influence in the future, including not only the businesses currently operating and utilizing AI and IoT systems but also future businesses aiming to incorporate AI and IoT into their

operational processes. Regarding the methodology used throughout the analysis and research, it primarily relied on qualitative methods based on theory, taking into account specific information derived from researchers, theorists, as well as official economic publications [4]. However, this research also included quantitative methodology with practical, numerical, comparative data, and information obtained from a questionnaire sent to a narrow group of professional employees. It was necessary to analyse market demands, applicability, acceptability, and the potential positive or negative impact that the implementation of these systems could have, as well as potential risks that may arise during and after implementation. This analysis involved examining how major economies respond to the newly created situation due to significant advancements in AI and IoT, how they plan to invest in these innovations, aiming for further economic development. In addition to theoretical studies, this research also relied on concrete case studies, including the analysis of numerical data and predictions derived from analyses of the past 3 to 5 years, all related to these systems and their potential impact on the economy in the future. This demonstrates the combined nature of the research, incorporating both qualitative and direct quantitative methods. The survey was conducted using a questionnaire prepared through Google Forms. This online survey format was confidential to ensure efficiency and active participation of respondents. The survey was divided into four parts or sections. The first section consisted of eight personal questions to gather data about the respondents, which will be further explained in this chapter. The remaining three sections were divided into groups of questions regarding IoT. In total, there were 10 questions with four optional answers to provide a clear indication and facilitate data processing [5-6]. This allowed for the extraction of stable, independent, and highly reliable results, with an exceptionally high response rate compared to the initial number of individuals, businesses, and institutions that were invited to participate in the survey.

Results and Discussions

Information has been requested through the questionnaire regarding respondents' knowledge about usability of AI in the companies or institutions they work for. A slightly smaller number of them have real knowledge about the elements that enable the functioning of IoT. An equal number of them believe that IoT will help in the development of their businesses, while a significant portion of them is unsure.

Similarly, those who believe that it will be necessary to use IoT in their businesses in the future share almost the same opinion. Interestingly, the majority of the respondents think that IoT will create new circumstances for business and entrepreneurship that they haven't considered before, with 26.3% being unsure or unaware, and none denying it. The final set of questions aimed to summarize the general knowledge about IoT development, the influence of these digital technologies on their organizations, adaptation to potential new circumstances, innovation, new services, as well as the possibility of job risks [7-8]. The answers are as follows:

There is a genuine skepticism among the respondents regarding how well employees can adapt to new technologies as a result of IoT development. More than half are uncertain or unaware, while 47.4% are positive and claim that adaptability is possible. A large number of them believe that new digital technologies will enable new developments in their businesses. A relatively large number of respondents declare that with the application of technologies like IoT, they can innovate their products and services. 71.1% affirm this, while only 5.3% deny it. The last two questions are very specific and aim to gather responses regarding the perception of how current jobs could be endangered or threatened by technologies like IoT, with a significant number believing that they could, and 18.4% who do not believe that jobs will be threatened by this factor. Furthermore, in the question about the potential replacement of a large portion of current jobs with further development of AI and IoT, we obtain similar results, indicating a potential fear of job loss [9]. Variable testing was conducted using the statistical program SPSS. Comparisons were made between the questions extracted from the questionnaire and the hypotheses, resulting in an analysis of correlations between the independent hypotheses and IoT in relation to business development as the dependent variable, Table 1.

Table 1. Correlations between Business Development and Internet of Things

	ZhiB	IoT	
ZhiB	Pearson Correlation	1	.654**
	Sig.(2-tailed)		.000
	N	38	38
IoT	Pearson Correlation	.654**	1
	Sig. (2-tailed)	.000	
	N	38	38

"Descriptive statistics" presents the collected information in a suitable, usable, and understandable form. After gathering the data, descriptive statistics allow us to calculate their frequency, measures of central tendency (such as mean, median, mode), etc., and identify the characteristics in the distribution of results. Table 2 describes the standard deviation from the average of the responses extracted from the questionnaire for specific

variables. For the Business Development variable, the deviation from the mean is 1.13, with an average of 1.982. This means that there is a deviation of ± 1.13 from the mean of 1.982. For the Internet of Things variables, there is a deviation of ± 1.74 from the mean of 2.386.

Table 2. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ZhiB	38	1.00	6.00	1.9825	1.13091
IoT	38	1.00	6.00	2.3860	1.74419
Valid N (listwise)	38				

As for the presented hypotheses, the following results were obtained from the respondents' answers:

The respondents confirm the importance of digital technologies in the growth and development of businesses, with percentages ranging from 57.9% to 73.7%, depending on the nature of the question. It is rejected because 63.2% express familiarity with Internet of Things technology, with 57.9% of them stating that they have knowledge of device connectivity in such a system. Difficult, with half of them being uncertain or unaware, and only 2.6% denying it. Additionally, 63.2% to 68.4% believe that their jobs will be threatened by these technologies [10-12].

Conclusion

The development of AI and therefore IoT is still in its early stages, we must follow these trends because future employees must have basic knowledge of digital technologies, especially Artificial Intelligence and the Internet of Things. Young people need to understand the importance these technologies will have in their lives and work so that they can easily adapt when the time comes for implementation. Special subjects should be created in the curricula to inform students about the latest achievements in AI and IoT.

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