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*Proceeding Paper*

# Applying Artificial Intelligence in the Digital Transformation of Banking Sector †

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**Abstract:** This paper presents the process of digital transformation of banking sector aiming to emphasize the impact of applying artificial intelligence in order to enable chatbot customer service, robo advice, predictive analytics, cybersecurity, as well as credit scoring, and direct lending. The proposed framework is composed of three levels of application the artificial intelligence in digital banking. The application of artificial intelligence platforms in the banking sector is essential to meet the needs of today's digital-first customers as well as to stay a step ahead of tomorrow's digital banking challenges.

**Keywords:** artificial intelligence; banking; digital transformation

## 1. Objectives

It is a fact that the main competitors in the banking sector are not the banks that still have the branch networks, but the fasting growing companies such as the digital banks and fintech companies that are geared towards highly scalable digital acquisition [1–4]. The main objective of this paper is to present the impact of applying artificial intelligence in the banking sector, focusing on the process of digital transformation in banking.

## 2. Methodology

One of the key technologies that change the banking sector is artificial intelligence [5–10]. Four digital disruptors imply the application of artificial intelligence in the banking sector: intelligent data analysis, robotics, embedded banking, as well as smart infrastructure. We propose the methodology for applying artificial intelligence in banking in order to enable chatbot customer service, Robo advice, predictive analytics, cybersecurity, as well as credit scoring, and direct lending. The model is given in order to facilitate the process of digital transformation in the banking sector.

## 3. Results

According to the proposed framework for the digital transformation of the banking sector, there are three levels of application the artificial intelligence in digital banking. The first level refers to the use of machine learning in the process of teaching machines to learn patterns for the realization of digital banking. The second level relates to general intelligence, which could convince the customers and staff in digital banking they communicate with a human if they did not have the knowledge it was a computer. The third level refers to using artificial intelligence in digital banking that is smarter than banking staff.

## 4. Implications

The application of artificial intelligence in the banking sector is a long process and needs to fulfill many requirements to become operational. By using the proposed frame-

work, it is necessary to digitally transform half of the jobs in banking today. Due to artificial intelligence, many old jobs in banking will disappear in the near future. On the other hand, there are new jobs such as data scientist, behavioral psychologist, the experience designer that are necessary for the process of realizing digital banking.

## 5. Originality Value

The application of artificial intelligence in the digital transformation of the banking sector is an unstoppable process. The proposed framework could help the banks that are at a crossroads. On the one hand, they can focus on the creation of infrastructure for the application of artificial intelligence in banking through both the transformation of business processes in banking and the employment of highly qualified staff who would know both technology and banking. On the other hand, they can come to the point they will operate in a world of branches until they are completely marginalized.

## 6. Contribution

Artificial intelligence is a prerequisite for the digital transformation of the banking sector. The proposed framework for the application of artificial intelligence in the banking sector can help the banks in seeking to balance in maintaining the level of trust they have built with their customers, delivering engaging and user-friendly digital banking experiences. In the digital banking era, going back to traditional banking practices, like requiring in-person visits for onboarding or manual reviews, is off the table. Having artificial intelligence platforms in place is essential for banks to meet the needs of today's digital-first customers as well as to stay a step ahead of tomorrow's digital banking challenges.

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