


# Artificial Intelligence as an Enabling Tool for the Development of Dynamic Capabilities in the Banking Industry

Cristina Gallego-Gomez, International University of La Rioja (UNIR), Spain

Carmen De-Pablos-Heredero, ESIC Business and Marketing School, Spain & Rey Juan Carlos University, Spain

 <https://orcid.org/0000-0003-0457-3730>

## ABSTRACT

Banks are investing in artificial intelligence (AI) to develop more innovative business models in order to face competition. The main objective of this paper consists in analyzing bank experiences when they introduce AI from the theory of dynamic capabilities and the resource-based view approach. Documentary research enables the description of experiences in three companies from the financial industry. It has been considered of interest to include different international experiences. For that reason, a firm providing debit and credit card services has been included, MasterCard, along with international banks such as Royal Bank of Scotland and Caixa Bank. Results show that AI enables firms to promote new relationships with customers, detect their needs or experiences, and adapt the service given by firms to be more competitive. AI also allows them to speed up responses to customers answers and doubts through its value chain. This research also shows that the proper implementation of AI permits a reconfiguration of traditional banking scenario. Detection, absorption, integration, and innovation are capabilities that allow these firms to build the managerial skills oriented to save costs, increase efficiency, and be more competitive.

## KEYWORDS

Artificial Intelligence, Banking, Business Strategy, Dynamic Capabilities, Innovation

## INTRODUCTION

Although it has not been impacted in a negative way at the level of other industries by the global crisis, banking industry is immersed in a period of transition aimed to make the best of information technology (IT) because of fierce competition (Tang, 2019; Gallego-Gómez & De-Pablos-Heredero, 2017; Soley, 2015). There are some examples which illustrate how this started to happen (Chishti & Barberis, 2016). For example, in the United Kingdom, supermarket chains, as Texco, sold loans and could obtain financial services in places such as Amazon (Forbes, 2018).

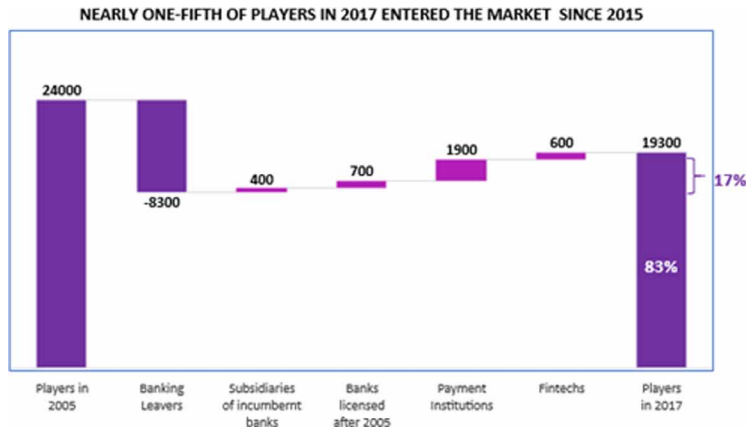
This situation arises as a consequence of the emergence of new players in the banking industry (Gallego, 2018). As an example, a 63% of new players in this industry account 14% of returns in UK according to Accenture (2018). Traditional firms operating in the banking industry face this

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situation by fighting to reach a better position. Thanks to banking efforts, Accenture (2018) affirms that they will be able to recover customer trust in the next years. And the latter even though banking businesses have been diversified as it is shown in Figure 1, and the demands to become pioneers and competitive in the banking industry are being increased as they face higher competence each time.

Figure 1. Nearly one-fifth of players in 2017 entered the market since 2005 (Accenture, 2018)



Taking into consideration this context, the Spanish banking industry, especially after the merger and acquisition of savings, has become stronger from the economic perspective (Bernardino& Carrasco, 2014). Nevertheless, banks need to invest in technologies with the purpose of achieving more innovative status. Lichtenthaler (2019) explains the benefits that Artificial Intelligence can promote at organizations from the innovation perspective.

According to Funcas-KPMG (2017), Spain is the 6th biggest country in number of Fintech companies. More concretely, there are more than 300 firms with a turnover of more than 100 million euros.

As a proof of it, innovation centres have been created by all the Spanish banks and they have been integrated as part of their activity (Soley, 2015). Good examples of this are the BBVA Innovation Center and Bankinter (Weill, Woerner, & González, 2017). In this way, they can have a closer, more creative and innovative contact with society resulting in a more precise adaptation to the customer demands.

The transformation process in the banking industry requires from the support of technology to become competitive. This is the reason why more traditional organizations invest on implementing the digitalization of processes and exploiting data, which are indeed their main asset (Grab, Olaru, & Gavril, 2019; De Pablos Heredero et al., 2019). According to Statista (2019), forecasts suggest that for the year 2030 the use of artificial intelligence (AI) in the banking industry will generate 86 million US dollars in Europe.

In the concrete case of Spain, and following the words of Accenture (2019), 47% of banking leaders think that AI will be a technology with the ability to promote the highest impact in the next three years. In fact, 97% of Spanish banking leaders either are thinking about implementing AI or they have already integrated it in businesses.

Next, in Figure 2, a graphic showing the commercial value that could be obtained by using AI in the banking industry in the period from 2018 to 2030 is shown.

Resource Based View is an Organizational approach aimed to detect both weaknesses and strengths in a firm by analysing its resources and in order to find out to what extent, by properly combining them, the firm can reach capabilities liable to be sustained on time (Barney, 2001).

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