

# The Impact of E-banking Services on Banking Risks

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## Abstract

This paper aims to present the issues related to the risks involved in providing banking services through an unconventional channel, namely the Internet (e-banking), which along with traditional banking, have become traditional. The material and methods used for the purpose of these works, consist of research, forays into literature; evaluation through the research and design triangle, analysis and interpretation of data from the literature, as well as statistical calculations. Documentation remains a key element in the area of high environmental issues and the implications of the report on banking management. The research methods in the research studies in the paper articles are the following: especially the documentary documentation through literature, in this sense being studied many books, especially documents and international ones; statistical methods, such as classification, synthesis, graphical representation of investigated events and phenomena. An important finding of the paper revealed that, globally, banks' management believes that the adoption of e-banking services generates potential benefits for them. Reducing overall costs is the main benefit. This can be done in two ways: by minimizing the cost of making transactions and by reducing the number of affiliates that are needed to serve an equivalent number of customers. E-banking offers other benefits to banks: e-banking transactions are much cheaper than those made at branches or even by phone and electronic banking is much easier to set up. For this reason, countless new operators may appear, which will offer users more choice, although they will be less inclined to remain loyal, thus eroding customer loyalty. Bank management should understand the risks associated with e-banking and, before providing such services, assess the costs of managing risk in relation to the return on investment. Innovators of e-banking anticipate the needs of their customers, but bear higher costs and face increased complexity of their operations. The article adds value in the banking field, one of notoriety in the context of globalization by analyzing the problems related to management and banking risks in an innovative system, both in general and in Romania. At the same time, the aspects related to the quantitative and qualitative situation of the banking system are analyzed, as well as the identification of the main problems related to them together with the finding of the solutions regarding their correct management. The practical implications of the topic can result from good management of banking risks and innovations in this system. In the context of globalization, e-banking seems to be the optimal solution now and in the future, but it is certainly necessary to implement it more deeply on the global economic market.

**Keywords:** development, e-banking, Internet, management, risk

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## Introduction

Although not yet among the definitions in DEX, the concept of e-banking is already universally known and accepted as designating the processes by which a customer of a bank can conduct banking transactions without visiting the physical institution. The implementations of this concept in Romania have been defined and regulated by the Ministry of Communication and Information Technology as:

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- e-banking - a payment instrument with remote access based on the issuer's Internet technology and computer systems (Ayo et al., 2016).
- home banking - a remote access payment instrument that is based on a software application of the issuer installed at the owner's premises, on an individual workstation or in a network (Amin, 2016).
- phone banking - that payment instrument with remote access that involves the use of mobile equipment (telephone, PDA - Personal Digital Assistant, etc.) and services offered by telecommunications operators (Burlacu, Profiroiu and Vasilache, 2019).

Banks need to use more sophisticated credit risk management tools and promote a stronger understanding of borrowers, their collateral, business prospects and the ability to repay loans (Chaimaa, Najib and Rachid, 2021).

Banks need to manage customers and relationships with business partners by applying appropriate, risk-sensitive strategies (Dragomir, 2004). Risk management has long since ceased to be a concept, having become a science in itself for more than half a century (Profiroiu et al., 2020), risk management in a certain field becoming an interdisciplinary activity due to the complexity of the aspects to be analyzed (Riek, Bohme and Moore, 2015).

Therefore, at least three distinct disciplines have been addressed in this paper: that of risk management, that of banking financial services and that of information transmission, processing and storage technology in order to define processes, implications, in order to minimize the risk involved in e-banking (Bodislav et al., 2020).

In the context of a market economy that involves remodeling and replacing the old economic system with a new one (Burlacu et al., 2021), based on an institutional framework of financial, banking, monetary and foreign exchange systems specific to the market economy (Chmielarz & Zborowski, 2020) the process of remodeling the banking system aimed, on the one hand, the creation of a banking system specific to the market economy (Jianu et al., 2019), and on the other hand, the harmonization of the Romanian legislation with that of the countries from the European Union (Bodislav et al., 2021). The remodeling of the Romanian banking system mainly focused on the restructuring of the banking system and the regulation, authorization and supervision of the banking activity (Rădulescu et al., 2020).

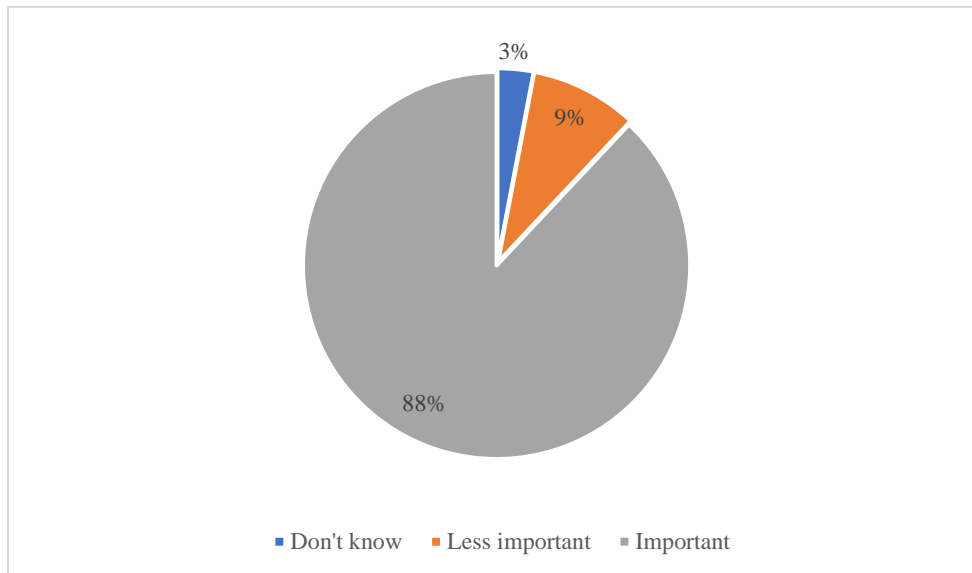
### **1. The impact of technology evolution on banking services**

The Romanian banking system, even if it cannot be considered as operating at the normal parameters of a banking system in a solid market economy, could not remain insensitive to the extraordinary opportunities offered by technological innovations in the field of telecommunications, microtechnology and transmission, and electronic storage of information (Orzan et al., 2020).

In order to quantify the appetite of bankers in terms of information technology and their willingness to allocate budgets for modernization and implementation in this area, the National Bank of Romania conducted a survey with respondents as chief executives of banking, financial and investment companies and authorities, within the NBR (NBR, 2021).

The results of this survey clearly highlight the growing role of information technology in determining the competitiveness and profitability of a banking enterprise both in terms of the risks involved in the use of information technology and in the awareness of the competitive advantage that a bank can have as a result of using high-performance technologies. Of the 50 responses to this questionnaire, technology as a competitive advantage is increasingly important in the view of respondents, as can be seen in Figure no. 1.

Both now and in the medium term, the most important competitive advantages are considered to be management and qualified personnel. In addition, survey participants believe that over the next five years, technology will play an even more important role in banking competition (Nguyen, Rosoff and John, 2017).



**Figure no. 1. The importance of technology as a competitive advantage of a bank in the future**  
Source: National Bank of Romania, 2021

As can be seen from Figure no. 1, 88% were of the opinion that in the future technology will play an even more important role among the competitive advantages of a bank.

The most important alternative channel for the distribution of banking services is undoubtedly the Internet (Ionescu, 2003). Its importance is generated by the ease of access- almost all companies have realized the importance of connecting to the public information transmission network. The use of computers and the Internet by individuals is and will be more and more massive in Romania as evidenced by studies conducted by various survey institutions (Nica, 2006), the results of which are listed in this chapter. Technological advances in hardware and telecommunications have led to a successful evolution of software systems and revolutionized all data transmission, storage and processing systems.

Most banks in Romania have so far adopted only the first type of presence, mainly due to the fact that it involves low investment and operating costs, although these costs increase only marginally in the case of the second type of web presence.

**Table no. 1. Penetration of Internet use worldwide in 2020**

Geographical regions	Percentage of world population	Penetration % of the population	Worldwide users %
<b>Africa</b>	14.0 %	1.5 %	1.5 %
<b>Asia</b>	56.3 %	8.4 %	35.0 %
<b>Europa</b>	11.4 %	35.5 %	30.2 %
<b>Middle East</b>	4.0 %	7.5 %	2.2 %
<b>North-America</b>	5.1 %	67.4 %	23.9 %
<b>South America and Caraibe</b>	8.5 %	10.3 %	5.3 %
<b>Oceania / Australia</b>	0.5 %	48.6 %	1.8 %
<b>Total</b>	<b>100.0 %</b>	-	<b>100.0 %</b>

Source: Internet World Stats

For a clearer picture of the level of Internet penetration at European level, Table no. 2 shows in detail the evolution of the number of users in Europe, noting the extraordinary growth rate in countries not yet part of the European Community.

**Table no. 2. Penetration of Internet use in Europe in 2021**

Europa	Percentage of world population	Number of Internet users in 2021	Rhythm of increase the use of the Internet 2000-2021	Penetration % of the population	Users worldwide%
<b>Countries from Union</b>	8.1 %	216.765.036	131.6 %	46.9 %	24.3 %
<b>Countries from outside</b>	5.3 %	44.888.108	341.9 %	16.2 %	5.9 %
<b>Total Europa</b>	<b>13.4 %</b>	<b>261.653.144</b>	<b>472.5%</b>	<b>63.1%</b>	<b>30.2 %</b>

Source: Internet World Stats

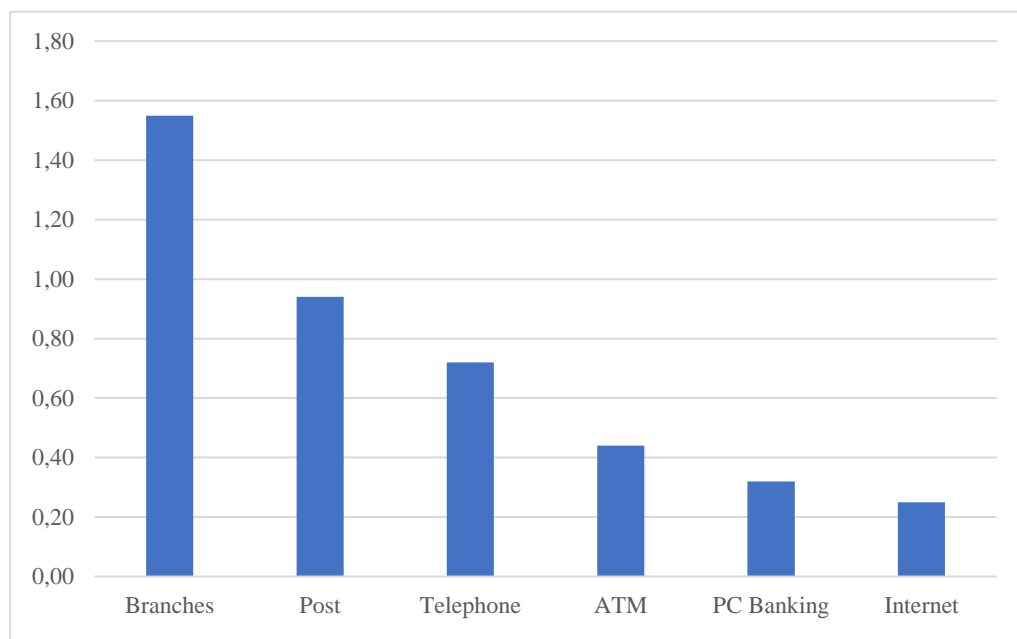
Romania is present in these statistics with a growth rate of Internet use compared to previous years of 500%, with a total of 6 million users, representing a percentage of 20.7% of the total population of Romania and 1.8% of the total population of the continent European.

France, Italy and Spain are expected to see the largest increases in Western Europe in terms of Internet access in the next five years, when the number of Internet users in the region will exceed 300 million, according to a study taken by Reuters (Kumar and Gupta, 2020).

By the end of 2020, France had 61 million Internet users, ahead of Germany and the United Kingdom in Europe alone in terms of the number of Internet connections.

Corporate clients execute and manage thousands of financial transactions a day (Tureac, 2007). Under these conditions, it is necessary to operate several updates in a single day. Also, due to the existence in different locations of individuals who want to access their account information, it becomes appropriate to perform transactions quickly and at low cost, via the Internet and, therefore, institutions will opt for these services.

As a natural consequence of the steps taken in the evolution of banking services, addressed to the population, the banks that serve the corporations are building a global presence on the Internet (Rusu, 2000). This will facilitate the global expansion of banks, but will also dramatically increase the level of competition.



**Figure no. 2. Internet banking costs**

Source: Forrester Research

In recent years, there has been an increase in the number of websites owned by banks. There are more than 2,500 sites owned by banks worldwide, most of them in the United States. In Europe, most banking sites

are in England, followed by Germany, Spain, Italy and France.

Many web banking sites are evolving from simple web presence to Internet transactions (Thaichon et al., 2014). Application costs increase as the value of the business increases, as can be seen in Figure no. 2. Transactional sites allow banks to sell additional products to existing customers, which increases the banks' partial portfolio per customer and makes individual customers more profitable for the bank.

Transactional sites are not limited to promoting or providing information about banking services, but allow customers to conduct a variety of transactions, thereby giving even more visibility to banks (Pripoaie, 2004). Internet banking thus becomes very attractive to all banking institutions, allowing them to build a different type of customer relationship in any category (Mansur et al., 2022).

M-banking applications will range from simple banking operations on the move to the ability to perform financial transactions for any e-commerce transaction made via a portable device. Basic retail banking services are followed by sophisticated mobile financial services applications as well as stock exchange operations and financial trading and trading facilities.

The share of WAP compatible phones in total sales has increased exponentially with WAP services allowing the use of interactive m-banking services, such as initiating transactions, along with services already available through the SMS protocol: checking the balance and obtaining account statements (Shankar and Jebarajakirthy, 2019).

Although, in Romania, the Internet penetration rate is only 18.7%, the growth rate is one of the highest in Central and Eastern Europe. In addition, the large number of mobile phone users- over 3.6 million, and the technological developments in the field, also appeared on the Romanian market, the fact that a large part of those who have access to the Internet is represented by people with above average incomes, who are holders of bank accounts or payment cards, generate exciting potential for the implementation of direct banking services as a component of the multi-channel distribution strategy.

## **Conclusion**

The evolution of information technology could not fail to affect the banking services both to optimize the existing information system and to expand it. It is important that each risky banking operation is associated with the policies and procedures for assessing, managing and mitigating the risk involved in that operation.

The concept of e-banking is already universally known and accepted as designating the processes by which a customer of a bank can conduct banking transactions without visiting the physical institution. e-banking being a new way of providing banking services brought with it new risks in the system and therefore the need to create tools for their management.

The Romanian banking system has made sustained efforts to be able to create a European banking system, viable and robust as we find in all developed countries among which Romania aspires to integrate. We can say that Romania has a healthy banking system composed of banks capable of carrying out its activity without interventions from the state and with small interventions for regulating the exchange rate, from the National Bank.

The global and European concerns for the study of the risk involved in banking are remarkable. E-banking, as a new potential in terms of risk, is still at an early stage in terms of developing standards, policies and procedures for study and management, even at the international level.

The provision of financial services using the Internet as a delivery channel can change the bank's risk profile and lead to the creation of new aspects in the control and management of banking risk. The implications that the e-banking activity may have on the general risk profile of the bank are manifested in relation to the strategic, operational, reputational, legal, credit, liquidity, market and exchange rate risk.

Risk analysis has become a concern in itself, which in this case requires cooperation between two types of skills that have in common the risk: risk-related banking, financial skills and risk-related IT skills. Closer knowledge of banking and financial leverage is no longer enough as in traditional risk management, but there is a need to create a mixed team of financial analysts and information technology personnel to ensure the security, integrity, confidentiality and non-repudiation of transactions. on the new channels for providing banking services.

Risk management is a complex activity, directly proportional to the scale of the operations of the company that manages it. Hundreds of specialists who have analyzed banking risks and created complex systems for monitoring and controlling bank risks together with the extensive bibliography generated by their studies

indicate a high complexity of the risk phenomenon and a continuous concern to limit it. In this landscape of banking risk analysis, e-banking risk analysis is a new chapter that goes beyond the financial sphere, entering the sphere of cutting-edge technologies, telecommunications and automated electronic processors.

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