

## **USE OF MOBILE TECHNOLOGY IN BANKING SERVICES**

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**ABSTRACT:** *Technology and applications of mobile phones offer many opportunities for businesses, they also presenting a continuous development and new challenges. Although this service is currently viewed with reluctance by customers, banks need to overcome this drawback and understand how this service can be combined with other alternative channels such as social media, to create value for customers. In this paper I presented information about present and perspectives in mobile applications industry, what can a mobile application do in banking, banking mobile applications in Romania, mobile banking applications worldwide.*

**KEY WORDS:** *Mobile Application Banking, Banking Mobile, Electronic Device, banking services.*

**JEL CLASSIFICATION:** *G 21, M 15.*

### **1. INTRODUCTION**

Electronic devices are becoming smaller and smarter because of this rapid technological development of applications has grown very large. Develop the trainees' mobile boom has revolutionized these applications so that more than 3 billion mobile phone users, mobile applications are a necessity and a normal extension. Mobile applications are the biggest innovation in software development. These, by their size and the need to achieve the application man-oriented are a category distinct from the usual applications for computers or laptops or web applications. Mobile applications are currently an opportunity in IT due to the variety of areas that can be applied from the banking, financial, guidance etc. and to the commercial, promotional strategies and even entertainment activities.

In a further development, these want to provide us facilities, a number of advantages to ease our way of life. I enumerate the most common advantages: ease of download and use, assist use; quick use.

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

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## 2. PRESENT AND PERSPECTIVES IN MOBILE APPLICATIONS INDUSTRY

IT professionals often use the term Internet industry applications, for which I took the term of mobile applications industry. The complexity of this field is then recognized also the spectacular development in recent years.

Mobile market has undergone a significant revolution when the smartphones have appeared. These, in addition to the touch screen and internet access, contain a large number of applications designed specifically for different types of phones.

**Table 1. Influencing factors on mobile applications quality**

<b>Factor</b>	<b>Level of influence (low/high)</b>
The involvement of the developer level	
Users expectations	
The distribution way	
Battery life	
RAM memory of the mobile device	
CPU processing power	
Memory on hard disk of the mobile device	
The source code	
Used technologies	
Commands rapidity	
The information volume provided	
Testing level	

Source: <http://revistaie.ase.ro/content/69/12%20-%20Zamfiroiu.pdf>, Alin Zamfiroiu Factors Influencing the Quality of Mobile Applications, vol.18, no.1-2014, pp 131 138

These mobile applications (Mobile App) are aimed to make life easier for those who use them, thus saving time and effort. The trend in their development is clearly one of accelerated development and some of the landmarks present and future would be:

- By 2018 the development of mobile phone applications could contribute 63 billion euros to the EU economy and create jobs for 4.8 million people according to a survey by GigaOM and NUI Galway for the European Commission. Currently, in the mobile apps industry is working a million developers and 800,000 people in marketing and support, and the number could grow to 2.7 million developers, respectively over 2.1 million employees by 2018;

- Globally developers from the European Union and North America share the equally specialized markets in the EU and the U.S. - 42% each and 28 of the companies in Europe have created 40% of the most used mobile applications in the EU and U.S., and three of the top five companies are game developers in the Nordic countries - King, Supercell and Rovio;
- Number of applications grows very rapidly, eg July 2013 Google Play store have about one million applications. Also there are 0.9 million Apple Apps, only 100.000 less than Google Play apps. We can count nearly 2 millions of mobile apps available for Android or iOS;
- 16% of U.S. households have paid bills using cell phone in 2013 from 6% in 2011. Trend was more pronounced among users of smartphones: the percentage of smartphone owners was 30 %, from 12% in 2012, according to data obtained by Bankinnovation and Business Insider.

### **3. CLASSIFICATION OF MOBILE APPLICATIONS**

The popularity of mobile devices and development tools provided by the manufacturers of mobile operating systems or development environments professional producers allowed the creation of smart phones apps able to send and receive information to / from a data server resulting in portable solutions for a wide range of applications such as portable test systems, the monitoring and/or control, or portable data acquisition systems.

Mobile applications can be structured according to several criteria, such as where the fields that can be used:

- General Information Applications that are used by users for information in various fields and can be for example weather applications;
- Network communication applications are applications that users communicate with other users through social networks or similar applications, such as Skype, Viber etc.;
- Entertainment applications that users access different games or read newspapers;
- Economic applications where users can make payments online, using e-commerce;
- Applications with personal accounts that can be used only by logging.

Depending on the objectives of the application developer, they can be:

- Native mobile applications are written in a programming language specific for the developing platform and are available through the online store of the chosen operating system. Such applications are frequently downloaded and used for facilities related to shorter response time for some operations; greater visibility and the user experience;
- Hybrid mobile applications are made using web technologies (JavaScript, HTML, CSS) and the main advantage of using refers to the fact that applications have a

higher visibility on the platform is launched as markets distributed applications used by most mobile users .

Another classification criterion is related to the operating systems that cover iOS, Android, Windows and according to them in the following table there is a structure type used programming languages and specific platforms that develop.

**Table 2. Structure type used programming languages and specific platforms that develops**

Operating System	Programming Language	Platform	IDE
Android	Java, C++	Android SDK/NDK	Android Studio
iOS	Objective C	Cocoa Touch	Xcode
Windows Phone	C#, Visual Basic .NET (Windows Phone 8), C++	.NET, Windows Phone Runtime API	Windows Phone Software Development Kit
BlackBerry OS	Java	BlackBerry Java SDK	BlackBerry JDE/Eclipse plug-in
Firefox OS	JavaScript	WebAPI	Any HTML IDE, JavaScript and CSS (NetBean, Eclipse etc.)
Symbian	C++	Qt	Qt Creator

Source: [http://www.todaysoftmag.ro/article/ro/15/Dezvoltarea\\_aplicatiilor\\_mobile:\\_%C3%8En tre\\_nativ\\_si\\_hibrid\\_542](http://www.todaysoftmag.ro/article/ro/15/Dezvoltarea_aplicatiilor_mobile:_%C3%8En tre_nativ_si_hibrid_542)

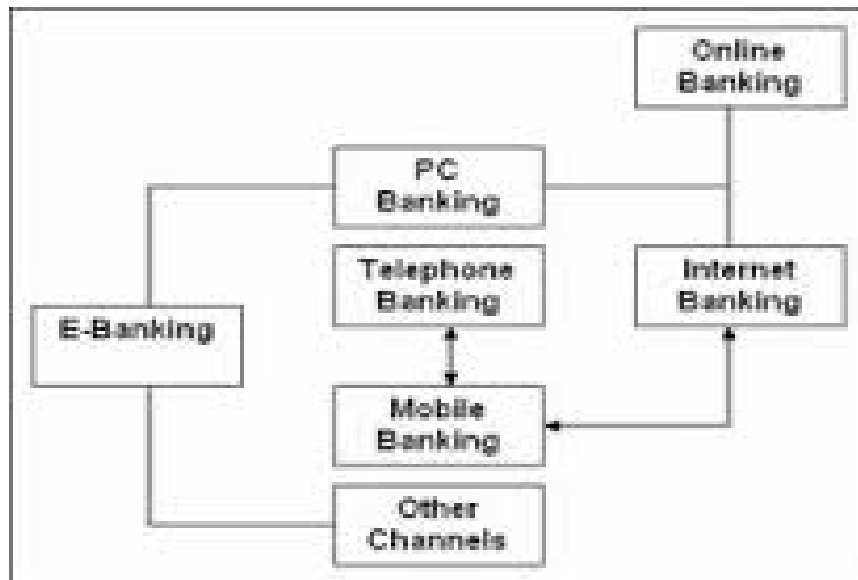
#### 4. WHAT CAN A MOBILE APPLICATION DO IN BANKING

E-banking is the wave of the future. It provides enormous benefits to consumers in terms of ease and cost of transactions, either through Internet, telephone or other electronic delivery channels (Nsouli and Schaechter, 2002).

The first online banking service in the United States was introduced in October 1994. Was developed by a financial institution called the Stanford Federal Credit Union. In 20 years online banking have developed amazing and are a category of mandatory services for any type of bank. Although there are still arguments against electronic technology, it has made a revolution that led to the consolidation of the banking sector. The pros are many and they are determined by the user that now you don't need to go to branch banking for each operation and you can do from your computer or even your mobile phone. Even if these services have developed in 20 years, some distinct phases can be identified on the use of mobile telephony in dealing with banks:

- Stage use SMS for various services, like the example of using the framework announcement, receiving input password in internet banking service;
- Stage using SMS and mobile applications, although the number of SMS users in the relationship with the bank is increasing, it is identifying a clear and increasingly large segment of users of mobile applications;

- Phase development of mobile applications used on smartphones with advanced technology. Digital banking market explodes. Worldwide more than half a billion people use mobile phones for personal banking, that number will double in the next four years.



Source: Chai Lee Goi, Curtin University of Technology, Sarawak Campus, *Factors Influence Development of E-Banking in Malaysia*, *Journal of Internet Banking and Commerce*, August 2006, vol. 11, no.2

**Figure 1. Structure of e-Banking**

In Internet banking, the last three years have brought a new technology, the mobile banking applications. Among the services offered by these applications there are: Making money transfers; Paying bills; The establishment and withdrawal of bank deposits; Consultation of the bank account records and transactions history; Consultation of the BNR exchange rates or other banks; Making exchanges.

## 5. BANKING MOBILE APPLICATIONS IN ROMANIA

In Romania there are over 235 000 banking mobile apps users - both individuals and businesses - and their numbers are expected to grow by 50% by 2015. Such predictions are correlated with the launch of mobile banking applications to all several banks and increase the number of smartphone upper class users. Even though in 2013 there were seven banks offering such services - BCR, BRD, Transilvania Bank, Raifeissen Bank, ING, Unicredit, AlphaBank - their rapid evolution will cause the other to implement such services.

For example, application launch 2013 Mobile MyBRD latest and comprehensive mobile banking solution on the Romanian market made within 10 months the number of visitors to 30,000 who made 17,000 transactions worth more

than 5.5 M EUR and the total number of users in Romania increased by 15% within two months of launch. Unlike applications from the other banks, stands out the most innovative ways to transfer and barcode scanning invoices, transfers to the QR codes and phone numbers. Click 24 Banking BCR is an application that provides a range of services such as: view transactions that are carried out immediately; current account balance check and debit or credit cards in real time; viewing domestic and foreign currency transfers to BCR beneficiaries customers, lei transfers to other beneficiaries, use personal templates stored on the web, check balances of deposits, loans and fund units, amounts reimbursed by credit card, check amounts blocked from credit card transactions to view messages sent by the bank etc..

Trends in the use of mobile banking applications are spectacular, such as ING is implementing a testing program of mobile banking applications that allow customers to log and perform transactions through "voice recognition" that is coming into your bank account and the actual payment is made by conducting voice commands. BT Bank launches social service banking through which the user can access their bank account via Facebook or can borrow some money from friends' network.

## **6. MOBILE BANKING APPLICATIONS WORLDWIDE**

A survey conducted by the Federal Reserve, in 2013, showed that nearly 50% of America smartphone users accessing mobile banking applications.

### **MobilLender**

One of the most popular applications in mobile banking application is MobilLender, world's first service lending small value in a very short time only by phone in Mexico. The application provides loans in less than 30 minutes directly on mobile phone applications available through a non-stop, 24/7, without any written documentation, without warranty and without checking the credit history of the customer. Crediting mobile phone is in five steps. The loan amount can vary between 50 and 500 dollars, for periods between 5 and 30 days, the interest rate is 1% per day.



**Figure 2. Steps for MobilLender**

Advantages of application MobilLender are obvious:

- offers a lending solution exclusively on mobile phones. Why mobile phone? Because "the mobile phone is the future credit card";
- strong integration in social networks - social networks based algorithm. The application was developed in Mexico as 9 out of 10 Mexicans internet users are in a social network;
- extensive understanding of specific local market. In Mexico there are 45.1 million internet users of which 40% are between 18 and 34 years who own and use bank cards and spend an average of 5 hours per day on the internet.

### Picture Pay

Picture Pay is another frequently used application with which you can pay bills using smartphone or tablet by photographing and saving the document. The next stage is complete all required fields of the payment, scanning directly your personal data from the photo.



New electronic channels are replacing the more traditional ones. Mobile devices represent the recent development in electronic service distribution. According to Forbes, "Every business should think about creating an application today. It's not a fad or a trend of the moment." Technology and applications of mobile phones offer many opportunities for businesses, they also presenting a continuous development and new challenges. Although this service is currently viewed with reluctance by customers, banks need to overcome this drawback and understand how this service can be combined with other alternative channels such as social media, to create value for customers. The low costs

of computer and communication devices will encourage customers to move in to E-banking much faster than they did in the case of ATMs. If banks can't meet these customer demands quickly, they will lose a substantial part of their business in the next 5 to 10 years.

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