

# Young Customers' Perception of the Quality of M-banking Services

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**Abstract** The issue of innovation technology is acquiring an increasing importance in the banking sector and in particular in its channels, like the mobile one. Despite services offered by M-banking are always more studied by researchers, most studies focus their attention on perceived services and they aren't directed towards their main users (i.e. young people). Hence, the aim of this study is to understand the diffusion of M-banking among young people, to measure their satisfaction throughout the SERVPERF questionnaire (able to overcome the disadvantage of SERVPERF model) proposed to 144 young customers and to verify the emerging of new needs in order to draw future strategies. Results show a good level of customer satisfaction by young people towards M-banking services that prevalently comes from reliability and the possibility of saving time offered by these services. Finally, the paper provides new directions to researchers of M-banking service quality.

**Keywords** Customer Satisfaction, M-banking, Servperf Model, Consumers' Perception, Quality

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## 1. Introduction

The issue of innovation technology is acquiring an increasing importance in every commercial sector and especially in banking where several channels – like, for example, the mobile one – have been introduced in order to provide quality services and increase customer satisfaction[1]. More and more banks are shifting from traditional to branchless mode of banking[2]. Despite Mobile banking (M-banking) is a concept relatively new that, probably because of this reason, shows a sluggish rate of customer adoption[3,4], it represents an important advancement in electronic banking that allows bank customers to perform balance inquiry, credit transfer and several banking transactions anytime and anywhere[5].

The M-banking service uses the mobile devices like Smartphones or Personal Digital Assistant (PDA) and it has been further developed with the increased adoption of these devices especially among the youngest generation[6]. In fact, a study carried out by the Federal Reserve in 2011 shows that

the youngest generation of banking customers (aged 18 to 29) accounted for 44 % of the mobile banking users[7].

By 2012, the prevalence of mobile banking had increased substantially and, in 2013, the prevalence of mobile banking has continued to increase, reaching 33 percent of mobile phone users and 51 percent of Smartphone users.

In particular, use of mobile banking results substantially higher for Smartphone users at 51 percent, up from 48 percent in the 2012 survey. The higher incidence of mobile banking adoption among Smartphone users suggests that Smartphone adoption will continue to increase and the same will occur for mobile banking[8]. In particular, in 2012 users of M-Banking who use services via sms are 4.5 millions [9].

Also in Italy this phenomenon is increasing and 70% of Italian banks offers at least a service of M-banking to its customers. At the end of 2011, in Italy users of M-Banking through Smartphone were more than 2 millions, with an increase by 300% if compared with the datum of 2010. This increase has been confirmed in 2012 in a considerable way[10].

Several banks are quickly implementing electronic services in order to successfully interact with their customers because their satisfaction represents a key factor of success in e-banking[11]. In particular, M-banking gives customers the possibility to easily manage their accounts. At the same time the diffusion of E-banking seems more determined by customer acceptance than by seller offerings[12].

Although several studies have emphasized the increasing importance of M-banking in order to satisfy the customer more and more[13], very little attention has been reserved in literature to the measurement of customer satisfaction and recently Lee and Lin[14] have highlighted the need for further research on the measurement of the influence of e-services on customer satisfaction. Furthermore, it is important to remember that no study has been carried out towards one of the largest segments of customers, that is that of young people[15].

Mobile banking is one of the two categories in which mobile financial service is divided[16]. Barnes and Corbitt define M-banking as “a channel whereby the customer interacts with a bank via a mobile device, such as a mobile phone or personal digital assistant (PDA)”[17]. Amin et al.

[5] provide another definition intending M-banking as “a form of banking transaction carried out via a mobile phone”.

The aim of this paper is to improve our knowledge on the diffusion of M-banking among young people, to measure their satisfaction and to verify the emerging of new needs in order to draw future strategies.

To achieve this goal, the present study focuses on a qualitative investigation: the analysis is carried out through the SERVPERF questionnaire (composed of 22 items and organized according to the 5 dimensions of quality) proposed to 144 customers aged between 18 and 30 years, asking them to express their level of satisfaction towards M-banking on the basis of a 7 points Likert scale, their usage/purpose and their expectations of being satisfied by M-banking.

The first part of the paper is devoted to the analysis of existent literature on the role assumed by M-banking among the other services offered by banks and to the description of the main measures of customer satisfaction towards service quality. The second one investigates the level of satisfaction expressed by young people towards services offered by M-banking in terms of tangible elements, reliability, relationship ability, assurance and empathy, by highlighting main advantages and disadvantages of this service in order to suggest possible innovations.

## 2. Theoretical Background

### 2.1. M-banking: Characteristics and Main Services

More and more banking industry is driven by several technological innovations and by a very active competition; the most competitive banks are very engaged in adopting new technologies in order to increase their number of customers.

M-banking can be divided into two different categories[18]: additive, i.e., M-banking is used as an extra access channel for existing customers, and transformational, characterized by “business models that draw upon existing telecom and agent/representatives infrastructure, run by new or alternative banking actors, and has a geographic coverage and pricing with the potential to attract previously unbanked segments”. Main technologies used for M-banking are Interactive Voice Response, Standalone Mobile Application Clients, Short Messaging Service and Wireless Application Protocol [1]. Throughout these services, costumers can use mobile phones, Personal Digital Assistant and laptops to access the Internet, make transactions every time they want and from everywhere, send and receive messages [19].

The first M-banking services ever offered were provided via sms[20]: Sms Banking represents a mobile technology throughout which customers can receive banking information on their mobile phones via sms[21]. In a second time the introduction of the first Smartphones with wireless application protocol in 1999 allowed banks to offer M-banking throughout this platform: WAP banking enables

customers to communicate interactively with their bank[22]. Several researchers emphasized the importance of M-Banking. In particular, Unnithan and Swatman[23] studied these services in Australia and India while Suoranta[24] analyzed the usage of M-banking underlining the influence of age and education on it, being supported by Black et al.[25] or Lyman et al.[26] (2008) who described M-banking as a real challenge. Banzal[27] studied the revenue sharing agreement between mobile service providers, banks, content providers, aggregators and other service providers like utilities, travel agencies[28].

The wide range of services offered by M-banking could be summarized in: Mobile Accounting, a transaction-based banking services that revolves around a bank account and is available through mobile devices[29], Mobile Brokerage, that is all those intermediary services related to the bourse (i.e. selling and purchasing of stocks)[29], Mobile Financial Information, concerning non-transaction-based banking services of informational nature and allowing customers to access information anytime and everywhere[15].

In particular, banks adapt their M-banking services to three different categories of customers: Youngsters (14-18 years old customers), whose importance is increasing more and more in the usage of mobile telecommunications and related services; Young Adults, acquainted with technology and innovation, very involved in stock market activities and cultivated by banks because of their forthcoming entry in a professional carrier, thus representing future important customers; Business People (26-50 years old), generally well educated and economically well-off, the ideal candidate to become users of M-banking services[15].

Koenig-Lewis et al[30] and Howcroft et al.[31] assert that young people are more predisposed to adopt M-banking as it fits their lifestyle.

More recently the Board of Governors of the Federal Reserve System[32] (2012) has suggested that future increases in mobile banking will most likely occur in young-age groups and this is the motivation why we focus our attention on this segment of the population.

Due to all the aspects previously described, M-banking is able to bring important advantages to customers - in our case to young customers - both in terms of time saving, collecting information and in terms of reduction of costs; moreover, there is potential for it if it is appropriately exploited and developed.

### 2.2. The Measurement of Customer Satisfaction Towards the Quality of M-banking

Sometimes innovation providers and costumers have different views about innovation and innovation itself should not provide the right solution for consumer needs[33, 34]: for this reason, it is very important that innovations in services accurately respond to end-users needs in order to succeed in the marketplace[35]. Customer satisfaction measurement can help firms understand which elements are able to create

satisfaction or dissatisfaction towards service quality of bank services and develop costumers' loyalty[36].

Several studies have investigated the factors affecting customer satisfaction towards M-banking. Saleem and Rashid [2] investigated this aspect in Pakistan by means of statistical techniques showing how customers are concerned about security, authenticity and reliability of the technology. Ashish et al.[1] also studied this aspect with respect to public and private sector banks throughout factor analysis, chi-square and correlation analysis and individuated as main factors: security and reduction of risk, service expansion, refined technical infrastructures and customer support. The same effort has been carried out by Alsheikh and Bojei [13] who developed a new model as an attempt to better understand the usage of M-banking on the basis of the perception value through benefit and sacrifice factors. In order to predict user acceptance of information technologies, a model increasingly used is TAM (Technology Acceptance Model), developed by Davis who tries to explain what determines computer acceptance [37].

Throughout TAM, Safeena et al.[38] show how perceived usefulness, ease of use, subjective norm, costumers' awareness and perceived risk are important determinants of M-banking adoption. The same model is used to measure consumers' acceptance of technology-based innovations in other fields like, for example, in retailing [39]. Anyway, also TAM displays important limits since it does not measure the benefit of using a technology [40]. This paper focuses on measurements used in banks or for the evaluation of information technology services.

A first conceptual model concerning perceived service quality is the *GAP model* developed by Parasuraman et al.[41]: it considers the service quality as a function of differences between expectation and performance along the several quality dimensions and is based on a gap analysis. However, most papers about the measurement of banking/financial services uses SERVQUAL[42,43] and SERVPERF models[44,45].

The first has been developed in 1988 by Parasuraman et al.[46] and this results in the creation of the SERVQUAL Model, that measures the difference between customers' expectations and perception using a 22-item scale, representing 5 dimensions of service quality: reliability (careful and safe performance), assurance (competence, credibility), responsiveness (readiness and availability), empathy (easy access, good communication) and tangibles (aspect of physical elements).

It shows several limits emphasized in Tardivo et al.[47]: it is tautological, it defines the dimensions as valid for any kind of service and it shows inadequate indices. Since Parasuraman et al. [46] introduced the SERVQUAL model, several researchers [48,49], have then extended it in different sectors of the service industry [50,51].

Service quality is generally measured[52] as an overall evaluation of quality of service or as consisting of a range of opinions about different aspects of the service experience.

In particular, starting from the main criticisms to SERVQUAL model, in 1992 Cronin and Taylor developed *performance only model*[53] or SERVPERF model, that employs the same questionnaire of the SERVQUAL one but it is constituted of a single prospect that is that of customers' perceptions while it does not consider that of customers' expectations. In order to provide a global evaluation of the service it is necessary[54]:

- to evaluate the quality of the service (by means of a 7-points Likert Scale) perceived by each customer involved in the survey; it corresponds to the average ( $Q_j$ ) of his/her ratings of the 22 items ( $Q_{ij}$ ):

$$Q_j = \sum_{i=1}^{22} (Q_{ij})/22 \quad (1)$$

- to calculate the average of values of  $Q_j$  registered for all users involved, so to assess the global user satisfaction of the service:

$$Q = \sum_{j=1}^n Q_j/n \quad (2)$$

Values higher than 4 mean a satisfying level of customer satisfaction towards the service [54].

As widely described in Tardivo et al. [47], important contributions come from Brady and Cronin[55] who built a 3-dimension hierarchic model (quality of the interaction, physical environment and outcome) able to measure the quality of service, successively applied to several studies both in physical and virtual environment[56]. On the basis of this model, Lu et al.[57] (2010) developed their multidimensional and hierarchical model for mobile telephones. Other researchers [58, 59] have based the judgment of the customer and his satisfaction on empathy and responsiveness. Anyway, the quality of results is widely influenced by the perceived quality of service [60,61].

### 3. Methodology of Research

The present research can be considered an exploratory study, that aims at measuring the customer satisfaction of young people towards M-banking. To achieve this task, the research involved 144 young customers with an age between 18 and 30 years, recruited in Italy between September 2013 and October 2013. This number constitutes a representative sample for this exploratory study, which aims at deepening the point of view of young M-banking customers. The sample was made up of Italian customers because in this Country these services have an enormous growth potential: in fact, among the 33 millions of current account holders, there are 48 millions of owners of mobile phones out of which 25 millions are Smartphones [62]. The choice of exploring only customer satisfaction of young people is dictated by the fact that this range of population is that using new technology more easily than others and could represent

a more and more increasing segment if the firms are able to satisfy its needs.

In particular, we asked them to express their level of satisfaction towards M-banking on the basis of a 7 points Likert scale [63] (1= strongly disagree, 7= strongly agree) structured in 22 items, their usage/purpose and their expectations of being satisfied by M-banking.

Afterwards, we assessed each customer’s satisfaction towards quality of M-banking services that by computing the average (Qj) of his/her ratings of the 22 items (Qij). Next, we calculated the average (Q) of the registered values of j for all the customers involved in the survey; this is assumed to be the estimated customers’ satisfaction towards ethics.

This methodology involved an adapted SERVPERF model; adaptations of the model were made in terms of the dimensions considered relevant in determining customer satisfaction towards M-banking. The dimensions used in this paper are: tangible elements, reliability, relationship ability, assurance, empathy.

Each item can be divided into 3 (it is the case of tangible elements) to 5 sub-items (it is the case of the other variables).

Using the SERVPERF questionnaire, Q can assume values between +1 and +7 and we consider values higher than 4 as a quite good level of customer satisfaction towards M-banking services. The questionnaire data were analyzed using the SPSS 19.0 suite.

The questionnaires were distributed throughout an online platform where the information necessary to fill out the questionnaire - to ensure maximum control over data collection - were provided. In this way, anonymity has been granted.

This qualitative research is based on questionnaires structured in five main sections: a first part aims at collecting general information on the sample, the second section analyzes the usage of M-banking in terms of frequency, way and purpose of the usage. The third section investigates the satisfaction of young people towards M-Banking services while the fourth one describes main advantages and disadvantages of the M-banking. Finally, in the last section we verify the emerging of new needs in order to draw future strategies.

The validity of content and reliability of the questionnaire is measured by the Cronbach’s Alpha, that measures how well a set of items measures a single, one-dimensional latent aspect of individuals and only positive values have sense. Acceptable values are those in the range 0.6 – 0.7. The questionnaire used for the research turns out to be a suitable tool to measure this variable: in fact, the validity of content and reliability of it is high (the Cronbach’s Alpha corresponds to 0.905); this results in an excellent level of internal consistency of the scale used with the sample of reference. Respondents are young people with a sufficiently developed knowledge on these services. The percentage interviewees who replied to the questionnaires is 100% and

no missing value has been noticed. Table 1 shows the sample characteristics.

**Table 1.** Sample demographics

| Sex                     | Percentage |
|-------------------------|------------|
| Male                    | 50         |
| Female                  | 50         |
| Age                     |            |
| Between 18 and 24 years | 50         |
| Between 25 and 30 years | 50         |
| Between 31 and 40 years | -          |
| Between 41 and 50 years | -          |
| Employment/University   |            |
| Student                 | 97.9       |
| Public employee         | 2.1        |
| Private employee        | -          |
| Unemployed              | -          |
| Other                   | -          |

#### 4. Key Findings

The first investigation is based on the analysis of frequency of usage of M-banking by young customers: 66% of customers use these services almost 2-6 times a year, especially for online banking and ATM.

This is probably due also to the increasing diffusion of smartphones especially among young people and thanks to the familiarity that Italian people have with them. In fact, it is important to underline the increase of the new M-banking characterized by the use of App and Mobile Site through smartphones and tablets: users of App and Mobile Sites are about 10% of the Italian citizens that interact with banks[9].

Apart for bill payment (26,6%), the purposes of usage of M-banking services (budgeting, balance transfer, transfer of money among different accounts and balance check) are equally shared among the different alternatives (Table 2). Only the option “Before purchases to check if they can be afforded” meets a lower percentage and the option “check value of investment” collects a percentage of 0%.

We also carried out a subsequent analysis based on the evaluation of the customer satisfaction towards different elements of M-banking services: as shown in Table 3, results in frequencies at levels 5,6,7 are higher than those registered at levels 1,2,3 for every item, with a peak of satisfaction with reference to reliability and in particular to time-saving that M-banking services allow to customers (75.9%). This datum is followed by an item concerning intangible elements “Websites that allow to use M-banking, thus permitting an easy visualization” that shows a percentage by 66.5% at levels 5, 6 and 7.

These data confirm the results of a Survey by 2013 [9] that emphasized the general agreement by users towards the use

of these services: in this case the average evaluation of the M-banking services was higher than that relating to generic mobile services[9].

The lowest datum of satisfaction (or, better, the highest percentage at levels 1, 2, 3) is shown by a tangible element: "The supporting material (fliers) to M-banking is enjoyable"

(34.2%).

In a second phase we get an average level of satisfaction by 4.5243 throughout SERVPERF model.

Even if it represents a middle-high level of satisfaction because it is expressed out of 7 possible levels, it could be strongly improved in the future

**Table 2.** M-banking: usage. frequencies and purposes.

| Frequency of usage of M-banking services          | Percentage |
|---|------------|
| Never   | 26.4       |
| One time in my life                               | 4.2        |
| One time per year                                 | 3.5        |
| 2-6 times per year                                | 14.6       |
| One time per month                                | 13.2       |
| 2-3 times per month                               | 26.4       |
| 1-3 times per week                                | 9          |
| Every day   | 2.8        |
|   |            |
| Services used to properly manage finances         |            |
| Mobile phone banking                              | 8.4        |
| Online banking                                    | 68.7       |
| Telephone banking                                 | 2.3        |
| ATM   | 13.7       |
| Go to a branch                                    | 3.8        |
| Other   | 3.1        |
|   |            |
| Purpose for using M-banking                       |            |
| Bill payment                                      | 26.6       |
| Budgeting   | 12.1       |
| Balance transfer                                  | 15.3       |
| Transfer of money among different accounts        | 15.3       |
| Balance check                                     | 17.7       |
| Before purchases to check if they can be afforded | 5.6        |
| Check value of investments                        | -          |
| Other   | 7.3        |

**Table 3.** Young customer satisfaction towards M-banking services (%).

|   | I completely disagree |      |      |      | I completely agree |      |      |
|---|-----------------------|------|------|------|--------------------|------|------|
|   | 1                     | 2    | 3    | 4    | 5                  | 6    | 7    |
| <b>A) Tangible elements</b>   |                       |      |      |      |                    |      |      |
| Websites that allow to use M-banking, thus permitting an easy visualization               | 2.2                   | 5.1  | 9.5  | 16.8 | 23.4               | 26.3 | 16.8 |
| M-banking is compatible with a high number of softwares                                   | 0.7                   | 4.4  | 11.7 | 20.4 | 27                 | 24.1 | 11.7 |
| The supporting material (fliers) to M-banking is enjoyable                                | 2.2                   | 10.4 | 21.6 | 28.4 | 23.9               | 12.7 | 0.7  |
| <b>B) Reliability</b>   |                       |      |      |      |                    |      |      |
| Promises fulfilled at stipulated time   | 0.8                   | 4.2  | 10.8 | 38.3 | 32.5               | 10   | 3.3  |
| M-banking is able to solve my problems  | 2.2                   | 6.6  | 11.8 | 23.5 | 30.9               | 16.9 | 8.1  |
| M-banking performs services correctly on the first attempt                                | 2.3                   | 8.5  | 15.4 | 21.5 | 26.9               | 20.8 | 4.6  |
| M-banking is able to improve my performances  | 1.5                   | 5.1  | 8.8  | 24.3 | 33.1               | 20.6 | 6.6  |
| M-banking has allowed me to save time   | 2.9                   | 4.4  | 0.7  | 16.1 | 13.1               | 28.5 | 34.3 |
| <b>C) Relationship ability</b>  |                       |      |      |      |                    |      |      |
| The time for a single operation throughout M-banking is clearly communicated to the user  | 3                     | 7.5  | 15.7 | 27.6 | 17.9               | 20.9 | 7.5  |
| M-Banking gives a prompt service to the user  | 0.8                   | 9.8  | 3.2  | 24.4 | 26.7               | 29   | 6.1  |
| A guide is always present online  | 3.7                   | 11.2 | 14.2 | 21.6 | 20.1               | 19.4 | 9.7  |
| Interaction with mobile banking has been easy for me                                      | 3.1                   | 7.5  | 9.9  | 18.3 | 22.1               | 28.2 | 10.7 |
| I receive constant information about the innovations or new services concerning M-banking | 6                     | 12.8 | 16.5 | 21.8 | 18.5               | 18.5 | 5.3  |
| <b>D) Assurance</b>   |                       |      |      |      |                    |      |      |
| The tools offered instil confidence in Customers  | 0.8                   | 4    | 16   | 28.8 | 29.6               | 16   | 4.8  |
| Help has been available when I got problems in using mobile banking                       | 1.5                   | 8.2  | 20.9 | 25.4 | 24.6               | 14.9 | 4.5  |
| I believe my information is kept confidential   | 3.7                   | 7.5  | 11.9 | 24.6 | 24.6               | 17.2 | 11.4 |
| I believe in the security of my transactions  | 3                     | 6.7  | 11.2 | 17.9 | 17.2               | 32.1 | 11.9 |
| Instructions in the MB system are clear and understandable                                | 2.3                   | 6    | 9.8  | 27.8 | 25.6               | 20.3 | 8.3  |
| <b>E) Empathy</b>   |                       |      |      |      |                    |      |      |
| M-banking allows me to receive personal attention   | 3                     | 8.3  | 18   | 30.8 | 21.1               | 14.3 | 4.5  |
| M-banking tries to satisfy specific needs of users in any way                             | 1.5                   | 6    | 15   | 26.3 | 27.8               | 18.8 | 4.5  |
| M-banking system is able to understand specific needs of users                            | 1.5                   | 9    | 15.8 | 24.1 | 26.3               | 19.5 | 3.8  |
| Banks collect information about the satisfaction of their users                           | 3                     | 12.7 | 16.4 | 25.4 | 20.9               | 16.4 | 5.2  |

## 5. Discussions of Results

The results of this paper confirm the increasing diffusion of M-banking services among young generations [6]: in fact, only 26.4% of the interviewees declared to have never used these services. This occurs because banks would like to provide quality services and increase customer satisfaction [1].

This research confirms also the statement of Koenig-Lewis et al [30] and Howcroft et al. [31] according to which young people are more predisposed to adopt M-banking as it fits their lifestyle. In fact, it is important to remember how the customer adoption represents the major barrier that hinders the development of M-banking and it will be unlikely that banks increase their investment in it without a widely adoption by customers[64].

Main usages of these services are online banking, ATM and mobile phone banking: young customers declared to use these services in particular for bill payments, balance checks, balance transfers, budgeting, as described by Tiwari and Buse [20].

The average level of young customer satisfaction corresponds to 4.5243, thus resulting satisfactory [54], because it shows that the average of scores assigned to elements of each dimension on a Likert scale from 1 to 7 is placed beyond the half. This level of satisfaction is a further confirmation of what was demonstrated in the survey carried out in 2013 by School of Management-Politecnico di Milano, AbiLab e Osservatorio Mobile Banking., [9] that emphasized the general agreement by users towards the use of these services.

In particular, the sample expressed a different level of satisfaction for each dimension: the major level of satisfaction is monitored in relation to reliability and in particular to the item "M-banking has allowed me to save time", showing the ability of these services to accurately respond to end-users needs as emphasized by Von Hippel and Katz [35] and by Alsheikh and Bojei [13]. Saving time and the possibility not to go into a branch have been considered as the most important advantages of M-banking services by 78.3% of young customers.

In a previous study, also Pantano and Viassone [65] showed how consumers mainly expect that advanced technologies in retailing improve their shopping activities, by providing new tools, services and functions for saving time while purchasing.

Although the frequencies expressed in the highest levels of satisfaction (5, 6 and 7) are higher than those expressed for the lowest levels for each dimension, the lowest level of satisfaction (5, 6, 7) is registered by relationship ability: in particular, young customers seem to be dissatisfied with respect to the lack of constant information about the introduction of innovations in M-banking services and of a guide able to help them in case of need. This results in a desire of young customers to be involved and supported in the service supply. These lacks are further emphasized by young customers who consider the scarce knowledge about

the usage of M-banking, in addition to security, as one of the highest barriers to M-banking: this element needs changes because, as mentioned by Saleem and Rashid [2], customers are available to adopt a technology when they find it easy to understand and implement.

The highest level of dissatisfaction (levels 1, 2, 3) is shown by the tangible element "The supporting material (fliers) to M-banking is enjoyable" (34.2%). This requires an effort by banks to improve their brochures and communication tools in order to make M-banking more appealing.

Very high percentage of satisfaction are expressed also with regard to assurance: young customers particularly believe in the security of their transactions throughout M-banking services that result able to satisfy the two most important needs of customers (security and reliability). This confirms what was shown by Saleem and Rashid [2] by means of statistical techniques.

With reference to tangible elements, M-banking services result compatible with a high number of software and websites that allow to use M-banking with an easy visualization. This is a very important aspect because compatibility is considered by literature [30] an important element affecting costumers' intention to adopt mobile banking.

A satisfying result is also registered by empathy - the ability to perceive feelings of customers - that is, the most difficult element to reach because customers often do not express their needs [47]; in this case, young customers recognize the effort of banks to understand and to try to satisfy them.

Our analysis indicates which elements meet completely the needs of young customers and which need investments in innovation and further changes, expressing advantages and barriers of M-banking services.

## 6. Conclusions and Implications

By integrating suggestions from innovation management, financial services and technology management, this explorative research shows an increasing usage of these services by young people who can constitute an important segment where to invest in the future[66] (Board of Governors of Federal Reserve System, 2012). Furthermore, results underline how customer satisfaction of young people towards M-banking services prevalently comes from reliability and the possibility of saving time offered by these services.

However, despite this increasing trend and the rapid development of several wireless commercial services, the use of M-banking services remains very small[67] if compared with its real potential.

For this reason, although it shows a satisfying level of satisfaction among young people, several efforts must be carried out in the future in order to pull down important barriers like the scarce knowledge about their usage. In fact,

if users consider these services secure and appreciate their compatibility with several softwares and the security of the transactions very much, there are still several efforts to make with respect to the relationship ability (in particular with reference to the information towards customers and to the support in the usage of these services). It is now necessary for banks to develop informational programs that focus on creating a positive attitude towards the most important aspects of M-banking and inform customers of the availability of new services[68].

However, this paper shows very positive results because the main advantage of M-banking services expressed by young people (saving time) is also the one meeting the highest degree of satisfaction and the same occurs with regard to one of the elements considered as the main barriers to these services (security) [2].

This high level of satisfaction expressed by young customers should be considered as an encouraging sign to continue on this path, always providing new innovations capable of meeting or of anticipating their future needs.

Young people think that main factors that are going to shape the future of M-banking are the increase of users, the integration of new users, the increase of safety and popularity. Starting from these results, it is possible to draw paths of action both for banks interested in adopting these services and for those who have already adopted them. First of all, they should reconsider their activity of support to these services with a constant supply of useful information, guides and online help in order to make the usage of M-banking services easy also for people not so acquainted with new technologies. Second, strictly linked to the previous suggestion, they should take care of the delivery transformation: in fact bankers' interest in the potential for mobile payments is likely to keep on growing and to reach this purpose they may consider an increase in the level of investment in mobile payments[69].

Finally, given the enormous potential that young people can bring, more and more banks may be proactive and able to anticipate or create their future needs. In particular, banks should develop future innovations or extensions of the usage of M-banking services like, for example, the possibility to pay for good, a system able to recognize the voice in order to increase security or the mobile photo bill pay.

The future diffusion of M-banking will dramatically change the financial services. This does not mean that the traditional branches will disappear but, probably, they will remain dominant with many banks but new M-banking services will grow to complement the traditional services in specific segments, like that of young customers.

Even if this research offers important issues and enriches existing literature, there are some limitations which should be taken into account: first of all, this research is an exploratory study based on a size-limited sample and this model finds application only in Italy. In the future, it will be possible to further develop this research by extending the same study to another important segment of users (i.e. business people) and analyzing, on a wider sample, the

motivations that prevent customers from adopting M-banking services in order to draw future strategies.

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