



## Mobile Banking in Kosovo and Metohija - Status and Potential

Dr. Jelena Božović

Faculty of Economics, University of Pristina/Kosovska Mitrovica.

### Abstract

This work arose from the desire of the author to explain the practical application of mobile banking in the north of Kosovo and Metohija. For this study we selected 65 random passers exclusively residing in Kosovo and Metohija.

The hierarchical multiple regression model validation and evaluation of each independent variable using statistical computer package for social sciences SPSS (Statistical Package for Social Sciences). In addition to the overall objective of the study on the survey of the views of people about mobile banking, were also analyzed specific objectives in order to identify potential opportunities for expansion of mobile banking in Kosovo and Metohija.

**Keywords:** SMS Banking; M-Banking; Multiple Regressions; ANOVA; Levine's Test; Correlation Coefficients.

### 1. Introduction

In Serbia, the number of users of mobile banking services is a new era of banking revolution in the development line banking. Banks brings together the possibilities of transactions in its services. At the same time they increase the loyalty of its customers as well as the productivity of their employees. Since these services are commonly used bill payment, funds transfer or loan applications. Advantages of mobile business are that it saves time and money; improve the quality of information and increases customer satisfaction and customer loyalty.<sup>1</sup> With all the widespread ownership of smart phones and the increasing application clients to access finance the move, it is likely to expect the upward trend line of mobile banking users. This increase represents a significant opportunity for banks to bring their innovative business models in the market and for existing is an opportunity to implement digital services.<sup>2</sup> This type of banking services has positive characteristics expressed through legal certainty, comfort in the use of banking services regardless of time and place. An increasing number of people realize significant benefits that a mobile phone as a platform for developing mobile business.<sup>3</sup> Mobile banking (m-banking) is an important lever of development, with the possibility of providing banking services to the poorest. The effects of these changes are related to the different market structures, new conditions of competition in the market environment and the growth and development of the financial sector.<sup>4</sup> Banks in developing such services should carefully examine the potential users, perform their segmentation products for various customer groups and together with mobile providers to develop adequate platform.<sup>5</sup>

<sup>1</sup>Sripalawat, J., Thongmak, M., & Ngramyarn, A. (2011). M-banking in metropolitan Bangkok and a comparison with other countries. *The Journal of Computer Information Systems*, 51(3), 67.

<sup>2</sup>Lusoli, W., & Miltgen, C. (2009). *Young people and emerging digital services: An exploratory survey on motivations, perceptions and acceptance of risks*(No. JRC50089). Institute for Prospective and Technological Studies, Joint Research Centre.

<sup>3</sup>Bjeli P., Mobilni telefon kao kanal elektronskog poslovanja, *Ekonomski anali*, br.151-2/ 2003. p.96.

<sup>4</sup>Jednak, D. [2009]. Uticaj informacionih tehnologija na bankarski sektor. *Info M*, 8(29), 22.

<sup>5</sup>Cracknell, D. (2004). Electronic banking for the poor/panacea, potential and pitfalls *Small Enterprise Development*, 15(4), 8.

To access m-banking is necessary to fulfill the conditions for activation of this service. M-banking can be activated at a specific price depending on account package offered by bank to whose services are used. Costs of using the application itself are minimal, and you will be billed according to the amount of data transferred by the mobile operator. Installing the application is easy and fast. After starting the activation is necessary to enter an activation code and password (username), and then create a unique PIN code, which is used for future access to the application, which is the advantage of using m-banking.<sup>6</sup> The earlier discussed technologies make it possible to offer a wide range of mobile services to users, eg purchasing train tickets via mobile telephone or transferring money from the bank account.<sup>7</sup>

In the domestic banking industry, very modest offer mobile banking services, but there is great potential for faster development of banking services through mobile phones in favor of clients and the banks themselves. Research<sup>8</sup> shows that the highest percentage of people using mobile devices to access the Internet (46%), and least of all deposits and withdrawals m-banking. Although it is the smallest percentage (5%) should be pointed out that a development opportunity that mobile phones are not only used as a tool for communication, but also as a useful professional tool and the ability to test and use new advanced services in banking. Mobile banking still does not have the dominant position in the banking industry due to the opportunities it provides. In addition to its advantages, mobile banking has negative characteristics, starting with the lack of information and mistrust work clients, because security is one of the most important requirements of mobile banking. Mobile banking in Serbia was first introduced by Banca Intesa, and later other banks followed the example.

In this study, one of the first targets in data analysis is to describe the available data using techniques collation. The overall objective of this research is to determine the contribution of each variable to the development of mobile banking. For analyzing the links between metric variables and multiple independent variables we apply multiple or multiple regression. By applying this model glimpse how it affects SMS, mobile bill payment, funds transfer, viewing account balances, loan applications, parking payment, exchange rates, currency conversion, term deposits, trust in security applications, the realization of offers, contract fees, promptness in informing, the best option, sex structure, marital status and occupation (independent variables) on the development of mobile banking (dependent variable). This graphical representation is to prove that the assumption of normality of regression analysis was not violated.

The study should identify specific objectives, namely that percentage is familiar with electronic banking services. Then, you should check the claim that the average attitudes of men and women differ in communication with the bank and contact with officials of the bank. Also, further analysis is needed to check the statement that the proportion of respondents who have a negative attitude towards mobile banking is less than 45%.

## 2. Research Methodology

Questionnaire on the implementation of mobile banking was conducted in the period from 1 to 15 June 2015 and was aimed at all residents who reside in the north of Kosovo and Metohija and in the municipalities of Kosovska Mitrovica, Zvecan, Leposavic and Zubin Potok. Selection of participants is based on certain personal assessments of researchers in the choice of elements of the sample. During the interview<sup>9</sup> none of the respondents refused to participate in the study. To implement interviewed 100 respondents. Although all answer the questions, which means that the response rate of 100 percent for the statistical analysis included in the review, only 65 ballots, because it is the respondents residing in the north of Kosovo and Metohija.

The questionnaire covered important issues related to mobile banking, and the results have contributed to better understanding of and assess the current situation and offer mobile financial services by banking institutions. The questionnaire consists of general questions, such as: whether the respondents were familiar with electronic banking services, as theirs approach to the role of client banks in terms of their rejection or acceptance, if the clients prefer going to a bank or mobile banking service, type mobile banking that the respondent used, the purpose of a mobile phone, whether a respondent interested to launch new m-banking services, an opinion on the development of mobile banking, knowledge of a digital signature, confidence in the policy of information system security, confidence in security applications. On the set of questions for the evaluation of communicating with the bank considers the following sub-questions: evaluation of the speed of establishing a connection with the bank, the speed of

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<sup>6</sup> Varshney Uparkar & Ron Vetter 2002. Mobile Networks and Applications: Proceedings of the 35th Hawaii International Conference on System Sciences.

<sup>7</sup> Tiwari R., Buse S. E-Mobile Commerce Prospects: A Strategic Analysis of Opportunities in the Banking Sector, Hamburg University Press, 2010, p.65.

<sup>8</sup> Statistical Office of the Republic of Serbia, Usage of informacion and communications technologies, 2014.

<sup>9</sup> Gratitude for conducted questionare deserve students of undergraduate studies generation 2014/2015 at the department of Finance, Banking and Insurance, and students of master studies of an elective subject: Banking management – Faculty of Economics of the University of Pristina, interim headquarters in Kosovska Mitrovica.

implementation of the offer, the agreed commission for the services provided, contact with officials from the bank, promptness in informing about the condition of a bank account. Also, the last group of questions relates to assignment mark in a method objection to the bank's services and the procedure for registering complaints and speed of appreciation objections. The last question relates to the use of the "Manual" when using mobile banking.

Questions for awarding grades, the questionnaire was developed using five levels Likert scale (1 = worst rating, 2 = below average, 3 = average, 4 = very good; 5 = very satisfactory).<sup>10</sup> At the end of the questionnaire there are certain issues that examine some demographic characteristics of respondents: age, sex, marital status, education, occupation and monthly income.

### 3. Results and Discussion

One of the first goals in the data analysis is to describe the available data using techniques collation. Among the respondents there were 37 (56.9%) women and 28 (43.1%) males, of whom 41 persons are married (63.1%), and 24 are not married (36.9). Among respondents same percentage 32.3% occupied by the group aged 40 to 50 (21 persons) and from 50 to 60 years (21 persons), followed by 16.9% belong to people aged 30 to 40 years (2 persons), followed by 15.4% belonging to persons age from 60 to 70 years (10 persons) and 3.1% belonging to persons aged 20 to 30 years (11 persons). From the point of occupations dominated by 45 persons employed (69.2%), followed by 11 pensioners (16.9%), 8 students (12.3%) and one unemployed person (1.5%). Analysis of monthly income points to 46 persons (70.8%) have a monthly income of 200 to 400 euros, then 11 persons (16.9) has a monthly income of between 400 and 600 euros, 7 persons (10.8) has a monthly revenue of 600 to 800 euros and only one person (1.5%) had a monthly income of 800 to 1,000 euros.

The study should determine what percentage of respondents familiar with electronic banking services? The analysis shows that 53 persons (81.5%) were familiar with electronic banking services, and only 12% are not sure what these services do. From the point of communicating with the bank analysis shows that most, namely 49 respondents (75.4%) preferred direct contact, and only 16 persons (24.6%) preferred mobile banking.

Of the total number of respondents, the majority of 60% is applied to SMS banking. Answers to the question of purposeful use of mobile phones provide the following information most respondents 46 (70.8) does not use a mobile phone for the purpose of paying the bills, 61 subjects (93.8) does not use the mobile for the transfer of funds, as opposed to the review of the financial situation by the 50 respondents (76.9 %). Absolutely not using a mobile phone application for the loan is stated by all respondents (100%). Parking payment via mobile phone carries only 25 persons (38.5%) travel outside northern Kosovo and Metohija, while most 40 persons (61.5%) to avoid paying parking mobile phone. From the point of access to the exchange list the majority of respondents applied mobile phone, specifically 52 persons (80%), currency conversion is carried performs 39 people (60%), as opposed to depositing currency which does not apply absolutely none of the respondents.

Interest of respondents to a new m-banking services are stated in response to a question about the launch of new services, so that 57 persons (87.7%) are interested in the new service, as opposed to 8 people (12.3) that are not interested in new service. The majority of respondents familiar with the concept of digital signature 57 persons (87.7%), 5 person (7.7%) are not sure what this means, and only three respondents (4.6%) were not aware of what it is for the digital signature. From the aspect of information system security bank, the majority of respondents 47 (72.3%) were not aware, but 49 respondents (75.4%) have confidence in safety applications.

Further research is needed to check the contention that the average attitudes of men and women differ in communication with the bank and contact with officials of the bank. Based on the data in Table 1 we conclude the following: Interviewed 28 men and 37 women. Average attitude of men in communication with the bank is 4.61 (measured at 1-5 on scale), and women 4:41, while the average attitude of a man in touch with the bank clerks 4.57, and the woman 4:51. Whether these differences are statistically significant, or whether we can accept the assertion that the average attitudes of men and women in communication with the bank to contact with officials differed significantly.

Applying Levin test (Leaven's test)<sup>11</sup> to verify the statements of the homogeneity of variance of observed features in the two sets of testing the hypothesis of equality of variances attitudes of respondents - men and women. Based on the realized test of significance, we conclude that for both variables can accept the assertion that the equal variance in two groups (0.253 and 0.369). As for the variable communication with the bank realized the significance level of t test 0193 which is greater than the risk of errors of the first type 0:05, we accept the hypothesis of equality of the average attitude of men and women in communication with the bank. Also, we have another variable that

<sup>10</sup>Gliem, J. A., & Gliem, R. R. (2003). Calculating, interpreting, and reporting Cronbach's alpha reliability coefficient for Likert-type scales. Midwest Research-to-Practice Conference in Adult, Continuing, and Community Education.

<sup>11</sup>Bryman, A., & Cramer, D. (2005). *Quantitative data analysis with SPSS 12 and 13: a guide for social scientists*. Psychology Press.

Sig (2 - tailed) 0.710 which is higher to 0.05, so that in this case we accept the null hypothesis of equality of the average attitude of men and women in touch with officials of the bank (Table 2)

|                              | Gender | N  | Mean | Std. Deviation | Std. Error Mean |
|------------------------------|--------|----|------|----------------|-----------------|
| Communication with banks     | Male   | 28 | 4,61 | ,567           | ,107            |
|                              | Female | 37 | 4,41 | ,644           | ,106            |
| Communication with officials | Male   | 28 | 4,57 | ,573           | ,108            |
|                              | Female | 37 | 4,51 | ,651           | ,107            |

|                          |                             | Leaven's Test for Equality of Variances |      | t-test for Equality of Means |        |                 |                 |                       |   |
|--------------------------|-----------------------------|---|------|------------------------------|--------|-----------------|-----------------|-----------------------|---|
|                          |                             | F                                       | Sig. | t                            | df     | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference |
|                          |                             |   |      |                              |        |                 |                 |                       | Lower                                     |
| Communication with banks | Equal variances assumed     | 1,330                                   | ,253 | 1,316                        | 63     | ,193            | ,202            | ,153                  | -,105                                     |
|                          | Equal variances not assumed |   |      | 1,340                        | 61,489 | ,185            | ,202            | ,151                  | -,099                                     |
| Contact with officials   | Equal variances assumed     | ,820                                    | ,369 | ,374                         | 63     | ,710            | ,058            | ,155                  | -,252                                     |
|                          | Equal variances not assumed |   |      | ,381                         | 61,500 | ,705            | ,058            | ,152                  | -,246                                     |

In further analysis is needed to check the statement that the proportion of respondents who have a negative attitude towards mobile banking is less than 45%. Testing will be made using SPSS porecedure "Non paramtering test". Variable mobile banking has two categories: the first category of respondents who have a negative attitude towards mobile banking and 2<sup>nd</sup> category of respondents who have a negative attitude toward mobile banking. The test result is shown in Table 3.

| Table 3: Binomial Test |         |          |    |                |            |                       |
|------------------------|---------|----------|----|----------------|------------|-----------------------|
|                        |         | Category | N  | Observed Prop. | Test Prop. | Exact Sig. (1-tailed) |
| Mobile banking         | Group 1 | Others   | 49 | ,75            | ,45        | ,000                  |
|                        | Group 2 | Negative | 16 | ,25            |            |                       |
|                        | Total   |          | 65 | 1,00           |            |                       |

Based on the realized level of significance, we conclude that we accept the alternative hypothesis that the proportion of respondents who have a negative attitude towards mobile banking is less than 45%.

For analyzing the links between metric variables and multiple independent variables apply multiple or multiple regression<sup>12</sup> since it examines the dependence of a phenomenon or mobile banking by multiple independent phenomena. The task regression is to discover as many factors (independent variables) that affect the dependent variable. The assumption is that the more independent variables in the model, its lower impact of latent variables (standard error).

The basic form of the linear regression model is:<sup>13</sup>

$$Y=A_0+A_1X_1+A_2X_2+A_3X_3+\dots+B_kX_k + \varepsilon$$

where is:

$Y$  – dependent variable

$X_i$  – independent variable;

$A_i$  - unknown parameter with the  $i$ -th independent variable (regression parameter);

$\varepsilon$  - error that reflects all the influences on the dependent variable that does not originate from the independent variables  $X_i$ .

This model gives the best possible prediction of the value of the dependent variable based on the values of the independent variables. By applying this model glimpse how it affects SMS, mobile bill payment, funds transfer, viewing account balances, loan applications, parking payment, exchange rates, currency conversion, term deposits, trust in security applications, the realization of supply and contracting, contract fees, promptness in notification, the best option, sex structure, marital status and occupation (independent variables) on the development of mobile banking (dependent variable).

From the final output we will look only on the key tables. In table 4 we see that from the independent variables highest average value of a variable efficiency in the notification (average 4.83), followed by the realization offer (average 4.46), agreed fee (average 4.00), interest (average of 2.23), the best option ( average 2.22), transfer of funds (average 1.94), payment of bills MOBIL (average 1.71), parking payment (average 1.62), gender structure (average 1.57), monthly income (1.43), currency conversion (1.40), marital condition (1.37), trust in security applications (average 1.25), an overview of account (1.23) insight into the exchange list (average 1.20), and finally the lowest average value has SMS (average of 1:08).

<sup>12</sup>Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2013). *Applied multiple regression/correlation analysis for the behavioral sciences*. Routledge.

<sup>13</sup>Soldić-Aleksić, J., Chroneos Krasavac B. (2009). *Kvantitativne tehnike u istraživanju tržišta, Primena SPSS računarskog paketa*, Ekonomski fakultet, Beograd, str.141

| Table 4: Descriptive Statistics       |      |                |    |
|---------------------------------------|------|----------------|----|
|                                       | Mean | Std. Deviation | N  |
| Mobile banking- MB                    | 1,25 | ,434           | 65 |
| Short Message Service -SMS            | 1,08 | ,269           | 65 |
| Payment of bills with smart phone- PN | 1,71 | ,458           | 65 |
| Transfer of funds-PS                  | 1,94 | ,242           | 65 |
| View Balances- PG                     | 1,23 | ,425           | 65 |
| Parking bills- PP                     | 1,62 | ,490           | 65 |
| Exchange L- KL                        | 1,20 | ,403           | 65 |
| Conversion rates- KV                  | 1,40 | ,494           | 65 |
| Confidence in the safety - PB         | 1,25 | ,434           | 65 |
| Realization of offer RP               | 4,46 | ,533           | 65 |
| Contracted provision- UP              | 4,00 | ,750           | 65 |
| Promptness in informing- AO           | 4,83 | ,378           | 65 |
| Option- PO guide                      | 2,22 | ,515           | 65 |
| Full structuralist PS                 | 1,57 | ,499           | 65 |
| Marital state-BS                      | 1,37 | ,486           | 65 |
| Profession FOR                        | 2,23 | ,880           | 65 |
| Monthly revenues MP                   | 1,43 | ,749           | 65 |

The following table 5 shows the values of coefficients Pearson's (Pearson coefficient)<sup>14</sup> correlation between all variables. The development of mobile banking in the strongest correlated with an overview of the situation, SMS and currency exchange rates and weakest correlation is the transfer of funds. Featured odds are not high, or indicate that the independent variables weakly correlated with one another, so that does not occur problem multi collinearity. Based on realized level of significance accept the assertion that all coefficient correlation different from zero.

<sup>14</sup>Ahlgren, P., Jarneving, B., & Rousseau, R. (2003). Requirements for a co-citation similarity measure, with special reference to Pearson's correlation coefficient. *Journal of the American Society for Information Science and Technology*, 54(6), 550-560.

Table 5: Correlations

|                        |                    | M<br>B | SM<br>S | PN    | PS    | PG    | PP    | KL    | KV    | PB    | RP    | UP    | AO    | PO    | PS    | BS <sup>1</sup> <sub>5</sub> | ZA <sup>1</sup> <sub>6</sub> | MP <sup>1</sup> <sub>7</sub> |      |
|------------------------|--------------------|--------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------------------------------|------------------------------|------------------------------|------|
| Pearson<br>Correlation | MB                 | 1.000  | .505    | .210  | -.002 | .535  | .085  | .429  | .262  | -.078 | .042  | 0.000 | -.218 | .109  | .136  | .081                         | .053                         | .053                         |      |
|                        | SM S               | .505   | 1.000   | .186  | .074  | .527  | .228  | .577  | .354  | -.165 | .185  | -.233 | .130  | .330  | .018  | -.101                        | .585                         | -.167                        |      |
|                        | PN                 | .210   | .186    | 1.000 | -.024 | .272  | -.091 | .068  | .041  | .289  | .049  | .000  | .071  | .006  | .124  | .141                         | -.218                        | .190                         |      |
|                        | PS                 | -.002  | .074    | -.024 | 1.000 | -.012 | .061  | -.032 | -.052 | -.002 | -.140 | -.172 | -.116 | .233  | .165  | -.069                        | .068                         | -.368                        |      |
|                        | PG                 | .535   | .527    | .272  | -.012 | 1.000 | .133  | .456  | .447  | .026  | .074  | -.245 | -.045 | .055  | -.113 | .186                         | .064                         | -.072                        |      |
|                        | PP                 | .085   | .228    | -.091 | .061  | .133  | 1.000 | .237  | .387  | .011  | -.267 | -.170 | -.188 | .209  | .079  | -.050                        | .354                         | -.095                        |      |
|                        | KL                 | .429   | .577    | .068  | -.032 | .456  | .237  | 1.000 | .612  | .071  | .073  | -.258 | .021  | .015  | -.031 | -.064                        | .397                         | -.083                        |      |
|                        | KV                 | .262   | .354    | .041  | -.052 | .447  | .387  | .612  | 1.000 | .044  | -.119 | -.338 | -.218 | .209  | -.051 | .091                         | .432                         | -.051                        |      |
|                        | PB                 | -.078  | -.165   | .289  | -.002 | .026  | .011  | .071  | .044  | 1.000 | .109  | .096  | -.123 | -.031 | -.008 | .081                         | -.151                        | -.235                        |      |
|                        | RP                 | .042   | .185    | .049  | -.140 | .074  | -.267 | .073  | -.119 | .109  | 1.000 | .117  | .084  | .088  | .113  | .237                         | -.097                        | -.114                        |      |
|                        | UP                 | 0.000  | -.233   | .000  | -.172 | -.245 | -.170 | -.258 | -.338 | .096  | .117  | 1.000 | -.165 | .040  | .083  | .043                         | -.332                        | .250                         |      |
|                        | AO                 | -.218  | .130    | .071  | -.116 | -.045 | -.188 | .021  | -.218 | -.123 | .084  | -.165 | 1.000 | -.131 | -.144 | -.165                        | .166                         | .041                         |      |
|                        | PO                 | .109   | .330    | .006  | .233  | .055  | .209  | .015  | .209  | -.031 | .088  | .040  | -.131 | 1.000 | .123  | -.011                        | .371                         | -.163                        |      |
|                        | PS                 | .136   | .018    | .124  | .165  | -.113 | .079  | -.031 | -.051 | -.008 | .113  | .083  | -.144 | .123  | 1.000 | -.043                        | -.055                        | .044                         |      |
|                        | BS                 | .081   | -.101   | .141  | -.069 | .186  | -.050 | -.064 | .091  | .081  | .237  | .043  | -.165 | -.011 | -.043 | 1.000                        | -.421                        | .071                         |      |
|                        | ZA                 | .053   | .585    | -.218 | .068  | .064  | .354  | .397  | .432  | -.151 | -.097 | -.332 | .166  | .371  | -.055 | -.421                        | 1.000                        | -.106                        |      |
|                        | MP                 | .053   | -.167   | .190  | -.368 | -.072 | -.095 | -.083 | -.051 | -.235 | -.114 | .250  | .041  | -.163 | .044  | .071                         | -.106                        | 1.000                        |      |
|                        | Sig.<br>(1-tailed) | MB     |         | .000  | .046  | .493  | .000  | .251  | .000  | .017  | .269  | .371  | .500  | .040  | .195  | .139                         | .261                         | .336                         | .337 |
|                        |                    | SM S   | .000    |       | .069  | .279  | .000  | .034  | .000  | .002  | .095  | .070  | .031  | .150  | .004  | .444                         | .211                         | .000                         | .092 |
| PN                     |                    | .046   | .069    |       | .425  | .014  | .236  | .296  | .372  | .010  | .348  | .500  | .288  | .481  | .163  | .131                         | .041                         | .064                         |      |
| PS                     |                    | .493   | .279    | .425  |       | .463  | .315  | .400  | .340  | .493  | .133  | .085  | .180  | .031  | .094  | .291                         | .296                         | .001                         |      |
| PG                     |                    | .000   | .000    | .014  | .463  |       | .146  | .000  | .000  | .418  | .278  | .024  | .361  | .332  | .184  | .069                         | .305                         | .285                         |      |
| PP                     |                    | .251   | .034    | .236  | .315  | .146  |       | .029  | .001  | .464  | .016  | .088  | .067  | .047  | .267  | .345                         | .002                         | .226                         |      |
| KL                     |                    | .000   | .000    | .296  | .400  | .000  | .029  |       | .000  | .286  | .282  | .019  | .436  | .453  | .403  | .307                         | .001                         | .256                         |      |
| KV                     |                    | .017   | .002    | .372  | .340  | .000  | .001  | .000  |       | .365  | .173  | .003  | .041  | .047  | .344  | .235                         | .000                         | .344                         |      |
| PB                     |                    | .269   | .095    | .010  | .493  | .418  | .464  | .286  | .365  |       | .193  | .223  | .164  | .403  | .476  | .261                         | .115                         | .030                         |      |
| RP                     |                    | .371   | .070    | .348  | .133  | .278  | .016  | .282  | .173  | .193  |       | .176  | .254  | .244  | .185  | .029                         | .220                         | .182                         |      |
| UP                     |                    | .500   | .031    | .500  | .085  | .024  | .088  | .019  | .003  | .223  | .176  |       | .094  | .375  | .254  | .367                         | .003                         | .022                         |      |
| AO                     |                    | .040   | .150    | .288  | .180  | .361  | .067  | .436  | .041  | .164  | .254  | .094  |       | .149  | .126  | .095                         | .093                         | .374                         |      |
| PO                     |                    | .195   | .004    | .481  | .031  | .332  | .047  | .453  | .047  | .403  | .244  | .375  | .149  |       | .164  | .467                         | .001                         | .097                         |      |
| PS                     |                    | .139   | .444    | .163  | .094  | .184  | .267  | .403  | .344  | .476  | .185  | .254  | .126  | .164  |       | .368                         | .332                         | .363                         |      |
| BS                     |                    | .261   | .211    | .131  | .291  | .069  | .345  | .307  | .235  | .261  | .029  | .367  | .095  | .467  | .368  |                              | .000                         | .286                         |      |
| ZA                     |                    | .336   | .000    | .041  | .296  | .305  | .002  | .001  | .000  | .115  | .220  | .003  | .093  | .001  | .332  | .000                         |                              | .201                         |      |
| MP                     |                    | .337   | .092    | .064  | .001  | .285  | .226  | .256  | .344  | .030  | .182  | .022  | .374  | .097  | .363  | .286                         | .201                         |                              |      |

The following table 6. note that, according to defined statistical criteria (the value of F-statistic and probability p), all independent variables retained in the regression model, the chosen method of "enter" (on all independent variables in the model at the beginning of the analysis without any restrictions) according to the order of inclusion in the model.



| Model | Variables Entered                | Variables Removed | Method |
|-------|----------------------------------|-------------------|--------|
| 1     | PP, PS, PN, PG, SMS <sup>b</sup> | .                 | Enter  |
| 2     | KV, KL <sup>b</sup>              | .                 | Enter  |
| 3     | AO, RP, PB, UP <sup>b</sup>      | .                 | Enter  |
| 4     | PO <sup>b</sup>                  | .                 | Enter  |
| 5     | PS, BS, MP, ZA <sup>b</sup>      | .                 | Enter  |

**structuralist a. Dependent Variable: MB**

**b. All requested variables entered.**

Key information on the validity of the regression model in terms of prediction, we obtain from the table of summary statistics. Table 7 presents five regression models. It is evident that with the inclusion of new independent variables in the model introduced new information of which is expected to contribute to increased variability of the dependent variable, which is reflected in an increase in the coefficient of determination. After entering variables Model 1 explains 35.9% of variance, Model 2 explains 37.5% of variance, Model 3 explains 48.6% of variance, Model 4 explained 48.6% of variance and eventually Model 5 as a whole explains 52.1% of variability of the dependent variables influence the independent variable. It should be noted that the last value includes all variables in four blocks, not just those entered in the last step.

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics |          |     |     |
|-------|-------------------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|
|       |                   |          |                   |                            | R Square Change   | F Change | df1 | df2 |
| 1     | ,599 <sup>a</sup> | ,359     | ,305              | ,362                       | ,359              | 6,610    | 5   | 59  |
| 2     | ,612 <sup>b</sup> | ,375     | ,298              | ,364                       | ,016              | ,726     | 2   | 57  |
| 3     | ,697 <sup>c</sup> | ,486     | ,379              | ,342                       | ,111              | 2,850    | 4   | 53  |
| 4     | ,697 <sup>d</sup> | ,486     | ,367              | ,345                       | ,000              | ,006     | 1   | 52  |
| 5     | ,722 <sup>e</sup> | ,521     | ,361              | ,347                       | ,035              | ,887     | 4   | 48  |

a. Predictors: (Constant), PP, PS, PN, PG, SMS

b. Predictors: (Constant), PP, PS, PN, PG, SMS, KV, KL

c. Predictors: (Constant), PP, PS, PN, PG, SMS, KV, KL, AO, RP, PO, UP

d. Predictors: (Constant), PP, PS, PN, PG, SMS, KV, KL, AO, RP, PO, UP, PO.

e. Predictors: (Constant), PP, PS, PN, PG, SMS, KV, KL, AO, RP, PB, UP, PO, PS, BS, MP, ZA

f. Dependent Variable: MB

The question is whether this change is statistically significant coefficients of determination. To check the statistical significance of these changes is used F-statistics (*F-Change*).

With F-Statistics are tested following hypothesis:

H<sub>0</sub>: R Square Change = 0 according

H<sub>0</sub>: R Square Change 0.

The foregoing results we see in line for Model 5 to the value of R square change is 0.035. This means that the manual options explained further 3.5 percent variance. It is a statistical significant contribution, as shown by the



following table ANOVA.<sup>15</sup> In view of the significance of the (column Sig.) we conclude that our regression model is acceptable.

| Table 8: ANOVA <sup>a</sup>  |            |                |    |             |       |
|--|------------|----------------|----|-------------|-------|
| Model  |            | Sum of Squares | df | Mean Square | F     |
| 1  | Regression | 4,331          | 5  | ,866        | 6,610 |
|  | Residual   | 7,731          | 59 | ,131        |       |
|  | Total      | 12,062         | 64 |             |       |
| 2  | Regression | 4,523          | 7  | ,646        | 4,885 |
|  | Residual   | 7,539          | 57 | ,132        |       |
|  | Total      | 12,062         | 64 |             |       |
| 3  | Regression | 5,857          | 11 | ,532        | 4,548 |
|  | Residual   | 6,205          | 53 | ,117        |       |
|  | Total      | 12,062         | 64 |             |       |
| 4  | Regression | 5,858          | 12 | ,488        | 4,092 |
|  | Residual   | 6,204          | 52 | ,119        |       |
|  | Total      | 12,062         | 64 |             |       |
| 5  | Regression | 6,285          | 16 | ,393        | 3,264 |
|  | Residual   | 5,777          | 48 | ,120        |       |
|  | Total      | 12,062         | 64 |             |       |
| a. Dependent Variable: MB  |            |                |    |             |       |
| b. Predictors: (Constant), PP, PS, PN, PG, SMS   |            |                |    |             |       |
| c. Predictors: (Constant), PP, PS, PN, PG, SMS, KV, KL                                     |            |                |    |             |       |
| d. Predictors: (Constant), PP, PS, PN, PG, SMS, KV, KL, AO, RP, PB, UP                     |            |                |    |             |       |
| e. Predictors: (Constant), PP, PS, PN, PG, SMS, KV, KL, AO, RP, PB, UP, PO                 |            |                |    |             |       |
| f. Predictors: (Constant), PP, PS, PN, PG, SMS, KV, KL, AO, RP, PB, UP, PO, PS, BS, MP, ZA |            |                |    |             |       |

Based on the size of the regression coefficients we can conclude what is the relative impact or importance of each independent variable if these coefficients are converted into beta coefficient  $\beta$ . Table 9 shows a summary of the results obtained with all the variables. The reel Sig note that only variable status and promptness in informing and SMS gives a statistically significant contribution (because the value in the cell is less than 0.05).

<sup>15</sup>Coakes, S. J., & Steed, L. (2009). *SPSS: Analysis without anguish using SPSS version 14.0 for Windows*. John Wiley & Sons, Inc.

Table 9: Coefficients<sup>a</sup>

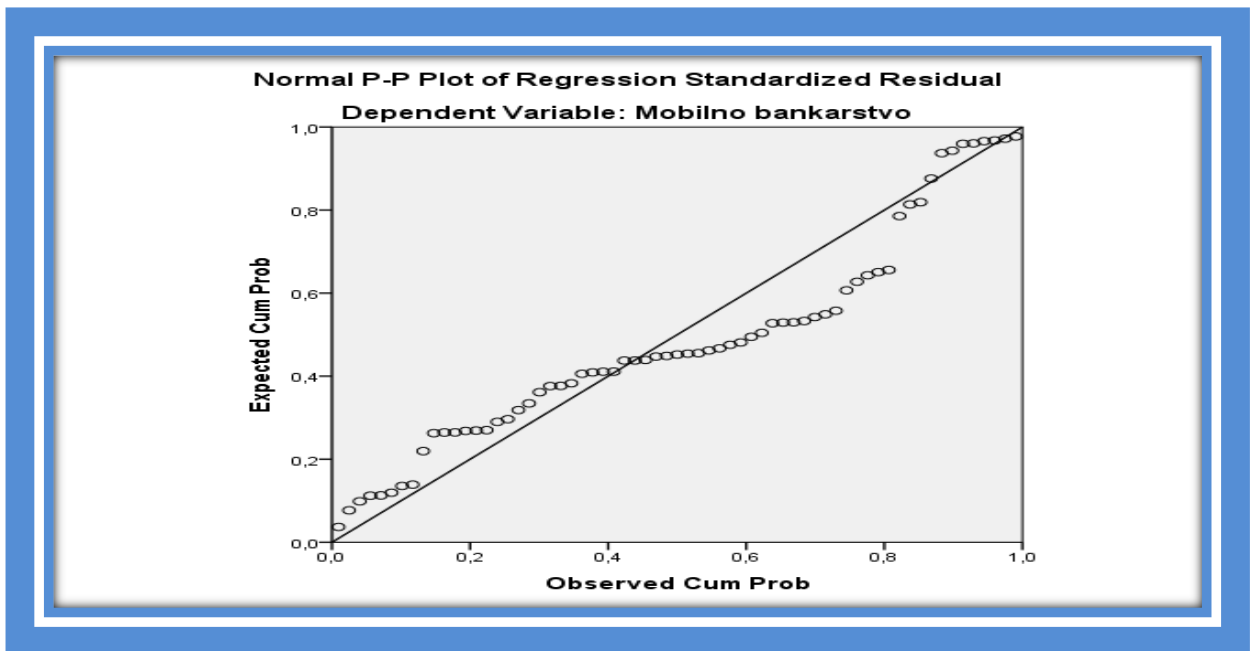
| Model/*    | Non-Standardized Coefficients |            | Standardized Coefficients | t      | Sig. | Correlations |         |       | Col-linearity Statistics |
|------------|-------------------------------|------------|---------------------------|--------|------|--------------|---------|-------|--------------------------|
|            | B                             | Std. Error | Beta                      |        |      | Zero-order   | Partial | Part  | Tolerance                |
| (Constant) | 1,816                         | 1,120      |                           | 1,622  | ,111 |              |         |       |                          |
| SMS        | ,774                          | ,352       | ,479                      | 2,198  | ,033 | ,505         | ,302    | ,220  | ,210                     |
| PN         | -,025                         | ,132       | -,027                     | -,192  | ,849 | ,210         | -,028   | -,019 | ,516                     |
| PS         | -,078                         | ,213       | -,044                     | -,365  | ,716 | -,002        | -,053   | -,036 | ,704                     |
| PG         | ,290                          | ,153       | ,283                      | 1,888  | ,065 | ,535         | ,263    | ,189  | ,443                     |
| PP         | -,070                         | ,106       | -,079                     | -,662  | ,511 | ,085         | -,095   | -,066 | ,695                     |
| KL         | ,249                          | ,176       | ,231                      | 1,415  | ,163 | ,429         | ,200    | ,141  | ,375                     |
| KV         | -,074                         | ,154       | -,084                     | -,479  | ,634 | ,262         | -,069   | -,048 | ,323                     |
| PB         | -,040                         | ,129       | -,040                     | -,313  | ,756 | -,078        | -,045   | -,031 | ,600                     |
| RP         | -,107                         | ,100       | -,131                     | -1,064 | ,293 | ,042         | -,152   | -,106 | ,661                     |
| UP         | ,032                          | ,073       | ,055                      | ,441   | ,661 | ,000         | ,064    | ,044  | ,631                     |
| AO         | -,271                         | ,137       | -,236                     | -1,980 | ,053 | -,218        | -,275   | -,198 | ,704                     |
| PO         | ,035                          | ,107       | ,041                      | ,326   | ,746 | ,109         | ,047    | ,033  | ,618                     |
| PS         | ,115                          | ,095       | ,132                      | 1,210  | ,232 | ,136         | ,172    | ,121  | ,834                     |
| BS         | -,012                         | ,114       | -,013                     | -,102  | ,919 | ,081         | -,015   | -,010 | ,611                     |
| ZA         | -,118                         | ,104       | -,239                     | -1,137 | ,261 | ,053         | -,162   | -,114 | ,225                     |
| MP         | ,057                          | ,077       | ,098                      | ,737   | ,464 | ,053         | ,106    | ,074  | ,568                     |

a. Dependent Variable: MB

\*/ Model 5

Looking at the chart, we see negative regression coefficients to pay bills, transfer funds, parking place, currency conversion, confidence in security applications, and the realization of the offer, the promptness in informing, marital status and occupation. It points us to the fact that when you increase the value of the variable level of the dependent variable decreases. For example, the variable gender conclusion is that the female gender is less active mobile banking. The following diagram (Figure 1) visually confirms the hypothesis of normal distribution for the development of mobile banking services.

Figure 1: Dissipation for Mobile Banking



It has been proved that the assumptions of normality of regression analysis were not disturbed. Points lie roughly in the right diagonal line from the lower left to the upper right-hand corner of the diagram. Based on the diagram of dispersion conclude the following: according to the strength of quantitative stacking link between the application of mobile banking and other statistical assumptions, quite strength, because the points are close to an imaginary straight line that always runs through point. After the form is linear, the points are spaced approximately imaginary direction, and at the direction of a direct and positive ie. with growth variables leads to the growth of mobile banking.

#### 4. Conclusions and Recommendations

The results that are obtained on the basis of an answer analysis survey have provided important information for understanding and assessment of the current state of mobile banking in the north of Kosovo and Metohija. In addition, this analysis has enabled us to evaluate the impact of mobile applications on the application in banking purposes.

In a study on the use of mobile banking services, which was conducted in mid-2015 on the territory of northern Kosovo and Metohija, and included a sample for analysis of 65 respondents provided information that 100% of respondents use a mobile phone, but 49 respondents use mobile banking and the same the percentage has confidence in security applications (75.4%). Of the total number of respondents, the majority of 60% is applied to SMS banking. Absolutely not using a mobile phone application for the loan is stated by all respondents (100%).

In examining the attitudes of respondents, the following outcomes: in direct contact with the bank the majority of respondents most satisfied with the promptness of the notification (average 4.83), while the least satisfied with the logging of complaints (3.55). Research proves that the average attitudes of men and women in communication with the bank to contact with officers do not differ significantly. Results of applying multiple regression analysis showed that development of mobile banking in the strongest correlated with SMS, reviewing the state of the exchange rate and the weakest correlation is the transfer of funds.

The research indicates that a large number of respondents expressed interest in using this kind of service because the proportion of respondents who have a negative attitude towards mobile banking is less than 45%. Population in the said territory most commonly used mobile banking services in the following cases: SMS, preview, currency exchange, an overview of the situation in their account, much less mobile banking is used to: paying bills, transfer funds, pay for parking services, and not to apply loans and term deposits.

On the territory of Kosovo and Metohija, mobile banking is still in its infancy, and starting from the number of mobile phone users and users of banking services has great potential. On the territory where the survey conducted this type of banking services is very limited, it is used only in recent years, to a limited form of services, bearing in mind the number of users of banking services, then the number of mobile phone users and the potential

development of banking has great potential. Due to the lack of development of mobile banking in the north of Kosovo and Metohija, citizens are not able to use all the services, but they are interested in Bank launches new service, which is 100% of the total number of respondents with a positive answer. In order to better, faster and more efficient development mobile banking Bank's recommendations is to improve information to improve the awareness and training of the economy and the population for this type of service.

Although he expressed interest in mobile banking, it should be noted that this type of distribution channel is still not sufficiently represented to the extent that it should. The results of the survey indicate that people are still skeptical when it comes to mobile banking. The initiative should make the bank earlier implementation of the system in your business, and then the aggressive behavior in order to introduce existing and potential user's negligence with mobile banking services. The Bank should develop a system of innovative mobile services followed with promotional activities with the help of providers in order to educate the masses about the benefits of using mobile phones in banking purposes.

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