What about Acceptability of Mobile Money in Sub-Saharan Africa? The Case of Cameroon

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Abstract  The purpose of this article is to identify the factors determining the satisfaction of the users of Mobile money. To do this, we used the triangular approach to collect as much information as possible and to improve the reliability and validity of our results. Thus, we conducted thirty semi-structured interviews and two hundred and thirty questionnaires. The results reveal the positive and statistically significant impact of speed, cost, mobiquity, perceived usefulness, safety and social influence, as well as the negative impact of interoperability, network quality and age.

Keywords: mobile money, satisfaction, consumer behavior

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1. Introduction

The development of Information and Communication Technology and the manipulation of the functioning of mobile telephone have favored the proliferation of mobile telephone services [1]. These services are defined as the use of mobile telephones to access financial services and carry out payments. It take the form of mobile wallet, mobile banking, mobile money, etc.

Mobile money is an instrument of transactions through mobile telephone that permits to carry out financial transactions (transfer of money from one person to another) and commercial (purchase of credit and transfer of communication credit; payment of bills; purchase of products; settlement of divers fees, etc.). Representing an opportunity of its users and enterprises, mobile money have a social impact because it permits its users to access to services that help them to better manage their daily lives and to ameliorate their sources of income. In fact, mobile money permits the population to eliminate their necessities of liquid money and to respond to their different needs [2,3] while reducing temporal and spatial costs and constraints.

If most of works where able to put in evidence the advantages of this product, we could ask what about its acceptability and the satisfaction of its users. Two categories of factors seems to be considered as explanatory factors for the use of mobile money: endogenous variables, connected to the user and exogenous factor related to the services and operator. The inherent factors of the user concerns the easiness and utility perceived [4]; the perception of security [5]; the perception of cost [6]; the risk perceived [7]; his socio demographic characteristics [8,9] and the social influence [10]. The decision to adopt mobile money equally depends on the proper variables of the operator such as the speed of transactions [11]; the mobiquity [12] and the interoperability [13].

So what about the acceptability of Mobile Money in Sub-Saharan Africa? What are explanatory factors? Are users satisfied? Such are the questions at which you will try to bring responses in this research. For this, after a review of literature, a model will be proposed; then, a triangular approach will enable us to understand the problems posed and to lead to implications and future research avenues.

2. Literature Review

The satisfaction of a user in regard to a product is the result of his/her experience with the product. It integrates prior expectations of the consumer and the quality of service received.

Before bringing up the satisfaction, we will first be interested in the factors that influence the acceptability and the use of mobile money.

2.1. The Factors Influencing the Acceptability of Mobile Money

The problem of adoption of technology by consumers have generated many theories permitting to explain and to predict individual behaviors. Among these theories, we will mention the theory of reasoned action; the theory of planned behavior; the technology acceptance
model and the unified theory of acceptance and use of technology.

2.1.1. The Theory of Reasoned Action: TRA [14]

According to this theory, the adoption of Mobile Money is determined by two factors: attitudes towards behaviors and subjective norms.

Some authors have used this theory in the domain of mobile telephone services by adding other variables. So Shih and Fang have integrated the quality of network to explain the attitudes of consumers towards banking services by internet. Otherwise, Al-Majali [15] had integrated the perceived risk, confidence and the awareness of advantages.

2.1.2. The Theory of Planned Behavior: TPB [16]

For this author, behaviors are influenced by three variables: attitudes towards action, subjective norms and the behavior control perceived. This last variable translates the perception of conditions that facilitates the usage of mobile telephone services.

This theory has been combined with the Theory of Diffusion of Innovations of Rogers [17] by Brown & Al [18] to identify the factors that influence the adoption of Mobile bank in South Africa. Their research shows that the advantage perceived, the possibility to try mobile banking services and the perceived risk have significant effects on the adoption of mobile banking services.

2.1.3. The Technology Acceptance Model: TAM [19]

This model proposes that beliefs influence attitudes, which in turn affect intentions. So according to Davis [4], the acceptance of a technology is determined by the utility and the easiness perceived. He enriches the two previous models by integrating exogenous variables in the behavior of the user.

This model has received support from a large number of empirical studies. Thus, Luarn & Lin [20] and Lu & Al. [10] demonstrate that usefulness, usability, credibility, quantity of information and prescriptive pressure are predictors of adoption of mobile banking in Malaysia. The work of Amin & Al. [21] confirm the influence of these five variables. Hasnaoui & Lentz [22] highlight usefulness, usability, attitude, trust in technology and interpersonal and the installed base as determinants of the adoption and use of electronic payment systems B 2 C.

On the other hand, Riquelme & Rios [23] combined this model with TPB and TDI to develop an explanatory model for the adoption of mobile banking. They conclude that perceived utility, social norm and risk influence the adoption of mobile banking. This combination was also applied by Puschel & al. [24] to study the adoption of mobile banking in major Brazilian cities. Their study shows that relative benefits, ease of use, behavioral control, attitude and subjective norm have significant impacts on the intention of using mobile banking.

Other combinations have been made, including TAM-TDI and TAM-TP B combinations. By combining TAM-TDI, Koenig-Lewis & Al. [25] have shown that utility, compatibility and perceived risk have significant effects on consumers' intention to adopt mobile banking, while the cost, ease of use, credibility and trust have no influence on their intent.

The TAM-TPB combination also generated relevant results. On the one hand, Kim & Al. [26] identified some determinants of mobile banking adoption: initial confidence, the benefits of mobile banking, structural insurance, corporate reputation and the confidence of the propensity of the user. On the other side, Sripalawat & Al. [27] ranked the factors influencing the adoption of mobile banking as social norms, perceived usefulness, and self-efficacy.

Other researches did not require combinations and looked at the effect of variables such as perceived credibility, enabling conditions and demographic factors [28] on the adoption of mobile banking services.

Wessels & Drennan [29] reveal that utility, compatibility, perceived risk, cost and attitude are the main determinants of consumers' intention to use mobile banking in the Australian context.

Finally, Dasgupta & Al. [30] extend the MAT by studying the background of the intention to adopt mobile banking by students in India. This study shows that perceived image, perceived utility, perceived ease of use, perceived value, self-efficacy, perceived credibility, and tradition have a significant influence on the intent to use mobile banking, while the perceived risk has no influence.

2.1.4. The Unified Theory of Acceptance and Use of Technology (UTAUT)

Proposed by Venkatesh & al. [31], the UTAUT model justifies the use of ICTs from four determinants of behavioral intention: expected performance, expected effort, social influence and the facilitating conditions. It also emphasizes that moderating variables act on these determinants and influence their effects on the acceptance and use of ICTs. These variables relate to the characteristics of the individual (age, gender, experience, willingness to use).

His model has been applied by several researchers to study the adoption of mobile banking [32] and the use of mobile telephone services [33]; to identify the characteristics of consumer behavior towards the use of mobile technologies [34]; to examine the adoption of Internet and mobile banking and to identify customer preferences for e-banking and m-banking in their transactions [35].

This model has been the subject of several extensions and combinations. From a point of view, Martins & Al. [36] combine it with the perceived risk of explaining intention to use Internet banking by integrating gender and age as moderating variables. Zhou & Al. [11] abounded in the same vein by combining the UTAUT with the TTF (Task Technology Fit) to study the adoption of mobile banking in China.

On the other hand, Chong [37] tests the factors associated with the adoption of m-commerce by adding to the UTAUT model perceived value, trust, perceived enjoyment and innovativeness. Min & Al. [38] proposed to include trust, privacy, cost, user satisfaction, and characteristics of culture in the study of the adoption of m-commerce in China. Yu [39] integrated perceived credibility, perceived
financial cost, and personal efficiency and took into account gender and age to understand the individual's intention to adopt mobile banking.

Once the acceptability factors for mobile services are analyzed, the post-adoption phase should be considered, which implies an intention to continue the use of these services by the consumer. Bhattacherjee [40] explains the intention of the continuity of use of these services by three variables: the perceived usefulness, the confirmation of expectations (confirmation of expectations) or vice versa (not confirmation of expectations).

This model assumes that the client has prior expectations even before the consumption of the product and that satisfaction depends on these expectations.

2.2.2. The Kano Model

According to this model, satisfaction is based on a set of attributes/promises and the existence of an attribute of the product can satisfy the client without its absence causing a feeling of dissatisfaction. Three categories of factors are likely to influence the satisfaction/dissatisfaction relationship: the basic factors (attributes without which the consumer would be dissatisfied); proportional (basic) factors and attractive factors (surprises/distinctive skills with regard to competition).

2.2.3. The SERVQUAL Model

This model introduces five dimensions of quality of service that can be sources of customer satisfaction. These are tangible things, reliability, helpfulness, assurance and empathy.

2.2.4. The Tetraclasse Model

According to this model, the contribution of service elements to overall satisfaction would not be fixed, but would depend on the perceived level of client performance. Thus, several elements can contribute to the satisfaction of the customer in a fluctuating or stable way: the key elements are determining and contribute to the satisfaction in a stable way. Basic elements contribute to satisfaction in a fluctuating way. The more elements can be decisive if they are valued favorably by the customers.

The synthesis of the literature leads us to deduce three types of factors as determinants of the satisfaction of mobile money users and allows us to formulate our research hypotheses. These variables are inherent in the services of mobile money (utility, usability, security), the operator (speed, reliability, cost, network quality, benefits, mobiquity or the ability to use whatever the phone to interact with other systems) and the user (gender, age, educational level, income level, social influence, perceived risk).

Hypothesis 1: Variables related to mobile services significantly influence user satisfaction.

Hypothesis 2: mobile money operator characteristics significantly influence user satisfaction.

Hypothesis 3: the socio-demographic and psychosocial factors of the user of mobile money significantly influence his satisfaction.

3. Research Method and Procedure

Inspired by the triangular approach, this research makes a combination of qualitative and quantitative methods [45]. This study was carried out in the cities of Douala and Yaoundé (Cameroon) from March to April 2017.

3.1. The Process of the Study

This study was done in two stages:

- We first conducted semi-structured interviews with some thirty mobile phone service users in order to deepen our understanding of the subject and thus have ways to build the items of our questionnaire. The interview guide had three axes: the criteria for choosing an operator, the sources of user satisfaction and the overall opinion.
- Then we administered a questionnaire, face to face, to two hundred and thirty people according to convenience sampling. This questionnaire has three sections: the level of user satisfaction, their suggestions and socio-demographic data.

3.2. Contributions of the Exploratory Study

A content analysis enabled us to identify eight dimensions made up of forty-seven items as a model for assessing the quality of service of mobile money:

- Mobiquity (three items)
- Perceived Utility (seven items)
- Speed (four items)
- Perceived security (seven items)
- Social Influence (three items)
- Cost (four items)
- The Ease of Use (seven items)
- Interoperability (four items)

A summary of these results can be found in the table below.
Table 1. The sources of satisfaction of users of Mobile Money

| Sources of customer’s satisfaction | Sub-themes          | Lexicon                  | Frequency | Significance                                                                 |
|-----------------------------------|---------------------|--------------------------|-----------|------------------------------------------------------------------------------|
|                                   | Mobiquity           | - anytime               | N=26      | Ability to adapt to any use anywhere and anytime                              |
|                                   |                     | - anywhere              | N=23      |                                                                               |
|                                   | Perceived Utility   | - important             | N=27      | Refers to the fact that the patients be treated in the same way regardless of |
|                                   |                     | - solving everyday      | N=30      | gender, tribe or socio-professional category and they should not give bribes  |
|                                   | Speed               | - rapid                 | N=21      | Ability to realize the desired operations in a short time                     |
|                                   |                     | - fast                  |           |                                                                               |
|                                   | Security            | - guarantee             | N=28      | Ability to preserve privacy and avoid all type of fraud during the transaction |
|                                   |                     | - code                  | N=30      |                                                                               |
|                                   | Social influence    | - reference groups      | N=22      | impact of reference groups and peer standards                                |
|                                   |                     | - opinion leaders       | N=11      |                                                                               |
|                                   | Cost                | - cheap                 | N=28      | Low or no transaction cost                                                    |
|                                   |                     |                         | N=22      |                                                                               |
|                                   | Ease to use         | - simple                | N=28      | simple use and ease of learning                                              |
|                                   |                     | - easy                  | N=22      |                                                                               |
|                                   | Interoperability    | can be operational      | N=26      | Ability to communicate with or integrate with other systems                   |
|                                   |                     | elsewhere               |           |                                                                               |

4. Research Findings and Discussion

4.1. Research Findings

In total, two hundred and thirty people were interviewed, 41% of them were men and 59% were women. Details of the socio-demographic characteristics of these individuals are provided in the table below.

Table 2. Socio-demographic characteristics of respondents

| Characteristics          | Modalities     | Population | %   |
|--------------------------|----------------|------------|-----|
| Gender                   | Male           | 94         | 41.0|
|                          | Female         | 136        | 59.0|
|                          | Total          | 230        | 100.0|
| Age                      | Under 25       | 21         | 09.0|
|                          | Between 25 and 35 | 51     | 22.0|
|                          | Between 35 and 45 | 69     | 30.0|
|                          | Between 45 and 55 | 80     | 35.0|
|                          | 55 years and above | 9     | 4.0 |
|                          | Total          | 230        | 100.0|
| Income bracket           | Less than 100,000 F | 62 | 27.0|
|                          | From 100,001 to 200,000 F | 44 | 19.0|
|                          | From 200,001 to 300,000 F | 39 | 17.0|
|                          | From 300,001 to 400,000 F | 21 | 9.0 |
|                          | Above 400,000 F   | 18         | 8.0 |
|                          | No income        | 46         | 20.0|
|                          | Total            | 230        | 100.0|
| Socio-professional category | Student     | 7          | 3.0 |
|                          | Housewife        | 60         | 26.0|
|                          | Worker           | 44         | 19.0|
|                          | First-line supervisor | 46     | 20.0|
|                          | Executive        | 21         | 9.0 |
|                          | Senior executive  | 9          | 4.0 |
|                          | Liberal profession | 18       | 8.0 |
|                          | Retiree / Unemployed | 25    | 11.0|
|                          | Total            | 230        | 100.0|
| Level of education       | Primary         | 30         | 13.0|
|                          | Secondary        | 99         | 43.0|
|                          | Higher           | 101        | 44.0|
|                          | Total            | 230        | 100.0|

4.1.1. Analysis of the Reliability of Items Used

We estimated the reliability of the questionnaire through the internal consistency of the items that we evaluated by Cronbach's alpha coefficient. This consistency is evaluated using the Cronbach's alpha coefficient which helps examine the relationship between the different variables introduced in the questionnaire and their reliability as a measure of customer’s satisfaction. The table below shows the verification of this internal consistency of the items constituting the eight dimensions of the questionnaire.

We would like to point out that the analysis covered fifty-nine items including forty-seven items from the exploratory study, seven items inherent in the socio-demographic profile of the respondents, and the other five to general information. The table below gives the value of the Cronbach’s Alpha coefficient.

Table 3. Reliability statistics

| Cronbach's Alpha | Number of items |
|------------------|-----------------|
| .763             | 59              |

4.1.2. Regression Analysis

Once reliability was estimated, we made a regression analysis so as to estimate the robustness of the model to verify our hypothesis. The table below provides information on these elements:

Table 4. Summary of the model

| Model | R     | R-two | R-two adjusted | Standard error of estimate |
|-------|-------|-------|-----------------|---------------------------|
| 1     | 0.488 | 0.237 | 0.133           | 0.1890                    |

On reading this table, it can be seen that the model obtained is statistically significant with an R2 of 0.237; This shows that the criteria for assessing the quality of service of mobile money are significantly correlated with satisfaction at 23.70% and therefore that the variables selected in our study explain the satisfaction of users at 23.70%.

4.1.3. Verification of Hypotheses

The results of our study reveal the positive and statistically significant impact of speed (t = 0.367, p = 0.000 <0.05), cost (t = 0.488, p = 0.000 <0.05), mobiquity (t = 0.405, p = 0.000 <0.05), perceived utility (t = 0.293, p = 0.002 <0.05), perceived security (t = 0.334, p = 0.002 <0.05),
and social influence ($t = 1.99, p = 0.032 <0.05$) as well as the negative and statistically significant impact of interoperability ($t = -0.258, p = 0.000 <0.05$), quality the network ($t = -0.223, p = 0.022 <0.05$) and age ($t = -0.582, p = 0.000 <0.05$). The table below summarizes the correlation coefficients obtained during the analysis of the data.

![Table 5. Correlation analysis](image)

* *, ** : Significant correlation at the respective thresholds of 5% and 1%.

4.2. Discussion

At the end of our study, we can say that the adoption and satisfaction of the Mobile Money depends on three categories of criteria: the variables related to the services, the characteristics of the operator and the profile of the user. Indeed, our results reveal that mobile money user satisfaction is significantly correlated with mobile phone service factors, including perceived usefulness and security (H1). This corroborates with the work of Davis & Al [19], Amin & Al [21], Chen [1], Schierz & Al. [5]. These results nevertheless show an insignificant result as regards the ease of use (H1 bis). This diverges with the work of Koening-Lewis & Al. [25], Puschel & Al [24] and Dasgupta S. & Al. [30].

Our results are in line with those of Luarn & Lin [20], and highlight the existence of a link between the characteristics of the operator and the satisfaction of users of mobile money (H2) and the absence of everything link between ease of use and user satisfaction (H2 bis). What diverges with the study of Kim & Al [26].

Finally, these results let us know that the individual characteristics of the user of Mobile money affect his satisfaction, with the exception of his gender and income level (H3). Indeed, the older the patient, the less his satisfaction increases. The justification for this sub-hypothesis can be linked to the fact that the elderly are sometimes very demanding and very capricious.

5. Conclusion

The purpose of this work was to identify the factors determining the satisfaction of the adoption and satisfaction of mobile money. To achieve this goal, a triangular approach has proved to be relevant. To this end, we conducted thirty semi-structured interviews and two hundred and thirty questionnaires.

The results of the exploratory study allowed us to detect eight dimensions as potential sources of satisfaction for mobile phone users: mobiquity, interoperability, speed, Security, utility, easy of use, social influence and Cost. These dimensions facilitated the construction of the questionnaire to which we added other elements. In the end, three categories of variables were used as a determinant of satisfaction: service-related variables, operator variables and user profile.

The results of the quantitative study allowed us to partially support the three hypotheses. Indeed, our results reveal that factors related to mobile services are a factor in the satisfaction of its users, with the exception of ease of use. We also note the significant impact of certain variables related to the operator such as cost and mobiquity. Our results also highlight the impact of age, interoperability and network quality.

The mobile money providers must put a special emphasis on each of these elements in order to improve their competitiveness and the satisfaction of the users of their services. However, it is important to know the weight of each of these satisfaction variables in order to establish priorities. Another research could be done to highlight these weights and their respective rankings. Other work could also be done as part of a comparative approach and identify the criteria taken into consideration from one context to another and thus better justify the variability of the criteria and their weights.

References

[1] Chen, S. C. (2012). To use or not to use: understanding the factors affecting continuance intention of mobile banking, International Journal of Mobile Communications, 10, 5, 490-507.

[2] Morawczynski, O. & Misicone G. (2008). Examining trust in mobile money transactions. The case of M-Pesa in Kenya. In Social dimension of information and communication technology policy, Springer, 287-298.
