Factors Influencing Women's Access of Mobile Financial Services: An Empirical Study on Sylhet Region

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Abstract

In the world of today's market, most emerging sector is mobile financial services (MFS) which played a significant role in increasing GDP in many developing countries. Like other developing and developed countries, service sectors in Bangladesh are much more conscious about women's existence in mobile financial services. The main purpose of this study is to identify the factors that influence women's access in mobile financial services. For conducting this study, a quantitative research methodology was followed, whilst; structured questionnaire used as main data collection instrument with survey techniques and convenience sampling procedures used for selecting respondents of this study. Collected data were analyzed by using SPSS 20.0. Data analysis performed using through descriptive statistics, reliability test, factor analysis and regression analysis. Study found that there exist strong associative relationship between women's access and selected factors. It also found that mobility and rules regulations are the most influential factors where speed, security, culture, norms & values and number of both branches and agents have negative influences on the women's access in MFS. Study concludes that women's access in mobile financial services completely depends on some influential factors those need to be considered by the mobile financial providers in Bangladesh.

Keywords: Women's access, MFS, Influential factors

1. Introduction:

Due to digital environment, mobile financial services are the most emerging sector of present's economy and played a significant role in increasing GDP (King and Levine 1993). Women who are existence and potential customers in this service encompass 50% of the world's population but because of inequalities between men and women, they are more vulnerable to poverty (UNDP, 2015). These inequalities hamper's women's access to education, earning and owing land (USAID, 2015) and also prohibit them from participating in economic and political life (UNDP, 2014). Based on this realization, women access's in financial sector has been marked as a significant factor for the development of country. Though Bangladesh is the most densely populated countries in the world, its GDP is increasing day by day. To achieve 'vision 2021' should develop all sectors those are entitled with a view to increasing GDP and obviously emphasis on women's participation in all fields. Mobile financial services create a great opportunities for users to get financial services at any places at any time. Instead of this advantage, women did not access in this service because of some obstacles such as; trust, security problem, misbehavior of agents etc. Since, at present, their number of participation is equal to the number of men. So, marketers, financial service providers and after all government should maintain rules and regulations strictly for women and for that reason authors tried to find out the factors those are main culpable for women's access in mobile financial services.

It is true that the encouragement of women to participate in all sectors of financial activity helps to improve not only the quality of life for the women themselves but also develop the nation's standard of living. For that reason, mobile operators, financial institutions, governments, and other service providers are still working to increase women's access in using mobile financial services in Bangladesh. But enough work has net been done on this field. So authors believed that this paper provides them right direction to fulfill their working intention.

The main objective of this paper is to find out the factors that can influence and increase women's participation in these services. For this research purpose major data has been collected from women who are frequently using mobile financial services. It has been believed by the authors that this study helps to find out the most influential factors and definitely this study will add value to the research work of financial service sector in Bangladesh.

2. Literature Review

For making successful strategies to improve nation, mobile financial service providers have to ensure that not only men but also women have adequate access to financial resources. According to Besley, 1995 and Boucher et al. 2008 without getting proper aid and investments, women faced obstacle to increase their productivity, income as well as develop their well-being. Rising cost of living encouraged women to earn money for fulfilling their household needs (Lucky and Chowdhury, 2011).So, banks and other financial service providers providing capital and financial transaction to women in supporting the improvement of women's economic condition. Not

only at providing capital, mobile operators, and financial service providers and other service providers are working out to make attractive and user-friendly services for women so that they easily can use these services.

In Bangladesh, the financial services sector is dominated by commercial banks in terms of assets and liabilities. In spite of this, the state of financial inclusion is low in rural areas. Majority of farmers and working women live in the rural areas and their access to banking services is significantly low relative to their contribution to the GDP. Government regulation is mandating that in rural areas banks open at least 1in out of 5 branches to encourage rural banking. (USAID, 2015)

Legal regulations and customary rules often restrict women's access to and control over assets that can be accepted as collateral such as land or livestock. In developing countries, culture is the most influential factor because women's controls over families' activities are varied by culture (Tipilda and Kristjanon, 2008). Women's access to business, information, markets and institutions are comprised because of socio-cultural norms, as a result they are not be able to interact with members of opposite sex and attend trainings or receive education (Diana & Lisa, 2011).

When women are not permitted to use public transportation and prevented from interacting with men other than blood relation for that reason, they feel awkward in doing any job or work, thus limiting their participation in any sector especially financial sector (Primo, 2003; Aina, 2006; Esenu et al. 2005).

In the present world, where women have available information about financial services and market opportunities but they may be less equipped to process it due to lower level of literacy and lack of exposure (Ngimwa et al. 1997)

According to psychological and economic studies it is examined that, on average women tend to be more averse to risk and give up those activities that offers higher returns and these opportunities require then to bear more risk (Fletschner *et al*., 2010; Croson and Gneezy, 2008, and; Browne, 2006). It is the main behavioral difference between men and women. According to Laforet and Li (2005), security factor could influence customers' perceptions and intention to use agent and online banking.

Corradi, Montanari and Stefanelli 2001 reported that Mobile financial services are limited to low risk transaction. In spite of having many advantages such as, ease of use, faster data transmission rate, transfer of money, as well as remote checking of balances, it cannot be encrypted and turns into insecure system (Chakrabarty 2009 and Howarth 2008)

Speed and mobility access are another factors that can also influence customer services. Higher speed of service is essential for using any new technology as like as time saving was identified as important for self service. Mobile access is another essential element for the use of mobile financial services (Hale and Thakur, 2006).

On the basis of the above literature reviews, twelve factors (aid, investments, user friendly services, number of branch and agents, rules and regulation, culture, norms, knowledge level, behavioral differences, security, speed and mobility) have been selected as the independent variables which may affect the dependent variable (women's access) of this study.

Based on the selected factors, a conceptual model has been developed, which is presented below:
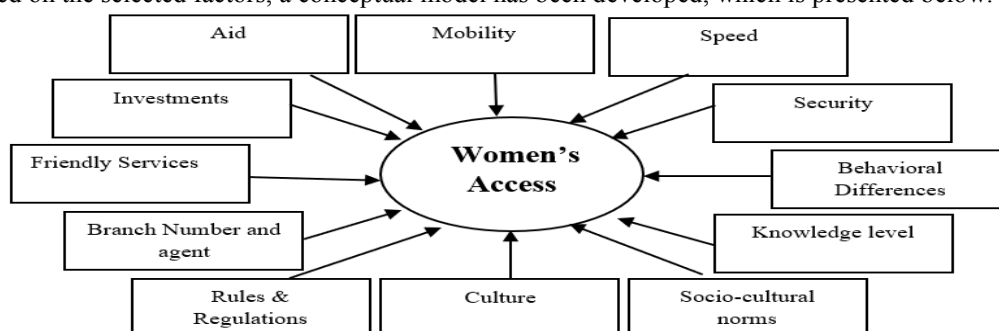

Figure-1: Factors Influencing Women's access of Mobile Financial Services   Source: The Author

Although there are numerous studies on the factors affecting mobile financial services, there is still a lack of study specifically about factors that influencing women's access in mobile financial services in Bangladesh. This paper is an endeavor to alleviate this research gap in this regard.

3.   Research Questions:
The main research questions of the study are:
- What are the factors that influence women's access of mobile financial services in Bangladesh?
- What is the relationship between women's access and factors that influence on Mobile financial services?
- How to increase number of women's in mobile financial services in Bangladesh?

4. Objectives of the Study:
Main objective:
- To identify the most influential factors for women's access of mobile financial services in Bangladesh.

Specific Objectives:
- To analyze the relationship between women's access and the selected factors that influence women's access.
- To make recommendations for improving the sector of mobile financial services in Bangladesh.

5. Methodology:
Descriptive research design and quantitative research methodology were followed to conduct this research project. Survey method has been used as a research technique to collect primary data through a structured questionnaire. For collecting demographic data, the multiple choice questions are used in the questionnaire. The five point Likert scale varying from 1 = 'Strongly disagree' to 5 = 'Strongly agree'. The secondary data were collected from the published materials for example; journals, books, articles and computerized databases for literature review.

The proposed model of this research has twelve independent variables. They are aid, investments, user friendly services, number of branch and agents, rules and regulation, culture, norms, knowledge level, behavioral differences, security, speed and mobility. The dependent variable of this study is women's access.

The population mainly included women those were users of mobile financial services. Simple random sampling was followed in selecting respondents and primary data were collected from women users of mobile financial services. Three hundred ten (310) women have been chosen randomly as the sample of the study those have a personal cell phone and definitely users of mobile financial services.

In this study, factor analysis has been done to identify the most influential factors and multiple regressions have been conducted to examine the strength of relationship among factors and women's access in mobile financial services. The statistical computer packages (SPSS) version 20.0 has been used for analysis purpose.

6. Analysis and description:
6.1 Demographics:
Table 1: Demographic profile of the respondents

Variable		Frequency	Percentage (%)
Age (in years)	Below 20	32	10.3
	20-30	147	47.4
	30-40	38	12.3
	40-50	54	17.4
	50-60	39	12.6
Area	Urban	189	61.0
	Rural	121	39.0
Marital Status	Single	182	58.7
	Married	128	41.3
Current Occupation	Government job	31	10.0
	Private job	36	11.6
	Business	33	10.6
	Housewife	39	12.6
	Student	147	47.4
	Unemployed	8	2.6
	Other	16	5.2
Educational Level	SSC	9	2.9
	HSC	13	4.2
	Graduation	106	34.2
	Post-graduation	182	58.7
Monthly Income (in Tk.)	No personal income	144	46.5
	Below Tk. 10,000	68	21.9
	Tk. 10,000- Tk. 20,000	22	7.1
	Tk. 20,000- Tk. 40,000	39	12.6
	Tk. 40,000- Tk. 60,000	22	7.1
	Above Tk.60,000	15	4.8

The above table 1 presented the 47.4 % mobile financial users are teenagers and their age range is 20-30. Majority of the users are live in urban area. From the analysis, we found that 61.0 % users' area is urban.

Students have to go outside far from home for learning purpose and through mobile financial services they are able to get their essential money. Our all respondents are women and 58.7 % are still unmarried. They all have a personal phone and mobile account. This data analysis showed that 47.4 % respondents are students and 58.7 % students completed their post-graduation.

6.2 Descriptive Statistics:

Table 2: Descriptive Statistics

Factors	Degree of agreement or disagreement attached to each Factor (Strongly agree = 5, Strongly disagree = 1)					Mean	S.D.
	5	4	3	2	1		
	(%)	(%)	(%)	(%)	(%)		
1. Aid	9.0	11.9	26.5	30.3	22.3	2.55	1.216
2. Investments	8.1	11.9	27.4	28.4	24.2	2.51	1.209
3. User friendly services	7.7	12.3	27.4	28.7	23.9	2.51	1.201
4. Number of branch and agents	7.7	11.9	27.1	32.3	27.1	2.53	1.173
5. Rules and regulation	8.7	11.9	22.9	26.5	30	2.54	1.214
6. Culture	8.1	12.3	23.2	27.1	29.4	2.53	1.203
7. Social Norms & values	6.5	13.2	21.0	28.4	31.0	2.53	1.151
8. Knowledge level	7.7	13.5	21.9	25.8	31.0	2.54	1.195
9. Behavioral differences	6.5	13.9	22.6	27.1	30.0	2.52	1.171
10. Security	7.4	13.2	22.9	28.1	28.4	2.54	1.192
11. Speed	8.4	12.9	21.3	26.1	31.3	2.56	1.199
12. Mobility	8.4	12.6	21.6	28.4	29.0	2.57	1.199

Table 2, presented the statistical description of those factors that extensively influencing women's access in mobile financial services in Bangladesh. It has been founded that the mean value for all factors are less than three which indicates that women's are not in a satisfactory state regarding the mentioned influencing factors. The standard deviations values were quite high, which indicates the dispersion in an extensively spread distribution. Which means the effects of most influential factors on women's access is an approximation to a normal distribution.

6.3 Reliability analysis:

Reliability analysis was conducted prior to other analyses. For data to be considered reliable, the value of its Cronbach's alpha should be >0.7. The reliability analysis of this paper sample produced a Cronbach's alpha of 0.851 meaning all items used in the questionnaire were reliable

6.4 Factor Analysis:

For the purpose of study, the author did an exploratory factor analysis in order to reduce the number of factors in the descriptive study. The exploratory factor analysis was performed in SPSS with varimax rotation on women's responses for the selected factors. From the following table, it is clear that first five factors had more influence on women's participation. This five factors can explained of 64.202% variance of the data and their Eigen values are more than 1.

Table 3: Total Variance Explained

Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.420	20.168	20.168	2.420	20.168	20.168
2	1.677	13.971	34.139	1.677	13.971	34.139
3	1.333	11.110	45.249	1.333	11.110	45.249
4	1.242	10.354	55.603	1.242	10.354	55.603
5	1.032	8.599	64.202	1.032	8.599	64.202
6	.940	7.836	72.038			
7	.818	6.817	78.856			
8	.718	5.982	84.838			
9	.575	4.794	89.632			
10	.549	4.571	94.204			
11	.436	3.634	97.838			
12	.259	2.162	100.000			

Extraction Method: Principal Component Analysis.

6.5 Multiple Regression Analysis:

To study the existence of any associative relationship between the selected independent factors and women's access and to test the strength of associations between the study factors, multiple regressions analysis has been conducted. Based on the study, there are 12 factors that are closely related with women's access in mobile financial services. Through using SPSS, there has been calculated the estimated value for these twelve factors. Factors have been chosen as independent variables against women's access as dependent variable in the multiple regressions with 95% confidence interval. The multiple regression models for this study have been identified as follows:

$$WA = \alpha + \beta1\ (A) + \beta2\ (I) + \beta3\ (U) + \beta4\ (N) + \beta5\ (R) + \beta6\ (C) + \beta7\ (S) + \beta8\ (K) + \beta9\ (B) + \beta10\ (SE) + \beta11\ (SP) + \beta12\ (M)$$

A = Aid
I = Investments
U = User friendly services
N = Number of branch and agents
R = Rules and regulation
C = Culture
S = Social Norms & values
K = Knowledge level
B = Behavioral differences
SE = Security
SP = Speed
M = Mobility
WA = Women's access
α = Women's access of MFS in absence of all of the independent variables
β = Partial regression co-efficient which indicates a partial change in the women's access due to one unit change in each of the independent variables while other things remain constant.

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.735[a]	.540	.521	.820

a. Predictors: (Constant), A, I, U, N, R,C S, K, B, SE, SP, M

Above table 4 represented that; R value is .735 which indicates there is a moderate impact of these twelve estimated variables on overall estimated satisfaction. This table also showed that the coefficient of determination i.e. the R-square is .521 which representing that 52.1% variation of the dependent variable (Women's access) can be explained by the independent variables.

Table 5: ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	234.083	12	19.507	29.008	.000[b]
	Residual	199.726	297	.672		
	Total	433.810	309			

a. Dependent Variable: WA
b. Predictors: (Constant), A, I, U, N, R,C S, K, B, SE, SP, M

From the Table 5, it has been founded that the value of F-stat is 29.008 and the level of significance is 0.000 (less than 5%). This indicates that the overall model was moderately fit and there was a statistically significant association between women's access and selected twelve variables.

Table 6: Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.887	.291		3.044	.003
Aid	.003	.058	.003	.054	.957
Investments	.008	.051	.008	.152	.879
User friendly services	.029	.043	.030	.677	.499
Number of Branch and agents	-.080	.042	-.079	-1.914	.057
Rules and regulations	.060	.060	.061	.995	.320
1 Culture	-.037	.043	-.037	-.856	.393
Norms & values	-.004	.045	-.004	-.094	.925
Easy functions	.017	.044	.017	.382	.703
Behavioral differences	.058	.041	.057	1.416	.158
Security	-.029	.042	-.029	-.683	.495
Speed	-.070	.041	-.071	-1.712	.088
Mobility	.726	.040	.734	18.275	.000

a. Dependent Variable: WA

In the Table 6, an unstandardized coefficient indicates a partial change in the women's access due to one unit change in each of the independent variables while other things remain constant. It has been found that, the mobility is the most influential factor for women's access with the highest B value = 0.726. This table also indicates that, without branch and agents' number, culture, norms and values, security and speed, all other estimation factors have positive influence on women's access. The fitted regression model based on statistical finding as follows:

Explanation of the model:

The partial change in the women's access of mobile financial services in Bangladesh due to one unit change in aid is .003 while other things remain constant and P value .957 indicates that it is statistically insignificant because it is higher than 5% level of significance (Table 6). It should be noted that, a negative coefficient for a negative variable (E, C, N, SE, and SP) indicates reverse impact on the women's access in mobile financial services.

The partial change in the women's access of mobile financial services in Bangladesh due to one unit change in investments is .008 while other things remain constant and P value .879 indicates that it is statistically insignificant because it is higher than 5% level of significance (Table 6).

The partial change in the women's access of mobile financial services in Bangladesh due to one unit change in user friendly services is .029 while other things remain constant and P value .449 indicates that it is statistically insignificant because it is higher than 5% level of significance (Table 6).

The partial change in the women's access of mobile financial services in Bangladesh due to one unit change in enough number of branch and agents is -0.080 while other things remain constant and P value .057 indicates that it is statistically insignificant because it is lightly more than 5% level of significance (Table 6). It should be noted that, a negative coefficient for a negative variable (enough number of branch and agents) indicates reverse impact on women's access of mobile financial services in Bangladesh. This means, number of branch and agents will decrease women's access of mobile financial services in Bangladesh.

The partial change in the women's access of mobile financial services in Bangladesh due to one unit change in rules and regulation is .060 while other things remain constant and P value .320 indicates that it is statistically insignificant because it is higher than 5% level of significance (Table 6).

The partial change in the women's access of mobile financial services in Bangladesh due to one unit change in culture is -.037 while other things remain constant and P value .393 indicates that it is statistically insignificant because it is higher than 5% level of significance and negatively impact on women's access (Table 6).

The partial change in the women's access of mobile financial services in Bangladesh due to one unit change in norms and values is -.004 while other things remain constant and P value .925 indicates that it is statistically highly insignificant because it is higher than 5% level of significance and also negatively impact on women's access. (Table 6).

The partial change in the women's access of mobile financial services in Bangladesh due to one unit change in functions is .017 while other things remain constant and P value .703 indicates that it is statistically insignificant because it is higher than 5% level of significance (Table 6).

The partial change in the women's access of mobile financial services in Bangladesh due to one unit change in behavioral differences is .058 while other things remain constant and P value .158 indicates that it is

statistically insignificant because it is higher than 5% level of significance (Table 6).

The partial change in the women's access of mobile financial services in Bangladesh due to one unit change in security is -.029 while other things remain constant and P value .495 indicates that it is statistically insignificant because it is higher than 5% level of significance and negatively impact on women's access (Table 6).

The partial change in the women's access of mobile financial services in Bangladesh due to one unit change in speed is -0.070 while other things remain constant and P value .088 indicates that it is statistically insignificant because it is higher than 5% level of significance and also negatively impact on women's access (Table 6).

The partial change in the women's access of mobile financial services in Bangladesh due to one unit change in mobility is .726 while other things remain constant and P value .000 indicates that it is statistically highly significant because it is more less than 5% level of significance (Table 6).

7. Conclusion & Recommendations:

This study successfully identified that the key influential factors those have strong influence on women's access in mobile financial services in Bangladesh. From the analysis of collected data, it has been revealed that aid, investments, user friendly services, number of branch and agents, rules and regulation, culture, norms, knowledge level, behavioral differences, security, speed and mobility are the most influential factors for women's participation in MFS in Bangladesh. It has been also showed that there exists a strong associative relationship between women's access and the selected twelve variables. Every twelve variables have a good explanatory power for women's participation. This service assists women in accessing financial transactions not only those living in the countryside but also in those who live in urban area.

Instead of working hard, researchers have some limitations in this study. Such as, only twelve factors have been selected as the independent variables and this research does not assure that the factors identified in this study are the only determinants of women's access in mobile financial services in Bangladesh. The sample size has not enough for conducting such kind of research. Secondary data were not enough for gathering knowledge.

It can be concluded that, mobile financial service is an emerging sector in Bangladesh, there exists huge potentials for the service providers. If mobile financial service providers can concentrate on the identified influential factors from this study and adopt appropriate effective strategies for increasing the number of women users, they can earn lots of profits and can make better contribution to Bangladesh's economy.

The most essential output of this study is the identification of twelve variables which are the most influential factors for women's access in MFS. It also calculated that among the twelve variables the most influential factor is mobility whilst aid, investments, friendly services, rules and regulations, ease functions and behavioral differences have also positive little impact on women's access in this service. But culture, security, speed and number of branch and agents negatively impact on the women's access. On the contrary, culture, security, speed and number of branch and agents will be influential factors. Therefore, in order to be successful, the service providers will give more importance on these factors while providing mobile financial services.

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