Profitability Analysis of Mobile Financial Service Providers in Bangladesh: Empirical Study on bKash

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ABSTRACT

Mobile financial service is an important tool of financial inclusion. It plays significant role to the national economy of Bangladesh. The study aims to analyze the profitability performance of mobile financial service providers in Bangladesh with special reference to bKash. The study covers a period of 08 (eight) financial and operational years from 2013 to 2020. Data collected for the purpose from secondary sources and used descriptive statistical tools like mean, standard deviation, coefficient of variation, F statistics, related financial ratios, and least square method to fit straight line trend to evaluate the profitability performance. The ratio analysis shows that profitability performance during the year 2014 to 2017 was sound but rest of the years under study period were negative. The trend analysis results that trend in income and expenditure of bKash are upward but trend in profit and profitability are downward during the study period. The study finds that there is no significant difference of profitability performance between first four years and last four years. The study recommends that bKash should increase diversified income level to improve profitability performance and healthy financial position in the long run.

Keywords: Mobile Financial Service Providers, Profitability, Ratio analysis, Trend analysis.

I. INTRODUCTION

Mobile financial services (MFS) providers, either bank or non-bank institutions, are playing vital role to the financial inclusion in Bangladesh through mobile banking services. It positively impacts on the economy of Bangladesh as a whole. The mobile banking services introduced in March 31, 2011 in the name of “Mobile Financial Services (MFS)” with the aim of providing adequate financial services to the unbanked as well as lower income group people in Bangladesh. Currently 14 MFS providers (13 banks and 1 non-bank) are providing mobile financial services to the customers all over the country through their agents (Bangladesh Bank).

bKash, a subsidiary of BRAC Bank Limited, is a leading MFS provider in Bangladesh that holds top market share. bKash has made huge investment in technological and infrastructural development from the inception of its operation that results a strong customer base. The MFS providers including bKash passed a decade in its operation and going through different crucial stages. So, assessing the performance or otherwise of bKash should ascertain through financial analysis and evaluation of accounting data. Profitability is the key measure of evaluating an organization’s financial performance. It indicates strength or weakness of the organization. Profitability is the ability of an institution to be financially viable and successful. The survival of any organization depends more on the profit earning capacity of such organization, which is also the key factor in affecting the market reputation of the organization (Garg & Kumar, 2015). In modern day, the efficiency and effectiveness of business organization are measured on the basis of profitability performance (Gnawali, 2017).

Thus, the study aims to analyze the profitability performance of mobile financial service providers in Bangladesh, particularly of the bKash. Profitability performance is measured by the profitability trend analysis and ratio analysis in respect of Gross Profit Margin, Net Profit Margin, Net Profit to Total Deposit, Return on Capital Employed, Return on Equity (ROE) and Return on Assets (ROA).

II. OBJECTIVES OF THE STUDY

The prime objective of the study is to analyze the profitability of MFS providers in Bangladesh, particularly of the bKash led by BRAC Bank Limited. The specific objectives of the study are as follows:

i. To measure the profit and profitability of bKash during the period from 2013 to 2020;

ii. To investigate the profitability trend of bKash during the study period;

iii. To compare the profitability performance of bKash between first 4 (four) years and last 4 (four) years under study period; and

iv. To give some recommendations to the stakeholders for policy implication.

III. RESEARCH QUESTIONS

The main question of the study is to analyze the profitability of bKash during the period from 2013 to 2020. Few other research questions are as follows:

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i. What is the profitability performance of bKash for the study period?
ii. What are the profit and profitability trends of bKash for the study period?
iii. Is there any difference of profitability performance of bKash between first four years and last four years of the study period?

IV. HYPOTHESIS OF THE STUDY

Ho: There is no significant difference of profitability performance of bKash between first four years and last four years of the study period.

Ha: There is a significant difference of profitability performance of bKash between first four years and last four years of the study period.

V. REVIEW OF RELATED LITERATURE

The existing literature has been reviewed to know the concept of the profitability & its performance measurement mechanism as well as to find out the research gap for the present study. The following literatures related to the topic have been reviewed:

Bochaberi and Job (2021) highlight that low or no cost of deposit and lower cost of service delivery significantly impact on profitability performance of mobile banking services industry. The study depicts that service providers made profit handling even small amount of inward and outward monetary transactions.

Murthy, Theja and Swetha (2019) analyzed profitability performance of ICICl Bank Ltd., focusing on cost and income structure that closely related with the profitability. The study remarks that the proportionate rate of increasing profit is lower as compared to the cost, so that the bank should focus on various income level otherwise threats on it’s the long run survival.

Yusuf and Surjaatmadja (2018) focus on capital adequacy ratio and financing to deposit ratio for analyzing financial performance on profitability with return on assets (ROA) of the Indonesian commercial banks. The study has taken capital adequacy ratio (CAR), financing to deposit ratio (FDR) and operating efficiency as independent variables, return on assets as dependent variable and non-performing financing (NPF) as mediating variables. The paper results that CAR and FDR have positively impact on profitability, but operating efficiency negatively impact on profitability. The study also shows that NPF has no significant relationship between CAR & FDR with profitability but negative significant effect on operating efficiency with profitability.

Bojare and Romanova (2017) conducts a study highlighting the factors influencing on profitability of banks of Latvia. The paper identifies macroeconomic factors namely, inflation, GDP, and economic environment as well as other financial data factors like, interest income to loan, loan to assets, interest expense to income which significantly effect on profitability. The study opines that profitability performance of an organization is substantial for policy makers, regulators, investors, economist, analyst and ultimately to the banks management.

Brindadevi (2013) states that profitability performance measurement helps business organization in assessing how business operations are effectively and efficiently carried out and suggesting the steps of improving operating efficiency. The study analyzed profitability performance of private sector banks by ratio analysis like interest spread, net profit margin, return on long term fund, return on net worth, and return on assets. The study applied descriptive statistics, coefficient of variation, and ANOVA test to analyze the financial data. The study recommends that management should bring a potential change in business to improve the profitability and such changes might be analyzed with the support of financial statement.

Bhatia, Mahajan and Chander (2012) argue that spread ratio, non-interest income, operating expenses ratio, credit/deposit ratio, profit per employee, branch per employee, capital adequacy ratio (CAR), provisions and contingencies, investment/deposit ratio, non-performing assets are the key determinants that impact on profitability performance of financial service providers. The paper reveals that if any service providers concentrate more on these variables, capable to generate better profitability in present competitive market. Do not use abbreviations in the title unless they are unavoidable (for example, “title” in the title of this article).

From the above related literature review it is found that most of the research papers focused on measuring profitability performance of bank in financial sectors but not particularly analyzed profitability of mobile banking or financial services providers. A little work has done on the relationship between mobile banking and profitability performance of banks. The present study has conducted to fill these gaps both in local and abroad.

VI. METHODOLOGY OF THE STUDY

Non-probability sampling technique is used to select the MFS Provider under the study. bKash is the top MFS provider in Bangladesh and selected at convenient sampling basis. The study is mainly based on secondary data. Data has been collected from annual reports of BRAC bank limited, financial stability report of Bangladesh Bank, different published literatures, journals, and banks website.

The study covers a period of 08 (eight) financial and operational years from 2013 to 2020. The data collected for the purpose have been analyzed and examined critically on the light of various statistical techniques like Mean, Standard Deviation, Coefficient of Variation and selected relevant accounting ratios like Gross Profit Margin, Net Profit Margin, Net Profit to Total Deposit, Return on Capital Employed, Return on Equity (ROE), and Return on Assets (ROA). The F test statistics applied to compare the profitability performance of bKash between first four years (Sample I) and last four years (Sample II) of the study period.

The study also measures the profitability of bKash through trend analysis of selected parameters namely, Net Profit, Profitability, Income and Expenditure. The method of least squares can be used to fit a straight-line trend or a parabolic trend.

The straight-line trend is represented by the following
Y = a + bX

where

Y denotes the trend values to distinguish them from actual values,
a is the Y intercept or the value of the y variable when X=0,
b represents slope of the line or the amount of change in Y variable that is associated with a change of one unit in X variable.

VII. RESULTS AND DISCUSSIONS

A. Ratio Analysis

Profitability is a ratio of earning to the funds used. For measuring the profitability of an organization, analysis of relevant ratios is one of the reliable and commonly used tools of analysis. The following six ratios have been employed for assessing the profitability of bKash:

i. Gross profit margin % = Gross Profit/Revenue;
ii. Net profit margin % = Net Profit/Total Income;
iii. Net profit to total deposit % = Net Profit/Total Deposit;
iv. Return on capital employed % = Net Profit/Capital Employed;
v. Return on equity % = Profit after tax/ Shareholders Equity Fund;
vi. Return on assets % = Net Profit/Total Assets.

Table I shows the profitability ratios which highlight the profitability performance of bKash for the study period.

(1) The first ratio depicts the gross profit as percentage of revenue. The gross profit margin ratio is significantly increased through the study period whereas the maximum has 27.342 in 2020, minimum 11.115 in 2013. The standard deviation (SD) and coefficient of variation (CV) have 5.420 and 25.762 which implies the consistency in gross profit and revenue of bKash. The average gross profit percentage is 21.04% which is good sign for the organization.

Hypothesis: The calculated value of F (2.04) is lower than the table value (9.28) for 3 d.f. at 5% level of significance. Therefore, the null hypothesis is accepted and alternative hypothesis is rejected. That is, there is no significant difference of gross profit of bKash between the two sample periods.

(2) The second ratio indicates net profit as percentage of total income. Net profit margin during the first four years is comparatively far better than last four years despite of decreasing the percentage gradually to last four years. The net profit margin is noticeable in the year 2017 (3.118) but negative in last two years (-2.828 & -2.860 respectively) of the study period. Standard deviation and coefficient of variation have 3.2 and 2203.007 respectively, implying high variation in income with less in control of cost.

Hypothesis: The table value of F for 3 d.f. at 5% level of significance is 9.28. Since the calculated value (2.02) is lower than the table value, the null hypothesis is accepted, and alternative hypothesis is rejected. So, there is no significance difference of net profit margin of bKash between the sample periods.

(3) The third ratio represents net profit to total deposit. The ratio is positive from the year 2014 to 2018 despite of ups and down but negative in 2013 (-5.140) and last two years (-1.94 & -1.435 respectively) of the study period. The ratio for the first four years is comparatively well ahead over last four years. Standard deviation (2.619) and coefficient of variation (1,271.97) implies greater variation in profit over the period with well consistency in deposit.

Hypothesis: The table value of F for 3 d.f. at 5% level of significance is 9.28 whereas the calculated value is 3.75 that is lower than the table value. So that the null hypothesis is accepted, and alternative hypothesis is rejected, i.e., there is no significance difference of net profit to total deposit between two periods.

(4) The fourth ratio presents return on capital employed i.e., net profit as percentage of total capital employed. The ratio indicates that it gradually increased from the year 2013 to 2017 but afterward fall down massively for the rest of the year under study. Standard deviation (SD) and coefficient of variation (CV) have 11.791 and 547.929 respectively. The CV was stable during the study period. The average percentage of return on equity is 2.152% implying good sign of bKash.

Hypothesis: The computed value of F statistics was 2.451 which was lower than the table value of 9.28 for 3 d.f. at 5% level of significance. Thus, it mean that the null hypothesis is accepted and alternative hypothesis is rejected, i.e., there is no significance difference of return on capital employed between two periods.

(5) The fifth ratio presents return on assets which shows the profitability ratios which highlight the profitability performance of bKash: The computed value of F statistics has 2.02 which is lower than the table value 9.28 for 3 d.f. at 5% level of significance. Thus, it mean that the null hypothesis is accepted and alternative hypothesis is rejected, i.e., there is no significance difference of return on assets between two periods.

(6) The sixth ratio presents return on capital which shows the profitability ratios which highlight the profitability performance of bKash: The computed value of F statistics has 1.92 which is lower than the table value 9.28 for 3 d.f. at 5% level of significance. Thus, it mean that the null hypothesis is accepted and alternative hypothesis is rejected, i.e., there is no significance difference of return on capital between two periods.

<table>
<thead>
<tr>
<th>Year</th>
<th>Gross Profit Margin (1)</th>
<th>Net Profit Margin (2)</th>
<th>Net Profit to Total Deposit (3)</th>
<th>Return on Capital Employed (4)</th>
<th>Return on Equity (5)</th>
<th>Return on Assets (6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>11.115 (5.641)</td>
<td>(5.140)</td>
<td>(20.844)</td>
<td>(21.0)</td>
<td>(3.767)</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>16.721 2.949</td>
<td>2.763</td>
<td>9.304</td>
<td>9.34</td>
<td>1.975</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>18.553 2.474</td>
<td>2.167</td>
<td>10.195</td>
<td>10.53</td>
<td>1.638</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>26.478 3.118</td>
<td>2.252</td>
<td>15.419</td>
<td>15.84</td>
<td>1.749</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>27.136 1.036</td>
<td>0.744</td>
<td>1.902</td>
<td>1.91</td>
<td>0.477</td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>27.342 (2.860)</td>
<td>(1.435)</td>
<td>(6.829)</td>
<td>(7.28)</td>
<td>(1.099)</td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>21.037 0.145</td>
<td>0.206</td>
<td>2.152</td>
<td>2.26</td>
<td>0.183</td>
<td></td>
</tr>
<tr>
<td>S.D.</td>
<td>5.420 3.200</td>
<td>2.619</td>
<td>11.791</td>
<td>12.07</td>
<td>1.927</td>
<td></td>
</tr>
<tr>
<td>CV</td>
<td>25.762 2,203.01</td>
<td>1,271.97</td>
<td>547.929</td>
<td>535.03</td>
<td>1,054.23</td>
<td></td>
</tr>
<tr>
<td>F Cal</td>
<td>2.04 2.02</td>
<td>3.75</td>
<td>2.451</td>
<td>2.38</td>
<td>3.808088</td>
<td></td>
</tr>
</tbody>
</table>

Source: Author calculation based on financial data.

Cal= Calculated value, Tab= Table value.

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(5) The fifth ratio presents the return on equity i.e., how much net profit earned by the organization by its shareholders’ contribution. The average rate of return on equity throughout the study period is appreciable i.e., 15.84%. Standard deviation and coefficient of variation are 12.075 and 535.032 respectively implying variation in profit after tax with consistency in shareholders’ fund during the study period.

Hypothesis: The table value of F for 3 d.f. at 5% level of significance is 9.28 and calculated value of the same is 2.384 which is lower than the table value. Since the calculated value is lower than table value, the null hypothesis is accepted, and alternative hypothesis is rejected. That is there is no significant difference of return on equity between the sample periods.

(6) The sixth and last profitability ratio is return on assets. It is regarded as the key indicators of profitability performance of any organization. The ratio represents that the average rate of return on assets from the year 2014 to 2017 were almost 2% but subsequently falling down even in negative. SD and CV have 1.93 and 1,054.23 implies that high variation in profit with less control of costs but significant consistency of assets of bKash.

Hypothesis: The computed value of F for 3 d.f. at 5% level of significance was 3.808 that is lower than the table value. Since the calculated value of F is lower than table value, the null hypothesis is rejected and alternative hypothesis is accepted. So, there is no significant difference of return on assets between the two sample periods.

B. Trend Analysis

Trend analysis clearly indicates the direction of operations over a period of time as well as help to identify organization’s level of efficiency in operations. The study assesses the profits and profitability of bKash through trend analysis by four selected parameters like trend in net profit, trend in profitability, trend in income and expenditure.

Trend in Net Profit: Growth with profit is an essential feature for continued success of a service providers. Trend in profitability, trend in income and expenditure.

Trend in profitability: Profitability is a relative concept and indicates net profit as percentage of working funds. Working funds here implies balance sheet total less contra items.

The Table III presents the trend in profitability of bKash. The minimum profitability is Tk. 0.226 million and the growth rate is downward negatively i.e., Tk.-0.012 million per year from for the study period.

Trend in Income: The income of MFS provider is the result of the size and type of assets held the return in these assets and the changes imposed for the performance of various services.

Trend in income of bKash presents that the minimum net profit is Tk. 3,792.86 million and the growth rate is upward positively during the study period at the rate of Tk. 2,986.65 million per year.

<table>
<thead>
<tr>
<th>Year</th>
<th>Coded Value (X)</th>
<th>Net Profit (Y)</th>
<th>Trend (YC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>0</td>
<td>205.59</td>
<td>306.14</td>
</tr>
<tr>
<td>2014</td>
<td>1</td>
<td>188.54</td>
<td>218.67</td>
</tr>
<tr>
<td>2015</td>
<td>2</td>
<td>237.56</td>
<td>131.19</td>
</tr>
<tr>
<td>2016</td>
<td>3</td>
<td>386.54</td>
<td>43.71</td>
</tr>
<tr>
<td>2017</td>
<td>4</td>
<td>487.82</td>
<td>(43.77)</td>
</tr>
<tr>
<td>2018</td>
<td>5</td>
<td>268.46</td>
<td>(131.24)</td>
</tr>
<tr>
<td>2019</td>
<td>6</td>
<td>625.15</td>
<td>(218.72)</td>
</tr>
<tr>
<td>2020</td>
<td>7</td>
<td>674.39</td>
<td>(306.20)</td>
</tr>
</tbody>
</table>

Source: Author calculation.

Intercept (a) = 306.143
Slope (b) = (87.477)

Y= a+bX = 306.143+-87.477 X

Table II shows the trends of net profit of bKash during the study period. The minimum net profit is Tk. 306.43 million. The trends of net profit are downward and growth rate is negative i.e., Tk.-87.477 million per year under the study period.

The minimum profitability is Tk. 0.226 million and the growth rate is downward negatively i.e., Tk.-0.012 million per year from for the study period.

Trend in profitability: Profitability is a relative concept and indicates net profit as percentage of working funds. Working funds here implies balance sheet total less contra items.

The Table III presents the trend in profitability of bKash. The minimum profitability is Tk. 0.226 million and the growth rate is downward negatively i.e., Tk.-0.012 million per year from for the study period.

Trend in Income: The income of MFS provider is the result of the size and type of assets held the return in these assets and the changes imposed for the performance of various services.

Trend in income of bKash presents that the minimum income is Tk. 3,792.86 million and the growth rate is upward positively during the study period at the rate of Tk. 2,986.65 million per year.
Trend in Expenditure: MFS is a highly personalized service industry. The expenses of MFS providers are to a large extent fixed, particularly in the short period. The main expenditure contains commissions, exchange & brokerage, administrative expenses, and commercial expenses, and administrative expenses.

Table V represents the trend in expenditure of bKash for the study period:

**TABLE V: TREND IN EXPENDITURE (AMOUNT IN MILLION)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Coded Value (X)</th>
<th>Expenditure (Y)</th>
<th>Trend (YC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>0</td>
<td>3,644.62</td>
<td>3,792.86</td>
</tr>
<tr>
<td>2014</td>
<td>1</td>
<td>6,394.22</td>
<td>6,779.51</td>
</tr>
<tr>
<td>2015</td>
<td>2</td>
<td>9,602.30</td>
<td>9,766.17</td>
</tr>
<tr>
<td>2016</td>
<td>3</td>
<td>13,267.93</td>
<td>12,752.82</td>
</tr>
<tr>
<td>2017</td>
<td>4</td>
<td>15,643.31</td>
<td>15,739.47</td>
</tr>
<tr>
<td>2018</td>
<td>5</td>
<td>19,727.87</td>
<td>18,726.13</td>
</tr>
<tr>
<td>2019</td>
<td>6</td>
<td>22,106.14</td>
<td>21,712.78</td>
</tr>
<tr>
<td>2020</td>
<td>7</td>
<td>23,582.80</td>
<td>24,699.44</td>
</tr>
</tbody>
</table>

Source: Author calculation.

\[
\text{Intercept (a) = 3,792.86}
\]
\[
\text{Slope (b) = 2,986.65}
\]
\[
Y = a + bX = 3,792.86 + 2,986.65 X
\]

Fig. 3. Trend in Income.

Trend in Expenditure shows that the actual and trend are gradually upward from the first year to last year of the study period. The minimum expenditure is Tk. 3,381.90 million and the growth rate is Tk. 3,064.24 million per year.

**VIII. MAJOR FINDINGS**

1) Gross profit margin has increased gradually that is a good indication of bKash. But the net profit margin has slightly better at the beginning of the study period comparing with following periods such as, negative in 2019 & 2020 due to incurring high commercial, operating and administrative expenses.

2) Net profit as percentage of deposit is not satisfactory during the last four years of the study period. The company has enough idle funds evidencing the strong deposit but not made portfolio investment resulting lower investment income.

3) The result of return on capital employed ratio is satisfactory at the middle years of the study period. Net profit as percentage of capital employed ranges from 9% to 15% during the middle years but negative in 2013, 2019 & 2020 for excess of expenditure over income.

4) Like as return on capital employed, the return on equity (ROE) is strong during the period from 2014 to 2017 ranging between 9% and 16% but negative in rest of the years affecting to the average rate of return on equity (2.26% only) of the study period.

5) The average rate of return on assets (ROA) is very low during the study period that is 0.183%. Maximum percentage is 1.98% in 2014 but subsequently decreased gradually even negative in last two years of the study period.

6) Trend in profit and profitability of bKash fallen downward during the study period. The average growth rate of profit and profitability are -4.12% and -6.63% respectively. The proportionate rate of increasing profit and profitability as compared to commercial and operating expenditure were lower over the years that made the growth rate is negative and impact on profitability performance of bKash.

7) Trend in income and expenditure raised upward during the study period. The average growth rate of income and expenditure are 32.21% and 34.97% respectively. The growth rate of expenditure is slightly higher than rate of income and it impacts on the profitability performance of bKash throughout the period.
IX. CONCLUSION AND RECOMMENDATION

Mobile financial service providers are providing banking services to the unbanked and lower income group people all over the country through their agents. Mobile financial services are an incredible addition to the financial systems in Bangladesh. bKash as MFS provider is playing significant role to a large extent in the financial sectors. The survival of the organization depends more on healthy financial position and profitability performance. The study focused on analyzing the profitability performance of MFS providers in Bangladesh with special reference to bKash. Related accounting ratios are used to measure the profitability performance as well as applied least square method to fit straight line trend to investigate the growth of profit, profitability, income, and expenditure of bKash. The study reveals that profitability performance during the year 2014 to 2017 was significantly well but rest of the years were negative. The study also reveals that the trend of profit and profitability was downward with negative growth rate. On the other hand, the trend of income and expenditure were upward at positive growth rate, but the rate of expenditure was slightly higher than income. The paper finds that there is no significant difference of profitability performance between first four years and last four years of the study period. The study recommends that bKash should increase diversified income level to improve profitability performance and healthy financial position in the long run. The paper covers only six accounting ratios and four selected parameters in trend analysis. There is a further scope of adding more ratios or parameters in analyzing profitability performance of MFS providers.

REFERENCES


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