FACTORS INFLUENCING THE PRODUCTIVITY AND PROFITABILITY OF SOME COMMERCIAL BANKS - AN EXPLORATORY STUDY

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ABSTRACT

The productivity and profitability of commercial banks have been a core issue in the banking sector of Bangladesh. The historically low market prices of most of the listed securities of commercial banks substantiate the poor earnings performances during last couple of years. This situation can be attributed to many macro-economic & political administration factors as well as company specific factors. Against this backdrop, the study has undertaken aiming at identifying factors that influence the productivity and the profitability of commercial banks in Bangladesh. The study has collected opinions of sample executives of commercial banks on five point likert scale and analyzed the data collected by employing varimax rotated factor analysis. The study has identified three factors- cost inefficiency factor, product structure & service factor and authority & product diversity factor as most important factors that influence the productivity of Sample Commercial Banks in Bangladesh. The study has also identified five factors-financial management, asset management, service modernization, asset utilization *and* financial administration *as most important factors that influence the profitability of Sample Commercial Banks in Bangladesh.*

Keywords: Productivity, Profitability, Factor analysis, Commercial Banks and Cost Efficiency.

STATEMENT OF THE PROBLEM

Banks are contributing to the economy as a cushion of the economic system. In the open market economy, commercial banks being integral part are striving hard to have a profitable niche in the financial market by framing strategic policy frameworks and implementing them. The very core issues in this regard are shrinkage of profits for inefficiencies of banks in operations, use of technology, developing tailor made products and services and coping with other changes. The drive for productivity increase in the nationalized commercial banking sector is viewed to be of much importance in the national economic perspective. In view of the dominant place of nationalized commercial banks in the banking structure of

country and the increasing need for effective use of recourses the importance of rising productivity of the said sector in the field of mobilizing resources and canalizing the resources for development can hardly be over emphasized. (Bhattacharjee, 1990). The bank management today is facing a two-faced challenge – to improve their profitability on the one hand and to serve the public in new ways with greater efficiency and effectiveness on the other. In the noble task of fulfilling the socio-economic responsibilities, commercial viability of the banking should not be ignored. Hence, profitability and social objectives are the two opposing considerations, which a bank is now required to keep in mind. In spite of their role in financing priority sectors and contributing to the Promotion of Welfare of the common-man, banks, as commercial organizations, cannot ignore profits. They have to earn reasonable profits not only to make a contribution to the central exchequer, but also to fulfill their social responsibilities.

Productivity of a bank is the most important attribute to the competitiveness. A bank can accomplish productivity by bringing a qualitative and quantitative changes in the development of human resources, emergence of new financial products, controlling cost, managerial task, setting benchmark and targets and judging performance of the people heading the different centers. Better level of living of the people as well as greater national economic strength is the outcome of higher productivity. Productivity has influence on costs, prices, profits, output employment, and investment. (Fetricant, 1973) Although the nationalized commercial banks were working within the same socio-economic and legal framework, there were wide inter-banking variations in the trend values of productivity measures.

Profitability is the most important attribute of a company's ability to generate revenues in excess of the costs incurred in producing those revenues. Profitability of sample banks of Bangladesh is characterized by different features and so many factors influencing on Profitability of commercial banks. Parties interested in the firm always take care of these features; and accordingly take their own strategic position. Banks are contributing to the economy as a buffer of the economic system. So, preventing this factor from being of profitability And productivity of sample banks of Bangladesh is the most important job of Government, Apex Body , Regulatory Agencies , Profession Bodies and non-Government Agencies. The present study has conducted survey over the factors influencing both productivity and profitability of sample commercial banks. In this case, the study has collected the opinion of 25 executives of sample banks on five-point Likert scale. The study has analyzed the data on the basis of mean scores of variables understudy. Then it has employed sophisticated 'Varimax Rotated Factor

Analysis' in order to determine the most important factors that influence both productivity and profitability significantly.

IDENTIFICATION OF FACTORS INFLUENCING THE PRODUCTIVITY AND THE PROFITABILITY OF SAMPLE FIRM

On the entrance of the twenty-first century, faced with an increasingly competitive market, a globalized economy, and a context in which change is a constant rather than a variable, we must employ more sophisticated factor variables to attain influencing productivity and profitability of commercial banks in Bangladesh. The survival of the sector depends on our ability to achieve this goal. Achieving institutional productivity and profitability is a goal that all organizations strive for. Nonetheless, the percentage of organizations that achieve financial sustainability remains very low. The excessive growth is liable to inflate stock prices and makes the market more vulnerable, since it does not have enough capacity to anticipate the high inflows (Borensztein & Gelos, 2001). Furthermore, there is still some doubt whether the factors documented in developed markets can also explain stock returns in emerging markets (Claessens et al., 1995; Fama & French, 1998; Rouwenhorst, 1999; Vander Hart et al., 2003).

The author has extensively gone through the available literature related to factors that influence the productivity and profitability of bank industry published in and outside the country. On the basis of existing literature and expert opinions of the banks, following variables have been focused to influence the productivity of commercials banks in Bangladesh:

Variables	Factor Variables
X_1	Change in deposit structure
X_2	Change in liability structure
X_3	Burden
X_4	Policy of Bangladesh Bank
X_5	Inadequate remuneration of employee
X_6	Lack of skilled employee
X_7	Lack of accountability
X_8	Shortage of adequate equity capital
X_9	Use of obsolete plan to and technology
X_{10}	Absenteeism of worker from jobs
X_{11}	Adverse environmental factor
X_{12}	Obstacle in introducing product diversification
X_{13}	Lack of proper responsibility & Accountability
X_{14}	Management Inattention limited markets of products

And following variables are expected to influence the profitability of commercials banks in Bangladesh:

Variables	Factor Variables
X_1	Change in investment policy
X_2	Change in asset structure
X_3	Policy of Bangladesh bank
X_4	Sound credit Risk Management
X_5	Political environment
X_6	Rate of Interest
X_7	Spread
X_8	Delegation of Proper Responsibility and Accountability
X_9	Use of obsolete plants and technology
X_{10}	Over employment
X_{11}	High depreciation
X_{12}	Customer satisfaction
X_{13}	Change in customer preference
X_{14}	Lack of Proper Supervision of Employee
X_{15}	Lack of proper profit planning
X_{16}	Lack of commitment of top management
X_{17}	Lack of proper budgeting
X_{18}	Cost Inefficiency

OBJECTIVES OF THE STUDY

The principal objective of this paper is to identify the factors influencing the productivity and profitability of Commercial Banks in Bangladesh. To accomplish the main objective, following specific objectives have been covered.

a) To identify the factors influencing the productivity of commercial banks in Bangladesh
b) To identify the factors influencing the profitability of the commercial banks in Bangladesh
c) To suggest some pragmatic policy measures for making pricing to make commercial banks most productive and profitable.

SCOPE OF THE STUDY

The study has been confined to money market of Bangladesh. The study has covered two public and two private commercial banks. They are: Sonali Bank Ltd; Janata Bank Ltd; Eastern Banks Ltd and Trusts Bank Ltd.

METHODOLOGY OF THE STUDY

The study has been both theoretical and empirical one. The study has used only primary data for accomplishing objective of the study. Author had selected concerned officials from the sample banks for collecting primary data with the help of structured questionnaire. The sampling frame is the scrutinized nominal list of the serving managers of the corporate head office and the branches in Chittagong City and the nominal list of the serving staffs of the corporate head office taken as the population for this survey.

Collection of Primary Data

Primary data were related to the opinion and attitude of the respondent. Primary data had been collected by personal interview, documentary evidence, questionnaire and relevance file study. The study had collected primary data through structured questionnaire. Some required data are collected in the course of the study with the help of open discussion with Managing Director, the Executive Director, General Manager, Assistant General Manager and Manager. Some of the primary data have been collected from the employees concern. The respondents include various categories of officials of bank at Head office level and branch level management. At head office level Assistant vice president of sample bank, at branch level manager of sample bank were selected on the basis of availability and access. The questionnaire had five point rating scales, which were used to measure the attitude of respondents. Most of the primary data and opinion of sample respondents have been collected by the direct personal interview with help of prepared questionnaire.

TECHNIQUES USED FOR ANALYSIS

After receiving the primary data from the questionnaire, it is placed in the data instrument sheet. Researcher has used descriptive statistics, correlation; Varimax rotated factor analysis for analysis of data**.** Only primary sources of information were used for this study.

Factor analysis is a method of reducing a large number of variables (tests, scales, items, persons and so on) to a smaller number of presumed underlying hypothetical entities called factor (Fruchter, 1967). It tries to simplify and diverse relationship that exist among a set of observed variables by uncovering common dimensions or factors that link together the seemingly unrelated variables and consequently provides insight into the underlying structures of the data (Dillion & Goldstein , 1984). The purpose of factor analysis is mainly two folded: data reduction and substantive interpretation. In the present study, "Principle Components Varimax Rotated Method" of factor analysis has been used in order

to identify the factors which influence the productivity and profitability of Commercial Banks in Bangladesh.

Principle component factors explain more variance that the loadings obtained from any method of factoring. In order to define the group membership, an algorithm may be used to uncover a structure purely on the basis of the correlation structure of the input variables. Then the number of principle components to be retained in the study has been decided on the basis of Kaiser's criterion (1958) of Eigen value ≥ 1. Principle components having higher reliability coefficients are more reliable in the sense that the corresponding factors would be replicable in other similar kind of studies. Then show how much of each variable is accounted for by the underlying factors taken together. Then factor scores have been generated on the basis of weighted average of principle factors loadings and average of respective variables included into the concerned group. Ranking of each factor has been made on the basis of scores derived.

FACTOR INFLUENCING THE PRODUCTIVITY OF COMMERCIAL BANKS

Identification of Variables that Influence the Productivity of Sample Banks on Mean Weighted Scores

The study has collected opinion of 25 sample professional on 5 point likert scale in order to identify the factor influence the productivity in banking sector of Bangladesh. Varimax Rotated Factor Analytical techniques have been employed for grouping the variables on the basis of their inherent relationship and finally ranking the group on the basis of their magnitudes. The study has identified the variables undertaken for the study as most significant, and significant on the basis of mean score of opinions taken of 5 point likert scale as follows:

Table 1: Identification of Variables that Influence the Productivity of Sample Banks on Mean Weighted Scores

Variables More Significant	Factor Variables	Mean Weighted Score
X_1	Change in deposit structure	4.6400
X_2	Change in liability structure	4.4400
X_6	Lack of skilled employee	4.2400
X_4	Policy of Bangladesh Bank	4.2000
X_7	Lack of accountability	4.2000
X_{11}	Adverse environmental factor	4.2000
X_{13}	Lack of proper responsibility & Accountability	4.2000

Less Significant

X_3	Burden	3.9200
X_5	Inadequate remuneration of employee	3.9200
X_9	Use of obsolete plan to and technology	3.9200
X_8	Shortage of adequate equity capital	3.8800
X_{10}	Absenteeism of worker from jobs	3.8800
X_{12}	Obstacle in introducing product diversification	3.8800
X_{14}	Management Inattention limited markets of products	3.5200

Source: Survey Instrument ;
Note: Data have been compiled by the author
Legend: More significant: 4 and above; *Less significant: 3.5 to less than 4*

It is evident from above table that seven   variables which have been shown in appendix 1 have been found influencing the productivity of bank more significantly on mean weight basis. Change in deposit structure, Change in liability structure, Lack of skilled employee, Policy of Bangladesh Bank, Lack of accountability, Adverse environmental factor, Lack of proper responsibility & Accountability are more significantly influence the productivity. It has also identified seven other variables as less significant on the same basis. Burden, inadequate remuneration of employee, Use of obsolete plan to and technology, Shortage of adequate equity capital, Absenteeism of worker from jobs, Obstacle in introducing product diversification, Management Inattention limited markets of products are less significantly influence the productivity. These findings are reflecting the   scenarios   of banks productivity. However, these variables are subject to varimax rotated factors analysis.

Identification of Factor that influence the productivity in banking sector of Bangladesh on Varimax Rotated Factor Analysis
The study has estimated zero-order correlation of all 14 variables considered for study. From the perusal of above table an attempt has been made to measure the relationship of factors that influence bank productivity. The underlying objective is to identify these relationships between the variables that significantly influence bank productivity. For this purpose factor analysis has been used.

Analysis of Zero-order Correlation Matrix
The zero-order correlation Matrix has been shown in appendix 2. It has been found that most of the variables are independent in nature. At 5% level of significance it is observe that X_{14} (Management inattention limited market of product) has been found positively correlated with X_6 (Lack of skilled employee), X_7 (Lack of accountability), X_8 (shortage of adequate equity capital), X_{11}(Adverse environment factor) and X_{12} (obstacles in introducing product diversification) X_{13} (Lack of proper responsibility & Accountability). It is also observed that X_7 (lack

of accountability) has been found negatively correlated with X_1 (change in deposit structure).From the perusal of above tables it has been observed that X_9 (use of obsolete plants and technology) has been found positively correlated with X_5 (Inadequate remuneration of employee). From the perusal of tables it has been found that X_{10} (Absenteeism at workers from jobs) has been found positively correlated with X_3 (Burden), X_6 (lack of skilled employee) and X_7 (lack of Accountability). The correlation matrix has shown that Variables understudy have formed several groups on the basis of relationship underlying between variables. Variables within the group have been found to have significant relationship at different level of significance.

Principal Component Analysis
The correlation matrix of all 14 variables has been further subjected to principal component analysis. The Eigen values, the percentage of total variance, and rotated sum of squared loadings have been shown in appendix 3. The factor matrix as obtained in the principal component analysis has also been further subjected to Varimax Rotation. An examination of eigen values has led to the retention of three factors. These factors have accounted for 42.269 %, 17.772 %, and 13.928 % of variation. This implies that the total variance accounted for by all three factors is 73.969 % and the remaining variance is explained by other factors.

Analysis of Factors
The rotated factor matrix has been shown in appendix 4. This shows that variables understudy have constituted 3 groups / factors which have been discussed in the following paragraphs:

Factor I: Authority and Product Diversity Factor

S.N.	Variable No	Variable	Factor Loading
1	X_4	Policy of Bangladesh bank	0.636
2	X_6	Lack of skilled employee	0.875
3	X_7	Lack of accountability	0.867
4	X_8	Shortage of adequate equity capital	0.810
5	X_{11}	Adverse environmental factor	0.836
6	X_{12}	Obstacles in introducing product diversification	0.844
7	X_{13}	Lack of proper responsibility and accountability	0.763
8	X_{14}	Management in attention limited markets of products	0.707
Variance Explained			**38.628%**

 Note: Data have been compiled by author

Factor I Authority and Product Diversity Factor explain 38.628 percent of the total variations existing in the variable set. This includes variables X_4, X_6, X_7, X_8, X_{11}, X_{12}, X_{13}, X_{14}. This factor has significant factor loadings on these variables which have formed this major cluster. This factor belongs to internal organizational factor of financial and accounting. So, this factor provides a basis for conceptualization of a dimension, which may be identified as Authority and Product Diversity Factor**.**

Factor II: Product Structure and Service Factor

S.N.	Variable No.	Variable	Factor Loading
1	X_1	Change in deposit structure	0.652
2	X_2	Change in liability structure	0.773
3	X_5	Inadequate remuneration of employees	0.886
4.	X_9	Use of obsolete plants and technology	0.755
Variance Explained			19.899 %

Note: Data have been compiled by author

Factor II Product Structure and Service Factor explain 19.899 percent of the total variations existing in the variable set. This includes variables X_1, X_2, X5, X_9. This factor has significant factor loadings on these variables which have formed this major cluster. This factor belongs to internal organizational factor of financial and accounting. So, this factor provides a basis for conceptualization of a dimension, which may be identified as Product Structure and Service Factor

Factor III: Cost Inefficiency Factor

S.N.	Variable no.	Variable	Factor Loading
1	X_3	Burden	0.922
2	X_{10}	Absenteeism of workers form Jobs	0.876
Variance Explained			15.441%

Note: Data have been compiled by author

Factor III Cost Inefficiency Factor explains 15.441 percent of the total variations existing in the variable set. This includes variables X_3, and X_{10}. This factor has significant factor loadings on these variables which have formed this major cluster. This factor belongs to internal organizational factor of financial and accounting. So, this factor provides a basis for conceptualization of a dimension, which may be identified as Cost Inefficiency Factor.

Ranking of Factors Influencing the Productivity of Sample Commercial Banks

Finally, the ranking obtained on the basis of factor wise scores are shown in the following table:

Table 2 Ranking of the factor Influencing productivity

	Factor	Average	Rank
I	Authority and Product Diversity Factor	3.20557	**3rd**
II	Product Structure and Service Factor	3.222	**2nd**
III	Cost Inefficiency Factor	3.5065	**1st**

Note: Data have been compiled by author

The factor ranking show that Factor III Cost Inefficiency Factor is the most important factor that Influencing of productivity on Sample Banks of Bangladesh. This factor includes variable such as burden and absenteeism of worker from jobs. This has really reflected the actual scenario of productivity of Sample Banks. The second most important factor is product structure and service factor. This factor includes variable such that change in deposit structure, change in liability structure, inadequate remuneration of employee and use obstacle plants and technology. These variables have been found rendering of productivity on Sample Banks of Bangladesh. The third important factor is Authority and Product Diversity Factor which includes variable such as policy of Bangladesh , lack of skilled employee lack of accountability , shortage of adequate equity capital , Adverse environmental factor, Obstacles in introducing product diversification ,Lack of proper responsibility and accountability, Management in attention limited markets of products etc.

FACTOR INFLUENCING THE PROFITABILITY OF COMMERCIAL BANKS

Identification of Variables that Influence the Profitability of Sample Banks on Mean Weighted Scores

The study has collected opinion of 25 sample professional on 5 point likert scale in order to identify the factor which influences the profitability in banking sector of Bangladesh. Varimax Rotated Factor analytical techniques have been employed for grouping the variables on the basis of their inherent relationship and finally ranking the group on the basis of their magnitudes. The study has identified the variables undertaken for the study as most significant, and significant on the basis of mean score of opinions taken of 5 point likert scale as follows:

Table 3: Identification of Variables that Influence the Profitability of Sample Banks on Mean Weighted Scores

Variable	Factor Variable	Mean Weighted Score
More significant		
X_1	Change in investment policy	4.5200
X_4	Sound credit Risk Management	4.4400
X_{12}	Customer satisfaction	4.4000
X_6	Rate of Interest	4.2800
X_{13}	Change in customer preference	4.2000
X_7	Spread	4.1600
X_2	Change in asset structure	4.1200
X_3	Policy of Bangladesh bank	4.0800
X_9	Use of obsolete plants and technology	4.0400
X_{14}	Lack of Proper Supervision of Employee	4.0400
Less Significant		
X_8	Delegation of Proper Responsibility and Accountability	3.9600
X_5	Political environment	3.8800
X_{15}	Lack of proper profit planning	3.8400
X_{16}	Lack of commitment of top management	3.8000
X_{11}	High depreciation	3.6800
X_{17}	Lack of proper budgeting	3.6000
X_{18}	Cost Inefficiency	3.6000
X_{10}	Over employment	3.4400

Source: Survey Instrument
  Note: Data have been compiled by the author
Legend: More significant: 4 and above; *Less significant: 3.5 to less than 4*

It is evident from above table that ten variables which have been shown in Appendix -5 have been found influencing the profitability of bank more significantly on mean weight basis. Change in investment policy, Sound credit Risk Management, Customer satisfaction, Rate of Interest, Change in customer preference, Spread, Change in asset structure, Policy of Bangladesh bank, Use of obsolete plants and technology and Lack of Proper Supervision of Employee are more significantly influence the profitability. It has also identified eight other variables having less significance on the same basis. These findings are reflecting the scenarios of banks profitability. However, these variables are subject to varimax rotated factors analysis.

Identification of Factors that influence the profitability in banking sector of Bangladesh on Varimax Rotated Factor Analysis

The study has estimated zero-order correlation of all 18 variables considered for study. From the perusal of above table an attempt has been made to estimate the impact of factors that influence on bank profitability. The underlying objective is to empirically test, which of the identified variables have significantly contributed towards bank profitability in either direction. For this purpose factor analysis has been used. The technique of discriminates analysis had been used to identify the variable which are associated with the banks that have higher profitability. It is quite possible that some irregular fluctuations or erratic behaviors which are not normal do creep in the data.

Analysis of Zero order correlation Matrix

The zero-order correlation Matrix has been shown in Appendix 6. It has been found that most of variables are independent in nature. It is observed that X_{18} (Cost Inefficiency) has been found positively correlated with X_2 (change in asset structure), X_3 (policy of Bangladesh Bank), $X5$(political environment), X_6 (Rate of Interest), X_7 (spread), X_8 (Delegation of proper Responsibility and Accountability). X_{11}(High depreciation), X_{14}(Lack of Proper Supervision of Employee), X_{15} (Lack of proper profit planning), X_{16}(lack of commitment of top management) and X_{17} (lack of proper budgeting). From the perusal of table it has been found that X_{13} (Change in customer preference) has been found positively correlated with X_8 (Delegation of proper responsibility and accountability). X_4 (sound credit Risk management) is positively correlated with X_1 (Change in investment policy). It has been found that X_{10} (over employment) are positively correlated with X_2 (Change in asset structure).From the perusal of above table it has been observed that X_{11} (High depreciation) has been found positively correlated with X_2(change in asset structure), X_3 (policy of Bangladesh Bank) X_6 (Rate of interest), X_7 (spread), X_8 (Delegation of proper responsibility and Accountability) and X_{10}(Over employment).

Principal Component Analysis

The correlation matrix has shown that Variables understudy have formed several groups on the basis of relationship underlying between variables. Variables within the group have been found to have significant relationship at different levels of significance. The correlation matrix of all 18 variables has been further subjected to principal component analysis. The Eigen values, the percentage of total variance, and rotated sum of squared loadings have been shown in **Appendix – 7**. The factor matrix as obtained in the principal component analysis has also been further subjected to Varimax Rotation. An examination of eigen values has led to the retention of five factors. These factors have accounted for 44.984 %,

16.809 % , 8.213 % , 7.643 % , and 6.130 % of variation . This implies that the total variance accounted for by all five factors is 83.779 and the remaining variance is explained by other factors.

Factor Analyses

The rotated factor matrix has been shown in Appendix-8. This shows that variables understudy have constituted 5 groups / factors which have been discussed in the following paragraphs:

Factor I: Financial Management Factor

S.N.	Variable No.	Variable	Factor Loading
1	X_3	Policy of Bangladesh Bank	0.775
2	X_5	Political Environment	0.797
3	X_6	Rate of Interest	0.844
4	X_7	Spread	0.760
5	X_{14}	Lack of Proper Supervision of Employee	0.877
6	X_{15}	Lack of Proper Profit Planning	0.88
7	X_{16}	Lack of commitment of top management	0.916
8	X_{17}	Lack of proper budgeting	0.899
9	X_{18}	Cost Inefficiency	0.827
Variance Explained			**39.53%**

Note: Data have been compiled by author

Factor I Financial Management Factor explains 39.53 percent of the total variations existing in the variable set. This includes variables X_3, X_5, X_6, X_7, X_{14}, X_{15}, X_{16}, X_{17}, and X_{18}. This factor has significant factor loadings on these variables which have formed this major cluster. This factor belongs to internal organizational factor of financial and accounting. So, this factor provides a basis for conceptualization of a dimension, which may be identified as financial management factor.

Factor II : Assets Management Factor

S.N.	Variable	Variable	Factor Loading
1	X_1	Change in investment policy	0.818
2	X_4	Sound Credit Risk Management	0.806
3	X_{13}	Change in customer Preference	0.564
Variance Explained			**13.854 %**

Note: Data have been compiled by author

Factor II Assets Management Factor explains 13.854 percent of the total variations existing in the variable set. This includes variables X_1, X_4, X_{13}. This factor has also significant factors loading on these variables which formed second important cluster with respect to the variation. This factor is concerned with the Assets management of banking sector. So, this has provided a dimension of conceptualizing investor related variables, which may be identified as Assets management factor.

Factor III : Assets Utilization Factor

S.N.	Variable No.	Variable	Factor Loading
1	X_2	Change in Asset Structure	0.672
2	X_{10}	Over Employment	0.947
Variance Explained			**11.597%**

Note: Data have been compiled by author

Factor III Assets Utilization Factor explains 11.597 percent of the total variations existing in the variable set. This includes variables X_2 and X_{10}. This factor has moderate factor loadings on these variables which have formed a third important cluster. This factor is related to Asset utilization Factor. So, this factor has provided a basis for conceptualizing of a dimension, which may be called Assets utilization factor.

Factor IV: Financial Administrative Factor

S.N.	Variable No.	Variable	Factor Loading
1	X_8	Delegation of proper Responsibility and accountability	0.904
2	X_{11}	High Depreciation	0.580
Variance Explained			**11.181%**

Note: Data have been compiled by author

Factor IV Financial Administrative Factor explains 11.18 percent of the total variations existing in the variable set. This includes variables X_8 and X_{11}. This factor has high factor loadings on these variables which have formed a fourth important cluster. This factor has provided a basis for conceptualization of dimension which may be called Financial Administration factor.

Factor V: Factor of service modernization

S.N.	Variable No	Variable	Factor Loading
1	X_9	Use of obsolete plants and technology	0.634
2	X_{12}	Customer satisfaction	0.861
Variance Explained			**7.1897%**

Note: Data have been compiled by author

Factor- V Factor of service modernization explains 7.1897 percent of the total variations existing in the variable set. This includes variables X_9 and $X_{12.}$ This factor has provided a basis for conceptualization of dimension which may be called Factor of service modernization

Ranking of Factors Influencing the Profitability of Sample Commercial Banks
Finally, the ranking obtained on the basis of factor wise scores are shown in the following table

Table 4: Ranking of the Factor Influencing Profitability

	Factor	Average	Rank
1	Financial Management Factor	3.30	I
2	Assets Management Factor	3.20	II
3	Asset Utilization Factor	3.10	IV
4	Financial Administration factor	2.90	V
5	Factor of Service Modernization	3.15	III

Note: Data have been compiled by author

The factor ranking show that Factor I**:** Financial management Factor is the most important factor that influences the profitability on Sample Banks of Bangladesh. This factor includes variables such as policy of Bangladesh Bank, Political Environment , Rate of interest , spread , lack of proper supervision of Employee, lack of proper profit planning, Cost Inefficiency,   Lack of proper budgeting. This has really reflected the actual scenario at being influencing in profitability of Sample Banks.   The second most important factor is Assets management Factor. This factor includes variable such as change in investment policy, Sound credit risk mgt, Change in customer preference. These variables have been found rendering influencing in profitability of Sample Banks. The third important factor is the Service Modernization which includes variables such as use of obsolete plants and technology and customer satisfaction. The fourth important factor is an Assets Utilization Factor, which includes change in asset structure and over Employment. The fifth important factor is Financial Administration accountability and high Depreciation.

SUMMARY OF THE FINDINGS

In Productivity, the researcher identified fourteen factors in these areas that were responsible for low Productivity. It has been found that, from the factor ranking Factor III Cost Inefficiency Factor (3.50%) is the most important factor that Influencing of productivity on Sample Banks of Bangladesh. This factor includes variable such as Burden and Absenteeism of worker from jobs. This has really reflected the actual scenario of productivity of Sample Banks. The second most important factor is Product Structure and Service Factor (3.22%). This factor includes variables such that change in deposit structure, change in liability structure, inadequate remuneration of employee and use obstacle plants and technology. These variables have been found rendering of productivity on Sample Banks of Bangladesh.

In Profitability the researcher identified eighteen factors in these areas that were responsible for low Profitability. It has been found that, from the factor ranking Factor I; financial management Factor (3.30%) is the most important factor that influences the profitability on Sample Banks of Bangladesh. This factor includes variables such as policy of Bangladesh Bank, Political Environment , Rate of interest , spread , lack of proper supervision of   Employee, lack of proper profit planning, Cost Inefficiency,   Lack of proper budgeting. This has really reflected the actual scenario at being influencing in profitability of Sample Banks. The second most important factor is Assets management factor (3.32%)   This factor includes variable such as change in investment policy, Sound credit risk mgt, Change in customer preference.

POLICY IMPLICATION

Productivity and profitability are interrelated. Though productivity is not the sole factor, it is an important factor influencing profitability. The key to increase profitability is increased productivity. Commercial banks have not been as profitable because of two reasons – low productivity and high burden ratio. To overcome these drawbacks banks should chalk out a program to increase productivity.

The study has suggested some pragmatic policy measures in order to enhance the productivity and profitability of banks in Bangladesh most successfully. The policy measures are as follows:

Commercials banks are advised to adopt and update followings in order to accomplish financial management efficiency:

1. Improving operating system such as credit risk grading module, e-banking mechanism, product automation etc in order to cope with the change in policies, laws and customer's preference.
2. Focusing more on cost efficiency through enforcing adequate financial control.
3. Ensuring governance at each stage of al functional areas to improve commitment of management and principals.
4. Public sector banks should reduce overstaffing. Though public sector banks have been trying to reduce the number of staff employed and has been successful in reducing the number but they need to improve further.
5. Banks should embrace latest technology and the new private sector banks have embraced technology right from their inception and they have better adapted themselves to the changes in technology. Whereas the public sector banks and old private banks have been slow in keeping pace with the changing technology, which is regarded as one of the major reason affecting their profitability and productivity (Leeladhar, 2005). Technology has a direct impact on productivity. So before going for new technology, choice of techniques of adoption, adaptation and diffusion of technology with special emphasis on selection of appropriate technology should be given priority.
6. All Banks should have proper financial planning. They should undertake both financing and investment program according to financial planning.
7. Banks should introduce internal audit to restore effective financial control in the Banks.
8. Banks need to have an effective management system as well as skilled manpower. Skill deficiency is a serious impediment to productivity improvement. Therefore, adequate training should be provided to the employee at bank level. This is expected to exert a positive influence in efficiency as well as productivity of Banks.
9. To improve productivity and profitability, banks need to focus attention on the management of spread, establishment expenses, additional income and deposit composition.
10. Deposits, which constitute a major chunk of bank liabilities, needs to be explored to the maximum potential. Banks must put maximum efforts to attract fixed deposits which contribute significantly towards the enhancement of bank becoming difficult due to competition from mutual funds; still, scope for enhancement of short-term deposits exists by improved customer service, attractive rates of interest in commensurate

with other non-banking financial institutions, better nomination facilities and by the introduction of sophisticated technology and communication systems.

11. Priority sector lending and rural banking do not adversely affect the bank profitability to a significant extent, and hence should not be blamed for the declining trends in bank profitability. Advancing to priority sectors and opening of rural branches may be extended in the larger interests of the society.

In the present competitive situation for survival purpose all banks must have to be conscious about their profitability and productivity .On the basis of the above study some recommendations for the sample banks are given below:

1. Banks have to control their non-interest expense.
2. Banks have to be sincere about their manpower utilization.
3. Banks have to be sincere about their Input-Output ratio.

As for other expenses, the efforts could largely be made to keep them under control so that wastages can be avoided. It needs not only budgeting and cost control but also search for alternatives which promise saving in costs in relative terms, particularly in respect of premises, fixtures, furniture, office equipment, stationary, etc. So there should be strict control over the cost, so that no malpractices can be made which adversely affect the production cost.

CONCLUSION

However, the process of making profit is a complex, adaptive and ongoing integrated system of different functional areas of an organization. Productivity and profitability improvement depends upon the successful identification of the main factors of this integrated system. A significant point which emerges from the complied results is that the banks which witnessed excellent performance level with respect to the index of burden , had poor performance level with respect to the index of spread and excellent performance level with respect to the index of net profit . Thus, it can be concluded that to have excellent productivity and profitability performance, banks need to have excellent performance in managing burden and it is the burden nationalize   which plays a major role in determining the profitability of banks.   No doubt, few determinant of burden, like competition and wage agreements and policies are not within the control of banks, but banks can curtail their non-interest expenditure by scientific recruitment, promotion and placement policies, by improving the quality of expenditure decisions and by budgeting and cost control methods; and thereby can enhance their productivity and profitability. The study is expecting that Bank

industry could perform better, if suggested policy and strategy measures are truly implemented.

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APPENDICES
Appendix 1:
Mean Weighted Scores (Productivity -Descriptive statistics)

Variables	Mean	Std. Deviation	Analysis N[a]	Missing N
X1	4.6400	.48990	25	0
X2	4.4400	.50662	25	0
X4	4.2000	1.04083	25	0
X3	3.9200	.57155	25	0
X5	3.9200	.99666	25	0
X6	4.2400	1.12842	25	0
X7	4.2000	1.22474	25	0
X8	3.8800	1.01325	25	0
X9	3.9200	.99666	25	0
X10	3.8800	.97125	25	0
X11	4.2000	1.00000	25	0
X12	3.8800	.88129	25	0
X13	4.2000	1.22474	25	0
X14	3.5200	1.26227	25	0

Appendix 2:
Zero-order Correlation Matrix (Productivity)

	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14
X1	1.000													
X2	*.497	1.000												
X4	-.098	-.095	1.000											
X3	.190	-.017	.238	1.000										
X5	*.536	*.650	.056	.061	1.000									
X6	**-.440	-.047	*.561	***-.292	-.205	1.000								
X7	*-0.5	-.148	**.458	***-.333	***-.328	*.929	1.000							
X8	-.259	-.055	.261	-.161	-.092	*.755	*658	1.000						
X9	***.28	***.32	.257	.208	*.581	.092	-.055	**.44	1.000					
X10	-.182	.196	-.016	*-.769	.119	*.484	*.476	**.366	-.010	1.000				
X11	**-.357	**-.345	**.440	-.190	**-.401	*.805	*.816	*.642	-.025	***.283	1.000			
X12	-.104	-.157	*.481	.063	-.106	*.617	*.679	*.636	***.273	.177	*.596	1.000		
X13	**-.431	**-.349	***.327	-.095	**-.362	*.627	*.778	**.457	-.123	.196	*.748	*.718	1.000	
X14	***-.291	***-.308	.235	***-.286	-.231	*.523	*.658	*.605	.134	***0.291	*.673	*.508	*.631	1.000

1% level of significance = * 5% level of significance = ** 10 % level of significance = ***

Appendix 3:
Total Variance Explained (Productivity)

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.918	42.269	42.269	5.408	38.628	38.628
2	2.488	17.772	60.041	2.786	19.899	58.527
3	1.950	13.928	73.969	2.162	15.441	73.969
4	.880	6.289	80.258			
5	.718	5.129	85.386			
6	.560	4.000	89.386			
7	.453	3.234	92.621			
8	.388	2.768	95.389			
9	.223	1.592	96.981			
10	.164	1.172	98.154			
11	.132	0.945	99.099			
12	.072	0.517	99.616			
13	.046	0.328	99.943			
14	.008	0.057	100.000			

Appendix 4 :
Rotated Component Matrix (Productivity)

Variables	Component		
	1	2	3
X1	-.313	.652	-.184
X2	-.170	.773	.237
X4	.636	.128	-.344
X3	-.053	.112	-.922
X5	-.144	.886	.041
X6	.875	-.075	.293
X7	.867	-.242	.316
X8	.810	.128	.182
X9	.320	.755	-.209
X10	.290	.126	.876
X11	.836	-.312	.116
X12	.844	.044	-.133
X13	.763	-.385	.028
X14	.707	-.189	.198

Appendix 5:
Mean Weighted Scores (Profitability- Descriptive Statistics)

Variables	Mean	Std. Deviation	Analysis N
X1	4.52	0.5099	25
X2	4.12	0.83267	25
X3	4.08	1.03763	25
X4	4.44	0.5831	25
X5	3.88	0.83267	25
X6	4.28	0.67823	25
X7	4.16	1.06771	25
X8	3.96	0.61101	25
X9	4.04	0.93452	25
X10	3.44	1.04403	25
X11	3.68	0.74833	25
X12	4.4	0.70711	25
X13	4.2	0.70711	25
X14	4.04	1.30639	25
X15	3.84	1.31276	25
X16	3.8	1.22474	25
X17	3.6	1.22474	25
X18	3.6	1.1547	25

Appendix 6:
Zero order correlation Matrix (Profitability)

	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	X16	X17	X18
X1	1.000																	
X2	.043	1.000																
X3	-.082	*.567	1.000															
X4	*.600	-.027	-.129	1.000														
X5	.153	*.683	*.542	.199	1.000													
X6	.164	**.454	*.618	.202	*.578	1.000												
X7	-.006	*.587	*.853	-.118	*.632	*.568	1.000											
X8	.070	-.072	***.268	**.402	-.092	***.330	.202	1.000										
X9	***.30	***.315	.211	**-.416	.114	***.310	***.327	-.070	1.000									
X10	**-.37	*.608	**.351	***-.331	.255	-.064	**.383	-.102	***.323	1.000								
X11	.017	*.465	*.464	.241	**.337	*.512	*.484	*.518	***.317	*.508	1.000							
X12	.208	-.014	-.102	.263	.085	.017	.022	.135	.227	-.023	-.063	1.000						
X13	**0.39	.099	.148	**.384	.184	**.400	.011	*.501	***.265	-.068	***.283	.250	1.000					
X14	.155	**.417	*.643	***.304	*694	*.645	*.593	**.367	-.138	-.044	**.397	-.198	.262	1.000				
X15	.067	*.514	*.591	**.368	*668	*.801	*.554	*.459	.107	-.068	**.455	.072	**.350	*781	1.000			
X16	.173	*.597	*.669	**.362	*711	*823	*.631	*.490	.116	.072	*.609	-.048	**.385	*865	*.938	1.000		
X17	**.347	*498	*.715	**.432	*.768	*793	*.688	**.423	-.022	.013	*.582	.000	**.433	*.870	*.840	*.917	1.000	
X18	.014	*.615	*.619	**.334	*641	*734	*.527	*.508	.093	.187	*.665	-.153	**.357	*.840	*.863	*.943	*825	1.000

1% level of significance = *
5% level of significance = **
10 % level of significance = ***

Appendix 7 :
Total Variance Explained (Profitability)

Component	Initial Eigen values			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.097	44.984	44.984	7.117	39.537	39.537
2	3.026	16.809	61.793	2.494	13.854	53.391
3	1.478	8.213	70.006	2.087	11.597	64.988
4	1.376	7.643	77.649	2.013	11.181	76.169
5	1.103	6.130	83.779	1.370	7.610	83.779
6	.759	4.215	87.994			
7	.661	3.675	91.669			
8	.624	3.469	95.138			
9	.305	1.692	96.830			
10	.203	1.129	97.959			
11	.125	.694	98.653			
12	.080	.447	99.100			
13	.065	.360	99.460			
14	.039	.216	99.676			
15	.035	.192	99.868			
16	.016	.090	99.958			
17	.005	.026	99.983			
18	.003	.017	100.000			

Appendix 8:
Rotated Component Matrix (Profitability)

Variables	Component				
	1	2	3	4	5
X1	.097	.818	-.106	-.110	.139
X2	.590	.029	.672	-.178	.089
X3	.775	-.219	.277	.091	-.029
X4	.159	.806	-.135	.289	.020
X5	.797	.229	.302	-.302	.081
X6	.844	.030	-.063	.222	.210
X7	.760	-.201	.323	-.029	.134
X8	.244	.126	-.102	.904	.022
X9	.190	-.597	.206	.013	.634
X10	.016	-.266	.947	.018	.016
X11	.425	.009	.557	.580	.038
X12	-.090	.290	-.010	.054	.861
X13	.185	.564	.063	.488	.117
X14	.877	.176	-.033	.118	-.288
X15	.888	.126	-.066	.257	.077
X16	.916	.167	.102	.290	-.020
X17	.899	.319	.087	.187	-.022
X18	.827	.100	.210	.378	-.154