



Contribution of the Banking Sector to Entrepreneurial Development: Paradigm Interventions and Enterprise Proliferation

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ABSTRACT

This study attempted to investigate some socio-economic parameters concerning the development of entrepreneurship of the banks' members. For this purpose, researchers chose Grameen Bank (GB) of Bangladesh, which received the Nobel Peace Prize in 2006. On the basis of proportionate stratified sampling, respondents were selected from different branches (2200) of Grameen Bank in Bangladesh. The total sample of the study included 750 respondents. A constructed questionnaire was used to collect data, and SPSS and Decision Analyst Stats 2.0 software packs were used for analyzing data. Different statistical tools (T-test, Correlation Coefficient, and ANOVA) were also used to analyze data. The results of the study show that the level of new small business initiatives by the Banks' customers has increased significantly. The results also show that the new business opening rate was high at the beginning of the membership. Therefore, the data reveal that the contribution of the Grameen Bank in providing funding to small and medium enterprises. Empirical evidence suggests that socio-economic conditions have significantly persuaded customers to become entrepreneurs by the bank's loan and credit program. The outcomes of the present study will be helpful for GB authority, policy makers, and customers to make appropriate decisions and make friendly policies about entrepreneurial development and enterprise proliferation.

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1. Introduction

The possibility and preparedness to create, plan, and manage a business enterprise along with all of its uncertainties in order to turn a profit is what is meant by entrepreneurship. The establishment of new businesses is the most visible example of entrepreneurship (Ratten & Tajeddini, 2019). Entrepreneurship development is a very relevant aspect of the modern economy. Today's entrepreneurs have an important role in the continuous economic development of a country (Achim et al., 2021). The majority of low-income countries are working to increase their capacity for social entrepreneurship and the promotion of businesses instead of facing considerable economic and institutional obstacles (Ismail & Johnson, 2021; Jin, 2020). In today's economic environment, entrepreneurship is more significant than ever. It introduces a crucial dynamic component, particularly an economic system (Sharma, 2018). After the independence struggle, there was no choice but to expand the banking system in order to strengthen Bangladesh's financial sector. The issue for policymakers was to overhaul the banking industry in order to restore the war-torn nation's economy after many ups and downs. At present, the financial sector of Bangladesh, especially the banking sector, is quite integrated. Banking sector has emerged as a permanent and integral part in the economic development of a developing country like Bangladesh. Bangladesh's economic growth and banking sector are on the opposite sides of the same currency (Rouf et al., 2019). Covering the period of 50 years, the banking sector of Bangladesh has apparently serious changes in terms of entrepreneurial development and customer satisfaction (Gazi & Talukder, 2017). The role of the banking sector is paramount as a major financial institution that helps channelize public savings into productive investment (Babu, 2018). The banking sector has been taking praiseworthy initiative to help income-generating activities of its members, especially in entrepreneurial development (Mengesha, 2016; Prakash et al., 2017; Rahaman et al., 2020). The intuition of banking business is not only making profit but also ensuring the member's wellbeing by taking inventiveness to create new entrepreneurs. New enterprises are emerging in alliance by means of the banking sector (Tabash et al., 2019). Undoubtedly, the role of the banking sector in alleviating poverty and increasing employment opportunities in a country is undeniable. Banks provide financial assistance and loans to their customers at nominal interest rates so that they can open small and medium enterprises (Gazi et al., 2013). It is a pity that the banking sector of Bangladesh is in a strong financial position but on most occasions, it does not come forward to make its members entrepreneurs, and new enterprise initiatives are still limited (Azis & Amir, 2020). However, Grameen Bank is one of the banks that have been playing a role in this regard under the increasingly dynamic (Amir, 2017) and challenging environment (Jumasseitova & Potluri, 2020). Through economic development initiatives, middle and low-income countries have adopted tactics to build and develop entrepreneurial resources in the contemporary era. Despite being a low-income agricultural economy, Bangladesh has enormous potential. The Government of Bangladesh and Bangladesh Bank have undertaken a number of credit programs for the growth of small scale (SME) industries where a hefty number of peoples, especially women, can contribute to the economic development by engaging in entrepreneurial activities. Some selected financial institutions and banks provide various types of credit to the people of our country, especially those who are engaged in small entrepreneurship (Qamruzzaman & Jianguo, 2019), so that they can progress their financial position as a whole in national economy. Banking sector of Bangladesh is playing a vital role for economic and financial enlistment. In this case, Grameen Bank (GB), which is a specialized credit institution and non-scheduled bank in Bangladesh (Bangladesh Bank, 2020), was established to improve many rural disadvantaged people in Bangladesh as its core principle and objective. Besides, one of the main goals of the GB is to create and develop entrepreneurs (Ključnikov et al., 2020) through credit lending.

At present, there is a global prominence on the rural and economic advancement through multidimensional rural financing schemes, especially SMEs (OECD 2017). Entrepreneurial development is recognized everywhere as a strategy for the overall economic development of a country (Buli, 2017). The growth of Grameen Bank (GB) and its policies is involved in rural development, with particular emphasis on its members' economic empowerment and entrepreneurship growth.

The present study contributes in several ways to the study of entrepreneurship development by the banking sector of Bangladesh. In this study, the researchers have established a theoretical framework by reviewing the empirical literature on the development of entrepreneurship and enterprise proliferation of

the banking sector. We explain the various implications of banking strategy and business innovation, and their contribution to entrepreneurship is analyzed in detail on how entrepreneurship drives them. A detailed analysis of how entrepreneurship drives it is a fundamental theme of this study. An accurate and systematic record of views, experiences, policies, and perspectives of banking sector regulatory authorities is presented which makes the study unique. The true picture of the contribution of the banking sector has been brought to light through case studies by collecting data from the entrepreneurs in favor of the banking sector for the purpose of entrepreneurship development and enterprise proliferation. The present research highlights the socio economic background of micro credit recipients from Grameen Bank. It examines the present conditions of Grameen Bank finances to enterprises proliferation paradigm interventions and entrepreneurial development in rural areas in Bangladesh. Therefore, the main objective of this study is to examine the contribution of the banking sector in entrepreneurship development and enterprise expansion.

2. Literature Review

A person who engages in entrepreneurship is called an entrepreneur. The main driver of entrepreneurial activity is the entrepreneur. But entrepreneurship is an act of being an entrepreneur (Adel et al., 2020; Tajeddini & Mueller, 2009). Entrepreneurship is the process by which an organization (Patriotta & Siegel, 2019; Tajeddini & Mueller, 2012), individual, or group of individuals locates and creates a business opportunity and gathers and utilizes the resources required to capitalize on it. Entrepreneurs are in charge of launching and growing a business (Chen et al., 2019). A broad definition of entrepreneurship was provided by early 19th century French economist Jean-Baptiste Say, who said that it transitions capital gains for high productivity by bringing something new and innovative to the world. Entrepreneurship role is to take initiative, make plan, create ideas, and aggregate capital and labor to make ventures and enterprises for creating entrepreneurs, employment opportunities, and income generating sources (Ghosh, 2022; Semrau et al., 2016; Tajeddini & Mueller, 2019).

Banking sector is playing a vital role by not only financing the capital required for start-up or expansion of entrepreneurs but also developing existing business by financing long term loans, medium term/working capital loans, cash credit, overdraft, etc. The researchers explored a wide range of previous literature distributed in different journals and books and in websites. Bangladesh is a low-income country. It has recently been included in the list of developing countries from the list of least developed countries. People tend to save less due to low per capita income. Incentivizing people at public and private levels to increase savings is ongoing. Inclusion in the bank's customer/member list is one of the strategies to increase savings. Various studies have proven that those who become bank members or who have bank accounts have increased annual savings. EI Hadidi (2018) found that as financial institutions, banks have a substantial upshot on entrepreneurship development in case of annual savings. Semegn and Bishnoi (2021) found a positive significant connection between enterprise proliferation and size of loan of bank and savings intentions of clients. The mobilization of savings is a crucial component of lending in the eyes of Grameen Bank (2020). At weekly group meeting, each member is expected to deposit a set sum every week. A "group fund" must also receive 5% of each member's investment. The emergency fund is managed by Grameen Bank and is intended to provide as protection against probable default due to death, incapacity, or other unfortunate events. Additionally, this money is utilized to pay off bad debts, give life disability insurance to all members of the group, and carry out initiatives that enhance the members' health, abilities, education, and investment prospects. Each member is required to acquire a Grameen Bank equity share for Tk 100 (USD 1) in addition to the requisite funds (Khandker, 2010; Mainsah et al., 2004). Ali et al. (2014) conducted a study on Grameen bank. The results of the study have demonstrated that Grameen Bank microcredit has made a considerable and beneficial impact on Bangladesh's socioeconomic growth. The study concluded that after taking out a loan in Bangladesh, the borrower's yearly savings, income, and investment from savings all increased, which had an impact on the borrower's socioeconomic level. Das (2021) found that there is a positive relationship between membership of Grameen bank and annual savings of the members. Dickler (2022) observed that membership of banks has an impact to increase income and annual savings. Thus, the researchers propose the following hypothesis:

H1: There is a significant difference between the situation after and before joining Grameen Bank in case of increase in annual income and savings.

The unique credit delivery methods used by Bangladesh's Grameen Bank to help rural impoverished people are well known internationally. By adopting entrepreneurial initiative, it also has observable beneficial effects on participants' economic and social well-being as well as on total income growing and poverty lessening at the village level. Oshiobugie et al. (2015) found that a significant positive correlation subsists among financial institutions and banks to promote entrepreneurial development by providing loans. Hajer et al. (2015) found from their study that financial support and entrepreneurial orientation have a positive correlation. They also found that bank financing affected income level. Tmava et al. (2013) found a positive correlation among the banks' financial position, age, and investment volume and start-up enterprises. They found that the availability of bank loans plays an important role in the development of creative entrepreneurs. Nurhayati (2016) revealed that the Grameen bank of Bangladesh led to increased social entrepreneurship and innovative business ideas for generating income for its members. Grameen Bank contributes its efforts in entrepreneurship development with a view to poverty alleviation by creating self-employment opportunity formulating their own capital (Rasak, 2012). Nath (2020) conducted a research work on young enterprise initiators, young entrepreneurs who have just started their individual enterprise using banks assistance. He revealed a significant positive impact of the banking sector on entrepreneurial development. Tristan and Thomas (2019) noticed that the two main methods of small business/entrepreneur financing are bank-issued venture capital and self-financing. Banks and other financial institutions, on the other hand, only directly contribute to the funding of the entrepreneurial innovation of business. Sushmitha et al. (2018) found that the members of the bank initiated to start enterprises in order to create employment scope by taking the financial support of the bank. Misaldilip (2016) revealed results that the entrepreneurship development and enterprises proliferated were supported by the bank to the young members. Wei et al. (2021) observed that entrepreneurship, CSR, innovation, and banks had a positive correlation. Sub-parts of entrepreneurship included self-employment with significant ownership of innovative business. Lasak (2022) conducted a study on the role of financial institutions and entrepreneurial development. Their study supported the notion that banks, as financial institutions, play a critical role in encouraging SMEs in developing nations to innovate their businesses and to become more financially included. Several studies (Amoah & Amoah, 2018; Azeref & Gelagil, 2018; Gerba & Viswanadham, 2016; Gyimah, 2018; Ishaq & Mishra, 2020; Marquis & Qiao, 2018; Tajeddini & Mueller, 2019; Xu et al., 2019) found that financial institutions (banks and others) play a substantial role in entrepreneurship development and survival of entrepreneurs. Thus, the researchers propose that:

H2: The Entrepreneurial innovations of business of the respondents have increased after joining with the Grameen Bank.

Gazi et al. (2013) found from their study that the micro-credit recipients benefited from Grameen bank (GB) and generated employment opportunities. In this case, Grameen Bank performs an essential responsibility to facilitate the micro credit development process in Bangladesh. Hajer et al. (2015) found that bank and financial institutions play a significant role to cultivate entrepreneurship and increase investment amount and start-up of SMEs (Gautam et al., 2020; Sharma et al., 2020). Saleh Tabash et al (2019) noticed in his study that banks influenced women entrepreneurs in engaging small business and self-employment by increasing capital investment. Chowdhury et al. (2021) found that the primary emphasis of Grameen Bank's attention and activities turns to capital generation of the members. Rouf (2015) reported that, by giving rural poor women more options and providing them with capital for self-employment, Grameen Bank is effective in accomplishing its aims of boosting their income, giving them more power, and encouraging entrepreneurship in rural Bangladesh. Berger

and Udell (1998) looked at how the banking industry finances small businesses. According to the financial growth cycle paradigm, different capital structures are ideal for diverse business models. They also demonstrated how small business capital sources work and how age and firm size affects capital structure. Dao and Nguyen (2020) found that the banking industry is playing a vital role in the growth of the economy and general developments through establishing client capital, and commercial banks, in particular, are becoming increasingly conscious of their critical presence in creating appropriate capital in order to function successfully and contribute considerably (Antil, et al., 2020; Roy, 2014). They discovered that while higher levels of bank capital reduce the danger and negative impacts of a financial crisis, they raise the cost of job opportunities. Boyarchenk et al. (2020) conducted a study on capital formation and banking sectors. They advocated for the role of banks in raising capital for their clients. Thus, this study proposes the following hypotheses;

H3: The average expansion of business of investment capital is not the same for different respondents.

H4: There is no significant difference in the capital structure of the respondents before and after joining Grameen Bank.

Islam (2014) studied the influence of Grameen Bank microcredit on rural women's employment and empowerment. Mamun et al. (2011) investigated how microcredit program participation affects the rate of employment of pretty tough underprivileged families and the neighborhood. Participation in the microcredit program expanded job options, resulting in chances at the household and community levels. Anwar et al. (2021) discovered that commercial banks contribute to small and medium enterprises to generate employment. Azeref (2018) found from his study that entrepreneurship development and enterprises proliferate significantly impacted by duration of loan, capital formation, simplicity of the criteria, follow up, and supervision of banks. Banu et al. (2021) and Datta and Sahu (2021) found that the microcredit program of a bank has a favorable impact on rural households' wages and self-employment. Amoo and Kolawole (2015) noted that there is a significant difference in the number of people who use bank funds and those who do not use it in terms of entrepreneurship and employment opportunity creation. They found that banks are not adequately financing rural entrepreneurs. Banerjee and Jackson (2017) conducted a study on the banking sector and employment opportunity. Their findings imply that the usage of microfinance at the study locations exacerbated poverty rather than empowering most borrowers.

H5: The employment generation of the respondents has increased after joining the Grameen Bank.

Entrepreneurs are the assets of a country because they are national heroes. They contribute to the development of healthy economy, innovative employment, and the position of a prosperous society. Entrepreneurial development requires a huge amount of research. It is needed to study in depth, particularly the contribution of the banking sector. In Western and Eastern countries, there are lots of studies on the mentioned field, but it is very rare in the case of Bangladesh. In Bangladesh very few studies are conducted on the contribution of the banking sector to entrepreneurial development. So, the scope of the study much remains to be investigated to contribute to scholarly research in this field.

3. Methodology

3.1 Survey Administration and Sample

This study purposively selected one famous no-scheduled bank in Bangladesh named Grameen Bank founded by Nobel Laureate Economist Professor Muhammad Yunus. The current study has been used the primary data and information method to understand the role of banking sector in entrepreneurial development in Bangladesh. A self-administered questionnaire was used to gather the information needed to evaluate the study's conceptual framework. The validity of the survey instrument was confirmed by pretesting the study's questionnaire. The authors of this study ran a pilot test with 50 respondents from other areas to ensure content validity. The reliability test was used to identify all constructs with Cronbach's alpha values over 0.7 and to validate the dependability of the survey items.

The majority of the participants in this study were less educated and illiterate rural people, and they were not able to respond to the survey questions, hence Bengali version questionnaire was employed for data collection. The primary goal of this study was stated in the questionnaire and orally, which was collected through organized face to face interview program according to the pre-structured questionnaire. Before they took part in this study, we explained the survey's approach to the participants. The study's researchers gently approached potential respondents, described the study's goals, and requested their permission to participate. We promised the interviewees that the material would only be used for academic purposes and that no other authority would have direct exposure to it. Additionally, we assured the participants that their identities would be kept secret because they weren't asked to provide us their names, addresses, or cell numbers.

There were 15 items on the survey questionnaire, and it took around 15 minutes to finish it. The Grameen Bank administration provided a letter of ethical study permission before the data was collected through interviews based on a questionnaire. The ethics committee of Grameen Bank also provided an introduction letter and consent form, both of which clearly stated the purpose of the study and how it would get respondents' consent. This study used random selection to gather primary data from 750 respondents who are members of various branches of the Grameen Bank (there are more than 2200 branches across the country). Researchers chose the branches of different districts of northern part of Bangladesh.

Table 1. Sample Distribution

District	Respondent's category		Total
	Male	Female	
Rajshahi	40 (5.33%)	35 (4.67%)	75 (10%)
Pabna	40 (5.33%)	35 (4.67%)	75 (10%)
Dinajpur	40 (5.33%)	35 (4.67%)	75 (10%)
Rangpur	40 (5.33%)	35 (4.67%)	75 (10%)
Gaibandha	40 (5.33%)	35 (4.67%)	75 (10%)
Kurigram	40 (5.33%)	35 (4.67%)	75 (10%)
Nawabganj	40 (5.33%)	35 (4.67%)	75 (10%)
Lalmoharhat	40 (5.33%)	35 (4.67%)	75 (10%)
Nilphamari	40 (5.33%)	35 (4.67%)	75 (10%)
Naogaon	40 (5.33%)	35 (4.67%)	75 (10%)
Total	400(53.3%)	350(46.7%)	750 (100%)

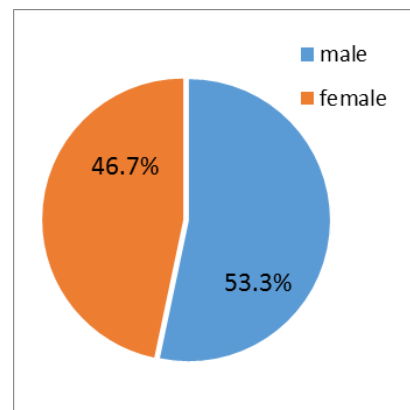


Figure 1. Respondent Category

A similar number of respondents ($n=75$) were drawn at random from each kind of district. In the research, all genders were nearly equally represented, with $n=40$ men and $n=35$ females. Members with 1 to 10 years of membership experience, a minimum age of 19 to 55 years, and an education of illiteracy to twelve classes are also entitled.

3.2 Measuring Instruments

A self-administered questionnaire (SAQ) was utilized to collect the data needed to evaluate the conceptual framework of the study. SAQ consisted of 18 elements that analyze the banking sector's role to entrepreneurial growth. Monthly Income, Annual Savings, Capital Structure, Business Innovation, Expansion of Capital Invested in the Business, and Employment Generation were the six primary categories covered by SAQ. The 5-point Likert scale was used to mark the responses which range from 1 to 5 (very dissatisfied to very satisfied). Another questionnaire was developed to assess the banking sector's overall contribution to the proliferation of enterprises as an entrepreneurship development (OPED) scheme, with 6 particular characteristics (Table-2) (Islam, 2014).

Table 2. Overview of the Proliferation of Enterprises and Entrepreneurship Development Items

Items examined	Full question	Reference
Monthly income	Has there been any change in your monthly income after taking Grameen Bank membership?	OPED
Annual savings	Has Grameen Bank's cooperation and membership increased annual savings?	OPED
Capital structure	Is Grameen Bank helpful in strengthening the capital structure of its members?	OPED
Business innovation	Is Grameen Bank playing a positive role in the field of new business innovation in the development of entrepreneurs?	OPED
Expansion of capital investment	Is the expansion of capital investment stronger than before?	OPED
Employment generation	Is Grameen Bank creating new opportunities for its members' entrepreneurial development and employment?	OPED

3.3 Data Analysis Method

For the purpose of assessing the link between the indicators and hypotheses in this study, we employed the SPSS and Decision Analyst 2.0 software programs. The Statistical Package for Social Sciences (SPSS) is a more suitable statistical methodology for this study. It provides appropriate tests for analyzing the links between the study's hypotheses (Hejase & Hejase. 2015; Gazi & Alam, 2014; Gunarto, 2019). This study used various statistical tools to interpret the data, i.e., ANOVA, correlation, regression, and descriptive statistical tools. Thus, the collected data were processed subsequently, and was tabularized and scrutinized for the purpose of the study. Primary data and information were used for the purpose of the study.

The following correlation coefficient model was used for calculation of monthly income, annual savings, and capital structure;

$$r = \frac{N \sum fd_x d_y - \sum fd_x \sum fd_y}{\sqrt{N \sum fd_x^2 - (\sum fd_x)^2} \sqrt{N \sum fd_y^2 - (\sum fd_y)^2}}$$

The following mean and standard deviation models were used to calculate the capital structure of the respondents;

$$\bar{X} = A + \frac{\sum fd}{N} \times i$$

$$s = \sqrt{\frac{\sum fd^2}{N} - \left(\frac{\sum fd}{N}\right)^2} \times i$$

3.4 Variables Covered

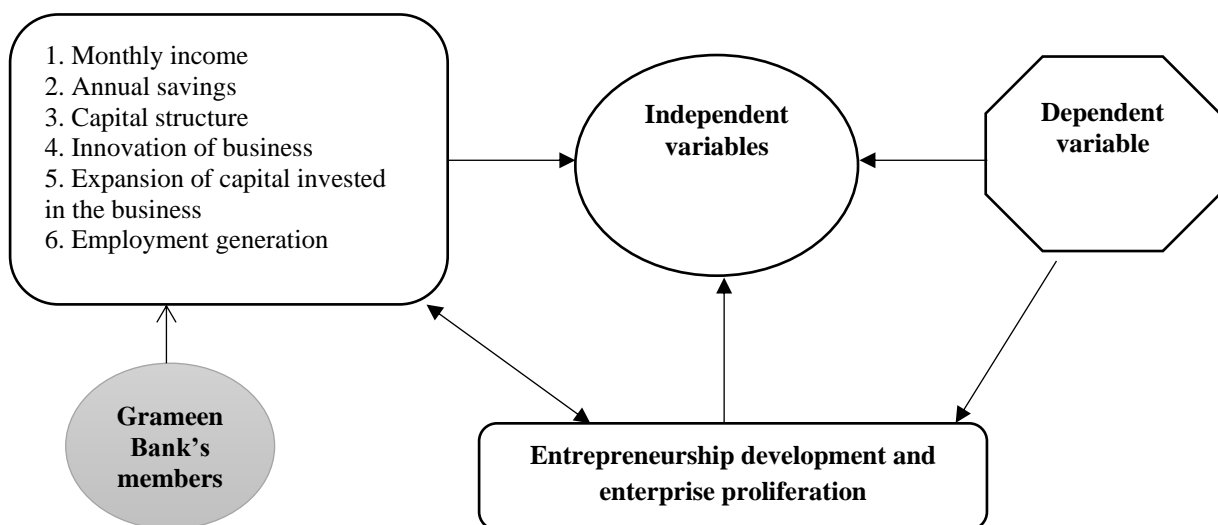


Figure 2. Research Framework, Source: Author's Analysis

4. Statistical Analysis and Results

4.1 Correlation Analysis

4.1.1 Annual Savings

The annual savings of the respondents are shown in Table 3 for the following binomial frequency distribution. The correlation coefficient calculation between membership duration with GB is shown below.

Table 3. Annual Savings of the Respondents

Annual savings of the respondents		Duration of membership of the respondents with the Grameen Bank (In Years)					Total
In Taka	In USD	5-6	6-7	7-8	8-9	9- more	Total
0 -4000	0-50	130	50	20			200
4001-8000	51-100	70	90	60			220
8001-12000	101-150	10	30	60	30		130
12001-16000	151-200		20	40	70		130
16001 - More	201-More					70	70
Total		210	190	180	100	70	750

Table 3 shows that the maximum number of membership duration of 5 to 6 years of respondents' savings amount is 0-4000 (USD 0-50) Taka. While the number of respondents at similar savings levels is low, savings also increase at a higher rate with increasing membership tenure. Table 3 also shows that the savings level Taka 16000 (USD 201-more) and more only exist when the duration of membership is above 9 years. Calculation of correlation coefficient of annual savings of the respondents is as follows (Appendix 1):

$$r = \frac{N \sum f d_x d_y - \sum f d_x \sum f d_y}{\sqrt{N \sum f d_x^2 - (\sum f d_x)^2} \sqrt{N \sum f d_y^2 - (\sum f d_y)^2}}$$

$$\text{Or, } r = \frac{750 \times 1180 - (-380 \times -350)}{\sqrt{750 \times 1420 - (-380)^2} \sqrt{750 \times 1430 - (-350)^2}}$$

$$\text{Or, } r = \frac{72200}{93520}$$

$$\text{Or, } r = 0.7720$$

Here, researchers found that correlation ($R^2=0.7723$) value is a positive high degree between the annual savings and duration of membership with the GB. The result shows that after joining the Grameen Bank, the savings of the respondents have increased.

4.1.2 Business Innovation and Member of the Grameen Bank

Calculation of mutual coefficient between respondents' business innovation and membership period with Grameen Bank for the following bivariate frequency distribution is shown below:

Table 4. Innovations of Business Enterprises of the Respondents

Number of products produced or enterprise opened after starting business	Duration of membership of the respondents with the GB (In Years)					Total
	5-6	6-7	7-8	8-9	9- more	
0-0	120	40	40	20		220
1-1	30	70	60	30	10	200
2-2	70	30	40	30	30	200
3-3	20	40			30	90
4 - More					40	40
Total	240	180	140	80	110	750

It is observed (Table 4) that the proportion of innovation in new business is high among members at the beginning of membership. It gradually decreases up to 9 years of membership but after nine years it increases. The study divulges that the Grameen Bank's (GB) members were very interested initially to start a new business but most of them are not sustained. Within 9 years, 200 respondents opened at least 2-2 enterprises/ produced products. Calculations of correlation coefficient of innovation of business of respondents are as follows (Appendix 2):

$$r = \frac{N \sum f d_x d_y - \sum f d_x \sum f d_y}{\sqrt{N \sum f d_x^2 - (\sum f d_x)^2} \sqrt{N \sum f d_y^2 - (\sum f d_y)^2}}$$

$$\text{Or, } r = \frac{750 \times 680 - (-390 \times -470)}{\sqrt{750 \times 1590 - (-390)^2} \sqrt{750 \times 1330 - (-470)^2}}$$

$$\text{Or, } r = \frac{32670}{90220.75}$$

$$\text{Or, } r = 0.362$$

The respondents' length of membership in the GB and business innovation are positively correlated to a low degree (R2=0.362). As a result, while at a relatively modest rate, the respondents' rate of entrepreneurial creation increased after joining the GB.

4.1.3 Employment Generation and Membership with GB

The coefficient calculation for the distribution of bivariate frequency between the respondent's employment creations and the time of membership with Grameen Bank is shown below:

Table 5. Employment Generation of Business of Respondents

Number of employees increased after starting business	Duration of membership of the respondents with the Grameen Bank (In Years)					Total
	5-6	6-7	7-8	8-9	9- more	
0-0	150	30	80	70		330
1-3	20	40	50	20		130
3-6	60	70	30		20	180
6-9			30	10	40	80
9 to More				1	2	30
Total	230	140	190	110	80	750

Table 5 shows that most of the members took incentives and credit to become entrepreneurs but could not create any enterprise, so employment opportunities were not created (330). When the term of membership was 6 to 7 years, only 70 members were able to create employment for 3 to 6 people. The rate of entrepreneurship development is lower as the duration of membership elongates. Calculations of correlation coefficient of the employment generation of business of respondents are as follows (appendix 3):

$$r = \frac{N \sum f d_x d_y - \sum f d_x \sum f d_y}{\sqrt{N \sum f d_x^2 - (\sum f d_x)^2} \sqrt{N \sum f d_y^2 - (\sum f d_y)^2}}$$

$$\text{Or, } r = \frac{750 \times 770 - (-330 \times -650)}{\sqrt{750 \times 1490 - (-330)^2} \sqrt{750 \times 1650 - (-650)^2}}$$

$$\text{Or, } r = \frac{36300}{90650.82}$$

$$\text{Or, } r = 0.40$$

During the respondents' period as members of Grameen Bank, there was a weak positive connection between their employment generation, and R2 is = 0.40. The findings indicate that after joining the Grameen Bank, the respondents' employment rates improved, however at a relatively modest rate.

4.2 Capital Structure of the Respondents (Z Test)

4.2.1 Calculation of Mean and Standard Deviation of Capital Structure of the Respondents

Table 6 illustrates that joining with the GB has no effect on the minimum level of savings but for more savings it has a significant effect. After joining Grameen Bank, the savings level of the respondents increased as compared to before joining Grameen Bank. In the Tk. 8001-16000 bracket, the number of

respondents increased from 350 to 440. It is also found that the highest number of respondents have savings Tk. 8000-16000 (USD100-200).

Table 6. Capital Structures of the Respondents (Z Test)

Annual savings		Before joining with GB		After joining with GB	
in Taka	in USD	No. of respondents	Percentage (%) of respondents	No. of respondents	Percentage (%) of respondents
0-8000	0-100	300	40.00	110	14.67
8001-16000	101-200	350	46.67	440	58.67
16001-24000	201-300	70	9.33	140	18.67
24001-32000	301-400	30	4.00	60	8.00
Total		750	100	750	100

a) Calculation of mean and standard deviation of capital structure of the respondents before joining Grameen Bank is shown below:

Table 7. Calculations of Mean and Standard Deviation

Capital structure (In'000'Tk)	m.p X	No. of users f	X-20/8 d	fd	fd ²
0-8	4	30	-2	-60	120
8-16	12	35	-1	-135	35
16-24	20	7	0	0	0
24-32	28	3	+1	3	3
		N=50		$\sum fd = -92$	$\sum fd^2 = 158$

$$\bar{X} = A + \frac{\sum fd}{N} \times i = 20 + \frac{-92}{750} \times 8 = 10.1860 \times 1000 = TK.10186$$

$$s = \sqrt{\frac{\sum fd^2}{N} - \left(\frac{\sum fd}{N}\right)^2} \times i = \sqrt{\frac{158}{750} - \left(\frac{-92}{750}\right)^2} \times 8 = 6.2070 \times 1000 = TK.6207$$

b) Calculation of mean and standard deviation of capital structure of the respondents after joining Grameen Bank is shown below:

Table 8. Calculations of Mean and Standard Deviation

Capital structure (In'000'Tk)	m.p X	No. of users f	X-20/8 d	fd	fd ²
0-8	4	30	-2	-22	44
8-16	12	35	-1	-44	44
16-24	20	7	0	0	0
24-32	28	3	+1	1	6
		N=50		$\sum fd = -40$	$\sum fd^2 = 94$

$$\bar{X} = A + \frac{\sum fd}{N} \times i = 20 + \frac{-40}{750} \times 8 = 13.60 \times 1000 = TK.136000$$

$$s = \sqrt{\frac{\sum fd^2}{N} - \left(\frac{\sum fd}{N}\right)^2} \times i = \sqrt{\frac{94}{750} - \left(\frac{-40}{750}\right)^2} \times 8 = 62650 \times 1000 = TK.62650$$

Table 9. Summary of Calculation of Capital Structure of the Respondents

Particulars	After joining with GB	Before joining with GB
Mean capital (in Tk)	136000	101860
Standard deviation (in Tk)	62650	62070
Sample size	750	750

Table 9 shows the capital structure strength before and after membership in Grameen Bank. The study shows that after the membership of Grameen Bank the strength of capital structure has increased which was earlier Tk 101860 now it has changed position to Tk 136000.

C) Calculation of Z test of above information is given below:

Let us take the null hypothesis that there is no significant difference between the capital structure of the respondents before and after joining Grameen Bank, i.e., $H_0: \mu_1 = \mu_2$

$$z = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2}{\mu_1} + \frac{s_2^2}{\mu_2}}} = \frac{136000 - 101860}{\sqrt{\frac{(62650)^2}{750} + \frac{(62070)^2}{750}}} = \frac{34140}{10180} = 3.3536$$

We reject the null hypothesis (H4) because our estimated value of $z = 3.353$ is greater than the critical value of $z = 1.96$ at the 5% significant level (and the critical value of $z = 2.56$ at the 1% significant level). As a result, there are notable differences between the respondents' capital structures before and after joining Grameen Bank. Consequently, it can be claimed that joining Grameen Bank greatly enhanced the respondents' capital structure.

4.3 Analysis of Variance (F-Test)

4.3.1 Monthly Earnings Variants or F Test Analysis of Responses

Table 10. ANOVA Table

Source of variation	Sum of squares (SS)	Degree of freedom (d.f)	Mean square (MS)	Variation ratio or F
Between respondents	19.1248	4	4.7812	4.7812/2.6534=1.802
Between districts	36.021	9	4.0023	4.0023/2.6534=1.508
Residual	95.522	36	2.6534	
Total	150.67	49		

a) For $v_{4,36}$, $F_{0.05} = 2.648$ b) For $v_{9,36}$, $F_{0.05} = 2.174$

Since the calculation value 1.802 is smaller than the table value 2.648, the null estimate (H1) is accepted. Thus, the average monthly income is not the same for different respondents at 5% level of significance. The null hypothesis is supported since the estimated value of 1.508 is less than the table value of 2.174. Therefore, at a 5 percent level of significance, Ten (10) districts differ in terms of the mean monthly income for various respondents.

4.3.2 Analysis of Variance or F Test of the Expansion of Capital Invested in the Business of the Respondents

Table 11. ANOVA Table of the Expansion of Capital Invested in the Business

Source of variation	Sum of squares (SS)	Degree of freedom (d.f)	Mean square (MS)	Variation ratio or F
Between respondents	51.92	4	12.98	20.22/12.98=1.558
Between centers	68.32	9	7.59	20.22/7.59=2.664
Residual	728.08	36	20.22	
Total	848.32	49		

a) For $v_{4,36}$, $F_{0.05} = 2.648$ b) For $v_{9,36}$, $F_{0.05} = 2.174$

Since the table value 2.648 is bigger than calculated value 1.558, the null estimate is accepted. Therefore, the significance of the average expansion of business investment capital is not the same for different respondents at the level of 5%. Since the table value 2.1744 is smaller than calculated value 2.6464, the null hypothesis is rejected. Thus, the significance of the 10 districts differs significantly with respect to the average expansion of business investment capital for different respondents at the 5% level of significance (Table 11).

According to the results of the F test, the mean expansion and mean business investment capital are not the same for all respondents at the 5% level; however, the 10 districts capitals deviate noticeably from the business investment for the average expansion while being from different respondents.

5. Discussion

The focal objective of the study was to determine the role of the banking sector in disseminating entrepreneurship development and enterprise proliferation. From the analysis we got its impact on the banking sector on business innovation and entrepreneurship development. Researchers showed that after becoming a member of Grameen Bank, the annual savings of the members and the ability to invest capital increased. So, hypotheses 1, 2, and 3 are accepted. Several studies also found similar results (EI Hadidi, 2018; Gautam et al., 2020; Sharma et al., 2020). Although not at the expected rate, new enterprises are nevertheless being founded. The researchers discovered that both member-led business initiatives and job possibilities at well-established companies has expanded. It was discovered that the member's company capital has risen as a result of obtaining a loan from Grameen Bank. By employing this cash, the members start their own businesses and take advantage of all opportunities for expanding their present ventures or switching to a new industry that would provide them with greater financial assistance.

As the capital increases, the income level of the business also increases. By expanding business, members have made money and its impact is positive on their income level. Adel et al. (2020), Patriotta and Siegel (2019), and Ghosh (2022) found the same type of results. Their research shows that the banking sector has contributed to business expansion, income growth, and capital growth of its members. Nath (2020) and Hajer et al. (2015) inveterate the outcomes of the extant study. The analysis of data testifies to this fact. The analysis of data has been indicated to this fact that by increasing the business capital, the level of innovation of business of the respondents has increased as well. This study reveals that income, entrepreneurial innovation and employment opportunity increase as credit facilities increase. Therefore, hypothesis 5 is accepted. It indicates that money is used almost correctly. This indicates that the country's development, particularly among entrepreneurs, is the primary goal of the progress effort. In this context, studies have demonstrated that variables like financial assistance from Grameen Bank greatly encourage entrepreneurial activities and job prospects among small business owners. Gazi et al. (2013), Sushmitha et al. (2018), and Rasak (2012) found the same type of results. The study has exhibited that the financial help from the Grameen Bank is the most motivating factor for prospective entrepreneurs (Misaldilip, 2016; Oshiobugie et al., 2015; Tmava et al., 2013). The socioeconomic development of a population is shown by their access to various chances in life in the desired manner. Additionally, the capital structure grew. Thus, hypothesis 4 is accepted. Entrepreneurs used the benefits of GB to assist in their personal and organizational advancement, especially in job creation, capital formation, and business expansion.

However, the bank personnel opined that social customs and religious barriers, illiteracy of the entrepreneurs, poor managerial and technical skill, diversion of loan for unproductive purposes, overlapping, political influence, inference of village money lenders, and natural calamities sometimes create problems for the smooth functioning of GB loan disbursement and realization activities. They also noted that finding the proper kinds of entrepreneurs and getting loans for the correct things are issues with the growth of small businesses in Bangladesh. In this instance, it may be argued that Grameen Bank's participation in microcredits is a recent development. It is true that the Grameen Bank has brought improvement to a lot of entrepreneurs by helping them in alleviating poverty to some extent; however such improvement is considered only partially. Therefore, the total improvement at the desired level is an urgent need of the banking sector.

6. Conclusion

The present study was carried out to analyze the extent to which the banking sector of Bangladesh is playing a role in the development of entrepreneurship. The banking sector of Bangladesh is now well integrated, contributing to the national economy, creating employment, and making a significant contribution to the development of entrepreneurship. Grameen Bank, one of the largest non-scheduled banks in Bangladesh, was born with the aim of poverty alleviation, employment, and entrepreneurship development. The 2,200 branches of Grameen Bank spread across the country are a symbol of the trust of the people of the rural areas. A multi-pronged action plan for poverty alleviation has been implemented by this bank. Special programs have been implemented especially for rural women to become self-reliant and small entrepreneurs. As a result, employment opportunities have been created,

and women have become self-reliant. The desire to make rural poor people entrepreneurs along with women empowerment has taken Grameen Bank to unique heights.

Paucity of capital was the dominant problem for expansion of business in all categories of activity. Most of the entrepreneurs could not create employment opportunities through the expansion of their activities due to shortage of capital. Shortage of working capital has also hampered the growth of innovative activities along with technological changes and new lines of business. Clearly, the successful use of credit money is expected to have a positive impact on business income. It implies that the level of income and amount of savings has increased as per the opinion obtained from the respondents. Successful use of credit money is expected to have a positive impact on business innovation for most respondents. Present study identified the low rate of business innovation by the members of Grameen Bank. In this case, the authorities of GB have to take necessary steps to uplift this innovation rate, e.g., arranging sufficient formal and informal training facilities and providing proper guidelines to develop their business innovation power. There are not enough employment opportunities in the newly established enterprise because it could not be sustained in the long run. The concerned authorities should take care of the newly established enterprises and entrepreneurs to create employment opportunities so that they can create a significant footprint. It is also widely acknowledged that imposing appropriate credit oversight measures can solve the problem of funding changes and misuse of funds. Banks and other development agencies can help entrepreneurs to use the concept of cooperatives to overcome the production and marketing problems faced by them. Furthermore, it may take steps to facilitate marketing efforts for entrepreneurs by setting up retail outlets in various locations in its area of operation. The authorities concerned should introduce entrepreneurship courses and training programs for underprivileged women and men so that they can become potential job creators instead of job seekers. It will empower men and women with entrepreneurial skills. For this, more practical and necessary training programs need to be formulated for the entrepreneurs. Reward can be provided for the active and efficient members of GB.

Implications of the Study

From the overall perspective it can be seen that the privileged members from the banking sector are encouraged to become entrepreneurs. Realizing that the role of the banking sector in the development of entrepreneurship is undeniable, SMEs are committed to providing more microcredit and financial support and are directed to encourage members to become entrepreneurs. The current study suggests that the banking sector should play a more dynamic role in entrepreneurship development. The results of present study have significant policy ramifications for the banking sector on entrepreneurial strategy and fund allocation for enterprises proliferation. According to the findings, increased banking sector's support and favorable policy implications can only have a positive impact on entrepreneurship to the full extent when the host countries have strong macroeconomic bases and an efficient institutional structure for new entrepreneurs. It is crucial for policymakers to make regulations simpler so that banks' members can become entrepreneurs. Additionally, increasing economic prosperity and growth rates should make it easier for existing enterprises and prospective entrepreneurs to adapt to financial conditions, such as easier access to microcredits-loans from the banks. Moreover, training arrangements for potential entrepreneurs, capital supply, and project supervision should be regularly evaluated. Banking sector is one of Bangladesh's vast economic sectors. If every bank comes forward from social responsibility to entrepreneurship development, many new innovative business ideas will be created, entrepreneurs will be created, and many small-medium enterprises will be developed. That is why the banking sector should come forward. This study suggests taking practical steps to create and develop entrepreneurship by the Bangladesh's banking sector.

Limitations of the Study and Future Research Directions

The researchers have observed many hurdles during the data collection. The limitations are covered in many areas like the obtainability of data, data congregation, data analysis and scrutiny, habitual methodology, small sample size, not comprehensive field, etc. As discussed in the literature review, the number of studies have been limited in the related field. Finally the study recommends that further investigations and research can be steered by using more samples and respondents as well as more sophisticated research methodologies.

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Appendices

Appendix 1

Y d_y	X d_x	5-6	6-7	7-8	8-9	9-more	F	fd_y	fd_y^2	$fd_x d_y$
		-2	-1	0	+1	+2				
0 - 4000	-2	$\frac{52}{13}$	$\frac{10}{5}$	$\frac{0}{2}$			200	-400	800	620
4001 - 8000	-1	$\frac{14}{7}$	$\frac{9}{9}$	$\frac{0}{6}$			220	-220	220	230
8001 - 12000	0	$\frac{0}{1}$	$\frac{0}{3}$	$\frac{0}{6}$	$\frac{0}{3}$		130	00	00	00
12001-16000	+1		$\frac{-2}{2}$	$\frac{0}{4}$	$\frac{7}{7}$		130	130	130	50
16001- More	+2					$\frac{28}{7}$	70	140	280	280
	f	21	20	18	10	7	N = 750	$\sum fd_y = -350$	$\sum fd_y^2 = 1430$	$\sum fd_x d_y = 1180$
	fd_x	-420	-200	0	100	140	$\sum fd_x = -380$			
	fd_x^2	840	200	0	100	280	$\sum fd_x^2 = 1420$			
	$fd_x d_y$	660	170	00	70	280	$\sum fd_x d_y = 1180$			

Appendix 2

Y d_y	X d_x	5-6	6-7	7-8	8-9	9-more	f	fd_y	fd_y^2	$fd_x d_y$
		-2	-1	0	+1	+2				
0-0	-2	$\frac{48}{12}$	$\frac{8}{4}$	$\frac{0}{4}$	$\frac{-4}{2}$		220	-440	880	520
1-1	-1		$\frac{2}{7}$	$\frac{0}{6}$	$\frac{-3}{3}$	$\frac{-2}{1}$	200	-200	200	80
2-2	0	$\frac{0}{7}$	$\frac{0}{3}$	$\frac{0}{4}$	$\frac{0}{3}$	$\frac{0}{3}$	200	0	00	00
3-3	+1	$\frac{-4}{2}$	$\frac{-4}{4}$	$\frac{0}{4}$	$\frac{2}{2}$	$\frac{6}{3}$	90	90	90	-20
4-More	+2			1	2	$\frac{8}{2}$	40	80	160	100
	f	24	18	15	9	9	N = 750	$\sum fd_y = -470$	$\sum fd_y^2 = 1330$	$\sum fd_x d_y = 680$
	fd_x	-480	-180	0	90	180	$\sum fd_x = -390$			
	fd_x^2	960	180	0	90	360	$\sum fd_x^2 = 1590$			
	$fd_x d_y$	500	110	00	-50	120	$\sum fd_x d_y = 680$			

Appendix 3

Y d_y	X d_x	5-6	6-7	7-8	8-9	9-more	f	fd_y	fd_y^2	$fd_x d_y$
		-2	-1	0	+1	+2				
0-0	-2	60 11	6 3	0 8	-14 7		330	-660	1320	520
1-1	-1	2	4 4	0 5	-2 2		130	-130	130	60
2-2	0	0 6	0 7	0 3	1 1	0 2	180	0	0	0
3-3	+1				1 2	6 4	80	80	80	90
4-More	+2					8 2	60	60	120	100
	f	23	14	19	11	8	N = 750	$\sum fd_y = -650$	$\sum fd_y^2 = 1650$	$\sum fd_x d_y = 770$
	fd_x	-460	-140	0	110	160	$\sum fd_x = -330$			
	fd_x^2	920	140	0	110	320	$\sum fd_x^2 = 1490$			
	$fd_x d_y$	640	100	0	-130	160	$\sum fd_x d_y = 770$			