

Use of bounded rationality theory to understand participation of women in Islamic microfinance

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Abstract: *The prime objective of this paper is to understand the participation behaviour of rural poor women in Islamic microfinance pursued with an aim to build up successful micro-entrepreneurship. In so doing, the study employs a new theory of boundedly rational planned behaviour (TBRPB) to formulate a research framework. Data (n = 390) were collected from the women borrowers of an Islamic microfinance institute, the Rural Development Scheme (RDS) in Bangladesh, following a simple random sampling procedure. Structural equation modelling (SEM) was utilized to analyse the data through AMOS software. The findings suggest that the attitudes and normative perceptions of the rural women are highly significant in influencing their subjective rational plan towards participation in the institute, which has been effectively helping build up successful micro-entrepreneurship.*

Keywords: participation, rural women, Islamic microfinance, entrepreneurship, RDS

Introduction

PARTICIPATION OF THE RURAL POOR in interest-based conventional microcredit has been discussed in economic and development literature since its inception in Bangladesh in 1983 when the Grameen Bank was established by Professor Muhammad Yunus (Hossain, 1984; Evans et al., 1999; Rahman, 1999; Hulme, 2000; Rutherford, 2003; Hashemi and Rosenberg, 2006; Ashraf, 2015). Similar discussion has also been observed in the case of interest-free Islamic microfinance which emerged in Bangladesh in the early 1990s (Ahmed, 2002, 2012; Ashraf, 2010b). However, these dialogues about the interest-based and the interest-free microfinance programmes are very different in nature. The fundamental debates are around the issue of ‘mission drift’, or the effectiveness of the Grameen-based model of microfinance in alleviating rural poverty through willing participation of the rural poor in micro-entrepreneurship activities (Rutherford, 2003; Ferdousi, 2015). The arguments against Islamic microfinance are its lack of proper knowledge and general attitude of rural poor women towards the entirely new operating principles of interest-free microfinance activities (Ashraf, 2010b; Ahmed, 2012).

Considerable advances have been made during the last few decades in understanding the participation behaviour of rural poor women in microfinance activities through different empirical methods of investigation. Some studies have

incorporated general econometric procedures in their analyses and many others are based on psychological principles and models such as the theory of reasoned action (TRA) developed by Fishbein and Ajzen (1975) and the theory of planned behaviour (TPB) developed by Ajzen (1991). However, these theories are based on the neoclassical economic tenets of general rationality of economic agents which have been enormously criticized by Nobel scholars such as Simon (1986), Kahneman (2017), and Thaler (2017). Thus, all the earlier investigations of participation in microfinance based on general econometric models, TRA, or TPB are subject to profound criticisms of their ability to predict human behaviour. Thus, we need an alternative model to predict actual human behaviour. In this context, Ashraf (2017) expounded a new theory of boundedly rational planned behaviour (TBRPB) which is based on limited human rationality.

The main purpose of this study is, therefore, to examine the actual participation behaviour of rural poor women in a micro-lending system introduced by a micro-finance institution in order to initiate self-employment in micro-enterprises in rural areas to alleviate rural poverty. This issue has remained unresolved and, importantly, is ranked among the top priorities by civil society, economists, and policy planners of Bangladesh (Ahsanullah, 2015). Thus, this study endeavours to identify the factors that are responsible for influencing the bounded individual rationality towards actual participation behaviour of the women borrowers in one of the Islamic micro-finance institutes in Bangladesh – the Rural Development Scheme (RDS) – based on TBRPB recently introduced by Ashraf (2017).

The plan for this paper is as follows: first, the background of the study and entrepreneurial profiles of the women participating in the Islamic microfinance institute of RDS are reviewed. Next, the TBRPB used as theoretical background is briefly discussed, as is the relevant literature on different constructs of the model. Then, the research model and hypotheses are presented, followed by a discussion of the research method and findings from the data analysis. A discussion of the meaning of the results and their implications along with directions for further research and the limitations of this study ends the paper.

Entrepreneurship and microfinance in Bangladesh: an overview

Entrepreneurial spirit has been an essential part of life in Bengal since its ancient historical times (Ahsanullah, 2015). *Banijye Basati Laxmi* (business brings fortune) is an old adage coined in ancient times and has remained a core entrepreneurial philosophy of life and society for centuries in this land (Ahsanullah, 2015). This entrepreneurial spirit subsequently had a brilliant influence on financial prosperity of life and livelihood in this deltaic territory on the northern side of the Bay of Bengal. Thus, Bangladesh (the eastern part of undivided Bengal) became the most economically affluent and flourishing land in ancient times in the entire Indian subcontinent (Debnath, 2011). Merchants of this region used to cross the subcontinent with merchandise, which had a profound influence on its neighbours of Burma, Bali Island, Cambodia, Java, Malaya, Siam, Sumatra, and Sri Lanka (Ahsanullah, 2015).

Microfinance in Bangladesh has inherited a long history of innovative financial inclusion. Saving and entrepreneurship remain at the heart of this inclusive financial operation (Ferdousi, 2015). However, entrepreneurship as we define it today was not very developed in the earlier period (Ashraf and Saad, 2011; Ferdousi, 2015). It is equally likely that female entrepreneurship was also there in that period, but not in its present form, as women used to work at home and assist the male family members, popularly known as the 'cult of domesticity' in American society in the early 19th century (Blaszczyk, 2002; Kaister, 2011). There have been many other misperceptions of the role of women as entrepreneurs in the subcontinent. Women were generally regarded as unproductive, inefficient, untrustworthy, and not bankable (Ahmed, 2002; Yunus, 2008; Ashraf, 2015). Particularly, the status of rural poor women was much worse in this part of the country (Singh and Gachui, 2018). A recent report found that in the first half of 2017, among the 15 per cent of women entrepreneurs, only 2.79 per cent obtained an Small to Medium Enterprise (SME) loan in Bangladesh (Rahman, 2017). One of the important reasons behind allowing this meagre percentage of the women entrepreneurs to have the SME loan is, as the report says, because most banks are willing to provide loans to large and productive entrepreneurs who would not default on their loans (Rahman, 2017; Singh and Gachui, 2018).

In this respect, Professor Yunus was the 'whistle blower' who disproved all the myths that persisted for centuries in societies and who pioneered the microcredit movement in Bangladesh by articulating a pragmatic organizational setup like the Grameen Bank established in 1983 (Ferdousi, 2015; Ashraf, 2015). This bank revolutionized the group-lending system, providing small loans to rural poor women with an end to empower them; these women constituted more than 95 per cent of all the microcredit borrowers to start small business ventures (Ashraf, 2010a; Hossain, 2015). This is certainly a historical breakthrough when rural poor women were provided an opportunity to be micro-entrepreneurs with their limited skills in crafting pottery, bamboo cases, husking paddies, and other types of handicrafts (Hossain, 2015; Ashraf, 2016).

Later on, following the Grameen-model of micro-lending, many NGOs and microfinance institutions (MFIs) were established in Bangladesh and in many other developing and developed countries of the world, including the USA, in order to promote micro-entrepreneurship prominently led by women entrepreneurs (Sofi, 2012; Ashraf, 2014). Among these MFIs, many follow Islamic principles in their lending operations and are based on the profit and loss sharing process in lieu of interest, which is prohibited by the Islamic religion (Ashraf, 2010a; Ahamad, 2016). The RDS is an Islamic microfinance institute which was established by the Islamic Bank Bangladesh Limited (IBBL) in Bangladesh in 1995. Similar Islamic microfinance institutes (IMFIs) have also been working in many other Islamic countries of the world, with huge success in alleviating rural poverty through micro-enterprises led by women entrepreneurs (Mawa, 2008; Saad and Duasa, 2010; Ashraf, 2010b; Sofi, 2012; Ahamad, 2016).

Women's advocates have long championed gender parity as a moral issue. However, in the modern global economy, eliminating obstacles to women's economic participation is also a strategic imperative (Singh and Gachui, 2018). A growing body of

evidence confirms the positive relationship between women's participation in the labour force and overall growth. In 2013, the Organisation for Economic Co-operation and Development (OECD) concluded that a more gender-balanced economy could boost GDP by an estimated 12 per cent in OECD countries (Vogelstein, 2018). The International Monetary Fund has made similar predictions for non-OECD countries, projecting that greater female economic participation would bring GDP gains of about 12 per cent in the United Arab Emirates and 34 per cent in Egypt. All told, according to a 2015 report by the McKinsey Global Institute, closing gender gaps in the workplace could add an estimated US\$12 trillion to global GDP by 2025 (Vogelstein, 2018).

However, there have been myriads of misperceptions among the people about Islamic banking and Islamic micro-lending by IMFI in Bangladesh and in other countries of the globe (Ahmed, 2002; Ashraf, 2010b). These misperceptions about the Islamic financial system are the results of illiteracy among the people in developing countries and ignorance as a whole about the Islamic school of economics, finance, and banking. However, this Islamic school is now regarded by many experts as the best alternative to the conventional Classical, Neo-classical, Keynesian and Neo-Keynesian capitalistic economic paradigms to solve the current economic and financial predicament persisting in all of the developed and developing nations of the world (Hoggarth, 2016).

Focusing on this new reality, David Cameron (2013: 1) declared in his inaugural speech delivered at the 9th World Islamic Economic Forum that:

Already London is the biggest center for Islamic finance outside the Islamic world. But today our ambition is to go further still. I don't just want London to be a great capital of Islamic finance in the Western world. I want London to stand alongside Dubai and Kuala Lumpur as one of the great capitals of Islamic finance anywhere in the world.

People in developing countries are also generally not enthusiastic and motivated about self-employment through successful business or entrepreneurship, which can reduce national unemployment problems and bring financial independence. Because wages and working conditions are typically better in wage jobs than in self-employment, 'everybody' in developing countries wants a wage job (Fields, 2012). For this reason, people are biased towards wage-employment rather than self-employment through entrepreneurship, which can generate increased income for the entrepreneurs as well as more employment opportunities for many others in society (Hasan and Jandoc, 2008). It is, therefore, crucial to check for attitude, social enforcement, and perceived ability of rural poor women around participation in the Islamic microfinance system.

Entrepreneurial profiles of the women borrowers

The present study explored the entrepreneurial and participation behaviour of the women who took microloans from the Islamic microfinance institute RDS located in rural areas on the outskirts of the city of Dhaka, namely in Lalbagh,

Table 1 Entrepreneurial investment profile of the respondents in the study areas

<i>Entrepreneurial investment activity</i>	<i>Percentage</i>
Service sector:	54
Wholesale and retail business	35
Community, society, and personal service	12
Transport, storage, and communication	3
Hotel and restaurant	2
Health	1
Education	0.6
Real estate, rent, and business activities	0.4
Agricultural sector:	26
Animal husbandry	19
Field crops	4
Fisheries	2
Forestry	1
Manufacturing or industrial sector:	20
Boutiques	6
Traditional garments	4
Garments	3
Handicraft	3
Paper bag production	2
Furniture production	1
Cotton spinning	1

Source: Study survey

Kamrangi Char, Gazipur, and Savar. The scheme provided investment funding for many sectors, including crops cultivation, agro-machineries, nursery, livestock, poultry, fisheries, rural transport, rural housing, and off-farm activities. Non-farming investments in SMEs made up 33 per cent of the total investments. In the present survey, the economic activities of women entrepreneurs can be categorized by sector as agriculture, industry, and service. It was observed that the economic activities of 54 per cent of the 290 women entrepreneurs remained in the service sector, 26 per cent in the agricultural sector, and 20 per cent in the manufacturing or industrial sector. Their sector-specific activities are provided in detail in Table 1.

In the survey, it was found that 44 per cent out of 390 women entrepreneurs were fully involved in business while 29 per cent were partially involved through family members (husband, sons, and father). Some 2 per cent of women entrepreneurs hired employees to look after their business and 26 per cent of women entrepreneurs' businesses were operated by family members. Aside from the financial services offered under RDS, the programme also provides non-financial services such as the humanitarian assistance programme, education programme,

capacity building and training programme, health and medical programme, and the environment protection programme.

As part of the survey, the data collectors also gathered qualitative information about the rural women borrowers' overall perception of and experience with Islamic microfinancing and the business activities of the RDS organization. The respondents were open to sharing their experiences, knowledge, and problems related to the borrowing and repayment of loans. Most importantly, none of the existing clients of RDS expressed a plan to leave the RDS and join Grameen Bank in the foreseeable future. They mentioned the following reasons: the RDS office used to be closer to their homes and it used to deliver the goods (investment) at their doorsteps while the Grameen Bank used to put undue pressure on collecting weekly loan repayments from their clients. RDS never pressured them in that way. According to them, the RDS employees used to discuss Islamic principles in terms of prohibiting usury or interest. RDS is also flexible in terms of weekly instalments of loan repayment. Determination of the appropriate instalment frequency in the agricultural sector depends on the cropping cycle. In the case of vegetable production, weekly instalments allowing a longer growing period is suggested. For the non-agricultural sector, instalments may be made on a weekly, monthly or quarterly basis. As mentioned earlier, since RDS is an Islamic microfinance institute, it does not charge any interest on the loans. Besides, RDS workers used to visit them frequently and provide investment money at their doorsteps. In this regard, a brief comparison between the Grameen Bank and RDS is presented in Table 2.

The clients also made several recommendations for RDS to consider, as follows:

- To increase the volume of investible funds.
- To provide different types of funds consecutively over the year rather than once per year.
- To provide special types of financial services for constructing houses, sanitary latrines, tube wells for drinking water, emergency medical treatments, and daughters' marriages, and more training facilities for small business like tailoring, handicrafts, fish culture, poultry, dairy, and duck raising.
- To provide more instructions about the Islamic principles which are essential for leading their lives and earning livelihoods in an honest and justifiable way.
- To increase charitable funds such as *sadaqah* (voluntary charity), *zakah* (obligatory alms for wealthy persons), and other donations for the destitute in emergency cases.
- To increase flexible education loans for their children with easy terms and conditions.
- To introduce personal loans in cash rather than in kind with a small rate of service charge.
- To provide essential technical know-how, for example, computer training essential for running a business.
- To provide other necessary information related to marketing intelligence for making their small ventures successful.

Table 2 Comparisons of operations between Grameen Bank and RDS

	<i>Grameen Bank</i>	<i>RDS</i>
Liabilities (sources of funds)	External funds, clients' savings	External funds, clients' savings, Islamic charities
Assets (mode of financing)	Interest-based	Non-interest-bearing Islamic financial instrument
Financing the poorest	Exclude the poorest	Include the poorest
Funds transfer	Cash	No cash (goods)
Deduction at contract inception	Partial fund deducted	No deduction
Target group	Women	Family
Target objective	Women empowerment	Family welfare
Loan liability (for women clients)	Recipient	Recipient and spouse
Employee work incentive	Monetary	Monetary and religious
Dealing with default	Centre pressure and threats	Dealt with through Islamic ethics
Programme nature	Secular social development	Religious social development
Loan repayment schedule	Weekly instalment	Flexible
Loan amount	Less than US\$100	Varies by sector up to US\$1,500
Savings	Compulsory weekly savings	Flexible
Financial services	Credits, savings, micro-insurances, education funds	Credits, savings, micro-insurances, education funds, social welfare funds
Cost of loans	More than 35 per cent (including 20 per cent absolute interest rate)	Much less than 35 per cent (no interest)

Source: Ahmed (2002)

Theory of boundedly rational planned behaviour and past research

The theory of boundedly rational planned behaviour (TBRPB), developed by Ashraf (2017), is a modification of the theory of planned behaviour (TPB) given by Ajzen (1991). TPB is fundamentally dependent on the generalized assumption that all human beings are rational by nature. TBRPB was made necessary by the latter model's inability to deal with individuals' subjective behaviour over which individuals may have personal boundedly (sometimes irrational) rational intentions. In fact, the idea of bounded rationality was originally advanced by Nobel laureate economists Herbert Simon (1986), and Richard Thaler (2008, 2017). In their studies, both Thaler (2008, 2017) and Simon (1986) conjectured that people are subjective in nature in choosing different options, guided by unique personal choices and preferences rather than by the general rationality argument expounded by neoclassical mainstream economics and incomplete volitional control (explained in more detail below). For neoclassical economists, the economic human represents the ideal employee: an energetic worker bee who is a rational yet competitive decision-maker. Alternatively, one could view this portrayal as a cold and selfish workaholic endlessly seeking the accumulation

of money and advancement – a chilling representation of capitalism. Or perhaps, as Peter Fleming (2017) argues, general rationality does not actually exist at all. In this respect, Thaler (2008) argued that economics has long differed from other disciplines in its belief that most if not all human behaviour can be easily explained by relying on the assumption that our preferences are well-defined and stable across time and are rational. He further argues that anomalies in human behaviour cannot be explained by standard economic theory. In this regard, he combines insights from psychology, judgement and decision-making, and economics to generate a more accurate understanding of human behaviour (Gino, 2017).

At the heart of TBRPB is the individual's subjective and limited rationality to perform a given behaviour (see Figure 1). For TBRPB, attitude towards the target behaviour, subjective norms about engaging in the behaviour, and perceived behavioural control (PBC) over engaging in the behaviour are thought to influence limited rationality of individuals to perform any particular behaviour. As TBRPB is a newly formulated model, there has not been much previous research using it in any case studies.

According to TBRPB, an individual's performance of a certain behaviour is determined by her or his boundedly rational plan to perform that behaviour. Boundedly rational plan is itself informed by individual attitudes towards the behaviour, subjective norms about engaging in the behaviour, and perceptions about whether the individual will be able to successfully engage in the target behaviour. According to Ashraf (2017), an individual person's attitude toward a behaviour is a positive or negative evaluation of performing that behaviour. The individual person's attitudes are informed by subjective personal beliefs; subjective norms are informed by subjective normative beliefs and motivation to comply; and PBC

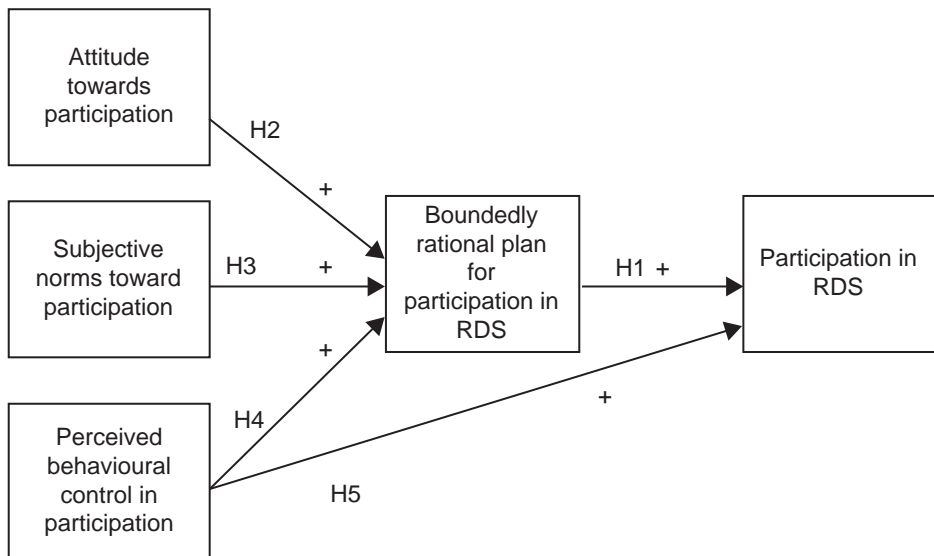


Figure 1 Research framework

Source: Ashraf (2017)

is informed by subjective beliefs about the individual's different possession of the opportunities and resources needed to engage in the actual behaviour (Ashraf, 2017). Although this construct of PBC is comparable to Bandura's concept of perceived self-efficacy (Bandura, 1997), PBC in TBRPB is stylized to the fact of the reflection of bounded rationality to choose the right option of actual behaviour. Like TPB, TBRPB also includes a direct link between perceived behavioural control and behavioural achievement. Given two individuals with the same level of intention to engage in a behaviour, the one with more confidence in his or her abilities is more likely to succeed than the one who has doubts (Ajzen, 1991). As a general theory, TBRPB does not specify the particular beliefs that are associated with any particular behaviour, so determining those beliefs is left up to the researcher.

Many recent as well as previous studies have pointed towards a positive relationship between participation in entrepreneurial activity and economic growth, prosperity, and wealth creation (Baumol, 1996; Global Entrepreneurship Monitor, 2005; Schumpeter, 1934). In recent years, entrepreneurship has become a dream for many people all over the world, but only very few understand the importance of entrepreneurship and dare to turn their dreams into reality the especially in developing world (Ashraf and Saad, 2011). In fact, starting a new business from scratch primarily requires: an initial funding opportunity as well as personal qualities such as passion, self-confidence, motivation, courage, and a high level of devotion to materialize a business success (Rakhal, 2015).

One of the most appealing advantages of becoming an entrepreneur is to be financially independent. However, it is not free of risk and uncertainties. Those who are not afraid of taking risk in establishing any business venture ultimately become successful businesspeople. Richard Branson, Steve Jobs, Mark Zuckerberg, and Bill Gates (to name a few) are among many others who decided to bring their own ideas to life (Emerson, 2010). Undoubtedly, those entrepreneurs not only changed the business perspective but also changed the way modern people perceive the world. Their unconventional and creative approaches to entrepreneurship and pertinent innovations that have become inseparable parts of modern society have not only made our everyday lives easier but they have also become a source of motivation and inspiration for people all over the world (Emerson, 2010).

Another benefit that heavily influences the decision to become an entrepreneur is the opportunity to be your own boss and therefore to do something you are truly passionate about, and to communicate your own values and ideas to society. In other words, entrepreneurship implies freedom in many areas, which is unobtainable when one is working for someone else (Emerson, 2010).

In addition to the positive aspects of having one's own business, entrepreneurship plays a big role in economic development. Though it is generally thought that corporations are the significant driving force for economic growth, empirical evidence suggests that small businesses (i.e. SMEs) are an important stimulating force which energizes local economies, mostly by creating more opportunities for employment and incomes (Agrawal, 2012). Particularly nowadays, when the majority of countries worldwide are facing an increasing unemployment problem, the importance of entrepreneurship should not be underestimated. In fact, entrepreneurship plays a

significant role in economic development not just on a national level, but on a global level as well.

Aside from reducing unemployment rates and enhancing economic growth, the importance of entrepreneurship lies in positive social changes, made through non-profit organizations or commercial businesses which are focused in an innovative and sustainable way (Emerson, 2010). It does not necessarily mean that social or private entrepreneurs are working only to solve social problems, but with more creative and innovative approaches, the majority of problems can be solved in more efficient ways. This fact necessitates providing opportunities for all the men and women in society to open business entrepreneurship based on their available education, skills, and expertise (Agrawal, 2012).

Generally, women constitute approximately half of the population of every society. Thus, the role of women cannot be ignored or marginalized in building up a modern society in the least possible time. They need to be educated and given the opportunity to start up any type of business entrepreneurship to achieve financial independence and have a prosperous life (Yunus, 2017). In this respect, the microfinance movement has opened a new horizon for rural poor women in the early period of liberated Bangladesh to start up micro-entrepreneurships and to raise their socio-economic status through the micro-lending process of the Grameen Bank model. This has allowed more than 95 per cent of rural poor women borrowers to obtain micro-loans from this microfinance institute (Ashraf, 2015; Yunus, 2017). Following this Grameen Bank model, a few Islamic MFIs were established in Bangladesh during the 1990s and RDS is one of them.

Research model and hypotheses

The research model used in the study, shown in Figure 1, is based on TBRPB. The behaviour in question is participation of rural poor women in RDS to get microfinance in order to build up successful micro-enterprises. As the typical TBRPB model would include the boundedly rational plan as a construct antecedent to actual behaviour, the research framework of the present study is constructed with participation as actual behaviour. Although the data in this study were all collected at a single point in time, both the boundedly rational plan to borrow from RDS and the participation itself have been included in the model. As plans reflect future behaviour, past behaviour is, at best, a surrogate for future behaviour.

Therefore, the boundedly rational plan appears in the model, and also there is an indirect path from attitudes towards participation in Islamic MFI to building successful entrepreneurship. The relationship between subjective norms and participation behaviour is also posited as an indirect relationship here. Similarly, in a typical TBRPB model, the relationship between perceived behavioural control and participation behaviour would be both direct and mediated by the boundedly rational plan.

The five hypotheses embodied in the model are listed below. The directionality stated in each hypothesis is derived from the prior discussion and from the basic structure of TBRPB. Boundedly rational intention can lead to positive

participation of the microfinance borrowers to be involved in entrepreneurship. Therefore:

H1. Boundedly rational planning should positively influence Islamic microfinance participation towards entrepreneurship.

Positive attitudes influence planned and actual behaviour in a positive way. Similarly, negative attitudes influence planned behaviour in a negative way (Ashraf, 2017). As the hypotheses and the expectations they contain are derived directly from TBRPB, positive attitudes towards the behaviour in question (i.e. participation in an Islamic microfinance institution) should result in the conduct of that behaviour:

H2. Positive attitudes about participation in RDS should positively influence boundedly rational planning towards this Islamic microfinance participation.

An individual's normative structure, i.e. his or her beliefs about what important others think about the behaviour in question, should directly influence his or her subjective norms, or perceptions of the social pressure to comply with expectations about engaging in the behaviour. Subjective norms should in turn influence the individual's proclivity to engage in the behaviour. If social expectations are that people should engage in the behaviour in question, then the individual should be more likely to do so. Conversely, if social expectations are that people should not engage in the behaviour, then the individual should be less likely to do so. In this case, if participation in Islamic microfinance for entrepreneurship or self-employment is seen as socially desirable behaviour, based on what important others think about it, then the individual is more likely to participate in RDS:

H3. Subjective norms about participation in RDS should influence boundedly rational planning towards this Islamic microfinance participation.

According to TBRPB, an individual's beliefs about his or her abilities to perform the behaviour in question also influence whether or not he or she actually engages in the behaviour. As is evident, given two individuals with the same plan to engage in a behaviour, the one with the stronger beliefs about his or her abilities, or perceived behavioural control, is more likely to actually perform. One of the key antecedents to perceived behavioural control in most formulations of TBRPB is self-efficacy, or the individual's self-confidence in his or her ability to perform the behaviour. In terms of Islamic microfinance participation, if an individual is self-confident about engaging in activities related to microfinance borrowing, he or she should feel positively about his or her behavioural control over that participation. The more in control an individual feels about Islamic microfinance participation, the more likely he or she will be to do so. Therefore:

H4. Positive beliefs about perceived behavioural control over participation in RDS should positively influence boundedly rational planning towards this Islamic microfinance participation.

H5. Positive beliefs about perceived behavioural control over participation in RDS should positively influence Islamic microfinance participation.

Table 3 Demographic profiles of the respondents

	<i>Valid percentage</i>
Gender	
Female	100
Male	0
Age	
Below 20 years	8
21–35 years	43
36–50 years	37
51–65 years	12
Income (Bangladesh taka)	
Below 10,000	28
10,001–20,000	27
20,001–30,000	24
30,001–40,000	14
40,001–50,000	5
Above 50,000	2
Education	
No education	30
Primary school	35
Secondary and higher secondary	29
College	6
Religion	
Islam	92
Hinduism	8

Source: Study survey

Research method

Data collection took place in August and September 2017. A total of 390 RDS borrowers were selected from the rural areas of the outskirts of Dhaka, namely Lalbagh, Kamrangi Char, Gazipur, and Savar, to complete a questionnaire that contained measures of the constructs of concern. The questionnaire was pilot tested with a small number of borrowers. Tables 1, 2, and 3 list sector-wise entrepreneurial investment activities, a brief comparison between the Grameen Bank and RDS, and demographic profiles of the respondents, respectively.

The approach to testing the TBRPB model was based on that used by Ashraf (2017) to test the model with its own structures. Measures of boundedly rational planning (four items), attitude (nine), subjective norms (four), perceived behavioural control (four), and participation in RDS were all based on an instrument developed by Ashraf (2017). For analysis, each belief item score was multiplied by its corresponding evaluation item score. As multiple-item scales are preferred in most cases (De Vellis, 2003), actual participation behaviour was measured with four items. There were also five demographic questions included in the instrument. Descriptive statistics for the scales are included in Table 4.

Table 4 Descriptive statistics for constructs of the study

Construct	n	Minimum	Maximum	Mean	St. dev.
Participation	390	2.50	5.50	4.86	0.76
Boundedly rational plan	390	2.50	7.00	5.67	1.03
Attitude	390	2.33	6.56	5.39	0.84
Subjective norm	390	2.00	6.75	5.24	0.97
Behavioural control	390	1.75	7.00	5.99	1.06

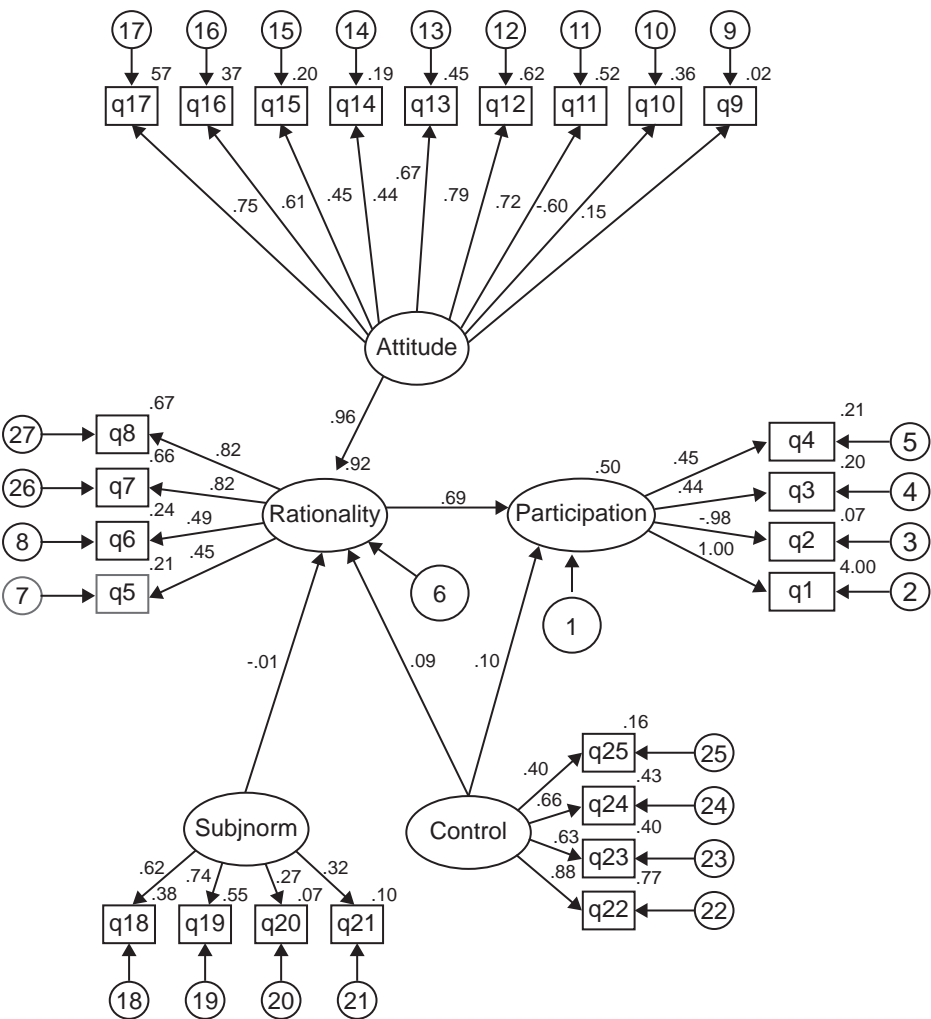


Figure 2 Measurement model with item loadings: exploratory factor analysis (EFA)

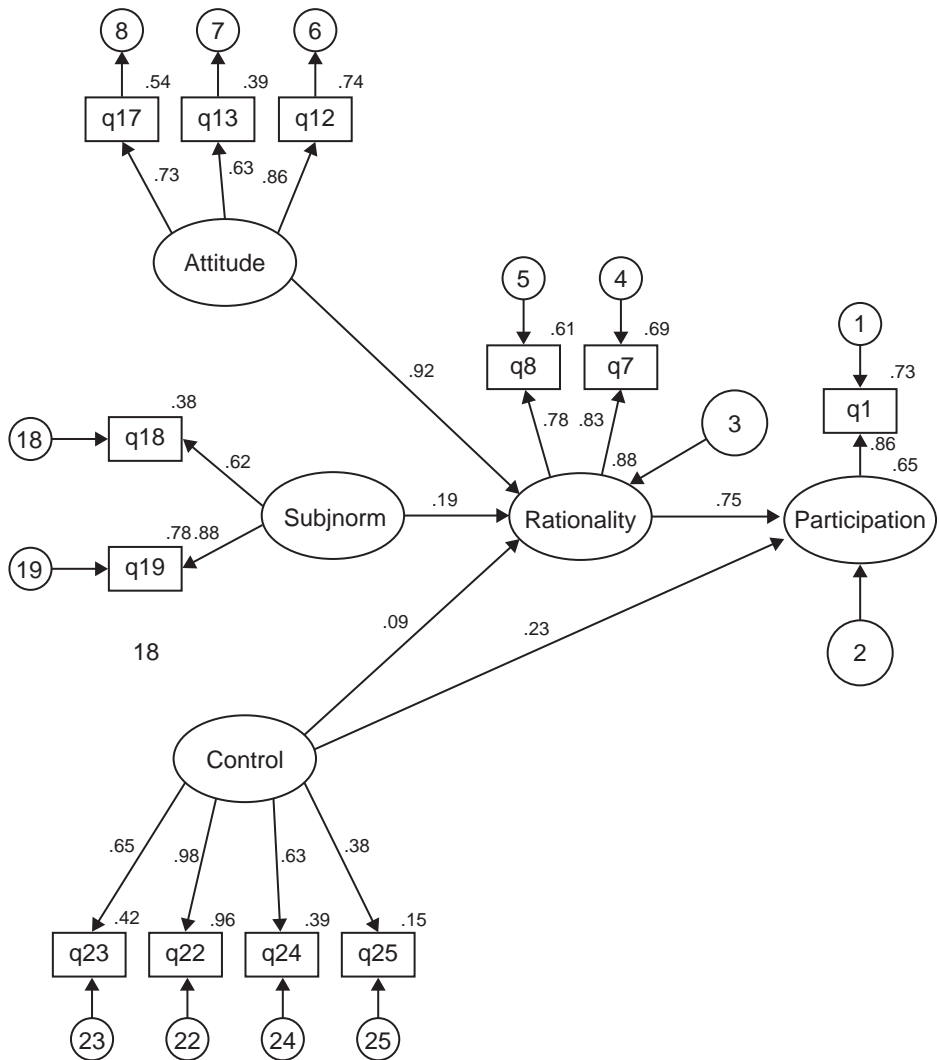


Figure 3 Measurement model with path loadings: confirmatory factor analysis (CFA)

The data were analysed using the software SPSS 16 and AMOS 20 following structural equation modelling (SEM), which is recommended by several applied researchers for testing the model based on latent constructs primarily psychological in nature and used for analysing cross-sectional data (McCallum and Austin, 2000; Hair et al., 2010). First, the model in Figure 1 was run. The measurement model with factor-item loadings obtained through exploratory factor analysis (EFA) is presented in Figure 2. Next, item loadings were checked to make sure they were all above 0.6; all were, except for one item in the construct of behavioural control (Hair et al., 2006). The average variance explained for each construct was on or above the 0.70 cut-off level (Table 5) (Hair et al., 2010). Composite reliabilities (CRs) were then

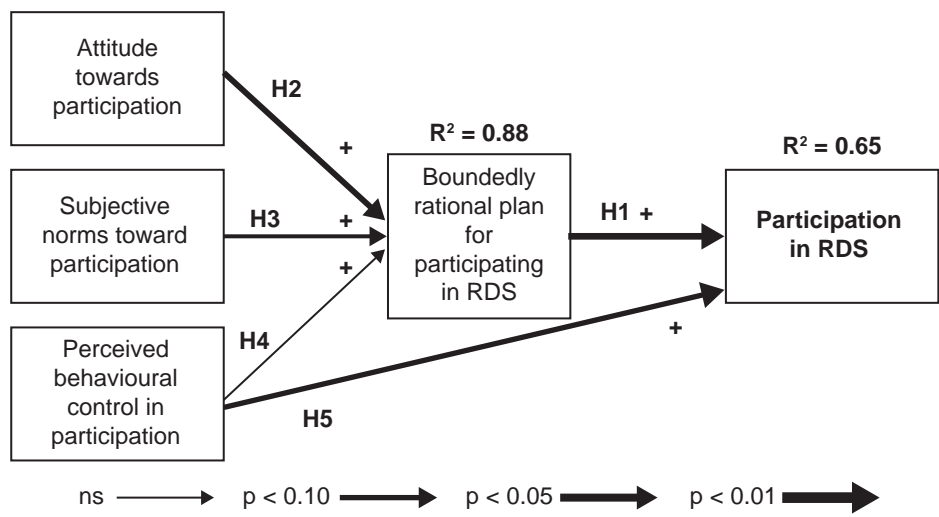


Figure 4 Evaluated model

Table 5 Reliabilities, correlations, and average variance extracted (on diagonal in italic)

	CR	1	2	3	4	5
Participation (1)	0.86	<i>0.86</i>				
Rational plan (2)	0.79	0.732**	<i>0.80</i>			
Attitude (3)	0.79	0.769**	0.854**	<i>0.74</i>		
Subjective norm (4)	0.73	0.624**	0.717**	0.743**	<i>0.75</i>	
Behavioural control (5)	0.77	0.532**	0.607**	0.627**	0.509**	<i>0.70</i>

Note: **statistically significant at $p < 0.05$

Table 6 Adjusted t-statistics and standardized path coefficients for hypothesized paths in the model

Path	Path coefficient	t-statistics
H1 Bounded rationality plan to participation***	0.75	8.83
H2 Attitude to bounded rationality plan***	0.92	10.25
H3 Subjective norm to bounded rationality plan*	0.19	1.39
H4 Behavioural control to bounded rationality plan ^{ns}	0.09	0.97
H5 Behavioural control to participation**	0.23	1.90

Note: ***Statistically significant at $p < 0.01$; **statistically significant at $p < 0.05$; *statistically significant at $p < 0.10$; ^{ns} not statistically significant.

computed for each construct presented in Table 5. All constructs had CRs of 0.7 or higher (Hair et al., 2006). The statistical significance of the paths in the model was tested using the jack-knifing procedure, with a sample size of 1, for 390 samples. Using one-tailed tests, four of five paths were statistically significant, two at the $p < 0.01$ level, one at $p < 0.10$ level, and one at $p < 0.05$ level, providing support for H1, H2, H3, and H5. The evaluated model is shown in Figure 4, with adjusted t-statistics and path coefficients listed in Table 6.

Results and discussion

Participation status of the women clients of RDS

Several past surveys have reported that intention of individuals has influenced actual behaviour in the theory of planned behaviour (TPB) framework, but none of these studies has investigated the actual associations between boundedly rational planning towards actual participation in the new theoretical framework of the theory of boundedly rational planned behaviour (TBRPB). This study has demonstrated, at least for this sample, that the boundedly rational plan of the female borrowers of Islamic microfinance provided by the RDS is much more important for shaping actual participation in borrowing activities in the aforementioned study areas. Boundedly rational plans of the female borrowers of Islamic finance had a significant impact on their participation in borrowing from this type of Islamic religion-based microfinance (H1), while behavioural control beliefs about managing Islamic microfinance did not (no support for H4). Attitudes towards Islamic microfinance, in turn, affected boundedly rational plans of individual borrowers in the participation of Islamic microfinance (H2). As would be expected from TBRPB, there was a significant relation between the subjective norm and boundedly rational plans of the female borrowers towards participation in RDS (H3). There was a direct association between behavioural control and participation in Islamic microfinance, as expected (H5).

In the current study, TBRPB served as a useful foundation for helping to explain participation in the Islamic microfinance provided by RDS in order to go into entrepreneurship. The relationship between boundedly rational plans for participating in Islamic microfinance and actual participation was strong and positive. The direct relationship in TBRPB between behavioural control and actual participation was supported here, though it had no relationship with boundedly rational plans. The hypothesized relationship between subjective norm and boundedly rational plan was supported, showing that parents, spouses, friends, and religious leaders were important for the borrowers to plan for borrowing Islamic microfinance from RDS. Although in the TBRPB model, the effect of behavioural control on boundedly rational plans for Islamic finance was not supported, there was a significant direct association with participation in borrowing activities.

The confirmatory factor analysis (CFA) fit model (Figure 4) shows that the path analysis has a good fit with the data based on assessment criteria such as goodness of fit index (GFI), comparative fit index (CFI), Tucker Lewis index (TLI), and root mean square error of approximation (RMSEA) (Hair et al., 2010). All CFAs of constructs produced a relatively good fit as indicated by the goodness of fit indices such as CMIN/df ratio (<2); p-value (>0.05); GFI of >0.90 ; and RMSEA of values less than 0.08 (<0.08) (Hair et al., 2010). GFI of the revised fit model is 0.913 , CFI is 0.901 , TLI is 0.907 , parsimonious fit ratio is 0.956 , and RMSEA also shows a better reading of 0.053 , which is below the acceptable limit (<0.08). Hair et al. (2006, 2010) recommend the use of at least three fit indexes by including at least one index from each category of model fit. The researchers could choose at least one fitness

index from each category to report depending on which literature is being cited. Therefore, goodness of fit is ensured in this study.

As for the behaviour studied, women's participation in the Islamic microfinance of RDS aiming for micro-entrepreneurship, the findings imply that the rural female borrowers are swayed more by their perceptions or attitudes about participating in Islamic microfinance than by concerns they might have about subjective norms and perceived behavioural control. The construct of boundedly rational plans has also been strongly associated with actual participation in borrowing Islamic microfinance from RDS. From the findings obtained from the entrepreneurial profiles of the clients in the study areas and the empirical analysis of collected data, it was observed that the clients of RDS are keen and highly motivated to be involved in borrowing Islamic microfinance towards building up SMEs in different sectors of the economy in order to alleviate poverty and improve their socio-economic conditions. The conventional, interest-based microfinance pioneered by Nobel Laureate Economics Professor Muhammad Yunus through the Grameen Bank model in Bangladesh has been losing credibility in terms of its potentialities in alleviating rural poverty and uplifting living standards of the rural poor because of myriads of socio-economic factors (Ashraf, 2015; Rahman, 1999). Conversely, the initiatives of Islamic microfinance institutes have been gaining increasing acceptability as a popular tool for improving the socio-economic wellbeing of the poor, particularly poor women, through ensuring social, economic, and personal empowerment and reducing vulnerability in society (Rahman, 2012).

In this respect, Rahman (2012) stated that Islamic microfinance services in the economy were growing healthily, with keen participation of the Islamic banks in the Financial Inclusion campaign. He called upon

The Islamic banks and the Islamic windows of conventional banks in the country to pursue vigorous promotion of Islamic micro and SME finance to attain faster poverty eradication with deeper, wider financial inclusion and to establish and replicate the same microfinance window that IBBL has created through its RDS programme.

He further added that Islamic microfinance has ample room to flourish, given the growing popularity of Islamic finance among both Muslims and non-Muslims. During the same month, the Islamic Development Bank expressed interest in establishing an Islamic microfinance institute in Bangladesh in partnership with renowned local and international financial institutions that have the knowledge and technical expertise in Islamic microfinance to scale up this innovative approach throughout Bangladesh (Banihani, 2012). Even though Islamic microfinance has the potential to expand at unprecedented levels throughout the Muslim world, the industry is yet to prove that it can provide financial services that meet the needs of the poor on a larger scale. There are several challenges that are currently hindering the scaling up of Islamic microfinance in many Muslim majority countries as well (Banihani, 2012).

Implications for research and practice

From a research perspective, the study results demonstrate the robustness of the TBRPB for helping to explain women's enthusiasm for borrowing from the Islamic microfinance institute of RDS and venturing into entrepreneurship to improve their livelihoods. As the theoretical concept is a new model which has been the result of a slight modification of TPB, there is no empirical study based on TBRPB which can be compared with the present study. However, we compare the findings of the present study with those in the TPB framework. These studies have successfully utilized the TPB as a theoretical framework from which the authors tried to explain embedded constructs of the model.

There have been several studies in the TPB framework which demonstrate the intention towards internet purchasing or other e-commerce activity (Bhattacharjee, 2000, 2002; Jarvenpaa and Todd, 1997a, b; Pavlou, 2002; Song and Zahedi, 2001; Tan and Teo, 2000) or to explain actual purchasing behaviour (George, 2002; Khalifa and Limayem, 2003; Limayem et al., 2000; Suh and Han, 2003). In addition to the importance of attitudes towards the behaviour in question, one study has found subjective norms to also be important (Khalifa and Limayem, 2003), while others have found perceived behavioural control to be important (e.g. Tan and Teo, 2000).

In TBRPB, we replaced the generalized rational intention variable with the boundedly rational plan towards actual behaviour. In the case of TPB, the subjective norm was found to have a weaker association or sometimes no association at all with the intention variable (Ashraf, 2015), but in the TBRPB framework, we found the subjective norm to have a strong association with the boundedly rational plan towards the actual behaviour of participation in RDS. The variable of perceived behavioural control was also found to be directly associated with the participation of the female borrowers. In this respect, TBRPB shows at least the equivalent predictive power of TPB. As more studies of Islamic microfinance like as RDS are done within the TBRPB framework, we will be more able to discover and confirm which antecedents are most important. This will help us build a robust theory of boundedly rational human behaviour in order to promote the Islamic microfinance institutes for alleviating rural-urban poverty and increasing societal wellbeing in the developing countries of the world.

From a practical perspective, as a cumulative body of work on boundedly rational plans towards participation behaviour of rural female borrowers emerges, we will be better able to advise the Islamic microfinance authorities on the elements they need to address in order to increase their borrowing members in RDS. In this study, the one area of findings that may help the authority of RDS the most concerns trusted attitude. We found that female borrowers' perceptions about Islamic microfinance as a channel for conducting personal business were highly associated with positive attitudes towards planning for borrowing from RDS, and these positive attitudes were in turn translated into actual behaviour of participation. Note that we did not measure perception of the female members about the Islamic microfinance providers but instead we measured it in the process

of Islamic microfinance itself. The implication is that microfinance providers can focus on promoting the borrowing channel as trustworthy and, in doing so, they can generate positive attitudes towards Islamic microfinance and entrepreneurship. As such, all the Islamic microfinance institutions might band together to promote good perceptions of the trustworthiness of Islamic microfinance and other microfinance service providers and SME business associations made up of the Islamic microfinance might adopt a similar stance. Such a strategy can be accompanied by steps to promote good perceptions of the trustworthiness of a particular microfinance and is not considered a replacement for such a campaign. As we did not measure this good perception in the Islamic microfinance providers per se, we cannot address the relationship between the perception of the Islamic microfinance institutions and attitudes towards participation in Islamic microfinance borrowing activities.

Directions for future research

This study did not consider any antecedents to attitudes, subjective norms, and PBC towards participation in borrowing from the Islamic microfinance institution of RDS. There may well be antecedents that should be considered in future research, such as trustworthiness of microfinance, normative structure, and self-efficacy, which can be associated with attitude, subjective norms, and PBC, respectively. Valid and reliable scales for these constructs need to be developed, however, in order to include them in future studies. Beliefs about security, distinguished from beliefs about trustworthiness, could also be included, given the current media focus on security of participating in different NGOs/MFIs. Also, this study asked respondents about the importance of parents, friends, and religious leaders' advice on determining their views about participation in RDS. For this sample, not all of these 'important others' were viewed as influential. Future studies could test the importance of a normative structure based on other influences than the ones tested here. TBRPB can be used to test these modified models of salient beliefs and influential others, in order to provide additional insights into how to induce more borrowers to participate in borrowing from the Islamic microfinance institute for their micro-entrepreneurship. Last, as the study could not cover the discussions of a control group as well as the loan overlapping problems, future studies may include them in their discussions for presenting more informative outcomes.

Limitations

As with any study, there are limitations to the study described here. One possible drawback is the use of respondents from only the areas outside the city of Dhaka. Due to financial and some socio-political constraints, it was not possible to extensively cover other areas of Bangladesh in the study. As RDS is constituted of more than 90 per cent female borrowers, only female borrowers were included in the study. The findings of the present study might be different if male borrowers

were also included. Notably, the study is based on cross-sectional data rather than longitudinally collected information. Plan or intention actually reflects future behaviour, while reports of actual behaviour reflect what happened in the past. Past behaviour is at best a surrogate for future behaviour and not always a good one. Hence, the study would obtain better results if it can be based on longitudinal information from the respondents.

The study has covered only participants of the institution and there is no control group selecting from either non-participants or participants from another Grameen-type institutional model of microfinance. It has also not included discussion of the differences in the financial services and products which could influence participation of the poor women in RDS. Without such comparisons, predictability of the model may remain limited. The last drawback relates to the loan overlapping problem in microfinance, which has not been included in the study.

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