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The Barishal University Journal of Business Studies welcomes submissions that explore the social, educational and business aspects of human behavior as related to Bangladesh. Because The Barisal University Journal of Business Studies takes a broad and inclusive view of the study of both business and economics, this publication outlet is suitable for a wide variety of interests. Appropriate submissions could include general survey research, attitudinal measures, research in business academia practitioners are participants, investigations into broad business and economic issues, or any number of empirical approaches that fit within the general umbrella provided by the journal.

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With thanks,

Editor in chief

Barishal University Journal of Business Studies

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EXAMINING USERS OF FACEBOOK ADDICTION AMONG UNIVERSITY GOING STUDENTS: A FLOW EXPERIENCES AN EXPLORATORY STUDY IN THE SOUTHERN REGION OF BANGLADESH.

Saima Afrin Liza*

Surajit Kumar Mondal**

Abdullah Al Masud***

ABSTRACT

Online social networks (Facebook, Google, YouTube, Different communication apps, Myspace, LinkedIn and the like, Etc.) have become genuinely significant new phenomena in human communication and interaction patterns. They may have a profound impact on the way people communicate and connect. Facebook has become an essential part of almost every college-going students' daily life and while a large number of students seem to get advantages from the use of Facebook by exchanging information for educational goals, make friends, entertainments and other activities. There is no or little study on identifying factors affecting Facebook addiction in Bangladesh, basically the southern region in Bangladesh. Thus, our objective was to overcome this gap, and this study adopts a quantitative research method. However, besides many positive elements related to the use of this network site, in some cases, it may lead to addiction. Therefore, our study was to identify Facebook addiction predictors, in particular, to verify whether impulsivity, as to dimensions of Self-Control, Parental Behavior, Social Connection, Academic performance, Social Isolation and Social Identity, are the critical predictor of this type of addiction. This study uses structural equation modelling to test a hypothetical social network model with applications to a sample of 358 college and university students in the southern region of Bangladesh. However, it is beneficial to users and their personal lives, but Facebook has some adverse effects for its users because of heavy and aimless usages. The most important of these problems is Facebook Addiction. The limitations we have found that this study represents mostly student users of online social networks. Care must be taken when extrapolating the findings to other online social networks that target different groups of users. Finally, it is recommended that college-going students be conscious of any danger that can hamper their valuable careers. Our findings may also contribute to the better preparation of prevention and therapeutic programmers for students at risk of Facebook addiction.

Keywords: Facebook Addiction; Social networking site, Facebook Addiction test, College and University going students; Barishal, Bangladesh.

*Lecturer, Department of Management Studies, University of Barisal, E-mail: afrinliza1991@gmail.com

**Lecturer, Department of Management Studies, University of Barisal, E-mail: sjitmtg1751@gmail.com

***Assistant Professor, Department of Management Studies, University of Barisal, E-mail: masud_ru_bd@yahoo.com

1. Introduction:

Facebook is linked to more than a billion pupils, individuals around the world. They are sponsored by wikis, blogs, discussion threads, forums and instant messaging. Social networking sites are essential components of social media and have become the most popular tools of communication. Growth and public popularity have created a new world of collaboration and communication. More than a billion students worldwide are connected with Facebook (SZ *et al.*, 2011, 2017). Facebook was set up in 2004 to make people able to connect and make the internet more available. Facebook has become a top-rated social networking site, especially among university students (Ryan *et al.*, 2014). Participation and continuance in online social networks represent a new social phenomenon that depends mostly on the interactions with other users in a personal network. Social networking sites are essential parts of social media have become the most essential communication tools (Bolong, 2018).

Facebook users can find ease, life satisfaction, enjoyment and social support by using this site. Losing control of Facebook use leads to "Fear of Missing Out" because of fear of losing popularity. Higher-level university students are likely to suffer from excessive Facebook use. University report (Ryan *et al.*, 2014). The main aim of our study was to identify Facebook addiction predictors, in particular, to verify whether impulsivity is the critical predictor of this type of addiction. Further social networking sites such as Facebook is widely used to discover and to gain information according to individuals' needs (Bhuiyan *et al.*, 2020; Misra & McKean, 2000).

Facebook usage of huge masses in a short time has drawn academic attention. Approximately 900 million people use Facebook (Elisabeth, 2018). Facebook was created by Mark Zuckerberg, a student at Harvard University, in 2004 as the network to access college students' information (Balci & Golcu, 2013). Excessive use of Facebook interferes with real-world interaction and communication abilities. Facebook addiction is the new term invented by psychiatrists as its addiction will damage the sleeping habits, health and interest in studies (Sz, Omar, Bolong & Osman, 2011). The decision to use online social networking technologies largely depends on the interactions among users. The use of social technologies can make sense only when a group of individuals are willing to use and continue to use them together (SZ *et al.*, 2011, 2017). As of April 2020, Facebook users constitute approximately 20 % of the population of Bangladesh. Almost one in two young people is addicted to Facebook, with a 39.7 percent Facebook addition rate among university students (Saied, Elsabagh, & El-Afandy, 2017). The capital of Dhaka was ranked as the second-largest Facebook user city in the world in 2018 (Mamun & Griffiths, 2019).

The addictive tendency is common in all social networking sites, and it is more common among Facebook users (Saied, 2017). There is a growing number of articles regarding problematic Facebook use, including Facebook addiction. However, there is no universal definition of Facebook addiction. (El-Afandy, 2018). Considering the definition of addiction and biopsychosocial perspective of behavioural addiction, Facebook addiction can be defined as repeated and increased use of Facebook, neglecting other activities (academic, occupational,

Examining users of Facebook Addiction among University going Students: A flow experiences an exploratory study in the Southern region of Bangladesh.

familial and social), deprivation of it leading to distress and an urge to use Facebook despite having adverse personal outcomes (Osman, 2018). The addict people may start going out less or spending less time out with friends due to the time they spend on Facebook. While they are in front of the computer, they may remain unresponsive to the things around them (Soron, 2015). In recent years, a growing body of research has also emphasized the mediating role of metacognition in the relationship between negative emotions and addictive behaviours (Saied, Elsabagh, & El-Afandy, 2017), including problematic Internet use (SZ *et al.*, 2011, 2017).

The remainder of this paper is organized as follows. Section 2 provides a review of the literature and the main issues concerning sociological surveys and studies on addiction. Section 3 describes our proposed solution, while Section 4 explains the dataset based on, i.e., Smart Unit. Section 5 shows our results and provides their discussion. Finally, Section 6 concludes the paper and illustrate the implications and limitations of our work. There is no or little study on identifying factors affecting Facebook addiction in the southern region of Bangladesh, basically Barishal. Thus, our objective is to overcome this gap. A case study discovers the fact that Facebook can substitute classic search engines in the case of acquiring the required information. Moreover, it explains how the users of Facebook experience the environment where they participate in collaborating in order to get the needed information (Osman, 2018). Here the information is not limited within the circle of the web; instead, it may come from referrals of personal experiences and print sources. Bangladesh has several studies on internet addiction across various populations, a more general type of Facebook addiction. However, within a single university student residing in Dhaka's capital city, FA is measured by just one person. This study aimed to investigate among students in southern Bangladesh.

2. Literature Review, Identify variables, Conceptual Framework, and Hypotheses:

The Social Media Addiction Phenomenon: The magnitude of the use of these various platforms has become a cause for concern in recent times. This phenomenon has driven many researchers across the globe to undertake studies in the area both from the psychology point of view and the angle of communication studies. Like any other place globally, users of social media in Ghana can be affected by the Social media addiction phenomenon (Otu, 2015). For online social interactions (Saied, 2018), as well as compulsive use of social media like Facebook (SZ *et al.*, 2011,2017). Similarly, various studies (SZ *et al.*, 2011) have shown that those who lack confidence in their strategic self-presentation behaviours are more likely to seek out communicative channels (such as Facebook) that enhance their limited abilities.

The term Social media addiction is used to describe a situation where a person spends too much time using social media such that Facebook, Twitter, Instagram, Etc. Which negatively affects

other aspects of his or her daily life like work, school or relationship with others (SZ *et al.*, 2017). Addiction, as described by the American Psychological Association, refers to compulsive behaviour that leads to adverse effects. In other forms of addictions such as drugs, gambling, video gaming, overeating, Etc., people feel bound to particular activities such that they become harmful habits, which then obstructs other essential activities in their lives, and this can be said of people who use social media excessively.

According to (Pavlick 2013), a social media addict can be considered as one with an urge to use social media excessively. For instance, they are engaging in activities like "frequently checking status updates and posts or "stalking" the profiles of other users for many hours," and this behaviour or habit conflicts with his/her everyday responsibilities, such as family, school, work or other social obligations. The term addiction has been mostly associated with drugs, alcohol, gambling Etc. Technology addiction has been recognized since the mid-1990s as a new kind of social problem. The media started paying increasing attention to the idea of a computer or internet addiction, basically Facebook (Shaw & Black 2018).

Various studies carried out in different parts of the world confirm the existence of social media addiction among people. For certain gratifications, Social media users utilize the various platforms such that over a period of time, they become dependent on these platforms. In this section, we have identified the variables and developed the hypothesis.

Self-control, an aspect of inhibitory control, is the ability to regulate one's emotions, thoughts, and behaviour in the face of temptations and impulse (Matt DeLisi, 2014; Timpano, 2013). As an executive function, self-control is a cognitive process necessary for regulating one's behaviour to achieve specific goals (Burman, 2015). A related concept in psychology is emotional self-regulation (Shanker, 2015). Self-control is thought to be like a muscle. According to studies, self-regulation, whether emotional or behavioural, was proven to be a limited resource that functions like energy. In the short term, overuse of self-control will lead to depletion (Green, 2015). However, in the long term, self-control can strengthen and improve over time (Gottfredson, 1990). Self-control is also a key concept in the general theory of crime, a significant theory in criminology. The theory was developed by Michael Gottfredson and Travis Hirschi in their book titled *A General Theory of Crime*, published in 1990. Gottfredson and Hirschi define self-control as the differential tendency of individuals to avoid criminal acts independent of the situations in which they find themselves (Willems, 2018). Individuals with low self-control tend to be impulsive, insensitive towards others, risk-takers, short-sighted, and nonverbal. About 70% of the variance in questionnaire data operationalizing one construct of Self-Control was genetic (Dolan, 2018). Facebook addiction has an essential connection with perceived self-control, which we learned from the discussion above.

Hypothesis-1: *Perceived self-control has a significant impact on Facebook Addiction by affecting the Social Media Addiction Phenomenon of its factors.*

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Parental Behavior: At the time of this writing, only a few laboratories actively study parental behaviour in the hamster. This is not unusual and reflects the history of this topic in this species since the initial experimental studies in the 1960s. Several reasons account for this steady but slow pursuit of the biological and psychological determinants of parental care (Otu, 2015). Parental behaviour, even in the well-studied laboratory rat, has had an early beginning but a relatively short history. Although studies on parental care in the rat began at the end of the last century (Small, 1899), with the notable exception of the research of Wiesner and Sheard (1933), it has been during the last two decades that research has been the most prolific and has produced significant scientific advances (SZ et al., 2011). Relatively speaking, and almost regardless of the behaviour in question, studies in the hamster have tended to lag behind comparable studies in the rat and other more common laboratory species (SZ et al., 2017). The more recent utilization of the hamster as a research animal and the related issues of unfamiliarity with the species and the lack of a substantial database has probably contributed to fewer active research programs. In hamsters, the absence of reliable field studies in general and on parental behaviour, in particular, can be considered handicaps in the initiation of appropriate research. Finally, the little that is known about this species, from both anecdotal and scientific sources, includes the phenomenon of cannibalism, a topic that perhaps few investigators wish to think about and even fewer wish to study (Shaw & Black 2018). Facebook addiction has an essential connection with perceived Parental Behavior, which we learned from the discussion above.

Hypothesis-2: *Perceived Parental Behavior, has a significant impact on Facebook Addiction by affecting the Social Media Addiction Phenomenon of its factors.*

Social Connection: Animal social relationships are characterized by nonrandom associations and interactions that play a significant role in survival and fitness by influencing foraging decisions, space use, predator avoidance, and mate choice (Shaw & Black 2018). Social network analysis, a robust framework for addressing the causes and the consequences of social variation, is generating substantial evidence for the idea that sociality drives information transmission, where individuals' social connections influence if and when they learn novel information from others (Young, 2010). However, in the other direction, a causal relationship, where learning and information transmission influences individuals' social value and thus affect social connections, is rarely addressed. We need to account for the feedback-based dynamic relationships between learning and social connections when investigating how information spreads through networks (Li & Chung, 2006).

Understanding the drivers of sociality is an essential goal in biology. Individual differences in social connections determine the overall group structure and have consequences for various processes, including if and when individuals acquire information from conspecifics (Apeanti & Danso, 2014). Effects in the opposite direction, where information acquisition and transmission have consequences for social connections, are also likely widespread. However, these effects

are typically overlooked. We propose that individuals who successfully learn about their environment become valuable social partners and become highly connected, leading to feedback-based dynamic relationships between social connections and information transmission. These dynamics have the potential to change our understanding of social evolution, including how selection acts on behaviour and how sociality influences population-level processes (Gökçearslan, KuşkayaMumcu, Haşlaman, & Demiraslan Çevik, 2016). Facebook addiction has an essential connection with perceived Social Connection, which we learned from the discussion above.

Hypothesis-3: *Perceived Social Connection, has a significant impact on Facebook Addiction by affecting the Social Media Addiction Phenomenon of its factors.*

Academic Performance: When searching for the definition of students' academic performance in higher education, the lack of consensus in the educational literature is evident. Terms such as performance, achievement, and success are used interchangeably among educational researchers without any specific reason (e.g., Casillas et al., 2012; Rochford, Connolly, & Drennan, 2009; Tracey, Allen, & Robbins, 2012). Also, an operationalization (e.g., Grade Point Average) rather than a conceptual definition is mostly reported when defining higher education performance. Despite this lack of consensus, academic achievement, competencies, and persistence have been used as separate, although interrelated, measurements to assess students' academic performance in higher education. Merely looking at academic achievement does not necessarily encompass or represent students' acquisition of competencies or persistence (York, Gibson, & Rankin, 2015).

Academic achievement can be defined as attaining either medium- or long-term educational goals (Yusuf, 2002). In this respect, Li, Chen, and Duanmu (2010) have pointed out that prior academic achievement is strongly related to students' academic performance. A considerable number of studies have reported the explanatory role of prior academic achievement in academic performance at university (e.g. Betts, Elder, Hartley, & Blurton, 2008; Byrne & Flood, 2008; Casillas et al., 2012; McKenzie & Schweitzer, 2001; Pike & Saupe, 2002; Roberts, 2007). Furthermore, a competency is a "performance capacity to do as well as to know which is judged by some level or standard of performance" (Shavelson, 2010, p. 44). In particular, higher education aims at developing both specific and generic competencies (Sadler, 2013). Undoubtedly, a deeper understanding of academic performance in higher education requires assessing both generic and specific student competencies (Blömeke, Zlatkin-Troitschanskaia, Kuhn, & Fege, 2013). Consequently, the assessment of competencies has arisen in many countries at different stages of the higher education learning process (Zlatkin-Troitschanskaia, Shavelson, & Kuhn, 2015). Finally, Tinto's (1993) theory of departure indicates that students persist when they are integrated into the university's academic and social systems. Persistence can be understood as the students' academic progress towards degree completion regardless of institutional transfers, academic programs, or institutional contexts (York et al., 2015). The

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dropout rate has usually been suggested as an indicator of persistence in higher education (Hilton, 1982; Tinto, 1975, 1993). Facebook addiction has an essential connection with perceived Academic Performance, which we learned from the discussion above.

Hypothesis-4: *Perceived Academic Performance, has a significant impact on Facebook Addiction by affecting the Social Media Addiction Phenomenon of its factors.*

Social Isolation: Isolation, defined as separating sick individuals from healthy ones, is an integrated public health measure for preventing infectious diseases (Ferguson et al., 2006, Aledort et al., 2007, Bell et al., 2006). Contact mixing patterns are essential in the spread of airborne pathogens (Edmunds et al., 2006, Edmunds et al., 1997, Melegaro et al., 2011, Wallinga et al., 1999, Mossong et al., 2008, Eames et al., 2010, Van Kerckhove et al., 2013). However, few studies have examined the effect of isolation on the spread of influenza to the social contacts of ill individuals (Aledort et al., 2007; Jefferson et al., 2011). One reason for the lack of research examining the impact of these measures, in particular, on influenza transmission is the difficulty in assessing whether individuals who are in contact with an index case are protected by that individual's isolation (Ball and Neal, 2002, Germann et al., 2006).

Indeed, such a study requires enumeration of a social network before any cases arising within the network and longitudinal collection of detailed information about the timing, duration, intensity, and setting of contacts between index cases and any members of their social network, after an individual's illness onset (Edmunds et al., 2006, Melegaro et al., 2011, Mossong et al., 2008, Lee et al., 2008). Furthermore, to test whether these measures reduce infectious disease transmission within a social network, index cases must be randomized to engage in isolation as soon as they become ill. While the importance of social networks in the transmission of influenza has been increasingly recognized (Mossong et al., 2008, Cauchemez et al., 2011, Glass et al., 2006, Glass and Glass, 2008), experimental studies examining the effect of isolation or quarantine on transmission remain limited (Aledort et al., 2007, Jefferson et al., 2011).

Previous research uses various indirect proxy measures to tap into social network isolation. Typically, social network isolation is measured by questions about social participation, such as involvement in political activities (Brehm 1993; Groves, Presser, and Dipko 2004), neighbourhood organizations and neighbourhood watch activities (O'Neil 1979), volunteering (Abraham, Helms and Presser 2008), and church attendance (Woodberry 1998). There are three problems with this approach. First, these characteristics only indirectly measure social isolation. Second, little of this work has information for both respondents and non-respondents (for an exception, see Abraham et al. 2008, which used data from the Current Population Study to predict non-response to the American Time Use Survey). Instead, these studies rely on comparing reports to survey questions between cooperative and reluctant respondents, but such an approach does not consistently reflect non-respondents (e.g., Lin and Schaeffer 1995; Smith

1984). Facebook addiction has an essential connection with perceived Social Isolation, which we learned from the discussion above.

Hypothesis-5: *Perceived Social Isolation, has a significant impact on Facebook Addiction by affecting the Social Media Addiction Phenomenon of its factors.*

Social Identity: In this mode of social influence, identification refers to the self-awareness of one's membership in a group and the emotional and evaluative significance of this membership. There are three major social identity components, including cognitive social identity, evaluative social identity, and affective, social identity. Social identity may be conceptualized as a direct construct with cognitive, evaluative, and affective (first-order) components (Elisabeth, 2018).

1. **Cognitive, social identity:** The self-categorization process renders the self stereotypically interchangeable with other group members and stereotypically distinct from outsiders (SZ et al., 2011).
2. **Evaluative social identity:** The evaluation of self-worth on the basis of belonging to a particular group (Saied, Elsabagh, & El-Afandy, 2017).
3. **Affective, social identity:** A sense of emotional involvement with the group, which is characterized by identification with, involvement in, and emotional attachment to the group (Osman, 2018).

Each of the three social identity components is expected to have prominent effects on Facebook addiction to using the online social networking site. In online social networking sites, social identity arises through interaction with other users in the personal network and online social groups. Facebook addiction has an essential connection with perceived Social Identity, which we learned from the discussion above.

Hypothesis-6: *Perceived Social Identity, has a significant impact on Facebook Addiction by affecting the Social Media Addiction Phenomenon of its factors.*

Social Media Use: In today's world, students in any level can access the Internet and social media applications from many different entry points, including iPads, tablets, desktops, laptops, and smartphones (Deng and Tavares 2013), noted that social networking had become an integral part of our students' social life; it is now seen as a learning platform that could be utilized to enhance student engagement and performance. Social networking and media tools offer university students the opportunity to communicate, get in touch, access information, research, and chat (Ahn, 2011; Abdulahi *et al.*, 2014). There are many reasons why students use social media. According to Nyland, identified the five motives of using social media as "*Meeting new people, entertainment, maintaining relationships, social events and media creation (Nyland, 2007).*"

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These motives are amongst everyday engagement of university students who use social media as findings of some studies show (Shaw & Black 2018). A study by Hinson revealed that postgraduate students of the University of Ghana's social use of the Internet include "*Sending and receiving email, socializing through social media (mostly Facebook), chatting, and making new friends (Hinson, 2011).*" Students use social media for "connecting with old friends and family members, finding new friends, obtaining or sharing learning materials, receiving updates of events, posting information and whiling away time (Young, 2010)."

The socialization feature of these platforms, which enables interactive exchange with others in real-time and the ability to get close to famous people they adore most in entertainment, may contribute to their choice and use of social media (Hinson, 2011). Some of these identified motives people engage in on social media have been described as potentially addictive and may lead to social media addiction (Nyland, 2007). The internet in itself is not addictive; instead, the social functions, self-expression, communication, and building of personal ties on the internet are what addictive (Li & Chung, 2006) is. Since these are standard features of social media, there is a very high likelihood that many users are addicted to it.

In another study, "*Students' Use of Social Media in Higher Education in Ghana,*" they examined social media use among university students using an online survey. Three hundred and eleven sandwich students in the University of Education, Winneba, were randomly sampled to participate in the study. Their findings showed that the majority of the students were aware of the existence of social media and they used it for various reasons such as connecting with family members and old friends, making new friends, sharing or getting learning materials, getting updates on events, sharing information and whiling away time (Apeanti & Danso, 2014). A study in Turkey showed that cyberloafing, which is an act of using Facebook at the workplace, had a positive effect on Smartphone addiction. Based on the result, the study asserted that students' level of having cyberloafing activities in the class environment would increase their tendency to have Smartphone addiction (Gökçearslan, Kuşkaya Mumcu, Haşlaman, & Demiraslan Çevik, 2016). According to Junco (2012) carried out a study with a big working group, it was found that social network usage and cyberloafing in the form of texting affected academic success (GPA) negatively. This study focuses, primarily on the adolescents, school, College and University going and university students as many studies in the past have concluded that university students comprise of the heaviest users of Facebook.

Social Media Addiction: Problematic social media use, also known as social media addiction or social media overuse, is a proposed form of psychological or behavioural dependence on social media platforms, similar to gaming disorder, Internet addiction disorder, and other forms of digital media overuse (Edmunds *et al.*, 2006; Melegaro *et al.*, 2011; Mossong *et al.*, 2008; Lee *et al.*, 2008). In the last few years, scholars from different parts of the world have begun giving attention to the internet-based addiction phenomenon (social media addiction) and have undertaken various studies in this area. However, most of these studies focus on the true aspects of addiction concerning psychology, with introductory

ones mainly assessing whether internet addiction exists (Nauert, 2010) and subsequent ones looking into other forms of internet addiction such as social media addiction. Communication scholars have also started giving attention to this area of research. Although there is literature on this area of study, research on it in Africa is scanty, especially in Ghana. However, some researchers in Nigeria have caught the attention, and a few studies could be found from there (Mumcu, 2016).

In a study titled “*The Facebook Addiction Test: A New Tool to Study Facebook Usage*,” the researchers sought to determine the impact of Facebook obsession on its users. They chose to focus on only Facebook for their study because Facebook was the leading social media site according to a 2010 edition of “*The Economist*” magazine. It is ubiquitous and because researchers had a specific focus for their study. They identified that different scales for measuring Facebook addiction had been developed and tested. Their study was built on work done by (Young 2010) on Internet addiction. However, with a significant difference, i.e. they were interested in identifying consumers of Facebook who were obsessed with its usage and also to explore the impact this obsession has on the way they behave on Facebook rather than the diagnosis of addiction in a clinical context (Gökçearsan, 2018). They developed and used the Facebook Addiction test (FAT) to carry out their research, which was an adaptation of Young’s Internet Addiction Test (IAT). They believed the FAT had the advantage of focusing on one activity. A total of 1,438 people was surveyed on their usage of this social media site. Invitations of participation were sent by e-mail, and consumers completed the survey online. To help increase the generalizability of the results, probability sampling was used. Their studies found that Facebook Addiction is different from internet addiction. However, like Internet addiction, Facebook addiction appears to be closely linked to interactivity and ease of interaction. (Gökçearsan, Kuşkaya Mumcu, Haşlaman, & Demiraslan Çevik, 2016). They also found that the FAT can classify consumers with different usage profiles. However, most importantly, the FAT can be used to identify consumers with different attitudes and Facebook usage.

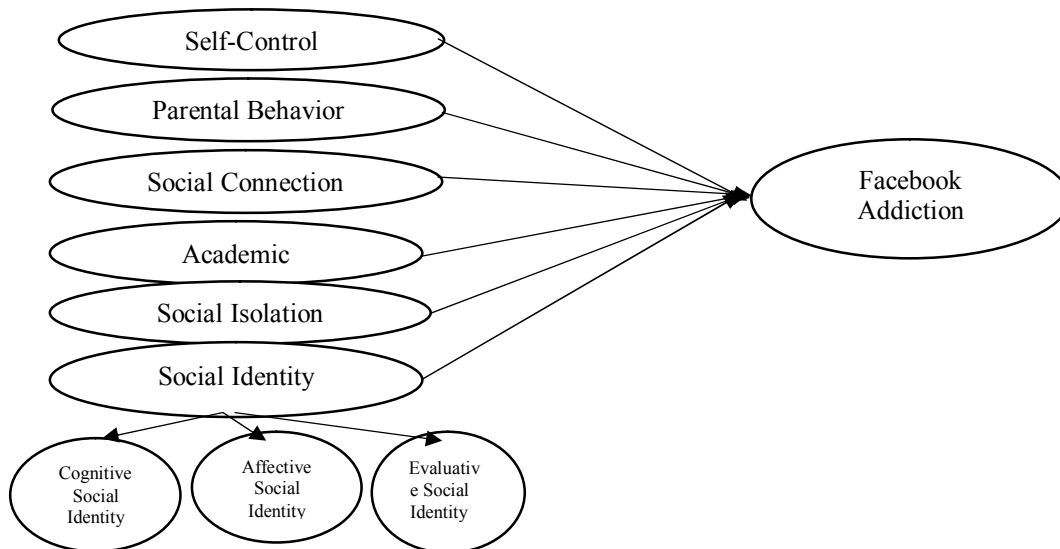
Another study sought to find out the level of Facebook Addiction among a selection of Nigerian University Undergraduates. The study surveyed the level of addiction to Facebook among selected undergraduate students of these universities. Stratified and purposive sampling techniques were used in selecting 1000 undergraduate students from four universities in South-western Nigeria - two private institutions and the other two; public. Data was collected using the Facebook Addiction Symptoms Scale (FASS) in the form of a questionnaire. Findings from the study revealed a low level of addiction, particularly among university undergraduates in private universities, mainly due to internet access in those institutions (Alabi, 2013).

Another study identified the impact of social media addiction among the students of tertiary institutions in Northern Nigeria (Siraj *et al.*, 2015). The researcher also examined the various social media sites used by students the most and how they use them using the survey method. Five (5) tertiary institutions in Katsina state were selected, out of which 800 students were sampled. Data gathered was analyzed using frequency count and simple percentages. Findings

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from the study showed that most of the respondents use almost all popular social media platforms, with Facebook having the largest number of users. He also found that most of the respondents use these social media platforms, mainly for social needs such as friendship and dating (Alabi, 2013).

Another study found that Generation Y is addicted to social media in Facebook, LinkedIn, and Twitter. The researcher operationalized Generation Y as “people who have grown up understanding the Internet's power.” Social media addiction was described by salience, mood modification, tolerance, withdrawal, conflict and relapse. The problem of this study was to determine whether Generation Y was addicted to social media to maintain relationships with their friends, relatives, Etc. Results from the study pointed out that Generation Y suffers from three out of the six unique components identified by Griffiths, and they are tolerance, salience and relapse. Limitations to the study were using a convenience sample instead of a random sample, which could not allow for generalization of findings (Cabral, 2008). There are plenty of internet addiction studies in Bangladesh through various cohorts, a more general FA (Mamun & Griffiths, 2019a, 2019b; Uddin *et al.*, 2016). But, within a single university student residing in Dhaka, FA is evaluated only for a period. This study aimed to research FA among university students in southern Bangladesh and analyze its relation with socio-demographic factors. From the above discussion, we have developed the variables:



3. Methodology result and discussion of this Study:

Sample: We randomly selected a sample of Facebook users in the Southern part of Bangladesh because Facebook is the most popular social networking site in Bangladesh. Then we used a convenience sample of university students because young students represent most Internet users in Bangladesh and because the young generation is likely to be the most active Internet users

participating in various online transaction services shortly (Lu *et al.*, 2010). Data was collected from the students by administering the questionnaire in different classes. Participation in the research study was voluntary, which was emphasized before distributing the questionnaire in every class. Subjects agreed to participate by signing informed consent. The cross-sectional research was performed between two universities' undergraduate and postgraduate students between February and March 2019. The sample size was estimated using a confidence interval of 95 percent and a sampling error of 5 percent. The questionnaire was given in English and Bangla. A total of 358 participants from university in southern Bangladesh responded to the questionnaire survey (*i.e.*, 250 from Barishal and 108 from Patuakhali District). They were invited and gathered in classrooms to participate voluntarily in the study. Of these, 43 students did not complete the full survey form, excluded from the final sample. Most subjects reported spending more than three hours per day on Facebook usage.

Measurement: All constructs were measured using multiple items and used fully anchored; survey items were taken from previously validated measures in IT/IS research and were reworded to relate to the IT/IS continuance context in order to investigate the relationships among factors that affect the intention to use of Facebook (Bhattacharjee's 2014) continuously. As shown in six survey variables were developed for those are *Self-Control*, *Parental Behavior*, *Social Connection*, *Academic performance*, *Social Isolation* and *Social Identity*, are the critical predictor of this type of social media addiction, based on (Lee 2009). To analyze *Self-Control*, four survey items were adopted from (Choi and Kim 2004; Lee 2009). The *Parental Behavior* consisted of six items taken from (Babin *et al.*, 1994; Griffin *et al.*, 2000), while the *Social Connection* consisted of six items which measure from (Babin *et al.*, 1994; Chandon *et al.*, 2000). The three *Academic performance* items, which measured user perceptions related to Facebook use, were taken from (Spreng *et al.*, 1996). The *Social Isolation* scale consisted of three items taken from (Novak *et al.*, 2003), appropriately reworded to fit Facebook addiction context. The *Social Identity* and Facebook Addiction scale was adapted from (Bhattacharjee's 2014). Both are three-item measure. Finally, respondents' personal information consisted of gender, age, department, and hours per day spent on social networking sites are control variables.

Measurement Model: Before testing the hypotheses via the structural model, we evaluate internal consistency, reliability, and convergent validity of the measures. AMOS 16.0 (maximum likelihood estimation) was employed to complete the analysis. As illustrated in Table the Cronbach's alpha of each construct is between 0.889 and 0.951, higher than the 0.7 recommended by (Nunnally and Bernstein 1994; Bentler, 1990; Hair, Anderson, Tatham and Black, 1998), demonstrating adequate internal consistency. Composite reliability (CR) of all measures exceed 0.6 threshold suggested by (Fornell and Larcker, 1981; Hair, Anderson, Tatham and Black, 1998), indicating a favorable level of internal consistency reliability. The CFA results support convergent validity for all measures. All estimated regression weights of observed variables for the latent variables are significant at the 0.001 level. In addition, the average variance extracted (AVE) across the latent variables exceed the 0.5 benchmark recommended by (Fornell and Larcker 1981; Hair, Anderson, Tatham and Black,

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1998). Initially, 500 questionnaires were distributed (Daniel, 2018); however, only 358 (72%) were returned and used for data analyses. The majority of the respondents are Male students 58%, Female 42% and age of those students are 18–20 y 42%, 21–23 y 35%, 23–25 y 22%, 25–27 y 1%; where the university subject matter; College/University affiliation, Business 31%, Computer science 23%, Engineering, 22%, Liberal arts 12%, Social Science 12%; in the final stage Daily usage hours in Facebook of respondent students are; 1–3 h 38%, 4–6 h 26%, 6–8 h 16%, 8–10 h 10%. The questionnaire was originally constructed in English and was translated back-to-back into the Bangla language. All of the items used to measure the variables in this study use the 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) (Instituto Vasco de Estadística, Eustat, as of January 1, 2014).

Result and Discussion:

Table 1 Construct measure reliability and validity and confirmatory factor analysis and goodness-of-fit indices for measurement model.

Construct	Indicator/Items	Standardized	t-Value	Regression weight	SE	P	CR	AVE	Cronbach α
F1: Self Control (SC):	SC-1	0.753	**	1.200			0.899	0.6189	0.896
	SC-2	0.855	15.049	1.420	0.202	<0.001			
	SC-3	0.729	13.244	1.108	0.193	<0.001			
	SC-4	0.816	15.284	1.210	0.192	<0.001			
	SC-5	0.891	16.334	1.352	0.196	<0.001			
	SC-6	0.801	14.425	1.384	0.097	<0.001			
Model fit indexes $\chi^2(21) = 67.775$; $P = 0.000$; $\chi^2/DF = 2.989$; CFI = 0.984; SRMR = 0.0334; RMSEA = 0.080 (0.050–0.092)									
F2: Parental Behaviors (PB):	PB-1	0.887	**	1.000			0.919	0.559	0.918
	PB-2	0.837	14.682	0.880	0.068	<0.001			
	PB-3	0.882	15.517	0.927	0.046	<0.001			
	PB-4	0.776	15.868	0.828	0.079	<0.001			
	PB-5	0.796	16.074	0.870	0.052	<0.001			
Model fit indexes $\chi^2(21) = 50.797$; $P = 0.000$; $\chi^2/DF = 3.140$; CFI = 0.985; SRMR = 0.0404; RMSEA = 0.063 (0.053–0.094)									
F3: Social Connection(S C):	SC-1	0.577	**	1.00			0.9344	0.6629	0.899
	SC-2	0.869	21.395	1.581	0.128	<0.001			
	SC-3	0.697	22.268	1.306	0.217	<0.001			
	SC-4	0.934	29.074	1.573	0.229	<0.001			
Model fit indexes $\chi^2(22) = 40.975$; $P = 0.813$; $\chi^2/DF = 0.438$; CFI = 1.000; SRMR = 0.0089; RMSEA = 0.000 (0.000–0.073)									
F4: Academic performance (AP):	AP-1	0.802	**	1.000			0.9515	0.6347	0.951
	AP-2	0.861	25.019	1.257	0.087	<0.001			
	AP-3	0.787	29.837	1.076	0.091	<0.001			
	AP-4	0.822	28.191	1.056	0.084	<0.001			
	AP-5	0.880	29.757	1.223	0.092	<0.001			
Model fit indexes $\chi^2(5) = 9.809$; $P = 0.217$; $\chi^2/DF = 1.862$; CFI = 0.945; SRMR = 0.0186; RMSEA = 0.045 (0.000–0.082)									
F5: Social Isolation (SI):	SI-1	0.742	**	1.000			0.9951	0.6347	0.929
	SI-2	0.732	28.191	1.056	0.03	<0.001			
	SI-3	0.687	21.268	1.216	0.127	<0.001			
	SI-4	0.697	29.837	1.076	0.070	<0.001			
Model fit indexes $\chi^2(22) = 68.775$; $P = 0.000$; $\chi^2/DF = 3.989$; CFI = 0.964; SRMR = 0.0234; RMSEA = 0.060 (0.040–0.081)									

F6: Cognitive Social Identity(CSI):	CSI-1	0.802	**	1.000			0.9615	0.5347	0.949
	CSI-2	0.826	24.294	1.130	0.0912	<0.001			
	CSI-3	0.891	25.344	1.272	0.096	<0.001			
	CSI-4	0.711	23.455	1.394	0.097	<0.001			
Model fit indexes $\chi^2(31) = 8.509$; $P = 0.127$; $\chi^2/DF = 2.782$; $CFI = 0.939$; $SRMR = 0.0126$; $RMSEA = 0.055 (0.000-0.092)$									
F7: Affective Social Identity (ASI):	ASI-1	0.722	**	1.000			0.9625	0.6437	0.829
	ASI-2	0.775	24.149	1.410	0.201	<0.001			
	ASI-3	0.649	23.244	1.118	0.095	<0.001			
	ASI-4	0.736	25.284	1.220	0.096	<0.001			
	ASI-5	0.761	25.334	1.232	0.097	<0.001			
	ASI-6	0.821	26.425	1.354	0.099	<0.001			
Model fit indexes $\chi^2(31) = 68.775$; $P = 0.000$; $\chi^2/DF = 4.889$; $CFI = 0.995$; $SRMR = 0.0234$; $RMSEA = 0.080 (0.050-0.091)$									
F8: Evaluative Social Identity (ESI):	ESI-1	0.723	**	1.000			0.9951	0.6347	0.899
	ESI-2	0.737	26.294	1.122	0.032	<0.001			
	ESI-3	0.723	27.344	1.264	0.026	<0.001			
	ESI-4	0.845	28.455	1.292	0.017	<0.001			
Model fit indexes $\chi^2(33) = 8.109$; $P = 0.119$; $\chi^2/DF = 3.362$; $CFI = 0.910$; $SRMR = 0.0117$; $RMSEA = 0.056 (0.000-0.091)$									
F9: Facebook Addiction (FBA):	FBA-1	0.892	**	1.000			0.9961	0.6377	0.949
	FBA-2	0.467	25.149	1.450	0.212	<0.001			
	FBA-3	0.749	26.244	1.128	0.036	<0.001			
	FBA-4	0.828	28.284	1.210	0.027	<0.001			
	FBA-5	0.496	29.334	1.242	0.049	<0.001			
	FBA-6	0.749	23.244	1.128	0.016	<0.001			
Model fit indexes $\chi^2(30) = 78.775$; $P = 0.000$; $\chi^2/DF = 4.989$; $CFI = 0.995$; $SRMR = 0.0444$; $RMSEA = 0.084 (0.0560-0.091)$									

SE standard error, CR composite reliability, AVE average variance extracted

Note: $\chi^2(257) = 995.083$; $P = 0.000$; $\chi^2/DF = 4.483$; $CFI = 0.990$; $SRMR = 0.0597$; $RMSEA = 0.071$

From the table above, we can see that we can discuss the following analysis Construct measure reliability and validity and confirmatory factor analysis and goodness-of-fit indices for the measurement model. Here **F1: Self Control (SC):** Model fit indexes $\chi^2(21) = 67.775$; $P = 0.000$; $\chi^2/DF = 2.989$; $CFI = 0.984$; $SRMR = 0.0334$; $RMSEA = 0.080 (0.050-0.092)$. Baron and Kenny's mediation test (1986) reveals no significant direct relationship between Self Control and Facebook Addiction. Here also indicate that Kaiser–Meyer–Olkin measure of sampling adequacy was computed to quantify the degree of intercorrelations among the variables. The results indicate an index of 0.851, which showed that the use of factor analysis was appropriate. This value indicates that our model is a good fit.

To assess how well the given indicators explained the construct, testing of the measurement model was crucial. Therefore, the factor loadings, the composite reliability, the average variance extracted (AVE), and Cronbach's alpha, communality, convergent validity, and discriminant validity were used to test the measurement model. We analyzed the data in three steps. We examined measurement validity and reliability using confirmatory factor analysis (CFA) for all the measures (Anderson and Gerbing 1988). After establishing convergent and discriminant validity, we tested the hypothesized structural model using SEM (Anderson and Gerbing 1988).

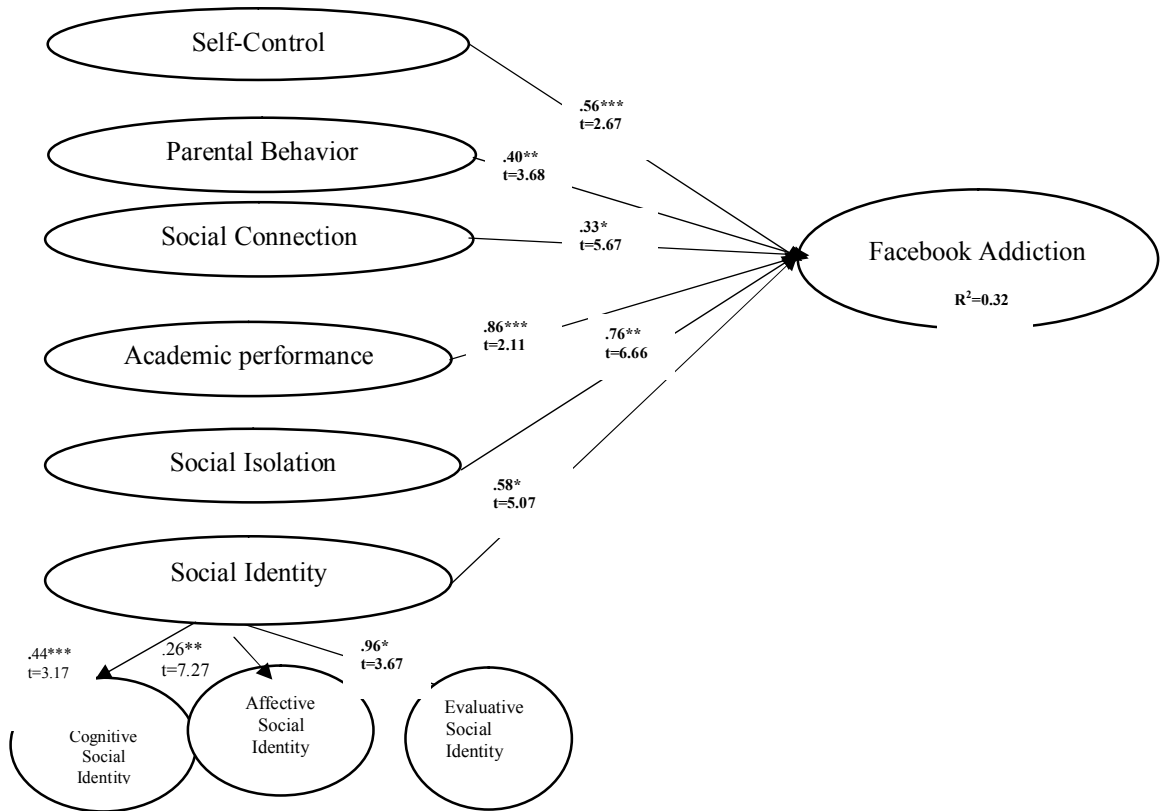
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The model fit was evaluated using a series of indices recommended by Hu and Bentler (1999) – the DELTA2 (Bollen, 1989), close fit (CFI) (Bentler, 1990), goodness-of-fit index (GFI), Tucker-Lewis (TLI), and the root means a square error of approximation (RMSEA) indices. **F2: Parental Behaviors (PB):** Model fit indexes $\chi^2 (21) = 50.797$; $P = 0.000$; $\chi^2/DF = 3.140$; CFI = 0.985; SRMR = 0.0404; RMSEA = 0.063 (0.053–0.094). This value indicates that our model is a good fit.

Exploratory Factor Analysis is designed for situations where links between the observed and latent variables are unknown or uncertain. It is found that all factor loading ranging from 0.649 to 0.993 which was sufficient since the standard loading 0.50 adequate (Hair et al., 2012). High values (close to 1.0) generally indicate that a factor analysis may be useful. If the value is less than 0.50, the results of the factor analysis probably won't be very useful (Jayaram & Baker, 2008; Weston, Gore, Chan & Catalano, 2008). So there were significant outcomes of factor analysis found in this study. **F3: Social Connection (SC):** Model fit indexes $\chi^2 (22) = 40.975$; $P = 0.813$; $\chi^2 /DF = 0.438$; CFI = 1.000; SRMR = 0.0089; RMSEA = 0.000 (0.000–0.073). **F4: Academic performance (AP):** Model fit indexes $\chi^2 (5) = 9.809$; $P = 0.217$; $\chi^2 /DF = 1.862$; CFI = 0.945; SRMR = 0.0186; RMSEA = 0.045 (0.000–0.082). This value indicate that our model is good fit.

Bartlett's test of sphericity tests the hypothesis that the correlation matrix is an identity matrix, which would show that these variables are unrelated and therefore unsuitable for structure detection. Small values (less than 0.05) of the significance level indicate that a factor analysis may be useful for this study. **F5: Social Isolation (SI):** Model fit indexes $\chi^2 (22) = 68.775$; $P = 0.000$; $\chi^2 /DF = 3.989$; CFI = 0.964; SRMR = 0.0234; RMSEA = 0.060 (0.040–0.081). **F6: Cognitive Social Identity (CSI):** Model fit indexes $\chi^2 (31) = 8.509$; $P = 0.127$; $\chi^2/DF = 2.782$; CFI = 0.939; SRMR = 0.0126; RMSEA = 0.055 (0.000–0.092). **F7: Affective Social Identity (ASI):** Model fit indexes $\chi^2 (31) = 68.775$; $P = 0.000$; $\chi^2 /DF = 4.889$; CFI = 0.995; SRMR = 0.0234; RMSEA = 0.080 (0.050–0.091). Subsequently, following Zhao et al.'s (2010) recommendation and using Preacher and Hayes' (2008) method, a 'bootstrapping' procedure was used to double check the significance of the mediation effect. This value indicate that our model is good fit.

Application of the four-step Baron and Kenny test (1986) shows similar findings. **F8:** Evaluative Social Identity (ESI): Model fit indexes $\chi^2(33) = 8.109$; $P = 0.119$; $\chi^2/DF = 3.362$; CFI = 0.910; SRMR = 0.0117; RMSEA = 0.056 (0.000–0.091). **F9:** Facebook Addiction (FBA): Model fit indexes $\chi^2(30) = 78.775$; $P = 0.000$; $\chi^2/DF = 4.989$; CFI = 0.995; SRMR = 0.0444; RMSEA = 0.084 (0.0560–0.091). SE standard error, CR composite reliability, AVE average variance extracted. Note: $\chi^2(257) = 995.083$; $P = 0.000$; $\chi^2/DF = 4.483$; CFI = 0.990; SRMR = 0.0597; RMSEA = 0.071. This value indicate that our model is good fit.



Method:

The motivation of this study is to examine the role of social influence processes like Self-Control, Parental Behavior, Social Connection, Academic performance, Social Isolation, Social Identity in determining the collective social action in the context of online Facebook Addiction. Participation in an online social networking site (Facebook) is conceptualized as an intentional social action where users regard themselves as part of the social fabric. The research model is developed based on previous literature. Intention to use online social networking (Facebook) sites together is explained in terms of the three social influence processes (Self-Control, Parental Behavior, Social Connection, Academic performance, Social Isolation, Social Identity). The measurement model is confirmed with adequate convergent and discriminant validity of all measures, and the structural model explains 32% of the variance. Except for the

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path of group norms to We-Intention to use online social networking sites (Facebook), all path coefficients are found statistically significant in this research model.

(H₁) Investigated the direct relationship between Self-Control and Facebook Addiction. It was hypothesized that there is a positive relationship between Self-Control and Facebook Addiction. The result is shown in figure revealed a positive and significant relationships between Self-Control and Facebook Addiction ($\beta = .56, t = 2.67, P < 0.05$). The result also indicates that the intensity of the positive relationship between Self-Control and Facebook Addiction is moderate. From the findings, the **hypothesis 1 is supported.**

(H₂) Investigated the direct relationship between Parental Behavior and Facebook Addiction. It was hypothesized that there is a positive relationship between Parental Behavior and Facebook Addiction. The result is shown in figure revealed a positive and significant relationships between Parental Behavior and Facebook Addiction ($\beta = .40, t = 3.68, P < 0.05$). The result also indicates that the intensity of the positive relationship between Parental Behavior and Facebook Addiction is moderate. From the findings, the **hypothesis 2 is supported.**

(H₃) Investigated the direct relationship between Social Connection and Facebook Addiction. It was hypothesized that there is a positive relationship between Social Connection and Facebook Addiction. The result is shown in figure revealed a positive and significant relationships between Social Connection and Facebook Addiction ($\beta = .33, t = 5.67, P < 0.05$). The result also indicates that the intensity of the positive relationship between Social Connection and Facebook Addiction is moderate. From the findings, the **hypothesis 3 is supported.**

(H₄) Investigated the direct relationship between Academic performance and Facebook Addiction. It was hypothesized that there is a positive relationship between Academic performance and Facebook Addiction. The result is shown in figure revealed a positive and significant relationships between Academic performance and Facebook Addiction ($\beta = .86, t = 2.11, P < 0.05$). The result also indicates that the intensity of the positive relationship between Academic performance and Facebook Addiction is moderate. From the findings, the **hypothesis 4 is supported.**

(H₅) Investigated the direct relationship between Social Isolation and Facebook Addiction. It was hypothesized that there is a positive relationship between Social Isolation and Facebook Addiction. The result is shown in table revealed a positive and significant relationships between Social Isolation and Facebook Addiction ($\beta = .76, t = 6.66, P < 0.05$). The result also indicates that the intensity of the positive relationship between Social Isolation and Facebook Addiction is moderate. From the findings, the **hypothesis 5 is supported.**

(H₆) Investigated the direct relationship between Social Identity (*Cognitive Social Identity, Affective Social Identity, Evaluative Social Identity*) and Facebook Addiction. It was hypothesized that there is a positive relationship between Social Identity and Facebook Addiction. The result is shown in table revealed a positive and significant relationships between Social Identity and Facebook Addiction ($\beta = .58 (.44/.26/.96), t = 5.07(3.17/7.27/3.67), P < 0.05$).

The result also indicates that the intensity of the positive relationship between Social Identity and Facebook Addiction is moderate. From the findings, the **hypothesis 6 is supported**.

4. **Limitation of this Study:**

In interpreting the results of this study, one must pay attention to several limitations. First, to keep the model parsimonious, the proposed research model only focuses on the impact of the three modes of social Identity (*Cognitive Social Identity, Affective Social Identity, and Evaluative Social Identity*) on intentional social action. The model explains 32% of the variance; though it is considered as high in social sciences studies, future studies should continue to enrich the existing model by adding social, technological factors, such as social presence, media richness, and the like. Second, the study represents mostly student users of online social networks (Facebook). Care must be taken when extrapolating the findings to other types of online social networks that target different groups of users (e.g., professionals in LinkedIn). According to the Press Room of Facebook (www.facebook.com/press/info.php?statistics) there are more than 350 million active users on Facebook. It is not feasible to reach the whole population and conduct a survey based on a simple random sampling method. In future studies, researchers should stratify Facebook users based on interest groups (e.g., university student groups, sports groups, professional groups, and Etc.) and take a random sample in each subgroup. Using this sampling method, a more representative sample of Facebook users can be obtained, and the results will be more generalizable.

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5. Conclusion:

From the above-discussed literature, it is to be noted that several factors may cause the adoption of Facebook Addiction such as Self-Control, Parental Behavior, Social Connection, Academic performance, Social Isolation, Social Identity factors, particularly among the college and university going students in the southern part of Bangladesh. The paper is conceptual, where possible causes are underlined behind the adoption of social networking sites basically on Facebook, while future research can be done in an empirical manner, taking different races as the moderating variables.

Students' motives for using Facebook have become the main influences on addiction to the social site. College and university going students largely used Facebook for social interaction, passing time, entertainment, companionship and communication. Self-Control, Parental Behavior, Social Connection, Academic performance, Social Isolation, Social Identity have a significant positive relationship with Facebook addiction. Self-Control and Academic performance are the motivational factors that contribute more to students' Facebook addiction. In fact, college and university going students tended to view Facebook as a powerful medium of communication and the place for communicating with friends and family members. For connectedness and community, the existence of Facebook seemed to satisfy the basic human requirements. Hence, the more use of Facebook would tend to create a main cause of addiction to the Facebook, and it is recommended that college and university going students should be conscious on any danger that can hamper their valuable career.

APPENDIX-A Related studies on social network and its usage intention:

Author(s)/Year	Model/Technique applied	Variables used	Purpose/Key findings
Merhi (2015)	Technology Adoption Model (TAM) Diffusion of Innovation Model(DoI)	Independent variables Perceived ease of use, perceived self- efficacy, relative advantage, perceived usefulness, image, and perceive enjoyment Dependent variables Usageintention	This study examined various factors that influence the intention to use of Podcast. Key findings: Relative advantage had a significant influence on intention to use. Perceived usefulness was found to be the second important factor that influences students' intentions to use podcast. Perceived enjoyment was also found to be important to student podcast adoption and usage.
Milosevic etal. (2015)	Proposed a conceptual model derived from TAM and DoI. Structural Equation Modelling (SEM)	Independent variables Usefulness, ease of use, social influence, facilitating conditions, groupidentity, socialrelation, linking jobs, daily activities, cooperation, sharingmaterial Dependent variables Intention to use FB, adoption ofFB	The objective of this research is to study the intention of students to Facebook adoption as virtual classroom for their educational purposes. Key findings: Facebook adoption had a positive influence on the use of Facebook as a virtual classroom at the university. Intended use of FB had a very positive influence on FB acceptance in, usefulness and social influence. Also it had a positive influence on the use of Facebook as a virtual classroom at the university. Educational use of Facebook had a positive influence on FB usage as virtual classroom by University students.
Mohammadi (2015)	Integrated model of (TAM) IS Success Model. Structural Equation Modelling (SEM)	Independent variables Educational quality, service quality, technical system quality, information quality, PEoU and PU. Dependent variables Users' satisfaction andintention	This study investigated students' perceptions of e-learning services with its usage determinants and learning outcome. Key findings: Users' intention and users' satisfaction had positive effects on actual use of e- learning. System quality and information quality analyzed as key factors engaging users' intention and satisfaction
Ainin etal. (2015)	Correlational Reliability T-test Regression	Independent variables Social acceptance, acculturation, Facebook usageintensity Dependent variables Academic performance	The study examined the relationship between socialization, Facebook usage intensity and academic performance. Key findings: Socially accepted factor had positive influence Facebook usage. Acculturation had no significant relationship with usage. Also, a positive relationship between students' academic performance and Facebook usage was found in this study.
Sanchez etal. (2014)	Structural EquationModelling(SEM)	Independent variables Usefulness, ease of use, social influence, facilitating conditions, community identification, social relations, daily activity, work related, communication, collaboration, material and resource sharing Dependent variables Adoption, purpose, educational usage	The purpose of this study was to identify the factors that may motivate university students to adopt and use social network tools, specifically Facebook, for educational purposes. Key findings: Social Influence was identified as the key factor in predicting the adoption ofFacebook. Social Relations was observed as the key factor among all of the purposes. Communication, collaboration, material and resource Sharing had a significant positive effect on Educational use of Facebook.
Lin etal. (2013)	Structural Model.	Independent variables PU, PEoU, PE, perceived control(PC),perceived risk (PR), PE and reputation Dependent variable Continuance intention	Focus of this research was to investigate the possible gender differences in the influence of common factors that have been demonstrated to influence individual' decisions to continue using an information system. Key findings: Different antecedents, perceived usefulness, perceived ease of use, and reputation had positive significant influence on Facebook continuance intention, particularly for female users.
Paul etal. (2012)	Structural Equation Modeling(SEM)	Independent variables Time spent, attention deficit, student characteristics (age, marital and no. of children), academic competence Dependent variable Academic performance	The objective of this research is to determine the key drivers (direct and indirect) have impact of time spent on OSN on academic performance. Key findings: Time spent on OSN had negative impact on academic performance. Attention deficit had negative impact with academic performance. Student characteristics had positive but indirect relation with academic performance. Academic competence had positive but indirect relationship with academic performance. Time management had positive relationship with academic performance. -Student behavior had opposite impact on academic performance.

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Gruzd etal.(2012)	Technology Adoption Model (TAM) Unified Theory of Acceptance and Use of Technology(UTA UT)	Independent variables Performance expectancy, effort expectancy, facilitating conditions, socialinfluence Dependent variable Intention and usebehavior.	This study was to address why and how scholars are using social media for communication and information dissemination. Key findings: Performance expectancy had positive relation with intention & use of SNS. Student’s find social media a supporting tool to make new professional connection. Both effort expectancy and facilitating conditions had negative effect on scholarly use of social media scholars. Social influence played important and positive role on student's decision to use social media.
Al Omoush etal. (2012)	Structural Equation Modeling(SEM) using EQS	Independent variables Motivation, attitudes Dependent variable Facebook usage	This study investigated the impact of cultural values on motivations and attitudes toward Social Networking Sites in the Arab world, and the factors affecting the continuity of membership value. Key findings: Disparity in cultural impacted on motivations and attitudes. Significant effect of members' motivations, attitudes, and usage on the continuity of Facebook membership.
Mazmanand Usluel (2010)	Proposed Structural Modelexplaining How users could utilize Facebook for educational purposes. Structural Equation Modeling (SEM)	Independent variables Usefulness, ease of use, social influence, facilitating conditions, community identification, social relations, daily activity, communication, collaboration, material and resource Sharing Dependent variables Adoption, educational usage	The focus of study was to examine how users could utilize Facebook for educational purposes. Key findings: Usefulness was identified as the most important factor in predicting the adoption of Facebook. Social relations, work related issues and daily activities had significant positive relationship with users' purposes. Communication, collaboration, and resource or material sharing had significant positive relationship with Educational use of Facebook.
Kirschner etal. (2010)	Means, standard deviations, frequencies, percentages Multivariate analysis of variance (MANOVA)	Independent variables Grade point average (GPA), hours spent on studying, extracurricular involvement, computer & internet use, hours of FBuse, numberof group & applications used. Dependent variables Impact of FB on academic performance	This study presented the results on the potential relationship between Facebook users and their academic performance. Keyfindings: FB users were reported both a lower mean GPA and spending fewer hours/week studying on average than FB nonusers. FB users and nonusers reported comparable average daily Internet use (1e2 h/day). FB users are more involved in extracurricular activities. Majority of FB users reported that it did not impact their academic performance. FB users reported having poor time-management skills. The main finding of this study showed a significant negative relationship between FB use and academic performance.

APPENDIX-B Measurement Scale

<i>Measure Items</i>		<i>Adopted from</i>
SC -1	I feel that social networking game offers strong multimedia user interfaces, such as audio, graphics and animation.	(Featherman & Pavlou, 2003)
SC -2	I'm worried that more people than I intend to share information, and that others will share so much information with me, I'm so distressed.	
SC -3	It's going to be poorly reflected on me, I'm going to worry about what my friends share, and I'm worried about being able to monitor who sees my place	
SC -4	It offers my posts protection and my profile details, I trust Facebook and I feel secure in my Facebook posts, and it also gives my profile protection.	
SC -5	Communicating friends, teachers and others on course-related issues through Facebook and Email allows me to obtain more and more up-to-date information and news.	(Evans, 2014)
SC -6	It helps to immediately get academic attention, grades, and instructor rank.	(Constructed)
PB-1	I kept playing, not because I had to, but because I wanted to use Facebook.	
PB -2	I feel that I made a smart decision by playing this SNG	
PB -3	Is game addiction an increasing internet addiction?	
PB -4	Do weekly internet use hours increase Internet addiction?	
PB -5	Does Internet addiction trigger loneliness?	(Venkatesh, 2012)
SC-1	It helps to solve academic problems by enabling Facebook groups, pages & people who are vital to me to support my use of Facebook.	
SC -2	There is a sense of human sensitivity in Facebook	
SC -3	People who affect my actions think that I should continue to use Facebook and people whose views I respected prefer to continue using Facebook.	
SC -4	There is a sense of human interaction on Facebook, and there is a sense of personality on Facebook.	(Hopp, 2016)
AP-1	I'm using Facebook to meet the need for affiliation, belonging, knowledge, goal achievement, self-identity, and values, and using Facebook to get rid of boredom, make new friends & entertainment.	
AP -2	How much do you use Facebook to fulfill the following information needs?	
AP -3	I'm using Facebook to find new romantic partners, and I'm using Facebook to flirt with someone else and track others.	
AP -4	How deep would you say your feelings of belonging to the community you described above are?	
AP -5	They are using Facebook to check up on current or ex-boyfriend or girlfriend and using Facebook for advertising and educating purposes.	(Davis, 1989; Agarwal, 1999)
SI-1	How can you convey the degree of overlap between your personal identity and your identity and the group you mentioned above, when are you actually part of the community and engaged in group activities?	
SI -2	Please indicate to what extent your self-image overlaps with the identity of your community of friends and only experience it.	
SI 3	Using Facebook will increase my efficiency in exchanging information and communicating with others, and Facebook is a valuable contact and networking tool for members.	
SI -4	Interacting with your online group at any point in the next 2 weeks can be considered an aim. Since then, Please estimate the strength at which each	(Al-Ghaith, 2015)

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	of the individuals mentioned below holds the target.	
CSI-1	Using Facebook makes it easier for my friends & family to keep updated.	(Davis, 1989)
CSI-2	Generally speaking, I find Facebook useful in my personal life.	(Evans, 2014)
CSI-3	People who are important to me would think I should be using Facebook	(Moore, 2001)
CSI-4	People influencing my behaviour would think I should be using Facebook	(Evans, 2014)
ASI-1	I find it easy to get Facebook to do what I want to do and the Facebook usage process is transparent and understands.	
ASI-2	It's quick to become adept at using Facebook.	(Davis, 1989)
ASI-3	How can you convey the degree of overlap between your personal identity and the identity of the group you referred to above? When are you really part of the group and involved in group activities?	(Taylor, 1995)
ASI-4	I find Facebook easy to use and it's versatile to communicate with.	(Moore, 2001)
ASI-5	I plan to continue to use Facebook in the future.	(Venkatesh, 2012; Agarwal, 1999)
ASI-6	Interacting with your Facebook group over the next 2 weeks can be considered a priority. For every one of them.	
ESI-1	I predict I would use the system in the next (Power of Intent)	
ESI-2	I want to continue using Facebook rather than disconnect it.	(Curran, 2005; Meuter, 2007)
ESI-3	Instead of any alternatives, I want to continue using this Facebook page.	
ESI-4	I am a significant member of the community I mentioned above.	
FBA-1	I think the continued use of Facebook is nice and acceptable for me.	
FBA-2	I have suggested the use of this social network to others.	
FBA-3	The idea is that our group (i.e. the group I have mentioned above) will communicate with Facebook sometime in the next 2 weeks.	(Martins, 2014)
FBA-4	We (i.e. the group I have mentioned above) plan to connect with Facebook sometime in the next 2 weeks.	
FBA-5	Please indicate to what extent your self-image overlaps with the identity of the community of friends you see.	
FBA-6	How deep would you say your feelings of belonging to the community you described above are?	

Notes: all items on 5 – point (strongly disagree/ strongly agree) scale were measured.

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POVERTY ALONGSIDE DEMOCRACY: A CROSS COUNTRY ANALYSIS

Sujan Chandra Paul*

Md Harun Or Rosid**

Md. Arif Hosen***

ABSTRACT

This study investigates the relationship of poverty ratio with democracy scores like electoral process and pluralism indices, functioning of government indices, political participation indices, political culture indices, civil liberties indices. Furthermore, it aims to determine which democracy scores have significant influence on reducing poverty. Poverty ratio, electoral process and pluralism indices, functioning of government indices, political participation indices, political culture indices, civil liberties indices scores' data of 91 countries (from year 2007 to 2018) were collected from the Website of Gap minder and World Bank. This research has found positive relationship of electoral process and pluralism indices, functioning of government indices and civil liberties indices with poverty ratio while political participation indices and political culture indices have negative relationship with poverty ratio.

Keywords: *Poverty ratio, Electoral process and pluralism indices, Functioning of government indices, Political participation indices, Political culture indices, Civil liberties indices.*

*Assistant Professor, Department of Accounting and Information Systems, University of Barishal.

Email: sujan9099@gmail.com

**Assistant Professor, Department of Accounting and Information Systems, University of Barishal.

***Assistant Professor, Department of English, University of Barishal.

1.0 Introduction:

Democracy advocates for the wish of majority people of a state. Therefore, it is commonly assumed that democratic system will ensure welfare for the majority of the people of a nation. But, the statistics of World Bank shows otherwise for the largest democratic country of the world i.e India. According to World Bank, majority of the people of India spends a day only with basic food stuffs. They can't afford more than this. Whereas, Marc. (2009) reported that in developed countries people equate democracy with each other as the only means of achieving higher living standards.

What wages, employment and health minima together with what weights will form the human development poverty line? This question is still not resolved. This is not clear whether there should be one as it would need to define a certain life expectancy at birth and a certain level of schooling as essential to the understanding of human potential. While it may be beyond question that they are required for any worthy conception of human life, it is impossible that what amount would constitute the minimum appropriate threshold would be considered uniquely appropriate, even though we seek (Varshney, 2000).

The research on human development works best when we raise metaphysical questions about how wealth alone can help people understand their ability. Its utility is reduced because, in the first place, we are concerned with the millions, who have no basic income or adequate diet.

Democracies provide better outcomes for both politics and culture than other forms of rule. Nonetheless, poor democracies' public policies vary little from those of developed, non-democratic countries (Philip Keefer, 2007).

In 1993-4 the individual had about 5 US cents left to purchase non-food products after purchasing all of this. Around one third in India haven't been able to afford the modest package above. If this is how a big part of the developed world works, so conceptualizing poverty in terms of starvation and malnutrition would be better.

With the above reality of democracy, the objective of the current study focused on an examination of the relationship of Poverty ratio with Electoral process and pluralism indices, Functioning of government indices, Political participation indices, Political culture indices, Civil liberties indices.

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In attaining the objective, the remainder of the paper is organized in the following manner: section 2 represents literature review, Section 3 articulates materials and methods, followed by results and discussions in section 4, findings and analysis in section 5 followed by conclusion in section 6. Finally, discussion of the implications and limitations of the research and possible directions for future study were provided.

2.0 Literature Review:

There may be a political base for economic reform in the middle and upper classes but it also needs to be developed among the poor. This elite-mass distinction, not always apparent in economic thought, is completely fundamental to the democratic cycle of democracy (Varshney, 1998). Poverty doesn't feature strongly in political philosophy. Two basic criteria were included in the foundational accounts (Dahl, 1989, and 1971): contestation and participation. The first concept, in turn, questions how easily the political opposition challenges the rulers and the second questions how many parties are active in elections and decides who will be the rulers. The first is about liberalization; the second is about inclusivity (Dahl 1971).

Saxer, Marc. (2009) reported that in developed countries people equate democracy with each other as the only means of achieving higher living standards. Democracies provide better outcomes for both politics and culture than other forms of rule. Nonetheless, poor democracies' public policies vary little from those of developed, non-democratic countries (Philip Keefer, 2007). Michael Ross. (2006) claimed that Democracies are struggling to provide public policies that favor the vulnerable, even though they are allocating more money than non-democratic countries to provide decent services for society. The middle class and wealthy are the ones who benefit greatly from this kind of system. Poverty levels may be calculated by Amartya Sen. (1992) minimum intake levels.

Lake and Baum (2001) explain how competitive political contests create political forces that enhance the delivery of public services to the detriment of rents received by members. Autocratic governments, on the other hand, will gain large rents by regulating such facilities without having to face significant consequences. Bueno de Mesquita et al. (2003) offers a somewhat different case for why liberalism broadens access to and raises support for education.

We argue that broad-based school programs should be described as public goods, and that engaging in these programs is a cost-effective way of preserving electoral support for leaders with massive "winning coalitions" (as in democracies), and comparatively costly for leaders with tiny coalitions (as in many autocracies).

Acemoglu and Robinson (2006) also argue that the comparatively poor majority will press for free education under democracy (where they have more political power), while autocratic leaders will reject these costly educational programs that favor the non-elites as well (see also Meltzer and Richards, 1981; Saint-Paul and Verdier, 1993; Boix, 2003; North, Wallis and Weingast, 2009). Eventually, with a emphasis on the African background, Stasavage (2005) provides a model demonstrating why publicly elected officials should spend more in primary school education. Popular rural communities in African countries have strong priorities for investing scarce public money on primary education, rather than policies that favor urban interests (such as costly university systems), and these rural communities face much lower costs of organising political action under democracy than autocracy (Bates, 1981).

There is a pattern in similar scholarly literature, in line with Sen, which suggests that society favors the weak (Gradstein, 2002). Meltzer et al. (1981) believe a majority-ruled society would inevitably boost the condition for the vulnerable when the rich are protected by authoritarian regimes. Yet one critique of the polls regarding the impact of populism on the vulnerable is that much of the available samples are biased. Ross (2006) suggests that most successful non-democracies are omitted from the polls, since successful authoritarian governments have no reason to submit results. Conversely, weaker repressive governments submit data to entitle institutions such as the World Bank, IMF, or UNDP to help. Consequently, most analyzes done on the topic are based on distorted datasets and thus not completely accurate.

Seymour Lipset (1959) stated that economic , political and social performance depends on a variety of factors. Type of regime and per capita income are two factors that affect output levels. On average, democracy has higher levels of income, industrialization, education and urbanization compared to other forms of regime. *Robert Dahl. (1998) stated that individuals under this form of regime may find better alternatives to meet basic needs , such as food, health, education and housing.*

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Marc Saxer. (2009) stated that a democratic system that is inclusive must take care of the needs of society as a whole. Poverty levels in low per capita income countries may be one of the key interests of society. In developed countries, people equate democracy as the only way to achieve better living standards. Philip Keefer. (2007) stated that democracy has greater political and social effects than other governments. However, the public policies of poor democracies do not vary significantly from those of poor non-democratic countries.

Michael Ross. (2006). Stated that democracy does not provide public policies that favor the poorest, even if it allocates more money to provide decent services to citizens than non-democratic countries. The middle class and the richest are the ones who profit the most from this kind of system. Amartya Sen. (1992) stated that poverty levels may be calculated by a minimum level of consumption. Food, hygiene, education and housing may be the most essential to a decent existence. Poverty may be calculated in a multidimensional way in this manner. However, each need has other dimensions that make it more difficult to quantify poverty. Although poverty can be measured by elements that go beyond biological ones, food is one of the most important aspects of poverty. Citizen engagement drives policymakers to create effective public policies that reduce poverty. However, membership in cultural groups has little impact on the degree of poverty. This kind of involvement does not actually come from the poorest.

Craig Johnson (2001) has argued that democratic decentralization is sometimes viewed as the sine qua non of rural poverty reduction. There is little evidence, however, that either democracy or decentralization are sufficient to reduce poverty in rural or urban areas, and indeed some evidence that they are counter-productive. There are, however, success stories to share. There are situations where three requirements have been met: an acceptable balance between autonomy and accountability; positive support from external actors; and a commitment to democratic deepening. It is worth building on these conditions because political participation is not only an instrumental good; it also has an inherent advantage for the rural poor.

Angeles L.C. (2004) stated that poverty reduction has returned to the agenda of international development organizations in the early 1990s, almost three decades since being on the back burner. The emphasis on market-oriented growth and global economic integration since the 1970s underlies the unquestioned belief in the trickle-down model of development. As the gains

of economic liberalization have not reached the world's poorest people, multiple types of social movements urge Asian states to become more accountable and attentive to basic human needs. Many grassroots organizations and NGOs look anywhere but the state to bring about change based on sustainable development paradigms. At the same time, development professionals within the interstices of international organizations, national governments and civil society have started to shift in different directions to bring about new types of sustainable development.

Lewis, Peter (2008) stated that there is a widely accepted correlation between governance , economic performance and the welfare of the people in Africa. Authoritarian regimes have typically struggled to encourage sustainable growth or the enhancement of their livelihoods. The movement towards democratization that swept the African continent in the early 1990s has given rise to expectations that democratic change could lead to economic regeneration. However, Africa's modern democracies are confronted by a critical paradox of development without prosperity. Although political liberalization underpins economic policy reform and strengthens some of the conditions for economic success, these reforms do not appear to promote substantial reductions in poverty or inequality. This paradox is a profound problem for the emerging democracies of Africa. The paradox emerges from the existence of the structures and institutions of patronage in countries undergoing political change.

B. Mak Arvin & Francisco Barillas (2002) stated that eradication of poverty is the most important purpose of the international assistance initiatives of donors. As a result, there has been a lot of studies on the degree of association between assistance and poverty reduction. However, this study to date has shed little light on the course of correlation between the two variables. Using the Granger Cause ability and Conditioning Aid and Poverty approach to the state of democracy in developing countries , this study asks whether aid flows have an effect on poverty, whether poverty has an effect on aid flows, or whether causality is moving in both directions simultaneously. Although the findings do not establish causal relationships in certain sub-samples, they point to the presence of a multitude of relationships through others.

Clive Harber (2002) discussed the political relationship between education and poverty reduction. It argues that authoritarian rule in Africa has worsened poverty levels and points out six ways in which this has occurred. However, reaching a higher degree of democracy will not

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be possible until Africa's political culture and civil society become more inclusive, but this will depend on the dissemination of more democratic ideals and actions. Since democratic ideals and attitudes are socially learned and are not inherited, education must play a part in promoting greater democracy. He explored three examples from Africa where education has not played a major role in the development of democracy and presents some more examples from African countries where serious efforts are being made to try to transform education structures in a more democratic direction.

3.0 Data and Methods:

To achieve the objectives of the study, cross-sectional data were extracted from two different sources i.e. *Gap minder and World Bank*. Different independent variables (Electoral process and pluralism indices, Functioning of government indices, Political participation indices, Political culture indices, Civil liberties indices.) and a dependent variable (i.e. Poverty headcount ratio) of 91 countries were selected from the website of *Gap minder and World Bank*. Initially, data were also obtained from the subjected data sources on many other variables, however due to multi-collinearity issues a variety of value variables had to be removed which may have generated skewed findings if implemented. Because of the nature and patterns of available data, Semi log econometric model was used to attain the study's best performance. Several robust regression models were performed and chosen using the best econometric model to describe the effects and relationships between interest variables.

$$Y = \beta_0 + \beta_1 \ln(X_1) + \beta_2 \ln(X_2) + \beta_3 \ln(X_3) + \beta_4 \ln(X_4) + \beta_5 \ln(X_5) + \mu \dots\dots\dots(1)$$

Where,

Y = Poverty Headcount Ratio (PHR) of 91 Countries from year 2007-18.

X₁ = Electoral Process and Pluralism Indices (EPI) of 91 Countries for year 2007-18

X₂ = Functioning of Government Indices (GI) of 91 Countries for year 2007-18

X₃ = Political Participation Indices (PPI) of 91 Countries for year 2007-18

X₄ = Political Culture Indices (PCI) of 91 Countries for year 2007-18

X₅ = Civil Liberties Indices (CLI) of 91 Countries for year 2007-18

4.0 Descriptive Statistics:

In this section, descriptive statistics along with correlation matrix would be provided to get the general idea about the results based on the dataset.

Table-1: Descriptive Statistics (Poverty Headcount Ratio and Democracy Scores)

Variables	Obs	Mean	Std. Dev.	Min	Max	p1	p99	Skew.	Kurt.
PHR	1092	23.929	13.43	1.3	72.3	2.4	63.8	.809	3.651
EPI	1092	61.145	31.448	1	100	1	100	-.613	2.037
GI	1092	46.823	20.638	1	89.3	1.429	89.3	-.315	2.502
PPI	1092	47.058	14.126	5.6	83.3	11.1	72.2	-.335	2.785
PCI	1092	52.444	11.51	18.8	87.5	25	81.3	.101	3.244
CLI	1092	60.746	24.164	5.9	100	5.9	97.1	-.377	2.178

Poverty Headcount Ratio (PHR) is showing an average of 24 mean score for all the countries studied along with a very high standard deviation of 13.43 score. Which indicates there is considerable disparity in poverty ratio among the countries of the world. Besides, mean EPI score is 61.15 with standard deviation of 31.45 score. This is again indicating a high inequality among the countries regarding electoral process and pluralism. The result is also similar with Government Indices. On an average 46% of government functioning along with standard deviation of 20%. Table also shows Political participation indices score average is 47% while Political culture indices is 52% as well. Both of these variables have high standard deviations. On the other hand, Civil liberties score is 60% with a high standard deviation of 24.164 across the countries of the world. The skewness and kurtosis results are consistent with broader literature.

Table-2: Pearson's Correlation Matrix

Variables	lnPHR	lnEPI	lnGI	lnPPI	lnCLI
(1) lnPHR	1.000				
(2) lnEPI	0.185***	1.000			
(3) lnGI	-0.108**	0.451***	1.000		
(4) lnPPI	-0.111**	0.555***	0.362***	1.000	
(5) lnCLI	0.112**	0.809***	0.592***	0.640***	1.000

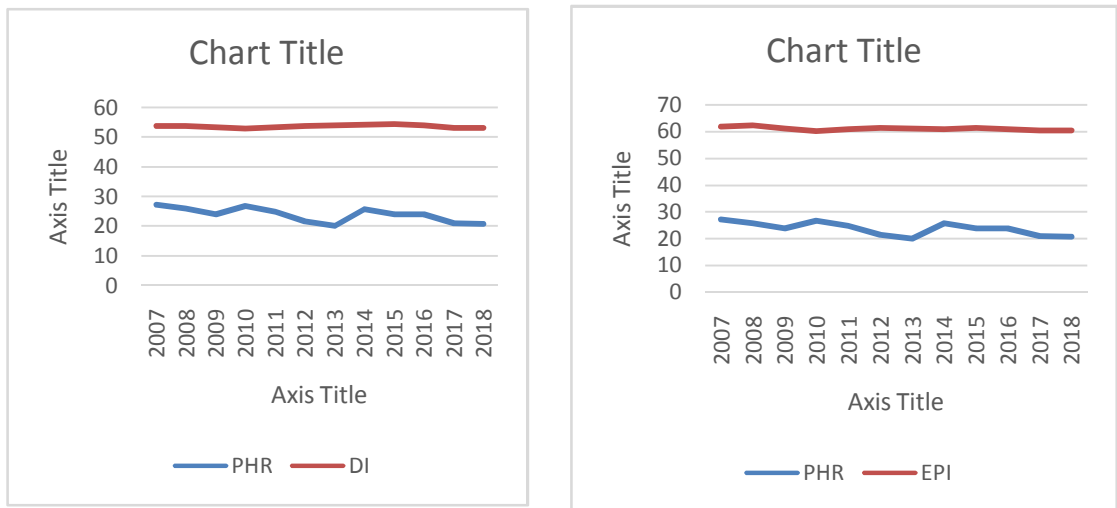
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

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Table 2 shows little association among the variables indicating very low chance of endogeneity. Limited by the layout, only the correlation coefficient matrices and collinearity test results are provided here. However, the results meet the requirements of the correlation coefficient test and VIFs test all the variables. Also, the results show significance at least at .10 level for all the variables. No variable is showing association over .90 level.

5.0 Findings and analysis: In this section, details analysis of the data would be carried out through pictograms and regression outputs under different models.

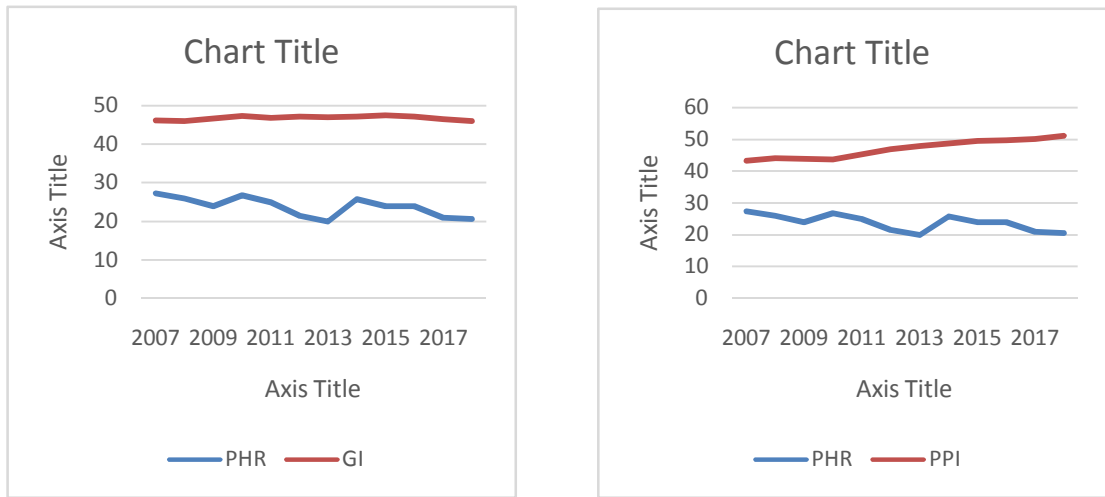
Figure 1 and 2: Relationship between Poverty Headcount Ratio (PHR) and overall Democracy Index (DI) and Electoral Process and Pluralism (EPI)



Source: Authors' calculation

From figure 1 and 2, it is apparent that the mean poverty ratio (PHR) of the 91 countries for the year 2007-2018 show a declining trend alongside consistent democracy indices (DI) and Electoral process indices (EPI) for these countries. Which gives clear indication that democracy has positively influenced the reduction of poverty during the studied year for the investigated countries.

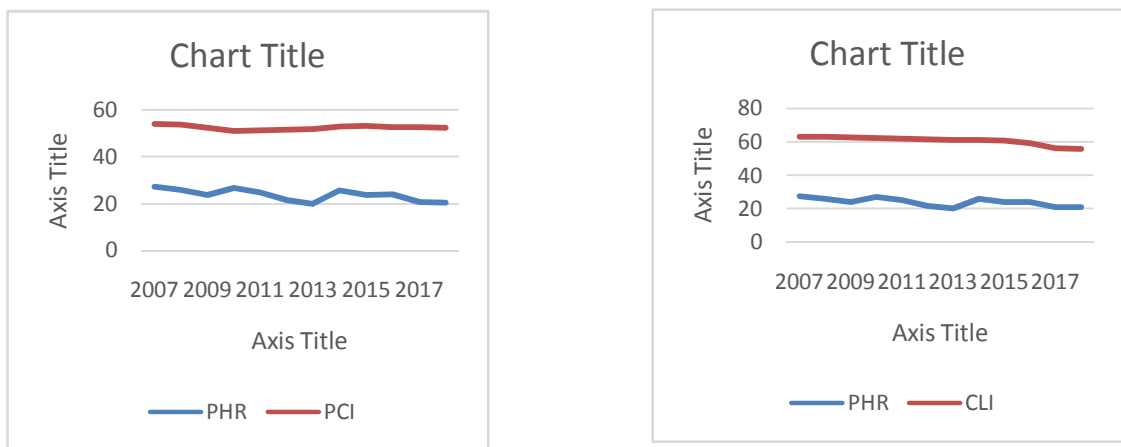
Figure 3 and 4: Relationship between Poverty Headcount Ratio (PHR) and Government Indices (GI) and Political Participation Indices (PPI)



Source: Authors' calculation

From figure 2 and 3, it is visible that the mean poverty ratio (PHR) of the 91 countries for the year 2007-2018 show a declining trend alongside government indices (GI) but for Political Participation Indices (PPI) it shows very inverse relationship with PHR. It indicates that PPI has negatively influenced the reduction of poverty during the studied year.

Figure 5 and 6: Relationship between Poverty Headcount Ratio (PHR) and Political Cultural Indices (PCI) and Civil Liberties Indices (CLI)

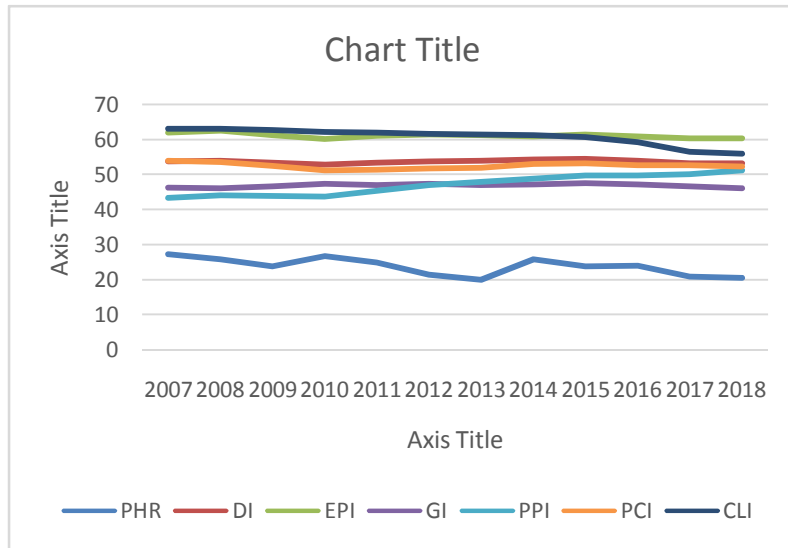


Source: Authors' calculation

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From figure 2 and 3, it is visible that the mean poverty ratio (PHR) of the 91 countries for the year 2007-2018 show a declining trend alongside government indices (GI) but for Political Participation Indices (PPI) it shows very inverse relationship with PHR. It indicates that PPI has negatively influenced the reduction of poverty during the studied year.

Figure 7: Relationship of Poverty Headcount Ratio (PHR) with all democracy indices proxies (DI, EPI, GI, PPI, PCI, CLI)



Source: Authors' calculation

In figure 7, overall display of all the indices along with poverty ratio would be provided for a comparative study of the indices and their impact on poverty. It shows that poverty ratio positively walked with EPI and CLI while negatively with PPI and PCI. So, countries marching towards democracy should keep in mind which factors are more important and which factors are really helping in reduction of poverty in the long run.

In the next portion of discussion, results of the robust regression models would be provided along with post-estimation test and interpretation of the results will also take place side by side.

Table3 : Robust regression results and post-estimation tests:

	(1) OLS	(2) POLS	(3) DK	(4) 2sls	(5) GMM
lnEPI	.174*** (.047)	.129*** (.039)	.174** (.071)	.174*** (.047)	.021 (.231)
lnGI	-.2*** (.066)	-.07 (.055)	-.2*** (.064)	-.2*** (.066)	-.332*** (.126)
lnPPI	-.615*** (.12)	-.636*** (.082)	-.615*** (.109)	-.615*** (.12)	-.599*** (.173)
lnPCI	-.439*** (.124)	-.138 (.114)	-.439*** (.074)	-.439*** (.124)	-.409* (.233)
lnCLI	.278** (.121)	.227** (.112)	.278*** (.088)	.278** (.121)	.613 (.427)
_cons	5.997*** (.566)	4.949*** (.591)	5.997*** (.434)	5.997*** (.566)	5.637*** (.908)
Mean dependent var		2.986	SD dependent var		0.679
R-squared		0.158	Number of obs		492.000
F-test		18.289	Prob > F		0.000
Chi-square		46.301			
GMM model post-test results					
F-Value	324.14***	Wald Chi-square	24.56***	AR(2) = 0.135	
Sargan Statistics	0.000	Hansen Statistics	0.375		

Standard errors are in parenthesis

Source: Authors' calculation

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

The findings show that the two control variables, GI, PPI and PCI, remain negative and significant ($p < 0.01$) across the five models. It suggests that countries with larger PPI and higher PCI scores benefit less regarding poverty reduction. The negligible Sargan test statistics ($p < 0.05$) indicate the residuals are not associated with the instrumental variable (IV). In addition, the Hansen test supports the null hypothesis of instrument validity ($p < 0.05$), suggesting that the instruments are exogenous and appropriate. Moreover, the model is free from second-order correlation indicating no serial correlation. So, the overall model is valid and relevant hypotheses are valid. The rest of the control variables (EPI and CLI) show positive relationship with poverty ratio across all the five models.

As far as econometric modeling results are concerned, table-3 exhibits the statistical relationships and trends of relationships between dependent (poverty headcount ratio) and independent variables (i.e. natural log of Poverty ratio, Electoral process and pluralism indices, Functioning of government indices, Political participation indices, Political culture indices, Civil liberties indices scores of 91 countries). It is evident from the table-3 that econometric model is significant at less than 5 percent which is also confirmed by the high F value (18.289). Moreover, the econometric model expressed some surprising results delineating negative relationship between political system scores and poverty headcount ratio.

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6.0 Conclusion: It is concluded from the results of the study that poverty headcount ratio have negative relationship with Political participation indices and Political cultures indices. It was also found that democracy proxies like government indices and civil liberties indices have positive impact over poverty reduction which favors the expectations of the authors. However, the relationships between democracy score and poverty headcount ratio (%) of the population was explored which was against the expectations of the author and did not support by the literature for PPI and PCI.

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Appendix 1: List of the countries

SL	Name of the country	SL	Name of the country	SL	Name of the country
1	Afghanistan	36	India	71	Serbia
2	Albania	37	Indonesia	72	Slovak Republic
3	Argentina	38	Iraq	73	Slovenia
4	Armenia	39	Jamaica	74	South Africa
5	Azerbaijan	40	Jordan	75	Sri Lanka
6	Bangladesh	41	Kazakhstan	76	Tajikistan
7	Belarus	42	Kyrgyz Republic	77	Tanzania
8	Benin	43	Lao PDR	78	Thailand
9	Bhutan	44	Latvia	79	TimorLeste
10	Bolivia	45	Liberia	80	Togo
11	Bosnia and Herzegovina	46	Lithuania	81	Tunisia
12	Botswana	47	Madagascar	82	Turkey
13	Bulgaria	48	Malawi	83	Uganda
14	Burkina Faso	49	Malaysia	84	Ukraine
15	Cambodia	50	Mauritania	85	Uruguay
16	Cameroon	51	Mauritius	86	Uzbekistan
17	Chile	52	Mexico	87	Venezuela, RB
18	China	53	Moldova	88	Vietnam
19	Colombia	54	Mongolia	89	Yemen, Rep.
20	Costa Rica	55	Montenegro	90	Zambia
21	Cote d'Ivoire	56	Morocco	91	Zimbabwe
22	Croatia	57	Mozambique		
23	Czech Republic	58	Myanmar		
24	Dominican Republic	59	Namibia		
25	Ecuador	60	Nicaragua		
26	Egypt, Arab Rep.	61	Niger		
27	El Salvador	62	Pakistan		
28	Ethiopia	63	Panama		
29	Fiji	64	Paraguay		
30	Gambia, The	65	Peru		
31	Georgia	66	Philippines		
32	Ghana	67	Poland		
33	Guinea	68	Romania		
34	Honduras	69	Russian Federation		
35	Hungary	70	Rwanda		

WHY DO PUBLIC UNIVERSITY TEACHERS INTEND TO QUIT?

Md. Sohel Chowdhury*

ABSTRACT

Traditionally, teaching is considered as a novel profession; however, employee turnover in this profession is not uncommon. Drawing on push and pull theory, the main purpose of this paper is to determine the predictors for which public university teachers intend to leave their organizations and join new ones. A self-administered questionnaire was developed to collect data through convenient sampling. Hypotheses were tested using structural equation modeling (SEM). The results produced some surprising findings. Contrary to the hypothesized notion, other than the social factors, personal and administrative factors did not significantly influence turnover decisions of public university teachers. Moreover, administrative factors affect teachers' turnover intentions negatively. In line with the findings of this study, theoretical contributions and practical implications for the policy makers have been discussed. The paper concludes with reporting some limitations and suggestions for future research directions.

Keywords: *Bangladesh, Employee turnover, Personal factors, Public universities, Pull and push theory, Social factors.*

1. Introduction

Employees are vital for any kind of organizations. But, in the past, employees were not treated as important phenomena for attaining organizational goals and objectives. With the passage of time, they are considered as resources without which it is impossible to achieve organizational goals. As a result, now all organizations are highly keen to maintain and retain their valuable employees. Employees now a days tend to change their present jobs and join the new ones where they find themselves fit for those organizations. This type of employee tendency negatively affects performance of an organization. When employees leave an organization, they leave with all experiences that they gathered within the organizations. (Bennison & Casson 1984). In addition, when employees leave an organization, it has variety of effects on both the organization and the society itself (Arokiasamy 2013). Particularly turnover intention in teaching profession is an important phenomenon as teaching is considered as the root and nourishment of all others profession (Hanif 2004).

The extant literature confirmed some predictors that influence teachers' turnover decisions. Most of the previous studies were conducted in the context of western countries (Ovadge 2009; Maertz, Stevens, & Campion 2003). But relatively fewer researches were conducted in South-Asian context, even less so in the context of Bangladesh. In fact, studies conducted in one country may not be generalized in the context of other countries, particularly in social science research (Song *et al.* 2006). It is because of the variation in human behavior. To the best of the researcher's knowledge, there is limited research that attempted to find out the factors affecting turnover intentions among the faculty members of public universities in the context of a developing country like Bangladesh. Most of the researches regarding employee turnover were based on private universities in Bangladesh. Therefore, this study aims to find out various factors and understand their relationships which contribute in turnover intention of public university teachers by taking a case of south-western region of Bangladesh. More precisely, drawing on push and pull theory (Bretz, Boudreau & Judge 1994), the main purpose of this study was to

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determine the factors that influence public university teachers' intention to take turnover decision. All of the research hypotheses were developed based on the theory and previous studies conducted in different countries of the world.

This paper has been organized sequentially in 7 sections. Background and rational of the study have been discussed in the introductory section followed by literature review and hypotheses development. Methodology presents research design and analysis followed by results, discussion and implications (both theoretical and practical) of the study. The paper concludes with limitations and future research directions.

2. Literature review and hypothesis development

2.1. Turnover Intention

'Employee turnover' as a term is commonly discussed issue in business arena. Turnover intention is the behavior of employees' intention to leave the current job. Mobley (1979) stated turnover is the termination of a membership between an individual with company who was employed by the company. Price (2001) mentioned that turnover intention is the form of withdrawal of individual from an organization. It can be defined as conscious and willingness to search for other opportunities of employments (Tett & Meyer 1993). According to Jaros (1997), there are three signals that can show the employees turnover intention. The signal is whether employee thinks of quit, searches for other employment opportunities and forms an intention to leave.

Turnover is different from turnover intention. Turnover is the actual action that employees had left the company and moved to other company for new employment relationships (Price 2001). On the other hand, there is a difference between intention and actual behavior because all intentions may not lead to actual behavior (Cotton & Tuttle 1986). Ajzen and Fishbein (1980) believed that intention is the precondition of a behavior and there is a close connection between intention and behavior.

The impact of employee turnover for higher educational institutions is greater than any other organizations (Ali Shah *et al.*, 2010). Specifically, a university's future largely depends on the quality of its academic staff (Mwadiani 2002; Pienaar 2008). Ng'ethe, Iravo, and Namusonge (2012) also noted that the sustainability of a university depends on creative abilities of its academic staff. Thus, it is vital for an academic institution to retain its academic staff.

2.2. The context of Bangladesh

Bangladesh had no university for a long time during the British rule. Considering the importance of higher education, a university was set up first in Dhaka in 1921. After the liberation of Bangladesh in 1971, during the last 49 years, higher education scenario has greatly been transformed. The number of public universities has increased significantly. According to the University Grants Commission (2020), there are 46 public universities currently operating in Bangladesh. Among them only 7 public universities (namely Bangabandhu Sheikh Mujibur Rahman Science & Technology University, University of Barishal, Islamic University, Jessore University of Science & Technology, Khulna University, Khulna University of Engineering & Technology, Patuakhali Science and Technology University) are operating in south-western region of the country. Presently, turnover intention is a common scenario in Bangladesh. There are many issues causing employees to leave the organizations such as job dissatisfaction, job role and HRM practices etc. (Amah, 2009; Mudor & Tooksoon, 2011). Though there are plenty of researches on employee turnover, surprisingly it still remains vibrant field of further research (Holtom, Mitchell, Lee, & Eberly 2008). This is because one finding cannot be applicable to the context of other countries due to the differences in culture, demography, economy and geography.

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2.3. Push theory and turnover intention

'Push' dimension of Bretz *et al.* (1994) suggests that employees may leave an organization because of the factors that compel them to do so. These factors can be internal or external. Organizations are always keen to retain their employees. However, employees have tendency to search for other organizations which can fulfill their expectations. The available literature indicated various factors for which they quit their jobs (Ali Shah *et al.* 2010). There is also much discussion on the relationship between various factors and turnover. The results of each study were different as each study was carried out in different countries. For the purpose of the present study, only 'push' dimension of 'push and pull theory' has been considered. Previous studies showed that there were various reasons for which employees left the organizations. Those reasons can be broadly classified into the following:

2.3.1. Personal Factors: There are many personal issues such as health, family etc. for which employee can take turnover decision (Ali Shah *et al.* 2010). In addition, 'job-hopping' also contributes in turnover intentions. Employees take advantage when there is a labor shortage in the market. Many employees switch over an organization for no reason or even for fun. Unrealistic expectation of employee is also an important personal reason for which employee intends to quit the present organization.

2.3.2. Administrative factors: Administrative factors refer to those factors that push or compel the employees to take turnover decision. In the literature, it is also known as controlled factors because these factors can be controlled by organizations themselves. According to Loquercio (2006), it is uncommon that employees leave an organization in which they are happy. However, some previous studies reported that sometime employees are compelled to quit their present jobs to seek alternative employment.

2.3.3. Social Factors: Apart from the above administrative and personal factors, there are some social factors due to which faculty members tend to take turnover decisions. Social factors derived from

literature are: no unity among the colleagues, rivalry relations with the officers, criticism/back biting in the university, loss of bargaining body's basic philosophy, competition for power, post and positions, absence of respect for the seniors, lack of reputation of the university and so on. Therefore, based on the extant literature and purpose of the present study, the following hypotheses were developed. Figure 1 depicts the hypothesized relationship among the variables of the study.

Hypothesis 1. There is a statistically significant positive relationship between personal factors (PF) and teachers' intention to take turnover decision.

Hypothesis 2. There is a statistically significant positive relationship between social factors (SF) and teachers' intention to take turnover decision.

Hypothesis 3. There is a statistically significant positive relationship between administrative factors (AF) and teachers' intentions to take turnover decision.

Based on the literature review and hypotheses considered for the study, the following research framework is developed:

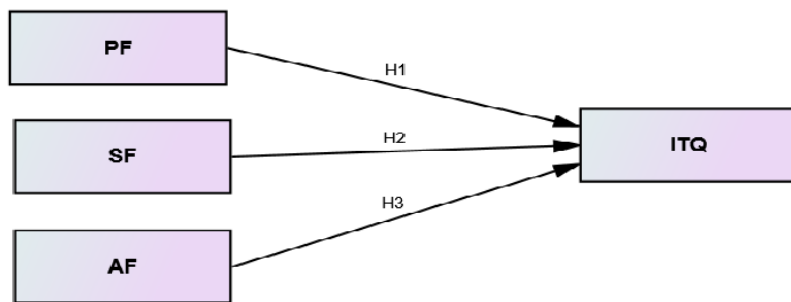


Figure 1. Hypothesized research model

3. Methodology

3.1. Participants and procedure

A self-administered questionnaire was developed to collect data through paper based survey. It took 10 to 15 minutes to complete the entire survey questionnaire. Using convenient sampling technique, questionnaires were sent to the respondents through the postal mail and through the students of the Department of Management Studies, University of Barishal. The questionnaire was developed in such

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a way that responses could not be linked to any particular individual. Additionally, anonymity was ensured in the questionnaire. The survey period ranged from June 7 to June 22, 2018. A total of 150 questionnaires were distributed among the public university teachers in south-western region of Bangladesh. The participants returned 123 questionnaires of which 2 of them reported to be unengaged (i.e. rating the same level of agreement or disagreement throughout all the questions) at the time of data cleaning process and their responses were not considered for the analysis. For social science research, the sample size ($n = 121$) of the present study is acceptable under the rules of thumb (Stevens 2009; Tabachnick & Fidell 2013). The sample size of the present study is also suitable for structural equation modeling (SEM) as it exceeds the minimum sample size requirement for the focal 5 constructs (Hair *et al.* 2009). Demographic statistics showed that most of the respondents were male (76%), married (79.3%), lecturer (45.5%) followed by assistant professor (31.4%) and associate professor (13.2%). Data were collected from 6 public universities in south-western region of Bangladesh. Most of the respondents (23.1%) were from Patuakhali science and technology university (PSTU). Majority of the respondents belonged to business faculty (36.4%) followed by science and engineering faculty (28.1%).

3.2. Measures

As an exploratory study, the measurement items were developed based on the literature review. Unless otherwise indicated, all the items were measured using Likert-type scales ranging from 1 (strongly disagree) to 5 (strongly agree). There were 10 items for personal factors (e.g. "I am unable to publish research paper as required"), 12 items for administrative factors (e.g. "Research facilities and allowance is low"), 9 items for social factors (e.g. "Criticism/back biting is everywhere in the university") and 4 items for turnover intention factors (e.g. "I often think about quitting my job"). A higher score indicated a higher intention to leave the organization. There was no control variable of this study as preliminary analysis did not show any significant correlation between gender, age, marital status, and their turn over intention.

Table 1. Reliability statistics

Constructs and items	CFA loadings	Composite Reliability	AVE	Cronbach's (α)	Multicollinearity	
					Tolerance	VIF
<u>Personal Factors (PF)</u>		0.74	0.56	0.74	0.94	1.06
Teaching is a difficult job [Q13]	0.54					
Some of my friends/relatives are changing jobs [Q14]	0.55					
I cannot balance my work with life [Q15]	0.54					
I am unable to publish research paper as required [Q16]	0.71					
I am unable to follow organization rules and regulations [Q17]	0.65					
<u>Administrative Factors (AF)</u>		0.82	0.57	0.82	0.68	1.47
Research facilities and allowance is low [Q19]	0.74					
Decisions from the authority vary from person to person [Q22]	0.71					
Autocratic leadership by the authority [Q27]	0.61					
Authority takes too much time to provide benefits to the teachers when takes very little time to impose rules and restrictions on them [Q28]	0.68					
Administrative work is more than the academic work [Q30]	0.71					
<u>Social Factors (SF)</u>		0.90	0.56	0.90	0.67	1.48
There is no unity among the colleagues [Q33]	0.76					
Rivalry relations with the officers [Q34]	0.75					
Criticism/back biting is everywhere in the university [Q35]	0.73					
Teachers' bargaining body loses its basic philosophy [Q36]	0.60					

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Respect for the seniors is not present [Q38]	0.78			
Prospect of the university is not good [Q39]	0.82			
There is no goodwill of the university [Q40]	0.77			
<u>Intention to Quit (ITQ)</u>		0.87	0.70	0.86
I often think about quitting my job [Q43]	0.66			
I am currently looking for a job in other organizations [Q44]	0.87			
I will leave this job if I could find a similar position at other organization [Q45]	0.95			

Note: Factor loadings are significant at *** $p < 0.001$
n = 121

3.3. Analysis

Analyses were conducted in three sequential steps. *First*, as the study was exploratory in nature, the researcher conducted the exploratory factor analysis (EFA) to reduce the dimensions and extract the actual factors of the study. *Second*, the reliability, validity and common method variance (CMV) of the extracted factors were checked through the confirmatory factor analysis (CFA). *Finally*, full structural model was examined based on the established fit indices and thereafter, standardized path coefficients of the structural model were considered to test the research hypotheses. All the hypothesized relationships were examined using structural equation modeling (SEM) with AMOS (version 25) to achieve maximum likelihood estimation. One of the main advantages of applying SEM is that it can control measurement errors and jointly estimate all the equations that constitute the full structural model (Tso, Yau & Cheung 2010).

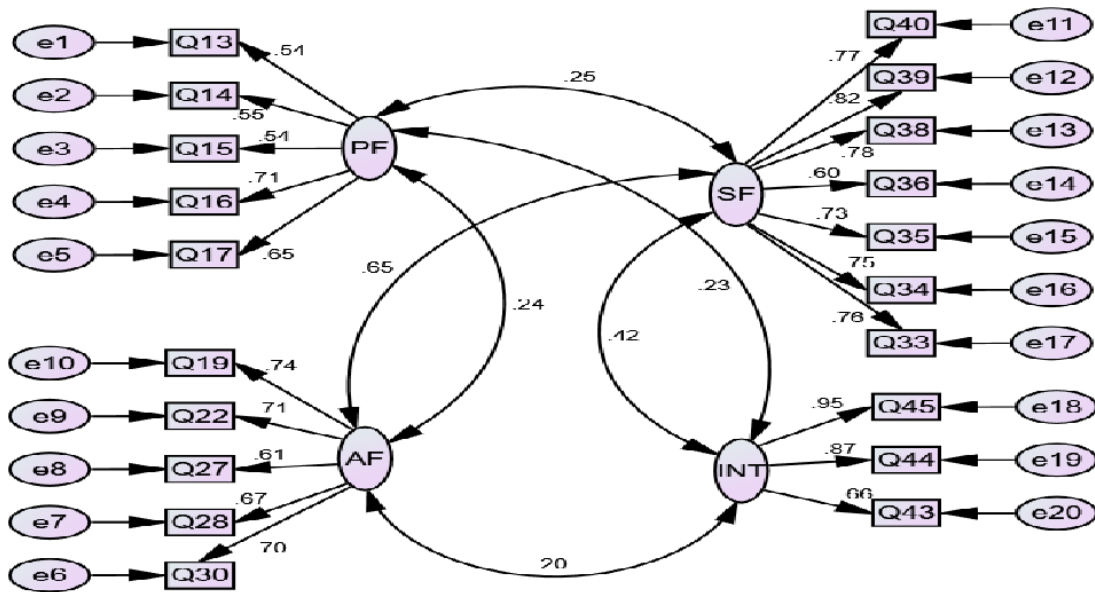


Figure 2. Measurement model

4. Results

4.1. Exploratory factor analysis (EFA)

As the study was exploratory in nature, the data were considered for EFA using principal component analysis (PCA) method, and the extraction method was varimax rotation. The criteria used to select factors and items were: Eigen values greater than 1; factor loadings greater than 0.40; and no cross loadings above 0.30 (Vansteenkiste *et al.* 2004). The EFA showed that some items belonged to more than one component and were poorly loaded. Therefore those items were not considered in analysis for the clarity of the study. There were 4 components extracted for this study. Measurement questions Q13, 14, 15, 16, 17 were loaded on component 1 as personal factors (PF) of this study, whereas Q19, 22, 27, 28, 30 were loaded in component 2 as administrative factors (AF). Items Q33, 34, 35, 36, 38, 39 and 40 were loaded in component 3 as social factors (SF). Measurement questions Q43, 44 and 45 were loaded in component 4 as dependent variable i.e. intention to quit (ITQ) of this study.

4.2. Test of measurement model

Because most of the measurement items were psychometric in nature and the data were collected from a single source, it was necessary to examine reliability and validity of the constructs (Huang 2011).

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Therefore, confirmatory factor analysis (CFA) was conducted to examine the convergent and discriminant validity of the construct. Construct reliability was examined by assessing the composite reliability (CR), Cronbach's α and the average variance extracted (AVE) values. Both CR and Cronbach's α for each construct of the study ranged from .74 to .90, exceeding the minimum threshold of .70 (shown in Table 1).

Table 2. Means, standard deviations and correlations among the studied variables

Constructs	M	SD	1	2	3	4
1. Personal factors	3.93	.75	1			
2. Administrative factors	2.35	.84	.24*	1		
3. Social factors	2.81	.98	.25*	.65**	1	
4. Intention to quit	3.25	1.13	.23**	.20**	.42**	1

Notes:

*Correlation is significant at the 0.05 level (2-tailed).

**Correlation is significant at the 0.01 level (2-tailed).

M = Mean, SD = Standard deviation.

n = 121

In addition, the AVE values for all the factors ranged from .56 to .70, exceeding the minimum requirement of .50, indicating the convergent validity of the constructs (Fornell & Larcker, 1981). The factor loadings of the measurement items for each construct ranged from .54 to .95 and were statistically significant ($p < .001$), indicating support for convergent validity (Anderson & Gerbing, 1988). Collinearity statistics also showed that all the independent variables were free from multicollinearity problem i.e. the variance inflation factors (VIF) were below the threshold of 10, and tolerance values were above .10 (Hair *et al.*, 2009). Besides, Table 2 showed that correlations (r) between the independent variables did not exceed the threshold value of .9 which suggests that the independent variables of the present study were distinct and free from multicollinearity (Pallant 2016). Given that χ^2 statistics is sensitive to sample size (Van Hove *et al.* 2015), the researcher also considered other goodness of fit indices such as comparative fit index (CFI), incremental fit index (IFI), Tucker-

Lewis index (TLI), the normative fit index (NFI), root mean square error of approximation (RMSEA) and the goodness of fit index (GFI) to assess the construct reliability and validity of the measurement model. The CFA results indicated that all the fit indices (such as χ^2/df , GFI, CFI, RMSEA, TLI and IFI) of the hypothesized 4 factor model fit the data well (shown in Table 3), suggesting the discriminant validity of the constructs (Huang, 2011).

Table 3. Fit indices of measurement model and full structural model

Model fit index	Measurement model	Structural model	Recommended value
Chi-square (χ^2)	417.16	356.43	
Degree of freedom (<i>df</i>)	164	162	
χ^2/df	2.54	2.20	≤ 3.00 (Bagozzi & Yi, 1988)
CFI	.91	.94	$\geq .90$ (Lin, 2010)
GFI	.80	.88	$\geq .80$ (Seyal et al., 2002)
RMSEA	.08	.05	$\leq .08$ (Hair et al., 2009)
TLI	.90	.93	$\geq .90$ (Van Hove et al. 2015)
IFI	.91	.94	$\geq .90$ (Hossain, 2019)

4.3. Common method bias (CMB) test

To confirm whether the present study survey material was free from the influence of common method variance (CMV), Harman's single factor test was conducted which revealed that common method bias was not a major concern for this study (as single factor accounted for 32.69% which did not exceed the threshold of 50% to explain the variance).

4.4. Test of structural model

Given that the measurement model fit the data well, structural relationships among the latent constructs were added to test the efficacy of the hypothesized research model. A similar set of fit indices (i.e. χ^2/df , GFI, CFI, IFI, TLI, RMSEA) were taken into consideration to evaluate whether the structural model fit the data well for this study. Based on the modification indices covariance between the error term e11,

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e12 and e13 were taken into consideration. Fit indices showed that the structural model represents the data well (shown in Table 3). Therefore, all the research hypotheses were tested based on standardized path coefficient of the structural model. As expected personal factors, administrative factors, social factors, and intention to quit all are positively and significantly correlated (shown in Table 2). When analyzing the path coefficient of the structural model, the model showed that there were no statistically significant impact of personal factors and ($\beta = .153, p > .05$), administrative factors ($\beta = -.151, p > .05$) on teachers' intention quit except for the social factors ($\beta = .474, p < .05$) (shown in Figure 3). Moreover, administrative factors had negative impact on teachers' intention to take turnover decisions. Therefore, H1 and H3 were not supported as they stated that there is a significant contribution of personal factors and administrative factors to explain variance of teachers' intention to quit from the current positions, while H2 was accepted as it stated that the impact of social factors on teachers' turnover intention is significant.

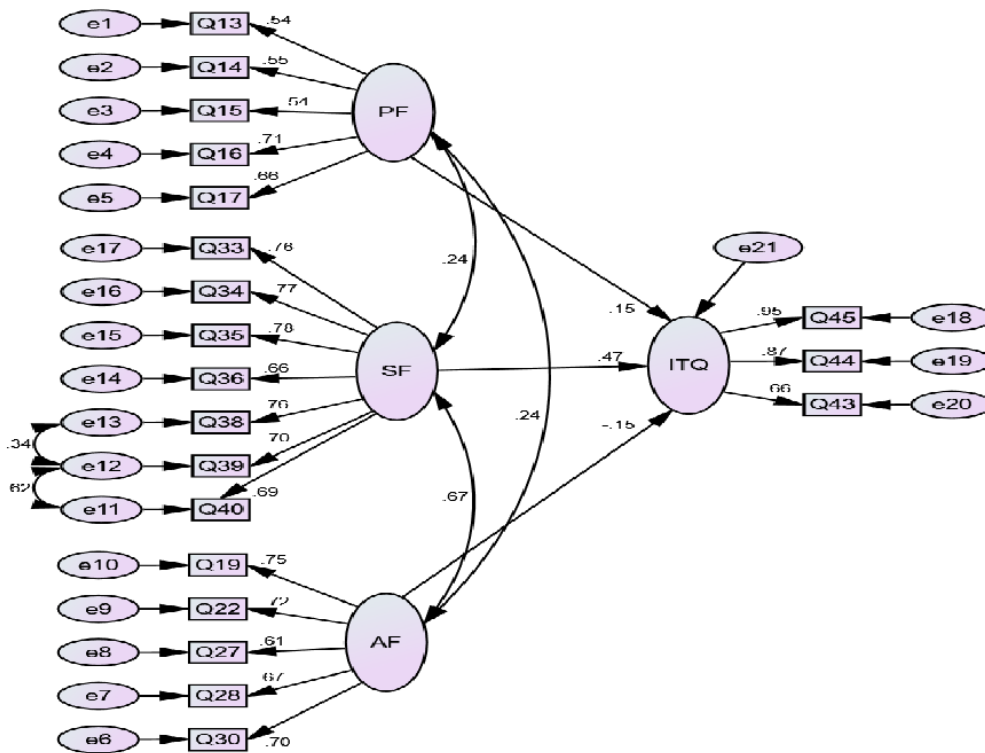


Figure 3. Standardized path coefficient of full structural model

5. Discussions

The main purpose of the study was to determine the factors which influence university teachers' intention to take turnover decisions by applying 'push and pull theory'. The results showed some interesting findings such that contrary to the hypothesized notion of this study, administrative factors could negatively affect the turnover intentions, but that effect was not statistically significant. Personal factors had also no significant positive influence on turnover intentions. The only factor was the social factors that could significantly influence teachers' intention to quit in the current organization.

One possible reason for having no significant effect of personal factors and administrative factors might be the person-job (P-J) fit perceptions of the respondents. The respondents might pay greater emphasis on the nature of jobs rather than the organizational characteristics. Another compelling reason might be respondents' employability and available options before them. In addition, as most of them were married, they might feel intense pressure if they would leave the organization because individuals with family always feel pressure for having jobs (Van Hooft *et al.* 2004). Another reason might be the measurement scales selected for the study. The number of items was fewer than the previous studies; as a result, it might lead to less variability of the scales.

One possible interpretation for having significant effect of social factors on turnover intentions might be the millennial characteristics of respondents. Millennials (often called Generation Y) are more individualistic and narcissistic in nature (Twenge 2009), have overestimation of their own skills, knowledge and qualities (Pinzaru *et al.* 2016). As most of the social factors of the study were related with the personal attributes (i.e. values and beliefs), respondents might rarely compromise on this issue. Consequently, they intend to take turnover decisions.

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6. Implications of the study

6.1. Theoretical

The results of the present study have some theoretical contributions and practical implications for the policy makers. This study adds value to the current job search literature by introducing social factors more precisely. Though social factors were also reported as key predictors for taking a behavioral action in other field of study such as recruitment literature (Fort, Pacaud & Gilles 2015), this study revealed the social factors more precisely in the context of public university teachers of Bangladesh. However, it would not be wise to generalize the findings of the present study because in social science research, it was confirmed that human behavior varies from situation, culture, beliefs and so on. Therefore, the findings of the study are an important step forward in evaluating the generalizability of this theoretical model.

6.2. Practical

The results of the present study also provide some practical implications for policymakers. Contrary to the expectations, the findings of the present study showed that public university teachers do not leave their organizations for administrative or personal reasons; rather, they intend to take turnover from their organizations only because of social factors. This is an important step forward for turnover literature. As the social factors played a significant role in turnover intentions of the teachers, the policy makers would take necessary steps to make the social environment congenial for all the stakeholders of university i.e. teachers, staffs, students etc. There should be an open communication system in every sphere of an institution. Relationship among teachers, officers and students should be developed in such a way that inhibit backbiting and discourage race for power, post and positions. Bargaining body of every community should be in tact with its main principle and should be run according to its constitution. In fact, the policy makers need to come forward to ensure the issues discussed above.

7. Limitations and future research

The present study is not out of its limitations. *First*, a self-administered questionnaire was used to collect data from university teachers at a single point of time which leads potential threat of common method bias (Podsakoff *et al.*, 2003). Therefore, readers of this present study must be cautious at the time of making general judgment. Future researchers can consider longitudinal study to produce holistic results and make generalizations of the findings. *Second*, all the target respondents were from a particular region of the country, therefore, making generalization over all the teachers in every part of the country is quite difficult. In addition the respondents were less proportionate to a large number of public university teachers of Bangladesh. Consequently, generalization of the findings is not possible without further study. *Third*, measurement items of this study were found reliable; however, it requires further verification in the context of other situations, cultures and settings. Therefore, future researchers can consider this theoretical model in other field of research to make the model more holistic. *Fourth*, the present study only considered the ‘push’ dimension of ‘push and pull theory’. Inclusion of pull dimension might produce different findings. Therefore future researchers can consider the all the dimensions of ‘push and pull theory’ to have better understanding of the efficacy of the research model. *Finally*, the present paper did not consider the actual behavior of the intended teachers. As Sheeran and Webb (2016, p. 503) stated “people do not always do the things that they intend to do”, inclusion of actual behavioral construct could produce different outcomes. Therefore, future researchers can also consider the actual behavior of intended teachers through a longitudinal study.

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8. Conclusion

The main purpose of the study was to find out the reasons why public university teachers intend to quit teaching profession which is traditionally well-known as a novel profession. In summary, the review of related literature showed mixed results for the relationship between personal, administrative, social factors, and turnover intentions. The results of the present study produced some interesting findings which can contribute to the existing job search literature and provides some practical implications mentioned above. Overall, despite having some limitations mentioned above, the findings do not hint substantial challenge to the objectives of this study. Thus, this paper is expected to enrich the current turnover literature in the context of Bangladesh in particular and Asia in general.

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PROFITABILITY DETERMINANTS OF PRIVATE COMMERCIAL BANKS- A CASE OF BANGLADESH

Shoilee Sumiyaa*

ABSTRACT

The necessity of strengthening the profitability of banks has become vital for ensuring a vigorous banking sector in Bangladesh. Therefore, acquiring the knowledge of factors stimulating the profitability of commercial banks has been evident. This research envisages how the selected bank-specific financial ratios along with the national indicators have multiple effects on the explained variables- the profitability indicators of twenty opted private commercial banks of Bangladesh (PCBs). The study examines how selected bank specific financial ratios-capital adequacy, asset quality, management efficiency and liquidity, as well as certain macroeconomic indicators- growth trend of GDP and inflation put impact on the three opted bank profitability indicators- ROA (return on assets), ROE (return on equity) and NIM (net interest margin). This study also considers how each explanatory variable particularly has impact on each profitability indicator. The experiential upshot illustrates that, at 5% level of significance, the Return of Assets (ROA) and Return on Equity (ROE) share momentous association with the six explanatory variables. It is also perceptible that both Return of Assets (ROA) and Return on Equity (ROE) have a significant direct relationship with Management Efficiency (ME) at 1% significance level. Alongside, at 10% level of significance, macroeconomic indicator –growth rate of GDP is positively related to Net Interest Margin (NIM). The end result portrays that, ensuring competent and cost-effective management is highly imperative to the growth of profitability of PCBs. Hence, the PCBs ought to concentrate on offering quality services along with diversified products to the potential customers.

Keywords: Private commercial banks (PCBs), financial ratios, macroeconomic variables, ROA, ROE, NIM, multiple associations

1. Introduction

Bank is a financial intermediary that amalgamates money as deposits from surplus spending units of a country (SSU) representing as depositors and lends the funds to various companies and industries in needs of. In fact, banks have to concurrently gather money from depositors and employ them as loan to various companies and individuals. The revenues of banks generate from the spread of interest income from lending and interest expense from borrowing money. The profitability of banks derives from their capability to generate profit through financial activities. In order to offering incessant and competent financial services, they require to generate enough revenues to maintain their operating expenses. Therefore, banks should be profitable for rendering vigorous financial services to their clients. Apparently, return on assets (ROA), return on equity (ROE) and net interest margin (NIM) are three major profitability indicators for determining commercial banks financial strengths. This study is concerned with exploring the effects of certain financial and macroeconomic variables on the banks' financial performance indicated by profitability in the scenario of banking sector in Bangladesh. Hence, the problem of this study is- *“How the bank-specific and macroeconomic determinants affect the profitability indicators of private commercial banks in Bangladesh”*.

2. Literature Review

Many scholars have done certain studies to discover the impacts on financial performance indicators of banks by different bank specific and macroeconomic variables. As a matter of fact, they use a wide variety of bank specific financial ratios namely- Capital ratio, bank size, asset utilization ratio, loan loss provision to total loan, deposit ratio, efficiency, cost efficiency, equity, credit portfolio and deposit ratios. Consistent with the study of Alexandru, Genu and Romanescu, (2008), profitability of banks can be regarded as ‘management concept, which contributes to attain most crucial objectives of banking functions and the maximization of profit at a lowest level of risk. Noticeably, banks' profitability is highly affected by certain set of indicators. From the ‘quality perspective’ of this study it is evident that, all indicators ought to be compared with their identical variables at the similar year of flow and at similar period frame. In addition, they must be compared with premeditated indicators at the expansion of bank's strategies on a variety of structural terms.

Some imperative differences in the financial performance of commercial and Islamic Shariah based banks in U.A.E. have been studied by Al-Tamimi, (2010). With a view to perform this

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study, a set of internal and internal and external factors are considered as independent variables including- per capita GDP, bank size, financial development indicator, liquidity, concentration, total expenditure and number of branches of banks. Here, the explained variables Return on Assets (ROA) and Return on Equity (ROE) are considered as the performance indicators.

This study concludes that total expenditure and number of branches notably put impact on the financial performance of Islamic Banks. On the contrary, conventional banks' activities are significantly affected by liquidity and concentration.

Several researchers have explored the determinants of bank profitability on Bangladesh perspective. Rahman, Hamid and Khan, (2015) inspected that how different bank specific factors-capital strength, credit risk, ownership structure, bank size, noninterest income, cost efficiency, off balance sheet activities and liquidity along with selected national factors- GDP growth and inflation influence on financial performance of commercial banks in Bangladesh. In this study, Return on Assets (ROA), Return on Equity (ROE) and Net Interest Margin (NIM) represents the profitability measures of banks. This study depicts that profitability of banks magnified by capital strength and loan intensity. Conversely, profitability is inversely affected by cost efficiency and off balance sheet activities.

Aburime, (2005) has focused on conditions of banks' profitability in Nigeria in his study. He implies that at microeconomic and macroeconomic levels, the importance of profitability condition of banks in the economy of a country can be assessed. Nevertheless, to recognize profitability as a gauge of banks' financial performance, this study concentrates on only bank specific determinants. Outcomes of this research points out that, capital size, credit portfolio size and ownership concentration degree significantly affect the profit in the banks in Nigeria. On the contrary, deposit liabilities size, labor productivity, IT condition, ownership, control-ownership disparity, and structural affiliation are insubstantial to the bank profits. Therefore, the association between bank risk and profitability is irresolute.

CAMELS approach can be an effective measure of banks' financial performances. CAMELS consist of six financial ratios of banks, which are- Capital adequacy, Asset quality, Management efficiency, Earnings, Liquidity and Sensitivity to market. In accordance with the analysis of Dang, (2011), qualitative approach as banking supervision is greatly imperative to diminish considerable loan default predicament and likelihood of bank failures. In recent years CAMELS rating is widely considered as an effective measure of evaluating wellbeing and robustness of banks and plunging the probability of breakdown of banking functions. The author's

examination in identifying the effectiveness of CAMELS rating in determining banks' performance states that, CAMELS is an 'internationally standardized' rating that ensures proper on-site and off-site banking supervisions. Therefore, in USA, the performances of commercial banks have been measured by CAMELS frame work. Conversely, CAMELS approach do not communicate with the top level management of banking institutions, overlook the provisions as well as loan loss ratios allowances, which are regarded as major drawback of this financial determinants evolution tool.

With the aim of appraising the financial performance of selected chief commercial banks in northern India, Sangmi and Nazir, (2010) has adopted the CAMEL structure as key determinants. Their analysis advocates that capital adequacy, asset quality, management capability and liquidity enhance the competence of commercial banks' performance. The considered banks in this research have employed circumspect financial measures demonstrating their financial feasibility.

The determinants of commercial banks' financial performance in Kenya and their ownership role have been studied by Ongore and Kusa, (2013). They used internal or bank specific factors- Capital adequacy, Asset quality, management efficiency and Liquidity and external or macroeconomic factors- GDP growth and average inflation rate. The tools of computing banks' performances are- Return on Asset (ROA), Return on Equity (ROE) and Net Interest Margin (NIM). The upshot of this research illustrates that, albeit the impacts of macroeconomic factors in the bank profitability of commercial banks in Kenya re indecisive, the bank specific factors are significantly related to the financial performances. The study also divulges that moderate ownership role is inconsequential to the banking activities in Kenyan commercial banks.

The profitability determinants in three South Asian Countries- Bangladesh, India, Nepal and Pakistan have been explored by Islam and Nishiyama, (2015). For executing this study, they adopted Generalized Method of Moments (GMM) estimator, where three types of profitability determinants -bank specific, industry specific and macroeconomic specific are used. The analysis discloses that the banking sector in South Asian region experiences an unvarying lower level of profit and a delayed-strike of global financial crisis. Additionally, incompetent human resource represents the management ineptitude in the commercial banks in South Asia, while the inept labor force in banks is inversely influenced by cost of funds, liquidity, finding gap, interest rate term structure and economic growth.

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The influences of bank-specific determinants, macroeconomic indicators along with variables on financial structure of the commercial banks' performance in Macao have been thoroughly explored by Vong and Chan, (2009). Here, macroeconomic factor is the external and bank-specific factors re internal variables. As the study reveals- inflation momentarily influences the banks' performance, whilst capital strength of a bank guarantees low risk, thus considerably affects profitability.

3. Research Methodology

3.1 Type of Study: This study is concerned with the influence of various bank specific and macroeconomic factors to the profitability determinants of private commercial banks in Bangladesh. Additionally, the empirical analysis will discover to what extent the profitability indicators of PCBs are associated with bank specific as well as macroeconomic variables. The experiential investigation is performed espousing selected national indicators along with certain financial ratios of 20 opted PCBs for thirteen years from 2007-2019.

3.2 Identification of Variables and Statistical Model: The variables in this study are divided into three categories. These are financial performance indicators of PCBs, bank-specific financial ratios and macroeconomic or national indicators. The variables under these categories are:

- **Indicators of financial performance:** Return on Asset (ROA) , Return on Equity (ROE), Net Interest Margin (NIM)
- **Bank specific factors:** Capital Adequacy (CA), Asset Quality (AQ), Management Efficiency (ME), Liquidity (L)
- **Macroeconomic factors:** Growth trend of GDP (GDP), Inflation (INF)

3.2.1 Research Hypothesis: As the study is focused on identifying the degree of association between the financial performance indicators and financial ratios added with macroeconomic indicators, the following hypothesis can be constructed:

- **H₀:**Financial performance indicators (ROA, ROE and NIM) and financial performance determinants (bank specific and macroeconomic factors) do not share significant association

- **H₁**: Financial performance indicators (ROA, ROE and NIM) and financial performance determinants (bank specific and macroeconomic factors) share a significant association

3.2.2 Model Specification: The explained variables representing financial performance or profitability indicators- Return on Asset (ROA), Return on Equity (ROE) and Net Interest Margin (NIM). While the bank-specific financial ratios Capital Adequacy (CA), Asset Quality (AQ), Management Efficiency (ME) Liquidity (L) and the national or macroeconomic indicators- Growth trend of GDP (GDP) and Inflation (INF) are explanatory variables.

The models can be transformed into following econometric model:

$$\hat{Y}_{i(\text{ROA, ROE, NIM})} = \alpha + \beta_1 X_{CA} + \beta_2 X_{AQ} + \beta_3 X_{ME} + \beta_4 X_L + \beta_5 X_{GDP} + \beta_6 X_{INF} + \epsilon$$

Where,

- $\hat{Y}_{i(\text{ROA, ROE, NIM})}$: Performance of Bank *I* at time *t* as expressed by ROA, ROE and NIM
- α : Intercept
- β_1 to β_6 : Coefficient parameters
- X_{CA} : Capital adequacy of bank *i* at time *t*
- X_{AQ} : Asset quality of bank *i* at time *t*
- X_{ME} : Management Efficiency of bank *i* at time *t*
- X_L : Liquidity of bank *i* at time *t*
- X_{GDP} : Growth trend of GDP at time *t*
- X_{INF} : Inflation at time *t*
- ϵ : Error

3.3 Clarifications of Explanatory Variables: Bank Profitability Indicators

In order to execute this study, three key indicators of commercial banks' profitability are selected, which are- Return on Asset (ROA), Return on Equity (ROE) and Net Interest Margin (NIM) (Ongore and Kusa, 2013, Alexandru et al., 2008). Firstly, Return on Asset (ROA) describes the ability of banks' assets to generate profit. It is calculated by dividing banks' net profit after tax by its total assets. The higher is the ROA, the greater is the banks' assets to attract revenues. Secondly, Return on Equity (ROE) represents how much the money of shareholders' of a bank is capable to derive higher income. It is the ratio of net income after tax of a bank to its total equity capital. Finally, Net Interest Margin (NIM) estimates the extent of spread value of interest income and expense of a bank attained by the manipulating interest

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generating assets and cost of funds. It is computed by dividing the net interest income by interest earning assets.

3.4 Description of Explanatory Variables: Bank Financial Performance Determinants

In accordance with the studies done by various researchers, wide ranges of financial ratios of banks have been picked for determining the effects of them of banks' profitability. Rahman et al.,(2015), Vong and Chan,(2009) and Ongre and Kusa (2013) selected capital ratio, asset quality, management efficiency and liquidity ratios for performing their researches. Actually, all these ratios are espoused to carry out this study. In this study, capital adequacy ratio is measured by dividing bank's total equity capital by its' total risk weighted assets. While, the asset quality ratio is reflected by the loan quality of PCBs, where the selected variable is assessed by non-performing loan (NPL) to total loan. Thirdly, the management efficiency ratio in this research is employed using proxy variable, portrayed by operating profit ratio. Here, it is the operating profit to total operating revenue. Finally, the liquidity ratio replicated in this study by total loan to total deposit ratio, where it represents the liquidity management by the PCBs.

On the other hand, national economic or macroeconomic indicators in this study are growth rate of GDP (gross domestic product) from 2007 to 2019, where it is estimated by dividing the difference of current and previous year GDP by previous your GDP. As for the inflation rate, only the nominal inflation from 2007 to 2019 has been gathered as the data for identifying the multiple as well as individual relation between the explained and explanatory variables.

3.5 Expected extents of association between explained and explanatory variables

Based on the literature review chapter, the expected degree of relation between explained and explanatory variables have been placed follow in parenthesis

$$\text{Model 1: ROA} = \alpha + \beta_1 (\text{CA}) + \beta_2 (\text{AQ}) + \beta_3$$

(±) (-) (+)

$$(\text{ME}) + \beta_4 (\text{L}) + \beta_5 (\text{GDP}) + \beta_6 (\text{INF})$$

(+ (±) (±)

$$\text{Model 2: ROE} = \alpha + \beta_1 (\text{CA}) + \beta_2 (\text{AQ}) + \beta_3$$

(±) (-) (+)

$$(\text{ME}) + \beta_4 (\text{L}) + \beta_5 (\text{GDP}) + \beta_6 (\text{INF})$$

(+ (±) (±)

$$\text{Model 3: NIM} = \alpha + \beta_1 (\text{CA}) + \beta_2 (\text{AQ}) + \beta_3$$

$$(\pm) \quad (-) \quad (+)$$

$$(\text{ME}) + \beta_4 (\text{L}) + \beta_5 (\text{GDP}) + \beta_6 (\text{INF})$$

$$(+), (\pm), (\pm)$$

The level of relationship between explained and explanatory variables for all the three models has been examined through statistical tools and the outcomes have been demonstrated in the subsequent chapter.

4. Result Summary

The technique of using pragmatic evidence to be examined in the test hypothesis of statistical analysis is placed in empirical approach. Albeit both quantitative and qualitative analyses are espoused in observations of empirical analysis, this study is conducted adopting quantitative observations.

4.1 Descriptive statistics: The table representing descriptive analysis, where the number of observations, mean, standard deviation as well as the tools for normality of the dataset-skewness and kurtosis are exhibited. Here, total observations are 260 for all nine variables. The mean values reflect the average of the observed data in all the explained and explanatory variables. While, the standard of deviation calculated in this study, describes the proximity of change in each variable for each private commercial banks in Bangladesh (PCBs).

Table-I Descriptive Statistics					
Variables	N	Mean	Std. Deviation	Skewness	Kurtosis
	Statistic	Statistic	Statistic	Statistic	Statistic
ROA	260	0.0136	0.0131	0.8190	-1.2960
ROE	260	0.1513	0.0746	0.8710	-1.0620
NIM	260	0.0307	0.0110	-0.4880	-0.4680
CA	260	0.1015	0.0725	0.0107	-1.5526
AQ	260	0.0453	0.0264	2.5869	6.6048
ME	260	0.5615	0.1050	0.4530	-0.8362
L	260	0.8530	0.0764	-0.3264	-0.6362
GDP	13	0.0651	0.0077	-0.1772	-0.2257
INF	13	0.0715	0.0165	1.2164	0.3929

(Author's own calculation)

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In this table management efficiency of one PCB from another varies at the highest rate of 10.50%, whereas the growth trend of GDP varies at lowest rate of 0.077% from one year to another. As for mentioning skewness and kurtosis, measuring the normality of the data under variables; if the skewness value ranges from +1 to -1, then the data are symmetric, while if the value of kurtosis of variable is close to zero, then the data are normally distributed. The study finds that, apart from all other variables, the skewness of asset quality and inflation possesses values greater than +1, which indicates approximate symmetry of the dataset. On the contrary, the kurtosis values of all the variables except for asset quality are mesokurtic or close to 1. Therefore, it is apparent that the dataset under this study closely meets up the conditions of normal distribution.

4.2 Fitness Test of the Dataset: Multicollinearity Detection Test:

In order to obtain a valid upshot from the statistical analysis, the data under observations ought to be liberated from multicollinearity- high internal correlation in the explanatory variables. Multicollinearity among the explanatory variables can be detected by examining variance inflation factor (VIF). The variance inflation factor denotes the percentage increase in variance for one coefficient.

Table-II Multicollinearity Test		
Variables	Tolerance	VIF
CA	0.620	1.612
AQ	0.383	2.610
ME	0.342	2.923
L	0.655	1.528
GDP	0.314	3.183
INF	0.569	1.756

(Author's own calculation)

The VIF value 1 is the indication of no multicollinearity in dataset, whereas, if the value ranges from 1 to 5, there is the presence of moderate multicollinearity. In this study, the maximum value of VIF is for GDP, which is 3.183, which suggests a modest level of multicollinearity in the observed data.

4.3 Regression Analysis: In order to conduct the regression analysis, three models have been constructed, where explained variables- the profitability ratios (Return on Asset (ROA), Return on Equity (ROE) and Net Interest Margin (NIM)) and explanatory variables- capital adequacy, asset quality, management efficiency, liquidity GDP and inflation have been selected. Four segments e.g. model summary, analysis of variance (ANOVA) test, coefficient analysis and t-statistics test have been performed under regression analysis.

4.3.1 Model Summary: The table portrays that, all the three models possess R values above 75%, which dictates strong positive correlation of ROA, ROE and NIM with the explanatory variables, while the R square values direct 89.12%, 89.84% and 59.10% of the variability in ROA, ROE and NIM respectively with the six explanatory variables. The adjusted R square describes model 1 is 78.23%, model 2 is 79.67% and model 3 is 18.21% good to compare with diverse numbers of explanatory variables.

Model		R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
ROA	1	0.9440	0.8912	0.7823	0.0066	2.298
ROE	2	0.9478	0.8984	0.7967	0.0718	1.954
NIM	3	0.7688	0.5910	0.1821	0.0070	1.879

(Author's own calculation)

Again, the standard error is superficially signposting 0.0066, 0.0718 and 0.0070 errors for model 1, 2 and 3 respectively cannot be explained. The Durbin-Watson test for the three models suggest minuscule symptom of autocorrelation as the value for each model is between 1.5 and 2.5.

4.3.2 Analysis of Variance (ANOVA):

The analysis of variance (ANOVA) comprise of three sums of squares- explained sum of square (ESS) reflecting regression, residual sum of square (RSS) portraying residuals and total sum of square (TSS). The residuals for all the models possess minimal values compared to the regression value, directing nominal residual difference of the values in explained variables.

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Table-IV Analysis of Variance (ANOVA)									
Model		Sum of Squares		d.f.	Mean Square	F	Sig.	Sig. level	Comment
ROA	1	Regression	0.0021	6	0.00035	8.189	0.011	5%	Ho Rejected
		Residual	0.0003	6	0.00004				
		Total	0.0024	12					
ROE	2	Regression	0.273	6	0.046	8.839	0.009	5%	Ho Rejected
		Residual	0.031	6	0.005				
		Total	0.304	12					
NIM	3	Regression	0.00043	6	0.00007	1.445	0.333	5%	Ho Not Rejected
		Residual	0.00029	6	0.00005				
		Total	0.00072	12					

(Author's own calculation)

As for the F values, at 5% level of significance, and six degrees of freedom in both numerator and denominator the table value of $F_{.05} = 4.28$, suggesting model 1 and 2 is statistically significant by rejecting the null hypothesis. Therefore, there is a significant positive relationship between ROA and explanatory variables as well as for ROE the same can be stated. Conversely, the null hypothesis for model 3 cannot be rejected at 5% significance level.

4.3.3 Analysis of Coefficients:

The table below depicts the beta coefficients and their degrees of association for the three models. Here, for model 1, liquidity and GDP are positively related to the explained variable ROA at a 10% and 5% significance level respectively. As for the model 2, at 10% significance level, the asset quality and liquidity are directly related to ROE, while at 5% significance level, inflation is also share direct association with ROE.

Table-V Regression output of Bank Performance Indicators (Beta and Significance of Coefficients)						
Variables	Model 1		Model 2		Model 3	
	ROA		ROE		NIM	
	Beta	Sig.	Beta	Sig.	Beta	Sig.
(Constant)	0.067		0.734		0.072	
Capital Adequacy	0.197	0.128	2.154	0.264	0.210	0.034**
Asset Quality	0.034	0.125	0.377	0.104*	0.037	0.045**
Management Efficiency	0.030	0.961	0.332	1.178	0.032	0.579
Liquidity	0.037	0.056*	0.405	0.065*	0.040	0.133
GDP	0.436	0.023**	4.779	0.311	0.467	0.881
Inflation	0.152	0.175	1.668	0.020**	0.163	0.319

1% Level of Significance***

(Author's own calculation)

5% Level of Significance**

10% Level of Significance*

Finally, as for the model-3 capital adequacy and asset quality both are positively related to the NIM at a 5% level of significance. Indeed, each explanatory variable is related to each explained one in the multiple regression models while holding all other explanatory variables constant.

4.3.4 T-values:

The t-statistics test is employed to discover the degree of significance in the relationship between explained and individual explanatory variable. In this study, t-test is performed to inspect whether each explanatory variables are noticeably associated with individual explained variable.

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Table-VI Regression output of Bank Performance Indicators (t-Statistics)						
Variables	Model 1		Model 2		Model 3	
	ROA		ROE		NIM	
	t value	Sig.	t value	Sig.	t value	Sig.
(Constant)	-1.336	0.230	-2.272	0.063	1.514	0.181
Capital Adequacy	0.748	0.483	1.598	0.161	-0.102	0.922
Asset Quality	0.573	0.587	-0.495	0.638	-0.106	0.919
Management Efficiency	4.173	0.006***	5.294	0.002***	-1.297	0.242
Liquidity	0.338	0.747	0.405	0.700	-0.413	0.694
GDP	-0.094	0.928	1.339	0.229	-1.892	0.101*
Inflation	0.983	0.364	0.118	0.910	0.921	0.393

1% Level of Significance***

5% Level of Significance**

10% Level of Significance*

(Author's own calculation)

From the above t-table it is perceptible that, with a 6 degree of freedom the tabular value of two-tail test at a 1% significance level is $T_{.005-.01} = 3.143$, where both ROA in model 1 and ROE in model 2 occupy direct relationship with management efficiency. While, the NIM in model 3, is inversely related GDP growth trend at a 10% level of significance where, the table vale of t test is $T_{.05-.10} = 1.812$. On the contrary, all other explanatory variables do not share statistically significant association with the explained variables.

5. Findings of the study

The empirical findings of this study discover the evidence of a significant association of the explained variable return on asset (ROA) and return on equity (ROE) with the explanatory variables capital adequacy, asset quality, management efficiency, liquidity, GDP and inflation, which shares similar consequences of the analysis of Rahman et al., (2015) and Ongore and Kusa, (2013). Although, the net interest margin (NIM) does not respond to have the same. The t-statistics demonstrates that return on asset (ROA) and return on equity (ROE) of the selected PCBs are directly related to management efficiency at a 1% level of significance, which indicates the revenue generation in private commercial banks in Bangladesh is positively intertwined with efficient management functions. However, the GDP growth trends have noticeable inverse association with net interest margin (NIM) at 10% significance level,

suggesting the contribution of national economic indicator is negative towards the expansion of interest revenues creation capability of PCBs.

The findings reveal the superior connection of profitability of PCBs with their potential to the income formation, conforming the notion that, curtail of unit cost-to value ratio of each banking transaction PCBs can harness the operating expenses thriving improved profitability. In order to advance the profitability condition, PCBs ought to diversify their financial services such as offering competent foreign exchange, mortgage and insurance services apart from their core business- receiving deposits and granting loans. Additionally, PCBs have to obtain financially feasible clientele base comprehending their financial status and apprising net interest margin to derive customer segmentation for enhancing profits. Besides, for enhancing management efficiency of banks, proficient performance management practice e.g. motivational development of employees and appropriate reward scheme can be instigated. Moreover, regular on-site and off-site supervision of PCBs conducted by Bangladesh Bank will ensure functional bank management of PCBs enhancing higher profitability.

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6. Conclusion

The proficient profitability potential of private commercial banks (PCBs) is highly influential to the improvement of banking sector in Bangladesh. Therefore, there is a need to detect the factors manipulating profit-earning competency of commercial banks. The study reciprocates that, though several financial as well as national economic indicators are selected to identify their influence on the bank profitability, not all determinants possess strong connection with the banks' profitability ratios. According to this study, as management efficiency noticeably influence the bank profit-indicating ratios-return on asset (ROA) and return on equity (ROE), PCBs can attain higher revenue with the assistance of competent management body and availability of adequate capital. Indeed, the satisfactory level of capital in commercial banks is fairly required for ensuring the quality of loans and advances, restraining non-performing loans and thus diminishing credit risk in order to acknowledging stabilized profit earning capacity of PCBs.

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THE IMPACT OF GOVERNMENT CAPITAL FORMATION, EXCHANGE RATE AND EXTERNAL DEBT ON ECONOMIC GROWTH: THE CASE OF BANGLADESH AFTER INDEPENDENCE

Md. Saiful Islam*

ABSTRACT

Bangladesh is finally getting to be recognized as an economically developing country. Among the Asian countries, the economy of this country is growing at a really fast consistent with the newest update of the United Nations. The Impact of Government capital formation (GCF), Exchange rate (ER) and External debt (ED) on economic growth of Bangladesh after independence has been investigated in this study for the reference period 1972-2019 by considering Gross Domestic Product (GDP) as the measure of economic growth. The prime objective of this paper is to investigate the existence and nature of the impact of those factors on GDP of Bangladesh from a developing country's perspective. Correlation & Multiple regression analysis have been employed to evaluate the information. In correlation analysis, it is found that GDP has positive relations with all the variables. In regression analysis, it is observed that the independent variables explained 85.19% of the variability of GDP. Therefore, this study has concluded that these variables have significant effect on the economic growth of Bangladesh after independence. This findings will help the policy makers to make plans concerning the country's economic growth in the near future.

Keywords: *Government capital formation, Exchange rate, External debt, Gross domestic product.*

1. INTRODUCTION

In the southern a part of Asia, the population density of a developing Bangladesh is large within an area of 148,460 km² (Wikipedia). Its population exceeded 164.7 million in 2020 (World Population Report). Bangladesh has the very fast density of population in southern Asia, which is almost 1.082/km². About 62.59% of the population lives within the rural areas (World Bank 2019). Agriculture is the backbone of the economy. Thus, over 70 percent of Bangladesh's population and 77 percent of its workforce lives in rural areas. Bangladesh, since its independence in 1971, had to experience several military rules besides democratically elected government related to major political assassinations. In spite of all the aroused disputes, the country constantly pushed to realize economic, social and developmental success through introduction and implementation of various policies during the ruling period of different elected governments moreover as at the time when the country was declared to be under the emergency rule. Bangladesh, named within the list of the developing nations, is blessed several natural advantages over developed countries. Examples of such are huge reserves of gas, coal, timber, export of human power and therefore the only natural port of the planet that connects SAARC and ASEAN business hub together. Foreign donors are granting financial aids for restructuring and infrastructure development of the country. Advances are being taken on weighty interest from World Bank and Asian Development Bank for developmental purposes.

Today Bangladesh is viewed as a model for development even during this troublesome worldwide financial viewpoint. Bangladesh is alleged to be a country with countless potentials. Many consider it over loaded with huge population; many other contemplate this population as advantage. However, Bangladesh is experiencing a GDP growth rates above 5 percent from the last era and this reached 8.15 percent this financial year, beating all the previous records within the history of the country's economy, consistent with a provisional estimate by BBS.

Economic growth is the fundamental precedence of macroeconomic policy in any country and Gross Domestic Product (GDP) is taken into account as a crucial indicator of this economic growth. If GDP of a country increases before the population, then it specifies that GDP per capita of that country is growing and therefore the standard of living of individual's therein particular country is additionally improving. GDP of a country is influenced by numbers of variables i.e. Government capital formation (GCF), Exchange rate (ER) and External debt (ED), and so on.

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Capital formation implies expanding the load of genuine capital in a nation. All in all, capital arrangement includes creation of more capital merchandise, for example, machines, apparatuses, manufacturing plants, transport hardware, materials, power, and so on, which are completely utilized for future creation of products to accelerate the economic growth. The level of capital formation is likely to influence and economic growth as well. Neo-classical growth model postulates that developing economies that have a lower initial level of capital stock tend to have higher marginal rate of returns (productivity) and growth rates if adequate capital stock is injected. In other words, in a capital shortage economy, the marginal productivity of investment is increased in the short-run when additional capital is injected in the form of long-term investment like FDI, and this increased productivity economic growth in the long-run.

Exchange Rate shows the estimation of Taka regarding US Dollars. Exchange Rate is the estimation of money which can be contrasted with another currency. The foreign exchange rate is determined independently to the economic growth rate. The exchange rate can have an influence on economic growth. And the economic growth rate can influence the exchange rate. But, with many other variables at work, there is no direct link.

External debt could be a vital source of public financing in developing countries and carries the potential to play a key role in promoting economic growth. Therefore, it is seen that different macroeconomic phenomenon influences economic growth of a nation. However, the magnitude and direction of the influence may vary depending on particular economy. Therefore, this study goes to discover the impact of macroeconomic variables on economic growth in perspective of the economy of Bangladesh after independence. This investigation just uses swapping scale, swelling, fare and import as a figure influencing GDP Bangladesh. Accordingly, further exploration may include different factors, for example, balance of payment, investment, loan fee, real interest rate, political conditions or non-financial factors additionally may influence GDP.

2. LITERATURE REVIEW

Numbers of studies have been performed to analyze the effect of macroeconomic variables on economic growth in perspectives of various countries. [1] Ahmed, M.S (2010) inspects whether laborers' remittances have development sway on Bangladesh economy, by utilizing information relating to 1995-2006 period. The series regression relapse results exhibit that remittance streams to Bangladesh have been factually huge however have negative effect on development. Then again, fares and household speculations emphatically influence the economic development, while unfamiliar direct venture has no important impact. [2] Haradhan Kumar Mohajan (2013) found that over the last decade the gross domestic product (GDP) has been floating around 6 per cent. Migrated labor and remittances sent out were on the rise. In comparison, inflation, government debt and GDP growth are nothing to be shouted. [3]Mohammed Hela et al (2013) exploring what the country has achieved over the last forty years since independence and what she missed in economy.[4] Kazi, S. A. (2011) strive to talk about and suggest ways to overcome the limitations hindering the economic development of Bangladesh, which include the steps the government has taken and is taking for a better future. The inefficiency of government policies, administration, structures and managements has been discussed and the importance of schooling to elevate awareness amongst the mass illiterate population of the state has been pointed out. The opinions of famed economists concerned with the financial system of Bangladesh has been mentioned and the work has been made supported by means of their views.[5] Robinson, Eravwoke & Ukavwe (2014) try to investigate the empirical relationship between government expenditure and economic growth. Government expenditure used to be as soon as disaggregated unto, whole expenditure, public debt expenditure, expenditure on health and government expenditure on Education. They used ordinary least square (OLS) analysis to consider the data. They located that there is an inverse relationship between government fees on fitness and economic growth; while government expenditure on training sector, is seen to be insufficient to cater for the expending area in Nigeria. It used to be also determined that government expenditure in Nigeria ought to extend overseas and neighbourhood investments.

[6] Muktdair-Al-Mukit, D (2012) reviews the since quite a while ago run connection between public expenditure on education sector and economic growth in Bangladesh. Co-integration method model is applied to the examination with time arrangement information from 1995-

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2009. The consequence of the investigation shows that open spending in instruction has a positive and critical effect on monetary development over the long haul.[7] Yeasmin, F., Chowdhury, M. N. M., & Hossain, M. A. (2015) inspect the impact of foreign debt on growth in Bangladesh. Rudimentary goal of this paper is to explore the relationship between external debt and Gross Domestic Products in Bangladesh for the duration of 1972-2012, the usage of time series econometric technique. The results exhibit that there is a massive adverse impact of debt on growth in Bangladesh. The empirical effects suggest the existence of long-run relationship between GDP and ED. In Bangladesh External debt service is a burden for its state that makes the GDP slows down. This study recommended that Bangladesh have to determine out the option of debt cancellation and focus on to increase human development as well as infrastructure development.[9] Kumar Debasis Dutta and Mallika Saha (2017) tempt to examine existence and character of the performance of these factors on GDP of Bangladesh as a developing country view for a duration of 1981 to 2016. They used multiple regression analysis to appraise the data. They found that there is significant consequence of exchange rate, inflation, and export on GDP, and insignificant effect of FDI and remittance on GDP. [10] Anjum and Pasquale (2017) to examine the development of Pakistan's economy during seven different decades, from the late 1940s to the end of the 2000s. Pakistan has advance from a lowincome to a lower middle-income developing economy — GDP per capita increased from US\$294 in 1980 to US\$1,017 in 2010 according to the World Bank (2012).[11] AtifJahanger (2017) examines the affect involving macroeconomic variables like Government Spending expenditure, Gross capital formation, Households, and NPISHs Final consumption expenditure and Export of goods&services on GDP of Pakistan inside the mild involving 50-year time-series statistics from 1967 to 2017. They used ordinary least squares (OLS) regression, unit root test, and Error Correction test have been utilized to estimate the short-run and long-run relationship between GDP and macroeconomic variables. In regression analysis, a big impact of Government Spending expenditure, gross capital formation, Households, and NPISHs Final consumption expenditure and Export of goods & services of GDP, in the long run, at 1% and 5% level. [12] Yeaseen Chowdhury, Md. Kaysher Hamid & Rowshonara Akter Akhi (2019) inspect the effect of macroeconomic variables on the economic growth of Bangladesh for the duration of 1987-2015 by way of A H M. They used Correlation and multiple regression analysis are performed to consider the data. They observed that GDP has positive correlation

with all the variables besides INT. In regression analysis, GDP is chosen as the dependent variable and INF, INT, EXR, and HCE are regarded as the independent variables. It is determined that the independent variables defined 75.60% of the variability of GDP.

From the discussion above about related literatures, the study on macroeconomics can be understood significant attention was given to variables and economic growth different researchers. But no lookup can be considered conclusive in define that relationship. So there are plenty of opportunities to discover this Comprehensive Relation. And, this study is intended to exploit this opportunity by analyzing the Impact of Government capital formation, Exchange rate and External debt on Economic growth after independence of Bangladesh.

3. OBJECTIVE OF THE STUDY

This study is expected to investigate the issues that are affecting economic growth of Bangladesh. Following such a context this research is conducted to investigate the Impact of Government capital formation, Exchange rate and External debt on Economic growth.

4. DATA & METHODOLOGY

This study is examining events that have already taken place. In other words, it is an ex-post facto research design. The data for this regression were collected from secondary sources. The annualized time series data from 1972 to 2019 were collected from the Bangladesh bank website & World Bank indicators. Our data will be subjected to diagnostic tests in other to improve the reliability of our result. The data added GDP as a dependent variable and Government capital formation, Exchange rate and External debt as independent variable. Our study is empirically investigate the Impact of Government capital formation, Exchange rate and External debt on Economic growth in Bangladesh. Our study depends on secondary data. Secondary data is reliable to increase the validity of the information. Secondary data is modest research. Correlation & Multiple regression analysis are conducted to analyze these data. Through correlation analysis, the strength and direction of association between the variables is checked. To identify the impact of macroeconomic variables on economic growth multiple regression analysis is done.

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5. HYPOTHESIS AND MODEL SPECIFICATION FOR THE STUDY

Following hypothesis is considered to investigate the consequence of macroeconomic variables on economic growth in Bangladesh after independence.

H0: Government capital formation, Exchange rate and External debt don't have significant influence on the economic growth of Bangladesh after independence.

H1: Government capital formation, Exchange rate and External debt have significant influence on the economic growth of Bangladesh after independence.

This model is used for testing the hypothesis

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e_t$$

Where, Y represents the dependent variable i.e. GDP; β_0 is the intercept; β_1 , β_2 and β_3 are the study's regression coefficients; X_1 , X_2 , and X_3 are taken as independent variables i.e. Government capital formation (GCF), Exchange rate (ER), External Debt (ED) respectively; and e_t is the estimation error.

6. RESULT AND ANALYSIS

6.1. Descriptive Statistics

Table 1 shows the descriptive statistics of the variables. It can be observed that average GDP is 69.85 billion current US\$ with standard deviation of 73.82078 and maximum of 302.5710. Besides, Government capital formation (GCF), Exchange rate (ER), External Debt (ED) have mean value of 11236.00, 45.36246 and 16.70431 billion current US\$. Among all the variables, the lowest standard deviation is observed for GGFCE and the highest for GDP. All the variables are positively skewed where all the variables also have positively kurtosis value.

Table I - Descriptive Statistics of the Variables

	GDP	GCF	ER	ED
Mean	69.85067	11236.00	45.36246	16.70431
Median	42.18900	10158.00	41.03500	15.07500
Maximum	302.5710	22090.00	84.45000	57.15400
Minimum	6.288000	995.0000	7.700000	0.146000
Std. Dev.	73.82078	5045.014	24.34061	13.53384
Skewness	1.685229	0.570270	0.079953	1.140047
Kurtosis	4.680135	2.470256	1.696975	4.024376
Observations	48	48	48	48

6.2. Correlation Analysis

Table- II presents the result of correlation analysis between the variables. From the table, it can be seen that ED has a strong positive correlation coefficient of 0.972315 with GDP. I observe that there is a high degree of positive relationship between the independent variables and the dependent variables.

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Table II - Correlation Matrix

	GDP	GCF	ED	ER
GDP	1.000000	0.920940	0.972315	0.838181
GCF	0.920940	1.000000	0.940317	0.928895
ED	0.972315	0.940317	1.000000	0.916074
ER	0.838181	0.928895	0.916074	1.000000

6.3. Regression Analysis

To fulfill the research objective a multiple regression is conducted by considering GDP as dependent variable and GCF, ER and ED as independent variables. Summary statistics of the regression result is shown in table- III. Here P- value of GCF, ER and ED less than .05 so these independent variables are significant, that means these variables explain the dependent variable significantly. Adjusted R-squared, is 0.851951 which indicates that 85.195% of the variability of GDP can be explained by the independent variables of GCF, ER and ED. And, remaining 14.81% of the change in GDP is due to the variables external to this model. The more value of the adjusted R Square or R Square the more fit the model. So we can say that all the independent variables cumulatively explained 85.195% of dependent variable.

Table III - Summary Statistics of Regression Analysis

Dependent Variable: GDP

Method: Least Squares

Date: 10/15/20 Time: 11:50

Sample (adjusted): 1972 2019

Included observations: 48 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-18.80169	6.777403	-2.774174	0.0082
GCF	0.004734	0.001268	3.732568	0.0006
ED	6.067708	0.513487	11.81668	0.0000
ER	-1.449362	0.238706	-6.071736	0.0000
R-squared	0.864432	Mean dependent var		64.89179
Adjusted R-squared	0.851951	S.D. dependent var		66.07182
S.E. of regression	12.88809	Akaike info criterion		8.031750
Sum squared resid	7142.427	Schwarz criterion		8.189210
Log likelihood	-184.7461	Hannan-Quinn criter.		8.091003
F-statistic	388.6543	Durbin-Watson stat		1.818200
Prob (F-statistic)	0.000000			

The above table presents regression coefficients that are obtained from the regression Model. This is observed that If GCF changes for one taka, GDP will increase by 0.004734 because of positive value. It is said that the higher the GCF, the richer will be the condition of the capital level and expanding the load of genuine capital in a nation. All in all, capital arrangement includes creation of more capital merchandise. If ED changes for one taka, GDP will increased by 6.0677 because of positive value. There is a significant auspicious effect of debt on growth in Bangladesh according to this analysis. Exchange rate (ER) has extraordinary effect on gross national income (GNI) on the grounds that gross national income (GNI) is the absolute local and foreign yield asserted for a nation, comprising of GDP (Gross domestic product) in addition to factor affecting by foreign trading. Looking at the GNI and Gross domestic product shows

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whether a country's assets are put to capital creation or declining toward abroad. Although Exchange rate significantly affect the GDP, It is observed that If ER changes for one taka, GDP will decreased by -1.449362 because of negative value. In such a case, there is no doubt to say that GCF, ER & ED have a direct impact on the economic growth of any country.

7. HYPOTHESIS TESTING

The null hypothesis of this study was Government capital formation, Exchange rate and External debt don't have significant impact on the economic growth of Bangladesh after independence. Where alternative hypothesis assumed a significant impact. In the above analysis, it is observed that 85.19% variation of economic growth as represented by GDP can be captured by the macroeconomic variables as characterized by Government capital formation, Exchange rate and External debt. This relationship is found statistically significant. Therefore, here, null hypothesis should be rejected and the outcome here is that Government capital formation, Exchange rate and External debt have significant impact on the economic growth of Bangladesh after independence.

Table IV - Result of Hypothesis Testing

H0	:	Government capital formation, Exchange rate and External debt don't have significant impact on the economic growth of Bangladesh after independence.	Rejected
H1	:	Government capital formation, Exchange rate and External debt have significant impact on the economic growth of Bangladesh after independence.	Accepted

8. CONCLUSION

Although ongoing insights indicated that Bangladesh GDP growth rate is 8.15, Bangladesh economy is at a basic point. The policymakers should handle the continuous and developing macroeconomic weights head-on. GDP is utilized as a marker by practically all the administrations and financial leaders for arranging and strategy detailing. The study attempts to distinguish how GDP of a nation is influenced by government capital formation, exchange rate & external debt. In our investigation we found that government capital formation and external debt have a noteworthy significant positive impact on GDP; which means government capital formation and external debt changes for one taka, GDP will also change by certain amount because of positive value. Other hand, exchange rate has a significant negative impact on GDP; which means exchange rate changes for one taka, GDP will decrease by certain amount because of negative value. A decision maker may take these findings into consideration to make policies to boost GDP of the country. However, this investigation is not the final work with respect to the effect of macroeconomic factors on economic growth of Bangladesh rather this may fill in as a foundation in leading more exhaustive investigation in this territory. Consequently, further investigation on this phenomenon by disposing of the impediments of this work are highly inspired. Though our study is confined to only Bangladesh economy; however, it may be applicable to countries with similar economic condition.

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FACTORS INFLUENCING PEOPLE'S ATTITUDE IN MAKING DONATION TO NON-PROFIT ORGANIZATION (NPO).

Md. Khairul Alam Rasel*

Md. Mehedi Hassan**

ABSTRACT

This study aims in finding related factors which will have profound influence on donors in making donation to non-profit organizations (NPO) that support social causes related to education, poverty, health, shelter, malnutrition, religion, human behaviour etc. This paper is descriptive in nature. We took a sample of 320 male and female. Primary data were collected from the respondents by adopting survey method through questionnaire. A 7 point Likert scale was used ranging from entirely disagree (1) to entirely agree (7). The result of the study shown that on the context of Bangladesh, people are more likely to get motivated to donate when they get a message or word of mouth from their friends and family members. That is to say, reference from friends and family members has profound effect to the potential donors to make donation. Few other factors which also affect potential donors to make donation are frequency of communication made to the person, beneficiary of the donation and authenticity of the non-profit organization. Understanding potential donors is essential for non-profit organizations because donors help in accumulating fund to support social causes. Therefore, this study will help the non-profit organization in understanding factors which motivate the potential donors.

Keywords: *Attitude, Donation, Non-profit organization (NPO)*

*Lecturer, Department of Marketing, Business Studies Group, National University Bangladesh.

** Assistant Professor, Department of Marketing, University of Barishal, Bangladesh.

INTRODUCTION

The non-profit organizations like charity institutions, public schools, libraries, foundations and others has shown a decent growth in the last two decades which is quite exceptional (Kotler, 1979). Charitable donation has been recognised as global phenomenon (Wiepking & Handy, 2015). Donations can be made in the form of investing time, giving money, giving cloths, providing food and medication. Though Donations can be made in these following ways but donations in cash is significant for non-profit organization because it gives non-profit organization much liberty which is not possible when donations are made in food, medication or clothing (Guy & Patton, 1989; Lovelock & Weinberg, 1984). However, donations can be acquired from different large companies, foundations, the government and individuals. Acquiring donations from individual is significant in terms of amount (Lovelock & Weinberg, 1984). Besides raising funds from these mentioned sources is always a great concern for non-profit organization to have success in their mission of helping people of the society (Guy & Patton, 1989). Raising fund from individual has paved the development of the objective of this research as this research is focused on identifying factors influencing the donation to non-profit organization by individual.

Non-profit organization is so important for the society that they play an important role in assisting to stimulate education, health and social welfare for enormous number of persons (Liao, Foreman & Sargeant, 2001). There are number of sources which provide aid to the non-profit organizations. Individuals are much more comfortable and welcoming as a source of funds for non-profit organization because they permit non-profit organizations to expand their donors and thereby it reduces financial reliance on government (Lovelock & Weinberg, 1984). This study will help in understanding individual's motivation in giving donation to non-profit organizations. Therefore, this study may come out handy for those who are involved with not

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for profit organizations in Bangladesh. They can use this study to find out and manage people to make contributions in a good cause of social welfare.

LITERATURE REVIEW

Emergence of Non-Profit Organizations in Bangladesh

Institutional non-profit activities started in Bangladesh through the Christian missionaries (Haider, 2011). During the British period, School and mosques were mainly built by the well-off members of the society, Religious charity and Christian missionary. Such well-off members of the society along with Religious charity and Christian missionary used to provide relief to the victims during natural disasters. Various other charity providing group like members of the Zamindar family, elite people of the society and different religious group took part in aiding people of the society who are in distress due to severe downpour, starvation and epidemics. All these philanthropic works continued until improvement of the temporarily prevailed vulnerable condition of the society (Haider, 2011). Today's BARD (Bangladesh Academy for Rural Development) started its journey during the Pakistan period as to accelerate the rural development of the country (Islam, 2016).

After the 1990, non-profit activities were geared up as foreign assistance was available during the period besides many donors accumulated fund to operate different non-government organization (NGO) to promote social welfare through philanthropic activities (Islam, 2016).

Non-profit concern of Business organizations

Thinking, learning or studying a particular issue always needs reason. The significant reason to study non-profit marketing is that the volume of the industry and in several years, this industry has enlarged even more than the private sector (Andreason and Kotler, 2008).

Once the idea of purchasing products was absolutely based on the quality and price of the product but things have changed quite a lot now a day. Today's consumers are rational yet emotional. Consumer gets emotional when they observe business organizations are getting involved with different social causes that support human. Today, people are much concerned about the social responsibility performed by an organization in judging a company while making purchases and talking about the company to others. Consequently, organizations have been involving in non-profit sector for performing corporate social responsibility (CSR), (Andreason and Kotler, 2008).

There is no room to think that business organization does not expect anything in return of investing huge sum of money to social causes. Business organizations either leverage their brand equity or expect immediate revenue from sales. Hence, it was also added that these social activities of the organization give company feedback in terms of sales increase. Therefore, companies are participating in non-profit sector for their own benefit (Andreason and Kotler, 2008).

Aspects influencing attitude in making donation to Non-profit organization

The decision process of donation is chronological in nature (Guy and patton, 1989) and therefore few researchers suggested three time stages orderly: (1) prospective supporters get noticed of the fact that there are some people who need help desperately; (2) there is a clear

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understanding of the benefit of donations; and (3) prospective supporters must take it as a responsibility to help those distressed. However, in the following sections few aspects are discussed which have influence in determining attitude of individual in making donation.

Understanding marketplace changes and making frequent communication to reach donors

In today's changing world, a non-profit organization has to move with the pace of the society. We are observing a society fully dominated by technology. People use technology in every sphere of their life. Notably almost every person has a smart phone in their hand. This smart phone has been an integral part of many people as it is difficult to find people who are not using any social media. In accordance with that, it was stated that people are using Facebook, LinkedIn, Twitter, Instagram, WhatsApp etc. which are searching clients for posting client's messages in exchange of money. As people are passing more time in online, non-profit organizations have to devise marketing plan considering the large number of people passing time at online (Hubspot, 2016). In this regard, this was pointed that organization has to seek for changes in the marketplace which might come as an opportunity for the organization (Andreason and Kotler, 2008).

Nonetheless, it has been established by many researches that there has been a positive correlation between expenditures associated with advertisement and a particular brand name's quality and reputation (White and Miles, 1996). As per this statement it can be inferred that a continuous communication with the donor will have significant impact on establishing the cause of a non-profit organization.

Influence of reference from friends and family in searching potential donors

Finding donors is always difficult. People sometimes get bored of advertisement of Banners, Bill boards, Television, Radio, Social media etc. An influencer can be a good way for finding donor. An influencer works as a reference group for the society. He can spread positive word of mouth. Such positive word of mouth can influence a person which is crucial for a non-profit organization. Therefore, this statement is more relevant, that when an activity or cause is supported by a person from the reference group, followers of that person also support the cause (Huffington post, 2016).

Cause Marketing and Content Marketing to get donation from potential donors

A way to facilitate social cause is to initiate cause marketing. In this regard, it was specified that the purpose of non-profit organization can be served by Cause-Related Marketing (Varadarajan and Menon, 1988). Cause marketing serves purposes of profitability of the company and betterment of the society. In a cause marketing, business organizations advertise a for profit products which provide benefits to the non-profit or charity organization in some way. We sometimes find that business organization declare about giving certain amount of money of a certain product's selling price to support vulnerable people. This sort of program can be termed as cause marketing.

Another way to foster non-profit organization is content marketing. Content marketing refers to using online material such as videos, blogs, and social media posts to stimulate interest about a company's products or services. As non-profits encompasses the issues of social, health, and environmental areas of the society, their core duties can be performed by creating content like videos, blogs, and social media posts which expresses and inspires effective story telling for getting response from the public (Content Marketing Institute, 2017).

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Effect of previous experience with non-profit organization in making donation

Collecting fund is big challenge for non-profit organization. It is more about having a clear goals and proper communication by every member of the non-profit organization for collecting fund from people. Therefore, it is always necessary that messages related to goals, procedures and communications of an organization take a similar direction which reinforces organizational success (Delaney, 2014). There is a tendency that people love familiarity. That is to say, that when a person is previously known with a charity organization, he is most likely to donate to good cause. A person's previous involvement with a non-profit organization can motivate that person to donate money in that particular not for profit organization (The guardian, 2002). Similarly, it has been stated that a person's direct or indirect involvement with the not for profit organization is the main cause to donate money (Radley and Kennedy, 1995). In this connection, it was opined that engagement refers to getting a person to involve with an organization that helps in collecting fund from this person at times of good cause (Miller, 2013).

Gender biasness in donation

Every non-profit organization has a specific purpose to serve. In the context of Bangladesh, most of the non-profits work for providing food, education, shelter, lifesaving medicine, cloths etc. to the helpless people of the society. By so many means, women are different from men. Similar is the case when it is about donating to a particular organization. In this connection, it was found that women are supposed to be influenced more to donate than men at times of huge necessity (Newmen, 1996). Women are driven highly whenever they see an emergency situation. Men and women are always different while it is about giving estate (Eller, 1997). In the meantime, other studies have shown that donation tendency is based on price and income and donation tendency affect men and women differently.

Connectivity of social norms and previous assistance provided by the non-profit organization with donation

Social norms have a connection with donation. Sometimes social norms decide whether people should donate or not and if donation is to make then how much to donate is also determined by the social norms. A classic example of this case is special fundraising effort about a particular issue of a mosque where people have to participate sometimes against their will but to support the case of social norms (Radley and Kennedy, 1995). He further added that sometimes people judge the previous assistance provided by the non-profit organization before making a donation decision. This is even more true for older, married, and people of higher income brackets.

Education and donation

Few researchers found relationship between education and donation. According to them, education drives people to donate more. He further pointed out that a person who has more education is likely to donate more than those who have less or no education (Chrenka et al., 2003).

Tax and donation

Few researchers got relationship between tax and donation. According to them, propensity of giving to non-profit organization gets enlarged by men when they see a tax benefit is associated with the donation to non-profit organization (Wall Street Journal, 2001).

Connectivity of individual's income with donation

Income is always a motivating factor for people. This is common ideology yet effective that people spend proportionately in great volume when they have higher income and people's expenditure squeezes with the shortage of income. Due to income variation, normally younger

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individuals donate less because of their low income and just opposite is the case for older individuals as they are in high income brackets (Radley and Kennedy, 1995; Newmen, 2000).

Sometimes large contribution by a person motivates others to contribute in the same way. A considerable number of campaigns for fundraising believe that large "leadership contributions" is likely to create a vibe and makes others motivated about initiating a larger contribution (Bakal, 1979).

Influence of acknowledgement after making donation in future donation

Business organization likes to continue relationship with the customers, even after the purchase made because they do business for indefinite period of time. Thereafter, business organization have introduced after sales service. Today, providing after sales service is one of the major conditions of selling, given by business organization. People give feedback to a particular organization through repeat purchase or recommending other consumers about a product. So, business organization maintains relationship even after the sales have been made. So is the case for non-profit organization. The job is not always done for a non-profit organization after getting a donor. An acknowledgement from the part of the non-profit organization to the donor may pave a way of long-lasting relation with the donor (Entrepreneur, 2016). Acknowledgement to the donor is highly sensitive at the same time. Few potential donors donate only to get acknowledged through open public way. They prefer to be appreciated by the people of the society. They love to think themselves great in the society. An appreciation from the society only happens when an acknowledgement comes in open public way. So non-profit organization should focus on appreciating potential donors in public way whoever wants.

Potential donors also take into account the authenticity of the non-profit organization and beneficiary of the donation before making donation. So, a handful number of factors have been suggested by the researchers which have connection in forming individual's attitude in making donation to non-profit organization that supports different social causes related to education, poverty, health, shelter, malnutrition, religion, human behaviour etc.

Non-Profit Organizations in Bangladesh

Several organizations are working across the country to address various social issues positively and effectively as being non-profit organization. Bidyanondo foundation is one of the well-known and established non-profit organization in Bangladesh that is working throughout the country to help underprivileged people of the country. Currently this organization is operating various projects like Bidyanondo floating hospital, Flood relief program, Hospitals for COVID patients, One-taka meal, Academic teaching for underprivileged kids, Orphanage centre, One-taka medical aid, Support for refugees, Winter cloths distribution etc. toward the most vulnerable people of the society (Bidyanondo, 2020). All their activities are oriented toward the poor and distressed people of the society. They have a special focus on the street and unprivileged children of the society. Many of their activities are designed in a way to give children happiness through food and clothing.

BRAC (Bangladesh Rural Advancement Committee) is working on various social issues to support humanitarian ground across Bangladesh and outside the country as well. In the recent past, they have performed various activities to help Rohingya community to live their life with basic right (Brac, 2020). They have a specific focus on ensuring the basic human rights of the people of Bangladesh. Therefore, their various activities are focused on improving the livelihood of the people who live under the poverty line.

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Bakergonj Forum (a non-profit organizations in Bangladesh) who is working on providing eye health support to underprivileged school going student of the southern areas of Bangladesh (Global Giving, 2020). Therefore, school going students are getting the benefit of having their eyesight clear. Such activities by Bakergonj Forum have a long-time effect in the upbringing of the unprivileged children of the society located in southern part of Bangladesh.

There are few non-profit organizations like JAGGO Foundation, Bangladesh Environment and Development Society (BEDS), Blind Education and Rehabilitation Development Organization (BERDO) which are operating crowd funding activities to promote the welfare of the society through philanthropic works (Global Giving, 2020).

Likewise, the above-mentioned organizations, there are many other organizations which are working on different social causes to support mainly the helpless and vulnerable people of the society such as Dhaka Ahsania Mission, Anjuman Mufidul Islam, Bangladesh Botanical Society, Kumudini Welfare Trust etc.

CONCEPTUAL MODEL

After analysing various literature and conducting focus group interview, following factors have been identified which have influence over individual’s attitude while making donation to non-profit organization.

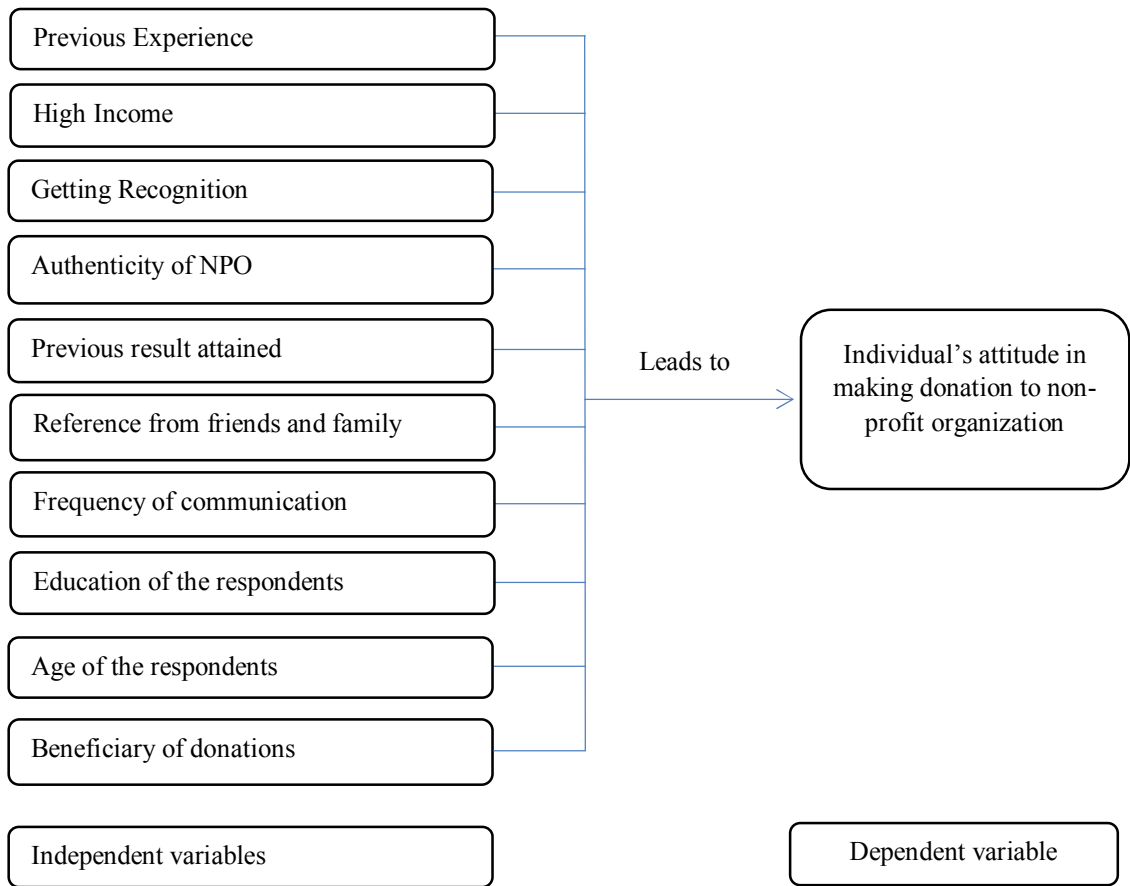


Figure: Conceptual Model

First of all, an individual’s previous experience with a non-profit organization might determine the future course of relationship whether the individual will continue donation or not. Then, People from high income bracket might tend to donate because of the less economic pressure in bearing family expenditure. Thereafter, getting recognition after making donation may induce a buyer in future donation. However, individual sometimes may look for authenticity of non-

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profit organization to make donation secured. Again, previous result attained by the non-profit organization is crucial for the future of the non-profit organization. Nonetheless, reference from friends and family might influence a donor to donate in a social cause supported by non-profit organization. Afterwards, frequent communication by the non-profit might make the donors bound to make donation. Next, age of the respondents might have influence in making donation. Generally, the greater the age the more is the possibility to make donation. Finally, beneficiary of the donation is considered highly before making donation to a non-profit organization.

METHODOLOGY OF THE STUDY

Research Problem: Now-a-days different non-profit organizations are seeking monetary assistance from people to support social causes like giving basic education to street children, helping poor people through aiding money to manage livelihood, providing basic health related aid, managing shelter for homeless people, providing food for children affected by malnutrition etc. Most of the non-profit organizations are now active in Social Medias because they need more people to donate. Therefore, understanding the motivation in donating in a social cause may be of great help to the non-profit organization in engaging more donator in a particular social cause.

Nature of the Study: This study is descriptive in nature as to better describe this issue. Then quantitative research technique was applied to collect the data from a sufficient volume of respondents to get help for conducting statistical analysis.

Research Questions: This research has been undertaken to answer the following questions:

1. What factors are affecting individual's attitude in making donation to non-profit organization?

2. Do previous experiences, high income, getting recognition, authenticity of non-profit organization, previous result attained, reference from friends and family, frequency of communication, education of the respondents, age of the respondents, beneficiaries of donation affect an individual's attention to donate in a social cause promoted by the non-profit organization?
3. How individual's attention with the identified factors will be attained?

Population and Sample Size: The population of our study is consisted of those people whose income is well above their expenditure. The people with that characteristic are necessary for making contribution in non-profit organizations. The number of samples are Three Hundred Twenty (320) including both male and female located in different division of Bangladesh. Respondents profile is shown in the following table.

Gender	Average Monthly Income Range	Nature of Occupation	Number of Respondents
Male	Tk 45000 to 50000	Bank Employee	68
		Government Employee	55
		Employee at Corporate Business House	39
		Teaching	25
		Business	18
Female	Tk 45000 to 50000	Bank Employee	31
		Government Employee	32
		Employee at Corporate Business House	21
		Teaching	29
		Business	2
N.B. Respondents having at least Tk 40000 monthly income have been taken in this study			

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Sampling Method: In this research, we have used convenient sampling as it incurs less cost also it makes the data collection easier. Convenience samples are those samples which are the easiest member of the population from which we can obtain our information.

Source and Method of Data Collection: Data was collected from people who have income well above their expenditure and reside in different divisional city of Bangladesh. A survey was conducted to collect primary data from the respondents by providing a structured questionnaire which was developed on seven-point scale ranging from Entirely Disagree (1) to Entirely Agree (7).

Types of Data and Analysis: Firstly, secondary data was collected to develop a better understanding thought regarding charity and aligning information in literature review section. Secondly primary data was collected to understand the motivation of donator working behind donating in a particular social cause promoted by the non-profit organization. Different charts and diagrams were used to analyze the collected data. Finally, SPSS was used to conduct different statistical analysis.

Limitation: This study is conducted based on convenience sampling. Taking stratified sampling would give much conclusive result.

OBJECTIVE OF THE STUDY

The objective of the study is to identify and examine the factors responsible to induce a person to donate in a particular social cause promoted by non-profit organization.

RESULTS AND FINDINGS

Multiple regression analysis basically emphasizes on Model Summary, ANOVA, and coefficient which are interpreted below:

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.815 ^a	.664	.635	.302

There is a high degree of correlation among the variables which have been identified specifically as the result of R equals to 0.815 or 81.5%. The result of the R² is 0.664 which indicates that 66.4% variation in dependent variable have been explained by independent variables. That is to say, 66.4% variation in factors influencing people's contribution in non-profit organization have been explained by previous experience with non-profit organization, people with high income, getting recognition, authenticity of non-profit organization, previous result attained by the NPO, reference from family and friends, Frequency of communication by NPO, education of a person, age of a person, beneficiary of the donation. Adjusted R² 63.50% indicates that this percentage of variation have been explained by independent variables which actually affects dependent variable.

ANOVA^a					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	21.387	10	2.139	23.486	.000 ^b
Residual	10.836	309	.091		
Total	32.223	319			

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The value of significance is 0.000 which illustrates that the applied model is quite good to forecast the outcome variable. With a degree of freedom in between 10 to 309, the value of F (F = 23.486) is significant at .05 level which indicates that the null hypothesis is rejected. That is to say, independent variables do not affect the dependent variable is rejected.

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.791	.804		7.206	.000
	Previous experience	-.031	.050	-.052	-.609	.544
	High income	-.468	.057	-.730	-8.165	.000
	Getting recognition	-.405	.066	-.711	-6.089	.000
	Authenticity of non-profit organization	.277	.066	.437	4.182	.000
	Previous result attained	-.068	.048	-.098	-1.405	.163
	Reference from FNF	.482	.098	.520	4.925	.000
	Frequency of communication	.287	.045	.505	6.432	.000
	Education of the respondents	.082	.046	.108	1.782	.077
	Age of the respondents	-.096	.040	-.144	-2.408	.018
	Beneficiary of donation	.272	.062	.501	4.373	.000
a. Dependent Variable: A person should contribute in non-profit organization for the betterment of the society						

Coefficient from the above table shows that a positive correlation exists between independent and dependent variable. The standard coefficient in beta column for independent variables like Reference from Friends and Family, Frequency of communication, Beneficiary of donation, Authenticity of Non-profit organization are .520, .505, .501, .437 respectively which implies that these variables are crucial elements in making contribution in non-profit organization.

Factor analysis

Correlation Matrix										
Variables	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10
V1	1.000	-0.262	0.433	0.322	-0.113	0.083	0.686	-0.025	0.230	-0.104
V2	-0.262	1.000	-0.516	-0.260	0.494	-0.213	-0.488	0.150	0.021	-0.096
V3	0.433	-0.516	1.000	0.294	-0.765	0.048	0.654	-0.184	0.363	-0.301
V4	0.322	-0.260	0.294	1.000	-0.193	0.335	0.515	-0.096	0.580	-0.297
V5	-0.113	0.494	-0.765	-0.193	1.000	-0.100	-0.497	0.284	-0.482	0.317
V6	0.083	-0.213	0.048	0.335	-0.100	1.000	0.154	0.047	0.253	-0.033
V7	0.686	-0.488	0.654	0.515	-0.497	0.154	1.000	-0.022	0.519	-0.351
V8	-0.025	0.150	-0.184	-0.096	0.284	0.047	-0.022	1.000	-0.229	0.210
V9	0.230	0.021	0.363	0.580	-0.482	0.253	0.519	-0.229	1.000	-0.580
V10	-0.104	-0.096	-0.301	-0.297	0.317	-0.033	-0.351	0.210	-0.580	1.000

Results of principal component analysis

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.621
Bartlett's Test of Sphericity	Approx. Chi-Square	651.934
	Df	45
	Sig.	.000

With 45 degrees of freedom, the result of Approx. Chi-square is 651.934 which is significant at 0.05 level. The value of KMO is .621 which is larger than 0.5. Therefore, factor analysis is an appropriate technique.

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Result of principal component analysis (Continued)

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.861	38.614	38.614	3.861	38.614	38.614	2.255	22.553	22.553
2	1.486	14.858	53.471	1.486	14.858	53.471	2.081	20.814	43.367
3	1.321	13.214	66.685	1.321	13.214	66.685	1.991	19.913	63.279
4	1.056	10.561	77.246	1.056	10.561	77.246	1.397	13.967	77.246
5	.805	8.051	85.298						
6	.536	5.361	90.659						
7	.431	4.311	94.970						
8	.269	2.693	97.663						
9	.131	1.314	98.977						
10	.102	1.023	100.000						

The above table named total variance explained represents the extracted number of common factors with their associated eigenvalues and the percentages of variance resulted from each factors as well as the cumulative percentage of variance resulted from the factors. As per the criteria of retaining factors which have eigenvalues more than one (1), four factors were retained. The eigenvalues of first and second factors are 3.861 and 1.486 respectively with variance of 38.61% and 14.85% respectively. The eigenvalues of third and fourth factors are 1.321 and 1.056 respectively with a variance of 13.21% and 10.56% respectively. The all four factors accounted for 77.25% of variation. These factors have an impact in the co-variation among multiple observations. Besides, these factors also signify underlying concepts that cannot be sufficiently measured by a single variable.

Rotated Component Matrix^a				
	Component			
	1	2	3	4
Previous experience	-.052	.871	.066	.015
High income	.714	-.326	.357	-.305
Getting recognition	-.365	.804	.280	.170
Authenticity of non-profit organization	.732	.496	.183	-.024
Previous result attained	.125	-.094	.840	.054
Reference from FNF	-.189	.204	.820	.302
Frequency of communication	-.070	.390	.436	.578
Education of the respondents	.542	.321	-.329	.085
Age of the respondents	-.035	-.022	.010	.914
Beneficiary of donation	.850	-.136	-.270	-.054
Extraction Method: Principal Component Analysis.				
Rotation Method: Varimax with Kaiser Normalization.				
a. Rotation converged in 9 iterations.				

The above table signifies that High Income, Authenticity of non-profit organization, Education of the respondents, Beneficiary of donation are correlated with factor 1, Previous experience and Getting recognition are correlated with factor 2, Previous result attained and Reference from Friends and Family (FNF) are correlated with factor 3, Age of the respondents and Frequency of communication are correlated with factor 4. Here the factor 1 can be termed as Personality and Beneficiary. Factor 2 can be termed as Social Attainment. Factor 3 can be termed as Word of Mouth and finally Factor 4 can be termed as Approach to Potential Donor.

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RECOMMENDATIONS

Currently many non-profit organizations are being operated in Bangladesh, though few of the non-profit organizations are doing well. But maximum of the organization are still fighting in terms of getting noticed by the people of this country. Therefore, this study will come handy to provide them with few strategies to adopt.

Reference from friends and family members play vital role while people consider making donation in non-profit organization. People always feel comfortable with the known persons. They tend to take suggestion from persons they feel happy with. A non-profit organization should focus on reaching as many potential donors as possible to pursue them to make donation. They should motivate potential donors to donate and to spread the message of the non-profit organizations to help find other potential donors. Thus, a potential donor can communicate the message to their friends and family members and eventually these friends and family member may become potential donor.

Frequency of communication can force the donors to donate to a social cause highlighted by non-profit organizations. A person has to go through a lot of activities every day. Normally we do not remind things which have been exposed to us only one time. But we do remind things which have been exposed to us more frequently. Non-profit organization may utilise this option. They can tell the potential donors so frequently to make donation which will help them to raise fund.

Beneficiary of the donation can influence the donors. Donors may ask about the people who are going to be benefitted by the donation. Therefore, a non-profit organization should make list of the people belong to the beneficiary group. They can prepare a demographic profile of the beneficiary group. They should also know the geographic location of the beneficiary. A well-

organized detail of information about the beneficiary can positively affect the donor to make donation.

Finally Authenticity of the non-profit organization is another issue the non-profit organization should be concerned about. There are people who are concerned about authenticity which is very much practical in the context of Bangladesh. A profile including mission, address, activities, regular donors, members of the non-profit organization will enhance the credibility of the organization. This profile should be available in printed form as well as in online through web site (if available) of the organization.

Following all the recommendations above, non-profit organizations can attract more potential donors to attain their desired goal.

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CONCLUSION

Situation like COVID 19 has opened up eyes to the mass community about how people fall in economic and humanitarian distress situation time to time. Non-Profit Organization (NPO) like Bidyanondo came up with their various activities to help the distressed people of the society. Goodness of the society partly depends on the non-profit organization working in the country. Because their concern is to highlight and raise fund to support different social causes. Not all the people but there are people who sometimes try to find a social cause to support. A non-profit organization bring different social causes related to education, poverty, malnutrition, health, culture, religion, human behaviour etc. to the notice of the people of the society. Numbers of non-profit organizations are on a rise throughout the globe and so is the case in Bangladesh. Organizations have to find more donors to adjust with the rising number of organizations working in the non-profit sector. Factors like Reference from friends and family members, Frequency of communication, Beneficiaries of the donation, Authenticity of the non-profit organizations should be focussed by the non-profit organization in order to get more attention from the donor and make them to contribute in the social cause. However, this study has limitation as it is based on convenient sampling. Stratified sampling would give more precise result. Any future research may take this as direction.

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FIRM CHARACTERISTICS AND BUSINESS MODEL REPORTING: EVIDENCE FROM LISTED COMPANIES OF DHAKA STOCK EXCHANGE (DSE) IN BANGLADESH

Md. Hossain Ali*

Shahadat Hossain**

ABSTRACT

This study explores the relationship between firm characteristics and business model reporting (BMR). By examining annual reports of 2016 of a sample of listed companies of Dhaka Stock Exchange (DSE) of Bangladesh for BMR and employing logistic regression analysis, it sought for the firm characteristics that led the companies' voluntary adoption of the practice of BMR. The dichotomous dependent variable used in the analysis was to identify whether the firm undertook BMR or not. This study found that 12% of DSE listed companies voluntarily reported their BM in 2016. The study also found that firm size and industry membership have a significant impact on such voluntary reporting. Other predictor variables like firm age, institutional and foreign shareholding, and foreign control didn't have any significant impact on BMR.

*Lecturer, Jashore University of Science and Technology, Jashore-7408, Jashore, Bangladesh.

**Lecturer, Department of Accounting and Information Systems, University of Barisal, Bangladesh.

1. Introduction

Corporate reporting has not undergone as many and profound changes as it has in the last decade. The backdrop for this change is complexities and deficiencies of traditional financial statements. Some valuable information certainly remains outside the grab of those statements focusing mostly on tangible assets. The percentage of shareholder value reflected by reported tangible assets has diminished from 83% in 1983 to 19% in 2009 (Ocean-Tomo, 2010), for example. The underlying cause for such deterioration of explanatory power is significant change in the Business Model (BM) and inadequacy of its reflection by the current financial reporting system (Michalak et al., 2017). Consequently, there have been numerous calls from different organizations enforcing stakeholder rights and pioneering transparency followed by good response from companies in the developed and developing countries regarding innovative new ideas of corporate reporting. For example, companies nowadays report information about intellectual capital (IC) (Bini et al., 2016), governance information, social and environmental impact of business etc. (Main & Hespeneide, 2019). Such nonfinancial disclosure is provided mainly to provide background and meaning to quantitative (financial) disclosure and to get factors and resources that cannot easily be quantified and valued (e.g. intellectual capital, social and environmental performance, strategy and the (BM) communicated (IASB, 2010). In other words, the comprehensive depiction of the value creation story of the organization is the purpose expected to be served by the integration of financial and non-financial disclosure (Holland, 2005).

In line with such development, BMR, which prescribes disclosure/reporting of the creating and sustaining mechanism of value by a firm, has been the center of attention in corporate reporting over last few years. The term BM has become popular among practitioners as well as researchers throughout the world since mid-1990s, during the rise of e-commerce and other innovative new ways of doing business that have grown with the rise of internet (Amit & Zott, 2001; Demil & Lecocq, 2010). BMR has received widespread support through e.g. revision of the Companies Act in the United Kingdom (the UK), the guidelines issued by the Financial Reporting Council (FRC) of the UK (FRC, 2016). Meanwhile, the International Integrated

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Reporting Council (IIRC) has come up with a framework for integrated reporting <IR>¹ in 2013 which has also put strong emphasis on BM and BMR (constituting an integral part of <IR>) (IIRC, 2013a).

BMR and <IR> are still a voluntary practice except in some countries including the UK and South Africa respectively. In Bangladesh, Neither listing rules of stock exchanges and Corporate Governance Code (CGC) issued by Bangladesh Securities and Exchange Commission (BSEC) nor any other regulation has explicitly mandated such disclosure. The Institute of Chartered Accountants of Bangladesh (ICAB) has taken some initiatives to promote <IR>. The ICAB has published an <IR> checklist highlighting the content elements suggested by the IIRC in its International <IR> Framework (Nakib & Dey, 2018). Moreover, it has introduced annual best presentation award in integrated report category for the publicly traded companies in 2015 (Dey, 2020).

Nevertheless, many listed companies of DSE have been practicing BMR (either separately or as a part of <IR>) even before such local initiative (Nakib & Dey, 2018). On the contrary, some other firms have not adopted BMR or <IR>. What drives such disclosure by companies? Why are some companies reporting BM while others are not? The question and answer constitutes the main research objective of this paper.

In this study we hypothesize, based on prior literature on corporate disclosure, about six firm and industry characteristics with regards to whether these could explain the firms' voluntary adoption of BMR. These attributes are firm size, firm age, institutional and foreign ownership, foreign control, and industry type. By employing logistic regression analysis, we have assessed whether these firm characteristics explain the disclosure or non-disclosure of BM by DSE listed companies of Bangladesh.

We found that about 12% of DSE listed companies adopted BMR in 2016. Six (6%) of the sample firms disclosed BM to in their integrated reports while another 6% of the sample firms reported BM except as a part of <IR>. Their disclosure decision is significantly and positively associated with their size and industry type. No other independent variable used in our study

¹ Integrated Reporting <IR> is the latest paradigm of corporate reporting which aims to provide more holistic and concise picture of the firms' environmental, social and governance (ESG) information along with traditional accounting reports where these two streams of information are logically connected and integrated in a structured fashion.

projected any significant relationship with BMR. The findings are consistent with some previous studies and it has some implications for policy makers.

We have contributed to literature by exploring an emerging issue in corporate reporting (BMR) which is quite unexplored. We also present a comparative analysis between financial and nonfinancial companies in terms of BMR adoption and its determinants.

The remaining part of the paper is organized as follows. Section two presents brief definitional overview of the concept of BM and BMR. Section three reviews prior literature related to determinants of voluntary corporate nonfinancial disclosure and develops our context. Section four develops our hypotheses related to the determinants of BMR as a part of voluntary corporate disclosure. Section five elaborates detailed research methodology by describing data collection, sample selection, and empirical model of this study. Section six presents descriptive statistics of our variable and interpretation of them and the results pertaining to our hypothesized relationships. Section seven presents results of further analysis and section eight concludes the paper.

2. An Overview of Business Model (BM) and Business Model Reporting (BMR)

2.1. Business Model (BM)

BM basically denotes a process by which organizations seek to create and sustain value. In other words, an organization's BM is the system by which it transforms inputs, through its business activities, into outputs and outcomes that aims to fulfil the organization's strategic purposes and create value over the short, medium and long term.

The first time use of the term "BM" dates back to late 1990s when due to the rise of the Internet many innovative ways for doing business emerged. Most recent emphasis on the concept by many regulatory bodies and its widespread use in corporate reporting has fueled emphasis on research in this area (ICAEW, 2010). It continues to be a frequently used term in financial and nonfinancial disclosure standards, guidelines, regulation, and literature. Although there is no unanimously accepted definition of the term 'BM' in the literature (Sorrentino & Smarra, 2015), the existing offerings have almost similar tone.

Some definitions are quoted below:

"...the chosen system of inputs, business activities, outputs and outcomes that aims to create value over the short, medium and long term" (CIMA et al., 2013).

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“...the heuristic logic that connects technical potential with the realization of economic value”(Casadesus-Masanell & Ricart, 2010).

“BM refers to the mechanism or structure consisting of the supply chain and the underlying flows of products, services and information through which the firm generates revenue”(Timmers, 1998).

In conclusion, we understand BM as the way a firm operates and integrates its diverse resources to create value and plans do so in the days to come. The BM combines all types of resources /capitals especially intellectual capital and how they are structured to operationalize the organization’ strategy and to gain sustainable competitive advantage (Bini et al., 2016).

2.2. Business Model Reporting (BMR)

“BMR” is the communication of information regarding the BM of a firm through corporate reporting practices it engages in. There is no unanimously agreed exhaustive lists of topics that come under the arena of BMR. However, there are two reporting frameworks that have explicitly dealt with BMR. They are strategic reporting (as part of the annual report) mandatory in the UK and <IR> prescribed by the IIRC (Michalak et al., 2017).

In the first case, the FRC of the UK reported a list of disclosures in the BM that investors found useful. Some disclosure elements which are most desired by users while others are desired by relatively smaller number of users and providing further details about the earlier elements.

In the latter case, the IIRC in its reporting framework, known as the International <IR> Framework calls for disclosure in the BM (one of the 8 content elements of an Integrated Report) of the following disclosure elements: a) key inputs in relation to the six ‘Capitals’ (financial, manufactured, intellectual, human, social and relationship, and natural); b) business activities; c) outputs; and d) outcomes (CIMA et al., 2013).

BMR may use info graphic and/or detailed narrative, and be disclosed in one place or different suitable places in the report (with sufficient cross-referencing and meaningful linkage) (FRC, 2016). Nonetheless, BM disclosure is expected to provide sufficient details in plain, clear, concise, and factual language to help users understand the company ‘story’ and increase understanding of other provided data (i.e. financial statements, risk exposure, sustainability of operations).

3. Literature Review and the Context of Bangladesh

Although in many of its existing and proposed financial reporting standards IASB recognizes “BM” as a basis for measurement, it has not made “BMR” mandatory by requiring it through any of its IFRSs or interpretations. Rather it encouraged “BMR” by managers in one of its Practice Statement on “Management Commentary”. A firm should provide a description of the business to assist users of the financial reports in understanding the entity and the external environment in which it operates. Such information is a prerequisite for assessing and understanding an entity’s performance, strategic options and prospects (IASB, 2010). The area of BMR is quite unexplored in empirical literature. As its adoption is still voluntary except in some countries e.g. the UK and South Africa, research on this is still evolving. For example, reviewers of <IR> literature contend that most existing research on <IR> tend to present normative arguments on <IR> and how <IR> research may emerge over time (Dumay et al., 2016).

In some previous studies the determinants and characteristics of BM disclosure were analyzed. Melloni et al. (2016) found positive connection between weak corporate governance, bad performance and low verifiability of the disclosure itself and positive tone of BM disclosure. They argued that managers use BM disclosure as an Impression Management (IM) strategy (Melloni et al., 2016). In the context of Bangladesh, a survey has been conducted by Nakib & Dey (2018) on <IR> practices by DS30 companies in Bangladesh. They have reported that BM disclosure of DS30 firms has increased during the period from 2014 to 2016. Dey (2020) found that the extent of <IR> disclosure of DSE listed banks is determined by board size, proportion of female and independent directors, and growth opportunity of the banks. Other previous studies in Bangladesh in this area investigated the practice of small sample of companies e.g. DS30 companies, MNCs, banking companies etc. (Dey, 2020, Islam & Islam, 2018; Nakib & Dey, 2018, Mohammad, 2019).

This study takes 100 DSE listed firms from all industry sectors to widen our understanding of the whole market. Moreover, this paper attempts to understand whether stakeholders, (e.g. different types of investors such as institutional investors, foreign parent companies, other foreign shareholders) along with some other firm characteristics not explored in previous studies, influence the adoption of BMR (Dey, 2020). In the next section we develop our hypothesis considering previous studies on corporate reporting.

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4. Hypothesis Development

Existing literature presents a wide range of theoretical perspectives regarding the determinants of the extent of corporate disclosure e.g. signaling theory, stakeholder theory, agency theory etc. However, a single theory may sometimes fail to explain the behavior of firms in terms of corporate disclosure. Consequently, many previous studies have adopted a pluralistic approach, while others have relied on relevant existing literature to develop hypotheses. We develop our hypotheses based on previous literature on corporate disclosure as follows.

Firm Size

Firm size reflects different drivers of voluntary disclosure. It may reflect higher corporate political visibility and pressure (Brammer & Pavelin, 2006), stronger and wider impact on society (Knox & Walker, 2001), higher resource availability (Graafland et al., 2003) which explain the fact that numerous prior studies found positive relationship between firm size and level of disclosure e.g. intellectual capital disclosure (Brüggen et al., 2009; Nurunnabi et al., 2011). Larger firms have the incentives and resources to establish more capable corporate reporting systems to follow global and contemporary standards of reporting and corporate behavior. So, we hypothesize that firm size significantly affects decision of BMR in a positive direction.

H1: Firm size has significant positive effect on decision of BMR

Firm Age

The level of disclosure by older firms is likely to be higher than their younger counterparts because of three additional advantages: completion, cost and ease of information gathering and the fact that younger firms lack adequate historical information on which some disclosure areas are contingent (Akhtaruddin, 2005; Nurunnabi et al., 2011). Kakani et al. (2001) has argued that despite powerful large competitors and lack of reputation, brand names and adequate resources, the younger firms try to compete with older firms at least by way of increasing and improving disclosure. Some other authors also find negative relationship between firm age and level of disclosure (Arif & Tuhin, 2013). Nevertheless, following the earlier argument the following hypothesis is proposed:

H2: BMR decision is significantly positively determined by firm age.

Institutional Ownership

Institutional owners normally have higher stakes in the companies and therefore have higher incentives to monitor corporate activities. For monitoring and evaluation of performance institutional owners may require higher amount of disclosure especially those about future prospects, strength and potential of the firm (Barako et al., 2006). Moreover, institutional owners may want to ensure that management follow global standards of quality, governance and investor communication. On the other hand, institutional investors have resources and ability to gather information about the firms from sources not affordable by smaller individual investors. In some cases, institutional investors may have direct relationships or collusion with firm management (Sundaramurthy et al., 2005). This may cause negative impact of institutional ownership on BM disclosures. So, we hypothesize that high institutional ownership may significantly influence BMR of the firms.

H3: The decision of BMR is significantly influenced by the proportion of institutional ownership of a firm.

Foreign Ownership

Foreign ownerships proportion of shareholders' equity of a company which is held by foreign investors. Barako et al. (2006) argues that the presence of high foreign ownership may positively affect the voluntary disclosure practices of the firms. As BM disclosure in the form of BMR and <IR> have originated and widely adopted in many developed countries many local companies of Bangladesh may have been influenced by their foreign shareholders. We hypothesize a positive association between BMR and foreign ownership.

H4: There is a positive association between BMR and foreign ownership.

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Foreign Control

Foreign control is a dichotomous variable that indicates whether the company is the subsidiary of a foreign company or not. Some listed companies are subsidiaries of foreign companies. In line with the developments in the regulatory requirements, BM disclosure is mandatory in some countries and regions. For example, the UK Strategic Report Regulations requires that the quoted companies disclose their BM. The new EU Directive on Disclosure of Non-Financial and Diversity Information has also introduced the requirement for companies across Europe (within the scope of the Directive) to disclose their BM (FRC, 2016). It can be strongly expected that foreign subsidiaries/MNCs are more likely to adopt BMR given their holding companies from especially developed countries are championing BMR and other developments in corporate reporting and will want their subsidiaries to do so. In line with the argument of Barako et al. (2006) again, we hypothesize that this variable has a significant positive impact on the adoption of BMR.

H5: Foreign subsidiaries are more likely to adopt BMR.

Industry Type

We have divided the firms in two categories to learn about the behavior of the constituents of each in terms of BMR. The two groups, financial and nonfinancial companies, differ with respect to the extent of regulation and nature of operations. So, we have used the dichotomous variable whether the firm is a financial institution or not. Nurunnabi et al. (2011) found differences among industries regarding intellectual capital reporting where pharmaceutical companies disclosed the highest IC. They argue that high tech firms such as IT, pharmaceuticals and healthcare firms tend to disclose more intellectual capital information. Brügger et al. (2009) also found positive impact of industry characteristics on IC disclosures. In line with these arguments we assume that financial institutions in Bangladesh tend to be more competitive and globalized and thus employ more innovative and sophisticated BM and disclose them specifically in their annual reports to attract shareholders and customers.

H6: Financial institutions are more likely to disclose BM reports than their nonfinancial counterparts.

5. Research Methodology

5.1. Data Collection and Sample Selection

This study investigates the BMR in the annual reports of 2016 of a sample of one hundred companies of Dhaka Stock Exchange. For the purpose of the study we have positively scored the firm in terms of BMR if the firms have included any separate section with any title including the term “BM” with detailed information under it (either separately or as a part of <IR> in the corporate annual/integrated reports we examined. The year 2016 has been selected because this follows the initiative taken by ICAB in Bangladesh which accelerated BM disclosures in the form of <IR> and thus gives a significant number of firm years containing BMR. Moreover, the year had just ended when this study was initiated. Data regarding firm size, firm age, institutional ownership, foreign ownership, foreign control and industry type, have been mainly taken from Lanka Bangla Financial Portal, DSE website along with the annual reports of the respective firms. The sample was randomly selected from all listed 304 companies during the time of sampling from various sectors (excluding corporate and treasury bond, debenture and mutual funds). The number of companies to take from each industry was determined proportionately. The companies were selected randomly using random number table.

TABLE 1. Sample Distribution

Industry Breakdown	Total Number of Firms	Sample
Bank	30	10
Cement	7	2
Ceramics Sector	5	2
Engineering	36	12
Financial Institutions	23	7
Food & Allied	18	6
Fuel & Power	18	6
Insurance	47	15
IT Sector	8	3
Jute	3	1
Miscellaneous	12	4
Paper & Printing	2	1

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Pharmaceuticals & Chemicals	29	10
Services & Real Estate	4	1
Tannery Industries	6	2
Telecommunication	2	1
Textile	50	16
Travel & Leisure	4	1
Total	304	100
Source: Developed by authors		

5.2. Model Specification

The paper empirically tests the propositions mentioned earlier using the following logistic regression model. The logistic model is appropriate in our case because our outcome variable is dichotomous and predictor variables are a mix of continuous and dichotomous variables (Mohamad Ariff et al., 2007).

$$BMR_i = \beta_0 + \beta_1 LNFSIZE + \beta_2 LNFAGE_i + \beta_3 FRNOWN_i + \beta_4 INSOWN_i + \beta_5 FRNCON_i + \beta_6 INDTYPE_i + \varepsilon_i$$

Following Table represents the definition and measurement of the variables in the model.

	Variables	Full Name	Measurement
Dependent Variable	BMR	Business model reporting	Dummy variable, 1 if BM disclosure was made, 0 if not
Independent Variable – Firm characteristics	LNFSIZE	Firm Size	Natural logarithm form of total assets
	LNFAGE	Firm age	Present year – Listing year (scaled by natural logarithm)
	FRNOWN	Foreign ownership	Proportion of shares of firm held by foreign shareholders
	INSOWN	Institutional ownership	Percentage of total equity of the firm held by institutional shareholders

	FRNCON	Foreign Control	Dummy variable, 1 if the company is a foreign subsidiary/Multi National Company (MNC), 0 if it is not.
	INDTYPE	Industry type	Dichotomous variable, 1 if the firm is a financial (Bank, Insurance and Financial institutions) institution, 0 if it is not
Source: Developed by authors			

6. Empirical Results and Discussion

6.1. Descriptive Statistics

Table 3 presents the descriptive statistics of the study variables that are used in the logistic regression model to analyze the relationship between BMR and certain firm characteristics. The table presents the number of observations, mean, standard deviation, minimum and maximum values of each variable. The adoption of Business model reporting (BMR), foreign control (FRNCON), and type of industry (INDTYPE) are expressed in dichotomous variable form. Firm size (FSIZE) is expressed in million Taka (MT) while age (FAGE) of the firms is shown in their actual value. The other variables are given in percentage form. The mean of the variable BMR indicates that about 12% of the sample firms of DSE adopted BMR in their 2016 annual reports. Among these 6% disclosed BMR under <IR>and another 6% disclosed BM only. Such a very low adoption is justified by its voluntary nature in Bangladesh. Each sample firm has an average of 40538.49 MT of total assets ranging from 234.0989 MT to 725768.1 MT. Average firm age is about 15 years and the range is minimum 1 to 40 years. The mean of the variable FRNCON shows that 9% of the studied firms are foreign subsidiaries. This indicates that adoption of BMR is not solely an outcome of foreign control and is perhaps affected by some other factors as well. This also implies that both locally controlled firms and foreign subsidiaries voluntarily published BM reports following global practices which is a good sign for the disclosure environment of the country. Despite lack of any mandate, many firms keep themselves abreast with good reporting practices. The mean of the variable industry type indicates that around 31% of the sample firms (33 out of 100 firms) are financial companies.

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Table 3. Descriptive Statistics

<i>Variable</i>	<i>N</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
<i>BMR</i>	100	.12	.3265	0	1
<i>FSIZE(MT)</i>	100	40538.49	98055.77	234.0989	725768.1
<i>FAGE</i>	100	14.8483	11.4826	1	40
<i>FRNOWN(%)</i>	100	.0298	.0839	0	.4215
<i>INSOWN(%)</i>	100	.1898	.1013	0	.5367
<i>FRNCON</i>	100	.09	.2876	0	1
<i>INDTYPE</i>	100	.31	.4648	0	1

Source: Developed by authors

6.2. Correlation Matrix

Table 4 displays the correlation matrix of the dependent and independent variables in our model. This shows that BMR has a high correlation with FSIZE and INDTYPE. The correlation between independent variables are not significant. Table 5 presents the VIF test results of the independent variables to find out multi-collinearity problem (if any) among these variables.

TABLE 4. Pearson Correlation Matrix

	BMR	LNFSIZE	LNFAGE	FRNOWN	INSOWN	FRNCON	INDTYPE
BMR	1.0000						
LNFSIZE	0.4939	1.0000					
LNFAGE	0.1160	0.1104	1.0000				
FRNOWN	0.1570	0.2563	0.1639	1.0000			
INSOWN	0.0685	0.1127	-0.0697	-0.1827	1.0000		
FRNCON	0.0989	0.1474	0.1569	0.1631	-0.2380	1.0000	
INDTYPE	0.3513	0.3063	0.2108	0.0689	0.1616	-0.1352	1.0000

Source: Developed by authors

As the result shows, there is no multi-collinearity problem here as VIF of each of these variables range from 1.01 to 1.53 along with the mean VIF value of 1.22 (less than 10) (Gujarati, 2003).

TABLE 5. Multi-collinearity Test

Variable	VIF	1/VIF
LNFSIZE	1.24	0.806503
LNFAGE	1.11	0.904171
FRNOWN	1.15	0.871148
INSOWN	1.14	0.876362
FRNCON	1.16	0.860539
INDTYPE	1.22	0.821556
Mean VIF	1.17	
<i>Source: Developed by authors</i>		

6.3. Determinants of BMR on a Voluntary Basis – Empirical Results and Discussion

Table 6 presents the results of the logistic regression model seeking to identify the determinants of BMR. The coefficients are reported with asterisk (*) to indicate significance level. The standard errors and t statistics are not reported but t statistics are calculated using white's (1980) heteroscedasticity-consistent standard error and only probability is presented. The coefficient for the variable FSIZE is positive and statistically significant at 1% level which is consistent with Nurunnabi et al. (2011) who found that firm size is the only variable of their study intellectual capital (IC) disclosure is significantly related to in Bangladesh. This indicates that the BMR is more likely to have been performed by large companies. This result is consistent with stakeholder theory that states that larger firms face increased scrutiny by stakeholders and adopt best practices which leads them to make disclose more information about BM to satisfy stakeholder expectations (Nurunnabi et al., 2011). Moreover, bigger firms have higher available resources that enable these companies afford the additional costs associated with innovative BM and BMR (Graafland et al., 2003).

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The predictor industry type is also positive and significant at 10% level. This indicates that financial firms (banks, insurance, and other financial institutions) are more likely to disclose BM information than their nonfinancial counterparts. BM is more value-relevant for investors in some industries as BM shift and innovation in some industries is more frequent and important than in others (Bozzolan et al., 2003). Financial institutions have high information intensity in the products they offer and susceptible to business model shift in line with innovation in information and communication technology (Seetharaman, 2020). Therefore, financial institutions have to think more about BM than other firms and report extensively to thrive in a highly competitive and globalized market by attracting customers and investors.

TABLE 6. Determinants of BMR on a Voluntary Basis

Variable	Coefficient	p-value
Intercept	-21.4206***	.000
LNFSIZE	.7836***	.002
LNFAGE	-.3391	.449
FRNOWN	.0050	.873
INSOWN	.0314	.507
FRNCON	1.6396	.179
INDTYPE	1.6440*	.005

Source: Developed by authors

These ***, **, and * marks indicate significance level for a two-sided test at less than the 1%, 5% and 10% level, respectively.

However other variables have been found to be insignificant indicating no impact on BMR by DSE listed firms.

7. Additional Analysis

Taking financial and nonfinancial companies in two groups, this study finds that nine financial companies (six banks, one insurance, and two financial institutions representing 9% of our sample) compared to only three nonfinancial companies (one from food and allied, one from fuel and power, and another one from pharmaceuticals and chemicals sector representing 3% of our sample) provided BMR in 2016. We have run logistic regression for financial and nonfinancial companies separately (the result is not presented). This time we have found that firm size is the only significant predictor of BMR for financial companies. The coefficient of firm size is even insignificant for nonfinancial companies i.e. no independent variable of our model can significantly predict BMR of these companies (when taken separately).

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8. Conclusion

We have investigated, based on prior literature, the impact of firm characteristics e.g. ownership, control, size, age, and industry type on BMR of 100 DSE listed firms in 2016. Using logistic regression, we find evidence that many of the DSE listed firms (about 12%) voluntarily engage in BMR in 2016 (including as part of <IR>). Firms that engaged in such reporting are mainly larger firms according to our primary results and regression coefficients. We found a significant positive relationship between firm size and voluntary BMR. Higher firm size reflects higher visibility and stakeholder pressure, resourcefulness etc. which explain the fact that numerous prior studies found positive relationship between firm size and level of disclosure especially intellectual capital disclosure (Nurunnabi et al., 2011; Brüggem et al., 2009). Moreover, larger firms have the incentives and resources to establish more capable corporate reporting systems to follow global and contemporary standards of reporting and corporate behavior. We also found that industry characteristics determine BM adoption as well. Especially financial companies have surpassed nonfinancial ones in 2016 in terms of BMR which indicates that these companies try to benefit from BMR in a highly competitive, globalized, and high-tech global financial market. We also found that firm age, institutional and foreign ownership, and foreign control didn't have any significant impact on the firms' decision to disclose BMR. Consequently, we have found no influence of institutional investors, foreign holding companies, and other foreign investors on BMR of firms.

This study has some limitations in its scope of investigation. First, the sample is small and involves investigation of only a single year. Second, the dependent variable (BMR) is discrete which may not fully capture BM disclosures by firms. Firms may have provided disclosure about their value creation process (BM disclosure) elsewhere in their annual reports without mentioning the label/heading "BM".

It was found that managers sometimes use BMR to showcase their own and firm performance positively (Melloni et al., 2016). So, what incentives BMR is used in Bangladesh to pursue? It remains unanswered. The quality of current BMR is unexplored and unknown. Future research can be conducted using such research questions.

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DETERMINANTS OF CAPITAL STRUCTURE: A STUDY ON LISTED MANUFACTURING COMPANIES OF BANGLADESH

Nusrat Jahan Benozir*

ABSTRACT

This paper identifies the reliable and noteworthy firm-specific factors which determine the capital structure of listed manufacturing companies of Bangladesh. Almost all the initial research on capital structure focused on developed countries. But countries like Bangladesh, where the financial market is small and volatile, require more research to have an exponential and sustainable growth in capital market particularly. This study analyzed 13 years' data (FY 2007-2019) of 30 manufacturing companies listed in Dhaka Stock Exchange under 8 different industries. Three leverage ratios: total debt ratio, long-term debt ratio and short-term debt ratio are used at their book value as capital structure measure and nine independent variables, such as, firm size, age, profitability, non-debt tax shields, collateral value of asset, tax, dividend, liquidity ratio and growth rate of asset are taken as proxy of determinants. Panel corrected standard error (PCSE) and Random effect to bit regression analysis found six significant determinants. Firm size, collateral value of asset, liquidity ratio and profitability have positive impact on total debt ratio and short-term debt ratio. Dividend and non-debt tax shield influence total debt ratio and short-term debt ratio negatively. Age is negatively related to total debt and long-term debt. Firm size and tax have positive impact on long-term loan while short-term debt is negatively related to tax. Growth rate is found to be insignificant in this study.

Keywords: *Bangladesh, capital structure, determinants, leverage, pecking-order theory.*

1. INTRODUCTION

The capital structure decision is one of the most crucial decision for a firm to maximize its value, to have sustainable growth and to protect from financial distress. The most suitable combination of debt and equity, known as optimal capital structure, is such a mix where the cost of generating fund is minimum that yields the maximum return within the accepted boundary of risk. The higher the proportion of debt in the capital structure, the company is said to have a higher financial leverage (Sayeed 2011). So, capital structure decision has always been the most challenging area for financing decisions. This study is an attempt to find the significant determinants of capital structure of manufacturing firms in Bangladesh.

2. LITERATURE REVIEW

As the very first paper on capital structure and firm value, Modigliani and Miller (1958 and 1963) exclaimed that in a frictionless economy (no tax or transaction cost), capital structure has no impact on firm value (commonly known as capital structure irrelevance proposition) but firm value is positively related when there is tax deductible interest expense (Modigliani and Miller, 1963). Other imperfections have been added into the picture by different researchers. Scott (1977) said that debt financing can add value to the firm until the distress cost offsets the benefits. Jensen and Meckling, (1976) added agency cost, DeAngelo and Masulis (1980) added non-debt tax shield which supported the relevance of capital structure with firm value.

Titman and Wessels (1988) were the pioneer among those who identified the determinants of capital structure using capital structure theories. They analyzed separate measures of short-term, long-term and convertible debts as the proxy of capital structure. Uniqueness of product, transaction cost and profitability were found significant where growth, non-debt tax shield, volatility and collateral value of assets were found to be unrelated with capital structure of US firms. But the study of Frank and Goyal (2003) found that size and collateral value positively influence debt ratio while profitability and dividend affect negatively.

Rajan and Zingales (1995) presented the very first study where determinants were evaluated analyzing the cross-country data (8000 companies from 31 countries) and leverage ratios were introduced as the measures of capital structure. They found size, growth, profitability, and tangible assets relevant for U.S. firms as well as the firms of other countries.

Booth et al. (2001) considered 10 developing countries from Asia, Africa and Latin America and Gonzalez et al. (2013) took developing countries from Latin America to assess the

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determinants of capital. Their study found that profitability, tangibility and firm size are significant factors of capital structure which is similar to U.S and European countries.

Najjar and Taylor (2008) investigated the determinants of capital structure and ownership structure and found asset tangibility, size, profitability, growth and business risk to be the joint determinants in Jordan. Asset structure and market-to-book ratio were found as additional factors affecting ownership structure and capital structure respectively.

Karadeniz et al. (2009) and Varun et al. (2017) studied the Turkish companies to assess the capital structure determinants and size and growth were found to be positively related to total debt ratio for manufacturing and merchandizing firms while size and non-debt tax shield are positively related to service industry. But profitability has negative influence on those industries.

Pratheepan and Banda (2016) examined the determinants of capital structure of Sri Lankan firms. They found that profitability was negative to leverage decision while size and growth were positive.

Handoo and Sharma (2014) analyzed 870 Indian firms and Sethi and Tiwari (2016) examined 1077 Indian firms and found profitability, growth, asset tangibility, uniqueness, size, cost of debt, tax rate, and debt serving capacity as the significant determinants of capital structure using total debt ratio, long-term debt ratio and short-term debt ratio as the proxy of leverage.

Chowdhury (2004) explored the evidence from Bangladeshi and Japanese manufacturing industries for different time frames and agency cost, profitability, growth rate and operating leverage were found significant for both the countries despite having difference in corporate governance mechanism.

Sayeed (2011) examined the determinants of capital structure of Bangladeshi firms using total debt to market value of firm and long-term debt to market value of firms as the measure of leverage. Agency cost and non-debt tax shield are negatively where collateral value of asset is positively related to total debt ratio. Tax ratio has a positive impact on long term debt and size affect both measures of debt.

Hossain and Hossain (2015) determined the significant factors of capital structure in the manufacturing industry of Bangladesh taking total debt ratio, long-term debt ratio and short-term debt ratio as the measure of leverage. Capital structure is positively related to managerial ownership and negatively related to growth, profitability, financial risk, free cash-flow, agency cost and dividend payment.

Lima (2009), Siddiqui (2012), Alom (2013) and Abdullah et al. (2017) have found that operating leverage, debt service capacity, age, liquidity and tangibility have significant impact on capital structure decision among the firms in Bangladesh.

3. METHODOLOGY

3.1 Data Source and Sample Size

In this study, 30 manufacturing firms representing 8 different industries (Ceramics, cement, engineering, food & allied, jute, pharmaceuticals & chemicals, tannery and textile) have been selected and annual data for the period covering the FY 2007-2019 (13 years) were collected from the annual reports published by Dhaka Stock Exchange (DSE).

3.2 Measurement of Variables

3.2.1 Dependent Variables

To measure the capital structure, different leverage ratios were used by the different authors in several previous studies. This study has used 3 leverage ratios: Total debt ratio (TDR), long-term debt ratio (LTDR) and short-term debt ratio (STDR) at their book value as the proxy of capital structure which are adopted from Rajan and Zingales (1995), Hossain and Hossain (2015) and Sethi and Tiwari (2016).

Table I: Measurement of capital structure

Sl. No.	Indicator	Full name of variable	Proxy
1.	TDR	Total Debt Ratio	$\frac{\text{total debt}}{\text{total asset}}$
2.	STDR	Short Term Debt Ratio	$\frac{\text{short term debt}}{\text{total asset}}$
3.	LTDR	Long Term Debt Ratio	$\frac{\text{long term debt}}{\text{total asset}}$

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Total debt ratio shows the proportion of debt compared to the assets firm owns. Long term debt ratio represents the percentage of total assets funded by long-term debt and short-term loan ratio shows the ability of the firm to mitigate the current financial obligations.

3.2.2 Independent Variables

Collateral Value of Assets

Tangible assets of a firm can be used as collateral against debt (Rajan and Zingales,1995). More tangible assets represent less information asymmetry and reduced agency cost of lender (Jensen and Meckling,1976). So, a positive relationship is expected between collateral value of assets and leverage ratios (Frank and Goyal, 2004). In this study, the ratio of fixed assets to total assets is used as the proxy of collateral value of assets (CVA) (Hossain and Hossain,2015)

Firm Size

Large firms can avail diversification benefit, generate comparatively stable cash flow and reduce the risk of financial distress than small firms can. Thus, lower bankruptcy cost encourages large firms to take more debt (Rajan and Zingales,1995). Natural Logarithm of total asset is used here to measure the size of a firm (Pradeepan and Banda, 2016)

Profitability

Profitable firms are more likely to have a healthy retained earnings base resulting a less demand for debt. Thus, a negative relationship is predicted between our measure of capital structure and profitability (Booth et al.,2001). This relationship is also consistent to the pecking order theory of capital structure discussed by Myers in 1984, which says that firms prefer internal financing to the external one. Return on asset is taken as the proxy of profitability (PROF) in this paper (Karadeniz et al.,2009)

Growth

Higher growth requires more fund and internal fund may fall insufficient. So, raising capital through debt becomes a necessity which indicates that growth has a positive correlation with leverage ratios (Lima,2009). Some studies argued that growing firms faces agency problem resulting from the opportunistic behavior and risk of sub-optimal investment tendency of

managers (Jensen and Meckling,1976) which provides a negative impact on leverage. Yearly growth rate of total asset is the used to measure growth (GR) (Hossain and Hossain, 2015)

Age

Firms with a greater number of years in operation is supposed to create a good internal fund to finance the investments indicating a negative relationship with capital structure measures (Myers and Majluf,1984). Here, natural logarithm of number of years in operation is used as proxy (Sayeed 2011).

Tax

Firm can enjoy the benefit of interest tax shield by taking more debt when it operates in a high tax paying industry (Modigliani and Miller 1963; DeAngelo and Masulis 1980). Here, tax paid over profit before tax is used to assess the tax effect (Sayeed,2011).

Non-debt tax shield

One substitute of interest tax shield is non-debt tax shield which can be created by expenses that are tax deductible but do not require cash outflow (DeAngelo and Masulis 1980). Thus, using non-debt tax shield provides tax benefit without increasing debt to capital structure. So, a negative relationship is expected. Depreciation over total assets is used as the measure (NDTS) (Karadeniz et al., 2009; Hossain and Hossain,2015)

Dividend

Firms with a higher dividend payout ratio need more debt to finance new investments because more cash dividend means less retained earnings. Thus, dividend paying firms are expected to have higher leverage ratios (Myers and Majluf, 1984). Here, dummy variable is used to distinguish dividend paying firms from others representing by “1” if pays cash dividend otherwise “0” (Alom,2013; Hossain and Hossain, 2015).

Liquidity

Liquidity has both positive and negative impact on capital structure. Firms with higher liquidity represents higher cash flow available to meet up short term obligation timely and greater ability to raise debt capital (Najjar and Taylor, 2008). On the other hand, accumulation of liquid assets can be used as the source of internal financing and less demand for debt. Thus, a negative

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relationship is expected. Current Assets to Current Liabilities ratio (LR) is used in this paper (Siddiqui, 2012; Handoo and Sharma, 2014).

3.3 Research Methodology

To measure the impact of independent variables on dependent variables, panel regression model is developed following the methodology similar to that of Hossain and Hossain (2015) and Sayeed (2011). To ensure that the panel data set is normal and free from all types of irregularities which may distort the relationship this study wants to draw, a number of tests have been done before the regression model is chosen.

To check the stationarity of data series, Levin-Lin-Chu (LLC) test and Fisher-type Augmented Dickey Fuller (ADF) test have been applied. The findings from unit root tests (LLC test and Fisher type ADF test) have been presented in Table II (Appendix 1). From both tests, all the variables are stationary except dividend. So, alternative tests are applied for dividend to draw the conclusion. Since, the other three alternative tests says that dividend is stationary (Harris-Tzavalis unit-root test (statistics 0.3350, p value 0.000); Breitung unit-root test (statistics -2.7719, p value 0.0028) and Hadri LM test (statistics 3.7466, p value 0.0281 at 1% significant level), DIV is treated as stationary here.

Pearson Product-Moment Correlation Coefficient test is performed to identify multicollinearity where multicollinearity is defined by more than 80% correlation between two independent variables. In this study the highest level of correlation is 45.55% which proves that the panel data set is free from multicollinearity. (Table III, Appendix 1).

White test and Breusch-Pagan Test are used for heteroscedasticity. White test (Table IV, Appendix 1.3) has identified heteroscedasticity problem in each of the three models whereas the Breusch-Pagan test shows that only LTDR has the heteroscedasticity problem.

Wooldridge test applied for finding autocorrelation has diagnosed the first order autocorrelation problem in panel data. (Table V, Appendix 1)

4.4 Model Specification

This study has used Panel Corrected Standard Error (PCSE) model (Hossain and Hossain, 2015) to identify the most influencing determinants of capital structure. As PCSE model is designed to correct the involvement of autocorrelation and heteroscedasticity from the panel and generate the best possible result, this study has used this model. Random Effect Tobit Regression model was applied for LTDR model because some data of dependent variable were not available as

some of the firms don't take long term debt. The estimated model for three leverage ratios (representing capital structure) and nine independent variables (determinants of capital structure) are as follows: (supporting hypotheses are presented in Table VI, Appendix 1).

Model I - TDR

$$TDR = \alpha + \beta_1 CVA_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 PROF_{i,t} + \beta_4 GR_{i,t} + \beta_5 LR_{i,t} + \beta_6 AGE_{i,t} + \beta_7 TAX_{i,t} + \beta_8 NDTS_{i,t} + \beta_9 DIV_{i,t} + \epsilon_{i,t}$$

Model II - LTDR

$$LTDR = \alpha + \beta_1 CVA_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 PROF_{i,t} + \beta_4 GR_{i,t} + \beta_5 LR_{i,t} + \beta_6 AGE_{i,t} + \beta_7 TAX_{i,t} + \beta_8 NDTS_{i,t} + \beta_9 DIV_{i,t} + \epsilon_{i,t}$$

Model III - STDR

$$STDR = \alpha + \beta_1 CVA_{i,t} + \beta_2 SIZE_{i,t} + \beta_3 PROF_{i,t} + \beta_4 GR_{i,t} + \beta_5 LR_{i,t} + \beta_6 AGE_{i,t} + \beta_7 TAX_{i,t} + \beta_8 NDTS_{i,t} + \beta_9 DIV_{i,t} + \epsilon_{i,t}$$

Where, *i* denotes the individual firm and *t* shows the time.

4. RESULTS AND DISCUSSION

4.1 Summary Statistics

Each variable has the 390 number of observations (30 companies, 13 years) except long term debt (355 observations). The leverage practices of the firms comprise of 8.5% long term debt and 42.32% short term debt resulting to 50.82% total debt ratio on an average. Here, the study has included companies with different leverage and operational practice to represent the overall manufacturing industry. Poor profitability (mean ROA 4%) and high liquidity is another important observation for manufacturing firms.(Table VII, Appendix 2)

4.2 Results of Regression Analysis

As PCSE model accounts for heteroscedasticity and first order autocorrelation from spherical errors, it has been used for better inference than linear models. The observed variables and their influence on the leverage measures are summarized in Table VIII (Appendix 2). Through Model- I, Model- II and Model- III, about 60.86%, 12.79% and 65.94% variation in the dependent variables can be explained. All three models are significant at 95% confidence level. But the acceptability of LTDR model is questioned for having a poor goodness of fit (12.79%). Random Effect Tobit Regression provides better result for LTDR model (Table IX, Appendix 2) regarding the significance of model and variables. The findings are discussed below:

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Size of firm is found significant in each model. Firm size is positively related to long-term debt but negatively related to total and short-term debt. Large firms are more likely to go for long term financing while short term obligations are met up through operating activities. The rationale is that it is costly for the small firms to issue long term financial instrument or loan, whereas large firms have better market confidence, less risk of default and easy access to capital market resulting to better opportunity to avail long term debt (Rajan and Zingales, 1995)

Collateral value of asset has negative influence on total debt and short-term debt. The less tangible assets a firm holds, the more the information asymmetry problem it faces and vice-versa. So, the firm needs to suffer from lower market price of stock. Thus, it must go for debt financing. This result is consistent with the findings of Booth et al. (2001).

Non-debt tax shield has given a completely opposite finding having positive impact on leverage. This positive relationship is inconsistent to the traditional belief that non-debt tax shield serves as the substitute to interest tax shield. But in case of Bangladeshi companies, the observation can be explained in a different way where NDTs may serve as collateral to collect more short-term debts (Titman and Wessels (1988).

From this study, we can see that dividend payments put positive influence over short term and total debt though it is insignificant for long term debt. This relationship conforms to the Pecking order theory of Myers and Majluf, (1984). Paying regular cash dividend requires more cash outflow from the firm and less earning to be retained. So, lack of internal fund will lead to higher external financing.

Leverage practice of firms is remarkably negatively influenced by the profitability and liquidity. Higher profitability along with higher liquidity means higher cash flow generated from operations and thus, higher internal fund is created leading to lower need for external financing. These two variables also advocate the practice of pecking order theory.

Tax benefit of higher leverage had been accepted as the primary motivation to take more debt, but findings of this study is slightly different. The motivational influence of tax works only on the long-term debt but fails to influence short term or total debt.

Age of a firm is found to be inversely related to the leverage under all three models reestablishing the fact that with more years in operation, a firm is well-established in the marketplace creating a strong internal financial support system. So less external fund is required.

5. CONCLUSION

This study attempted to identify the firm-specific determinants of capital structure analyzing 13 years data of 30 manufacturing companies listed in Dhaka Stock Exchange. Three leverage ratios (total debt ratio, long-term debt ratio and short-term debt ratio) are used as the measure of capital structure. Panel corrected standard error (PCSE) and Random effect tobit regression analysis found six significant determinants such as, firm size, collateral value of asset, liquidity ratio and profitability have positive impact on total debt ratio and short-term debt ratio. Dividend and non-debt tax shield influence total debt ratio and short-term debt ratio negatively. Age is negatively related to total and long-term debt. Firm size and tax have positive impact on long-term loan while only short-term debt is negatively related to tax. Growth rate is found to be insignificant in this study. Most of the determinants provides evidence on the practice of pecking order theory.

Aggregate findings differ much from the previous studies such as Frank and Goyal (2003);Huang and Song (2002) and Ilyukhin, E. (2017).

One probable reason could be that most of studies are based on the leverage practices of well-developed economies where manufacturing firms are either capital intensive or technology enriched. Future study can incorporate qualitative factors like personal traits of managers to add new insight in this area of study.

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Appendix 1

Table II: Results of unit root tests

Fisher type ADF test				Levin-Lin-Chu Test		
H_0 : All panels contain unit roots				H_0 : panels contain unit root		
H_1 : At least one panel is stationary				H_1 : Panels are stationary		
Variables	(With Individual Intercept & Trend)			(With Individual Intercept & Trend)		
	Statistics	p-value	Process	Statistics	p-value	Process
TDR	215.1953	0.0000	S	-15.5072	0.0000	S
LTDR	124.6697	0.0000	S	-8.5861	0.0000	S
STDR	182.0337	0.0000	S	-14.2458	0.0000	S
SIZE	226.9278	0.0000	S	-16.7683	0.0000	S
CVA	146.7388	0.0000	S	-10.1758	0.0000	S
NDTS	215.5792	0.0000	S	-22.9375	0.0000	S
DIV	17.5687	1.0000	NS	5.8629	1.0000	NS
GR	138.8898	0.0000	S	-7.6531	0.0000	S
PROF	272.0979	0.0000	S	-30.5245	0.0000	S
TAX	114.7044	0.0000	S	-7.3841	0.0000	S
LR	233.9162	0.0000	S	-17.9329	0.0000	S
AGE	2162.6192	0.0000	S	-31.2974	0.0000	S

Table III: Results of Pearson Correlation Co-efficient Test

	SIZE	CVA	NDTS	DIV	GR	PROF	TAX	AGE	LR
SIZE	1								
CVA	0.1142	1							
NDTS	0.1410	0.2364	1						
DIV	0.2263	0.0428	0.0854	1					
GR	0.1637	0.0357	0.0102	0.0601	1				
PROF	0.2592	0.0026	0.1554	0.189	0.0216	1			
TAX	0.0324	0.0511	0.0108	0.0343	0.0417	0.4555	1		
AGE	0.2003	0.0283	0.0500	0.0995	0.0307	0.0528	0.0047	1	
LR	0.0265	0.0527	0.0801	0.1007	0.1579	0.0409	0.0627	-0.1997	1

Table IV: Results of heteroscedasticity tests

Model	The Breusch- Pagan Test				White's test			
	H_0 : Constant Variance				H_0 : Homoscedasticity			
	chi2(1)	Prob> chi2	H_0	Heteroskedasticity	chi2	Prob> chi2	H_0	Heteroskedasticity
I (TDR)	0.56	0.4559	Not rejected	No	131.15	0.000	Rejected	Yes
II (LTDR)	40.39	0.000	rejected	Yes	157.25	0.000	Rejected	Yes
III (STDR)	3.99	0.0457	Not rejected	No	146.74	0.000	Rejected	Yes

Table V: Wooldridge test for autocorrelation

Wooldridge test for autocorrelation in panel data				
H_0 : No first-order autocorrelation				
Model	F test	Prob> F	Null hypothesis	Auto- correlation
1(TDR)	45.434	0.00	rejected	Yes
2(LTDR)	20.018	0.00	rejected	Yes
3(STDR)	42.994	0.00	rejected	Yes

Table VI : developed hypotheses

Variables	Hypothesis
	H_0 : There is no relationship between dependent variable (leverage ratios) and independent variables (CVA, SIZE, PROF, GR, AGE, TAX, NDTs, DIV and LR)
CVA	H_1 : There is significant positive relationship between CVA and leverage
SIZE	H_2 : there is significant positive relationship between SIZE and leverage
PROF	H_3 : there is significant negative relationship between PROF and leverage
GR	H_4 : there is significant relationship between GR and leverage (+/-)
AGE	H_5 : there is significant negative relationship between AGE and leverage
TAX	H_6 : there is significant positive relationship between TAX and leverage
NDTS	H_7 : there is significant negative relationship between NDTs and leverage
DIV	H_8 : there is significant positive relationship between DIV and leverage
LR	H_9 : there is significant relationship between LR and leverage (+/-)

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Appendix 2

Table VII: Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
TDR	390	0.5082763	0.2117934	0.0163205	0.9571579
STDR	390	0.4232317	0.201292	0.0163205	1.008129
LTDR	390	0.0849637	0.0985496	-0.1084069	0.5461788
SIZE	390	21.36237	1.471695	18.42153	25.00196
CVA	390	0.464069	0.2089463	0.0054957	0.9699278
NDTS	390	0.0297358	0.037938	0.0000491	0.4791818
DIV	390	0.7435897	0.4372118	0	1
GR	390	0.1483444	0.5301963	-0.9115409	5.626999
PROF	390	0.0422769	0.0556332	-0.3032609	0.2515018
TAX	390	0.3625255	1.063306	-0.410994	17.12509
AGE	390	3.354452	0.408347	1.609438	4.110874
LR	390	2.029641	3.126026	0.1069256	25.15758

Table VIII: PCSE regression results of model- I, II & III

Prais-Winsten regression, correlated panels corrected standard errors (PCSEs)

Group variable: Companycode

Number of obs. = 390

Time variable: Year

Number of groups = 30

Panels: correlated (balanced)

Obs. per group: min. = 13

Autocorrelation: common AR (1)

avg. = 13

Variables	Model I- TDR		Model II- LTDR		Model III- STDR	
	Co-efficient	Z statistics	Co-efficient	Z statistics	Co-efficient	Z statistics
SIZE	-.0232666	-5.8	.0084778	3.87	-0.0317931	-8.21
CVA	-.4357992	-11.29	.0756493	3.85	-0.5113312	-19.13
NDTS	1.399453	11.91	.1785251*	1.19	1.220737	8.32
DIV	.055084	3.39	.0030549*	0.31	0.0523327	3.31
GR	.0211969*	1.42	-.0015945*	-0.27	0.0227602*	1.69
PROF	-.8811714	-5.83	-.3212631	-2.57	-0.5592667	-5.02
TAX	-.0079475*	-0.87	.0122826*	1.62	-0.0202026	-2.7
AGE	-.0350871	-3.6	-.0125707*	-1.77	-0.0225173*	-1.65
LR	-.0385163	-13.41	-.0037113	-3.3	-0.0347918	-15.41
Cons_	1.357835	13.48	-.0797621	-1.58	1.438227	13.53
R^2	0.6086		0.1279		0.6594	
Prob> χ^2	0.0000		0.0000		0.0000	

Note: *insignificant at 5% significance level

Table IX: Random Effect Tobit Regression Model for Model III- LTDR

Random-effects tobit regression	Number of obs	390			
Group variable: Companycode	Number of groups	30			
Random effects u _i ~ Gaussian	Obs per group: min	13			
Wald chi2(9) = 79.12					
Log likelihood = 476.72989					
Prob> chi2 = 0.000					
LTDR	Coefficient	Standard error	z	P>z	95% confidence interval
SIZE	0.0151126	0.003804	3.97	0.000	0.0076569 0.0225684
CVA	0.0251784	0.029833	0.84	0.399	-0.033295 0.0836517
NDTS	-0.1220022	0.111963	-1.09	0.276	-0.341447 0.0974427
DIV	0.0096708	0.010221	0.95	0.344	-0.010362 0.0297044
GR	-0.003492	0.006483	-0.54	0.590	-0.016198 0.0092144
PROF	-0.1970685	0.101277	-1.95	0.052	-0.395569 0.0014319
TAX	0.0101101	0.004089	2.47	0.013	0.0020949 0.0181254
AGE	-0.0731398	0.022596	-3.24	0.001	-0.117427 -0.028852
LR	-0.0023466	0.001649	-1.42	0.155	-0.005579 0.0008850
_cons	0.0743636	0.003804	3.97	0.000	0.0076569 0.0225684

[From table IV to Table IX are generated by Stata 16.0]

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Organic Food Buying Intention among Young People

Tazizur Rahman*

Md. Abir Hossain**

ABSTRACT

Organic food is a product produced from a farming system that avoids synthetic fertilizers and conventional pesticides. The decision to purchase organic food is affected by multiple variables. This study aims to examine the influential factors of organic food buying intention among the young generation in Bangladesh. The research model combines constructs from previous literature that have been shown to have significant relationships with organic food buying intention. We used structural equation modeling to evaluate the data obtained by an online survey of 138 participants aged between 20-30 years old. The results showed that social influence is the most influential determinant of buying intention. The study also revealed that environmental consciousness and price sensitivity have almost similar significant influences on buying intention.

Keywords *Organic food, Buying intention, Young people, Structural equation modeling, Bangladesh*

*Assistant Professor, Department of Management Studies, University of Barishal.

E-mail: tuhinkj327@gmail.com

**Assistant Professor, Department of Management Studies, University of Barishal

E-mail: abirhossainmgt@gmail.com

1. Introduction

The concept of organic food has initially been introduced and commercialized between the 1940s to 1950s. Due to the massive awareness and concern about living standards, consumers give greater importance and recognition to organic food consumption. According to the United States Department of Agriculture (USDA), organic food emphasizes the greater use of renewable resources and preserving soil and environmental quality for future people. Organic meat, such as poultry, eggs, and dairy products, comes from animals given no other hormonal medicine antibiotics. Organic food has been produced without using artificial fertilizers, pesticides, synthetic components of sewage sludge, bioengineering, or ionizing radiation. Hay (1989) discovered that organic food was perceived as better quality, tasty, nutritious, and healthier but less attractive than traditional foods to those who had and who had not purchased it. Many agricultural research institutions have adopted different programs to develop organic food processing techniques to produce high-demand products such as mangos, tomatoes, bananas, potatoes, and different vegetables. Organic farming is a costly innovation than traditional farming because it uses different traditional fertilizers and tools techniques, which carries some extra cost on its production. However, organic farming leads to better profitability through cost-saving, premium price marketing, and subsidies (Hsin Chang & Wang, 2011). Considering the price and its benefit, farmers adopted these sustainable farming practices. Other research shows that people buy organic foods because organic foods are healthier, nutritious, and tastier than non-organic foods.

In Bangladesh, recently, farmers have shown awareness about organic agriculture (Sumi & Kabir, 2018). Besides, for promoting organic agriculture, the Bangladesh government approved "National Agricultural Policy 2016" in November 2016 to set up the National Organic Standard Board (NOSB) under the Ministry of Agriculture. The main aim of NOSB is to develop, upgrade the standard, and facilitate organic products to export. NOSB has not yet been formally launched, but many private initiatives made it possible to boost Bangladesh's organic farming expansion. Tea was the first organic food production in Bangladesh by Kazi and Kazi tea in 2010. The company increased its export by 10% in 2017. Another tea company, Sabazpur Tea Ltd., started its journey in 2017, and from there, they produced 12.4 tonnes of organic black tea and 2.4 tonnes of organic green tea. Still, their focus was to capture the local market instead of

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the foreign market. The cashew nut is another organic product produced in Bangladesh. Near about 800 tonnes of cashew nuts were produced in about 3000 hectares of land under Bangladesh Organic Products Manufacturer's Association (BOPMA). Its production exceeded 1200 tonnes in 2018. Farmers are also concentrating on organic rice, which remains the leading staple food in Bangladesh (Lernoud, 2018). Furthermore, many young entrepreneurs are engaged in producing organic foods. Currently, they adopt different steps to promote domestic markets. Different supermarkets and online marketers are selling organic foods. Organic marketing has recently increased rapidly, regarded as one of the biggest markets in the food industry (Hughner, McDonagh, Prothero, Shultz, & Stanton, 2007)

Organic food has been perceived as more nutritious, healthier, safer, and environment friendly. Previous studies have indicated that consumers are more likely to pay a premium price for its superior quality, taste, and proven safety (Chen & Lobo, 2012). Young people have a growing interest and taking up behavior about organic food in Bangladesh because of their deep concerns about the environment and health-related issues (Denver & Jensen, 2014). They are also more concerned about chemical residues in non-organic foods (Yazdanpanah & Forouzani, 2015). Besides, they quickly adopt radical changes (Lenzen & Murray, 2001). In the context of attitude, they are also different than older people (Yadav, 2016). In this research work, researchers were motivated to assess the critical determinants of organic food buying intention among young people in Bangladesh.

As far as our knowledge, little or no research was done to examine the influencing factors of organic food buying intention among young people in Bangladesh. Furthermore, most previous studies were conducted from the perspective of other nations (Ayub, Nik Muhammad Naziman, & Samat, 2020; Prakash, Singh, & Yadav, 2018; Yadav, 2016). Therefore, this research initiative aims to fill the above-identified gaps.

2. Literature Review and Hypothesis Development

A good number of researchers conducted various studies to examine organic food buying intention. Ueasangkomsate & Santiteerakul (2016) used food safety, health concern, environmental concern, local origin, and animal welfare constructs to predict the intention to buy organic food. Besides, Ayub et al. (2020) examined whether influential persons' opinions (social influence) motivate organic food consumption. Furthermore, price sensitivity was used to predict organic food buying intention. This study developed a conceptual model combining food safety consciousness, environmental consciousness, health consciousness, social influence, and price sensitivity constructs to predict organic food buying intention among young people. The subsequent sections describe the hypotheses made in this research initiative.

2.1 Food Safety Consciousness

Food safety consciousness (FSC) is the consumers' awareness about chemical fertilizers, artificial food additives, and food preservatives used during food production or food processing (Yee, Yeung & Morris, 2005). The previous study identified that consumers' perception of food safety influences their decisions about specific food choices (Hus, Chang and Lin, 2016). Teng and Lu (2016) found that food safety concern has a significant positive relationship with organic food involvement. Besides, FSC influences the consumption of organic products (Van Loo, Diem, Pieniak, & Verbeke, 2013). Accordingly, we can develop the following hypothesis:

H1: There is a positive relationship between food safety consciousness and buying intention.

2.2 Health Consciousness

Health consciousness (HC) is the consumers' active participation in their own healthcare system (Gould, 1988). Individuals aware of health take some precautionary measures to keep them away from illness and retain the quality of life (Michaelidou & Hassan, 2010). Teng & Lu (2016) conducted a study of organic food consumption and mentioned that HC positively influences organic food involvement. HC was also found as a significant predictor of organic food consumption (Kriwy & Mecking, 2012). Therefore, we can suggest the following hypothesis:

H2: There is a positive relationship between health consciousness and buying intention.

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2.3 Environmental Consciousness

Environmental consciousness (EC) is the degree of apprehension, credibility, and attitude of an individual embracing the environment (Ariffin, Yusof, Putit, & Shah, 2013). People buy environment friendly products to be a part of a community and programs that aim to protect the environment and improve the environment's quality (Abdul-Muhmin, 2007). Ayub et al. (2020) found in their study that EC positively influences organic food buying intention among young consumers. EC was also identified as a key factor affecting organic food consumption (Shafie & Rennie, 2012). Hence, we can formulate the following hypothesis:

H3: There is a positive relationship between environmental consciousness and buying intention.

2.4 Social Influence

Social Influence (SI) is persuasion conformity, subjective norms, or peer pressure, usually resulted from individual behavior or action influenced by another person (Wan, Chuan, Low, Teng, Mohammad, Kai, & Wan, 2014). SI affects people's intention to be involved in a particular behavior, influencing people's decision-making process (Farias, Eberle, Milan, De Toni, & Eckert, 2019). Ayub et al. (2020) identified that SI positively influences young people's organic food buying intention. SI was also identified to positively impact organic food buying intention (Asif, Xuhui, Nasiri, & Ayyub, 2018). Thus, we can propose the following hypothesis:

H4: There is a positive relationship between social influence and buying intention.

2.5 Price Sensitivity

Price sensitivity (PS) is the consumers' preference towards products' prices when they make purchasing decisions (Ramirez & Goldsmith, 2009). PS is a significant factor in the organic food buying decision as these foods are comparatively expensive than traditional products (Kavaliauske & Ubartaite, 2014). PS is a significant determinant of organic food buying intention. The organic food buyers are concerned about food quality and a higher price is acceptable to them. They intend to buy organic foods though the price level is a little bit higher than traditional foods. Accordingly, we can recommend the following hypothesis:

H5: There is a significant relationship between price sensitivity and buying intention.

Based on the literature review and hypotheses considered for the study, the following research framework is developed:

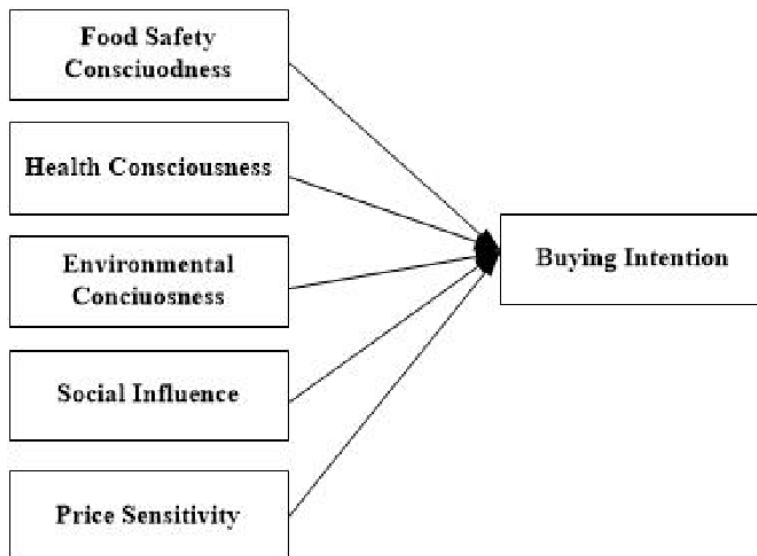


Figure 1: Research Model

3. Research Design and Methods

3.1 Measurement Instruments

In our proposed study, the measurement items of each construct were collected from previous studies. Table 1 shows the details of the measurement items of each latent construct.

Table 1: Measurement Items

Constructs	Items	Sources
Food Safety Consciousness	<p>FSC1: I think organic foods are safer to eat.</p> <p>FSC2: I think organic foods do not contain genetically modified ingredients.</p> <p>FSC3: I think organic food can reduce food poisoning risk.</p> <p>FSC4: I think organic foods are chemical-free.</p>	(Ueasangkomsate & Santiteerakul, 2016)
Health Consciousness	<p>HC1: I think organic food products are good for our health.</p> <p>HC2: I think organic foods are of high quality.</p> <p>HC3: I think organic food products contain no preservatives or artificial colors.</p> <p>HC4: I think organic foods have high nutritional value.</p>	(Ueasangkomsate & Santiteerakul, 2016)
Environmental Consciousness	<p>EC1: I think organic foods are environmentally friendly.</p> <p>EC2: I think organic farmings are good for the environment.</p> <p>EC3: I think organic farming can prevent the contamination and pollution of soil, air, and water.</p> <p>EC4: When I have options, I buy less harmful products for other people and the environment.</p>	(Ueasangkomsate & Santiteerakul, 2016; Prakash, Singh, & Yadav, 2018)
Social Influence	<p>SI1: People who influence my behavior think that I should buy organic foods.</p> <p>SI2: People important to me think that I should buy organic foods.</p> <p>SI3: People very close to me, think that I should</p>	(Asif, Xuhui, Nasiri, & Ayyub, 2018)

	buy organic foods. SI4: Generally, most people I value perceive that I should buy organic food rather than non-organic food.	
Price Sensitivity	PS1: I pay attention to good deals. PS2: I do not mind paying more for better quality. PS3: I remember the prices I have paid before. PS4: I think it is acceptable to pay more for organic food than conventional food. PS5: I am willing to spend extra money in order to buy organic food.	(Wang, Pham, & Dang, 2020; Gil & Soler, 2006)
Buying Intention	BI1: I intend to buy organic foods in the future. BI2: I predict I will buy organic foods in the future. BI3: I plan to buy organic foods in the future. BI4: I will encourage friends, neighbors, and family to buy and consume organic food.	(Teng & Lu, 2016; De Toni, Eberle, Larentis, & Milan, 2017)

3.2 Questionnaire Design and Data Collection

This study collected empirical data through an online survey. The researchers used a convenience sampling method. The questionnaire consists of 25 measurement questions targeted to assess the key determinants of organic food buying intention. A Google form was used as data collection tools. The data from google form was downloaded and transfer to the Smart PLS for data analysis. The google form was open on October 1,2020, and closed on October 15, 2020. The questionnaire had three parts. Part one briefly described the objectives of this study and ensured the respondents that researchers will maintain the confidentiality of their responses and responses would be used only for research purposes. Part 2 asks for demographic questions (age, gender, education, marital status, occupation, and family income). Part 3 contains measurement questions for each construct. A 5-point Likert scale ranging from (1) "strongly disagree" to (5) "strongly agree" was used in the measurement questions. We got 150 samples from this online survey. After reducing the unengaged responses, we considered 138 samples for the analysis.

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3.3 Analysis

In this study, PLS-based Structural Equational Modeling (SEM) was used to analyze the empirical data. SEM is a two-step modeling process where the measurement and structural models assess the proposed hypotheses. Since this method is independent of sample size and residual distribution, this approach is better than other statistical tools (Chin, 1998). Moreover, this approach consists of a component-based method for model estimation (Chin, 1998). The survey data from Google form was downloaded to Microsoft Excel and imported into Smart PLS 3.00 for analysis. Besides, we used SPSS 16.00 to examine the demographic status of the respondents of this study.

4. Results

4.1 Demographic Information

The result shows that over 70% of the respondents were aged between 20- 24 years old, along with a large percentage of respondents being male (64.50%), while 35.50% were female. Besides, most of the respondents are single (94.20%). Also, Bachelor's degree holders dominated the respondents (80%), while the Master's degree holders were only 20%. Most of the respondents (72%) had a family income of BDT 20,000-30,000.

Table 2: Demographic Profile of Respondents

<i>Items</i>	<i>Description</i>	<i>Frequency</i>	<i>Percentage</i>
Age	20-24	106	77.00
	25-29	32	23.00
Gender	Male	89	64.50
	Female	49	35.50
Marital Status	Single	130	94.20
	Married	8	5.80
Education Level	Bachelors	110	80.00
	Masters	28	20.00
Family Income(Monthly)	20,000-30,000	99	72.00
	30,000-40,000	17	12.00
	40,000-50,000	8	6.00
	Above 50,000	14	10.00

4.2 Measurement model

The measurement model assesses the construct reliability, convergent validity, indicator reliability, and discriminant validity criteria. The values of Cronbach's alpha and composite reliability (CR) indicate the status of latent constructs' reliability. Moreover, the average variance extracted (AVE) of each construct is used to ensure convergent validity. Cronbach's optimal alpha level is 0.70, but exploratory analysis finds it optimal to be 0.4 or higher (Hair, Ronald, Tatham, Anderson, & William, 1995; Hulland, 1999). The CR of the constructs should be 0.7 or higher, but in the case of exploratory research, 0.60 or higher is considered appropriate along with AVE should be 0.5 or higher (Richard, Bagozzi & Youja, 1989). Measurement items FSC-2, HC-4, EC-3, PS-1, and PS-3 were eliminated due to low factor loading. The results showed in Table 3 mentioned that all values of Cronbach's alpha and CR is more than 0.60. Also, the values of AVE for each construct are greater than the acceptable level (0.50). Therefore, these results ensure good internal consistency and convergent validity. As per the results mentioned in Table 4, AVE's calculated square roots are higher than the correlation estimate with other constructs, ensuring satisfactory discriminant validity.

Table 3: Measurement Model

<i>Constructs</i>	<i>Items</i>	<i>Loadings</i>	<i>Cronbach's alpha</i>	<i>CR</i>	<i>AVE</i>
<i>Food Safety Consciousness (FSC)</i>	FSC1	0.781	0.654	0.811	0.588
	FSC3	0.779			
	FSC4	0.740			
<i>Health Consciousness (HC)</i>	HC1	0.808	0.637	0.805	0.581
	HC2	0.790			
	HC3	0.683			
<i>Environmental Consciousness (EC)</i>	EC1	0.791	0.634	0.805	0.581
	EC2	0.828			
	EC4	0.657			
<i>Social Influence (SI)</i>	SI1	0.755	0.830	0.886	0.661
	SI2	0.876			
	SI3	0.846			
	SI4	0.769			
<i>Price Sensitivity (PS)</i>	PS2	0.611	0.663	0.820	0.608
	PS4	0.839			

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	PS5	0.864			
<i>Buying Intention(BI)</i>	BI1	0.797	0.812	0.877	0.641
	BI2	0.773			
	BI3	0.889			
	BI4	0.737			

Note: AVE: average variance extracted; CR: composite reliability

Table 4: Correlation matrix and square root of the AVE

Constructs	EC	FSC	HC	BI	PS	SI
EC	0.762					
FSC	0.505	0.767				
HC	0.605	0.693	0.762			
BI	0.475	0.280	0.434	0.801		
PS	0.278	0.270	0.316	0.426	0.780	
SI	0.481	0.378	0.451	0.507	0.365	0.813

Note: EC: Environmental consciousness; FSC: Food safety consciousness; HC: Health Consciousness; PS: Price sensitivity; SI: Social influence; BI: Buying intention

4.2 Structural Model

A structural model evaluates the relations of latent constructs used in the theoretical model. In this study, 5000 Bootstrapping samples were created from the given dataset and assessed the proposed hypothesis at the 5% level of significance. This study found that EC ($\beta= 0.230$; t-statistics=2.307; p-value < 0.021), SI ($\beta= 0.274$; t-statistics=3.370; p-value < 0.001) and PS ($\beta= 0.239$; t-statistics=2.955; p-value < 0.003) significantly and positively influence organic food buying intention. Thus, these results support the H3, H4, and H5. Hypothesis H2 can be accepted at 7% level of significance. The R^2 and Q^2 for BI were 0.395 and 0.224, respectively, indicating the dependent variable's explainability.

Table 5: Structural Model

<i>Path</i>	<i>B</i>	<i>t- Statistics</i>	<i>p-Value</i>	<i>Comments</i>
H1: FSC→BI	-0.136	1.393	0.164	Not Supported
H2: HC→BI	0.190	1.817	0.069	Not Supported
H3: EC→BI	0.230	2.307	0.021	Supported
H4: SI→BI	0.274	3.370	0.001	Supported
H5: PS→BI	0.239	2.955	0.003	Supported

Note: Significant at $p < 0.05$; EC: Environmental consciousness; FSC: Food safety consciousness; HC: Health Consciousness; PS: Price sensitivity; SI: Social influence; BI: Buying intention

Table 6: Predictive Relevance

<i>Constructs</i>	<i>R Square</i>	<i>Q Square</i>
BI	0.395	0.224

Note: BI: Buying Intention

5. Discussion

In this research initiative, a conceptual research model in the context of organic food buying was developed by integrating the key constructs influencing the organic food buying intention. This study aimed to determine the influential factors of organic food buying intention among young people in Bangladesh.

This study identified that Environmental consciousness has a significant positive relationship with organic food buying intention. This finding indicates that people perceive that organic foods are environment friendly and the production process of organic food helps prevent the contamination of water, soil, and air. This result is consistent with the findings of Ayub et al. (2020) and Jitrawang & Krairit (2019), where they identified that environmental consciousness is a significant predictor of organic food buying intention among young consumers. This perception motivates young people to buy organic foods. The results also show that social influence positively impacts the buying intention of organic foods. This implies that young people consider important persons' opinions regarding buying organic foods, and influential people assume that young people should buy organic foods. The previous literature confirmed this finding (Ayub et al., 2020; Jitrawang & Krairit, 2019). Furthermore, price sensitivity is a

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significant factor in the buying decision of organic foods. This suggests that young people intend to pay more for buying organic foods, and they also keep in mind the previous buying experience when they make a purchase decision. They prefer better quality products than conventional products. This similar finding was identified in the previous study (Wang et al., 2020). Although the previous study has explored the relationship between health food safety consciousness and organic food buying intention (Asif et al., 2018), their results were not consistent with this research finding. Hypothesis 2, the relationship between health consciousness and buying intention can be accepted at the 7% level of significance. Since this hypothesis' p-value (0.069) is close to the threshold of significance, future studies are needed to verify this finding.

6. Implications

The result of this study will guide organic food producers, marketers, retailers in communicating with their final consumers by applying the factors that influence their purchasing intention and understanding their perception of organic food. Simultaneously, it could help the government concerning authorities and public-private policymakers about the young generation's perception of organic food. Besides, other developing countries like Bangladesh can take a lesson from the findings of this study.

7. Limitations and Future Directions

Although this study contributes to the domain of organic food buying intention among young people, it has some drawbacks that need to be acknowledged. First, our research findings have a generalization problem, as the respondents are young people. Therefore, these findings can not apply to older people. Second, this study applied a convenience sampling method to collect empirical data. Third, the sample has a very high percentage of individuals who are highly educated. The conclusions do not, however, extend to less qualified persons. This research work can be extended with more pertinent variables (perceived value, perceived availability, perceived quality, etc.), which may increase the model's explanatory power.

8. Conclusion

This study aimed to assess the influential determinants affecting organic food buying intention among young people. In this regard, we developed a research model with the previous literature constructs, having significant influences on organic food buying intention. This study reveals that environmental consciousness, price sensitivity, and social influence have significant and positive relationships with organic food buying intention. The results also indicate that social influence is the most influential predictor of organic food buying intention. Besides, R^2 of BI is 0.395, which indicates considerable predictive capacity.

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