Bangladesh Journal of Integrated Thoughts, 2021 DOI: https://doi.org/10.52805/bjit.vl7i2.243

Customer Retention for Digital Banking: Application of 'Nudge Theory'

Shahin Akther¹ and Javed Tariq²

ABSTRACT

The aim of this paper is to examine the digital banking habit to achieve customer retention. Applying the 'Nudge theory', this paper examines the impact of banks' inventiveness on changing monetary behaviour of the customers in the commercial banks. While the literature is still young, conclusions may be drawn about 1) the effects and evaluation of the banks' products and services to nudge customers for saving more to retain customer loyalty and trust, 2) making the customers literate in personal financing knowledge to reduce the fund diversion after taking loan from banks, and 3) boosting repurchase intention of a customer.

ARTICLE HISTORY

Received 28 November 2021 Accepted 25 May 2022

KEYWORDS

Nudge theory, nudge banking, economic behaviour, saving habit, customer loyalty

1. Introduction

Through an evaluation of Bangladesh's banking sector in the post-liberation period, it appears that this section has seen extensive reformation through privatization, supervisory and regulatory restructuring, and strict adherence to financial discipline. Besides, the areas such as legal aspects, corporate governance, code of conducts, financial inclusion, risk management and digital banking have also witnessed rapid modifications. Today banks are constantly involved in providing innovative products and competitive services through excellent service offerings. In recent decades banks also focus on social and welfare issues like corporate social responsibility (CSR), sustainable economic development, environmental protection, financial literacy, public health issues along with basic operations.

For the last few decades, most of the banks in Bangladesh have been designing their products and services in a monotonous manner. Whereas, innovative and diversified products and services are essential for banks for sustainable existence (Shao, You, Xu, & Shao, 2020; Duong & Swierczek, 2019; Cherotich, Sang, Mutungú, & Shisia, 2015). Customer loyalty and trust are also the crucial factors for banks' success. The bank should emphasize innovative products provoked by the increasing customers' requirements (Rasheed et al., 2015; Yordanova, 2013).

¹ First Assistant Vice President & Faculty, Mercantile Bank Training Institute. Corresponding author: <u>shahustc@gmail.com</u>

² Principal, Mercantile Bank Training Institute.

Though, the Central Bank of the country is striving to uphold the banking sector with modern technology but still the sector has deficiencies in innovative banking products and services like that of other countries of the world. Customers expect banking services that will be integrated with their lives too (Murugiah & Akgam, 2015; Rajput, 2015). Most of the banks try to attract customers by offering tedious products and services with extravagant offers (Rick, 2018). Generally, customers are bombarded with loan offers via email, SMS, or by print-electronic advertisement on diverse occasions. In the long run, it changes the economic behaviour of a customer to impulsive spending habit instead of saving (Aden and Bidarmanesh, 2020). Customers need to be guided by the banks on ways of saving and to handle the financial crisis without approaching for loan services. Banks can assist customers by tracking their savings and expenditures weekly or monthly and help the customers to grow their savings habit for future.

In this twenty-first century, banks need to be more innovative regarding their business approaches to customers. In Bangladesh, all private banks roll out various lucrative offers, mostly for taking loans, spending on vacations, or saving in fixed nature only. Sometimes, the mass communications for these offers entice the customers to enter into unsafe or unsound banking for superficial purposes. High mortgage approval rates led to a large pool of homebuyers, which drove up housing prices (Boubakri, Couharde, & Raymond, 2016; Ahrend & Goujard, 2015).

To control this situation, banks may put into practice the Nobel Laureate, Richard H. Thompson's Nudge Theory to change customer economic behaviour and banking culture and thus make money by taking care of customers or guide them for an appropriate choice. Considering this situation of the customers, the author of this paper investigated why banks should focus on nudging their customers. In Bangladesh, banks do not make the customers aware of the value of saving (instead of spending), or investing (instead of borrowing to buy more), or any other relevant social values. Banks want the customers to borrow more, because the customers' debt is an asset for banks, but when customers cannot repay the debt, the banks' asset portfolios show negative value. Applying Nudge thoughts by automatically moving money to savings based on dynamic analysis of 'available-to-save' funds in their account. Banks can help customers increase their savings with small and manageable steps by checking their account and expenditure. Nudging customers for increasing their deposit habit require reengineering the banking products and services.

Banks of Bangladesh are also experiencing a plethora of overdrafts and the burden of non-performing loans due to non-payment of instalments (Rahman, Asaduzzaman, & Hossin, 2017; Rifat, 2016; Roy, Dey, & Bhowmik, 2014). To overcome such situation, banks could initiate several attempts as 'compassionate support' for making financial choice, i.e. before spending they should be aware of personal and business financing, budgeting, rainy days savings, etc. It encourages the customers to make small, regular financial decisions that will result in a change to long-term spending habits. On the other hand, the act of saving either by having cash in a bank or by experiencing significant savings on a product or a service

brings savers intense pleasure (Rick et al., 2007). The major objectives of this conceptual paper are:

- a) To apply 'nudge theory' to make the customers financially literate.
- b) To find out ways to increase customers' saving habit.
- c) To rationalize the significance of developing an app for banks.

2. Background and Literature Review

The linguistic meaning of 'Nudge' is to push someone or something with your elbow to attract the person's attention. In 2008, Richard Thaler and Cass Sunstein's book *Nudge: Improving Decisions About Health, Wealth, and Happiness* revealed 'nudge theory' in which they claimed that there is an auxiliary determinant that enables the organization or individual to be both paternalist and libertarian (Cartwright & Hight, 2020; Menard, 2010). Instead of ordering people around or leaving them to behave in self-defeating ways, the state can nudge them into behaving sensibly. Menard (2010) discussed in his study, libertarian paternalism enables players in choosing opt-out options by whistle blowing to certain noxious practices as they can choose best alternatives.

According to Koshmarov (2019), libertarian paternalism is the system of 'turbo regime' that helps to harmonize the society's overtime, to hold over consumption, and to invest more in savings. Thaler and Sunstein (2008) defined their concept as a nudge, as we will use the term, is any aspect of the choice architecture that alters people's behaviour in a predictable way without forbidding any options or significantly changing their economic incentives. To count as a mere nudge, the intervention must be easy and cheap to avoid. Nudges are not mandates. Putting fruits at eye level counts as a nudge. Banning junk food does not. One 'solution' might be to nudge a little more firmly. Making fruits cheaper and chocolate cake more expensive could be seen as a 'trivial cost' to induce behaviour change (Brown, P., 2012).

In the early 1990s, the cleaning manager at Amsterdam's Schiphol Airport was trying to diminish 'spillage' around urinals. He set on etching images of flies on the urinals near to the drain. He tried not to spoil people's sentiments rather make them aware and fix their minds during urination. As was said in the Work magazine in 2013, "a fly may have unsanitary connotations, but that is exactly why nobody feels guilty aiming at it!" (Thaler and Sunstein, 2008). As such nudge helps to alter people's behaviour predictably without forbidding any options or significantly changing their economic incentives.

According to Furnham (1999), people's saving tendency proportionately increase if they receive more money or spend less than the total amount of money saved earlier. In this connection, a high level of dissatisfaction about meeting financial goals provides opportunities for banks that help people manage their own money better (Chavali, K., 2020; Wijland & Hanseen, 2015). Understanding customers' value perceptions and users' behaviours is seen as essential in a service context like m-banking if a further value is to be created to retain young customers (Laukkanen, 2007). Making the right decisions is recognized as contributing to young people's future well-being. (Altman, 2011).

Wijland and Hanseen (2015) consider that reframing consumer engagement problems as behavioural ones, marketers, and app designers can attempt to influence consumers' behaviour, while marketing strategy can be designed to change behaviour via a series of small nudges. Some behavioural economists have proposed nudges such as giving people information about their neighbours' energy usage as tools for reducing energy consumption (Schultz et al., 2007). Worth to mention an analogy of Nudge Banking is Nudge Apps of HSBC which saved retail customers' over GBP 100 million by automatically signing customers up to text message alerts to tell them if they were over their agreed lending limits. Customers have saved approximately GBP 85 million from fees for exceeding their overdraft limits and the amount for the period only between Christmas and New Year is approximately GBP 800,000. Through transparency and democratic control, institutions rely on behavioural science to improve people's decisions through small changes in the environments within which people make choices (Ivanković & Engelen, 2019; Schmidt, 2017).

A new way of banking could be 'nudge' banking that promises significantly to facilitate customers in achieving their long-term financial goals with the help of a few gentle 'nudges'. A nudge can come in many forms in private banking. Sometimes it is about providing the customer choices with more information that prevents information asymmetries (Bucher et al., 2016). For instance, letting people know what other people do and another kind of nudge is making more socially desirable options. One example of this advocated by Thaler and Sunstein (2008) in their book *Nudge* and adopted by the Obama campaign, to which Thaler and Sunstein were informal advisers, automatically enrolling people in a pension plan. Such schemes have been proven to raise the savings rate. In the social context, recognizing the benefits of applying Nudge theory, President Obama informally inducted Thaler and Sunstein, the authors of the book called *Nudge*, as his informal advisors to initiate enrolling mass people in Obama pension plan that in time proved to be the cause of the rise in savings interest rate.

According to the life-cycle theory of standard economics (Modigliani, 1966) people should carefully optimize their lifetime consumption and savings to achieve a roughly balanced flow of consumption over time. If this theory is correct, one would expect the pension crisis to be self-correcting: people would reduce their spending and increase their savings in response to any future shortfall. When it comes to under-saving, behavioural economics provides better explanations for the problem than does traditional economics (Loewenstein & Chater, 2016). 36% of retirees say that starting to save earlier would have improved their standard of living in retirement. Not starting to save early enough was amongst the top reasons for retirees (38%) and pre-retirees (38%) feeling insufficiently prepared for a comfortable retirement. Retirement can seem a long way off when you are young. Nevertheless, it is crucial to start making retirement plans as early as possible (Hongkong and Shanghai Banking Corporation Report, 2016). Cai (2020) stated in his research that in the current sales-driven culture in banks, bankers are motivated to nudge customers, but still there are inherited conflict of interest with customers.

Many researchers already suggested to implement nudge theory to strengthen banking network and financial institutions (Cai, 2020; Ma et al., 2018, Kankane, DiRusso, & Buckley, 2018; Wijland, Hanseen, & Gardezi, 2016; McDaid & Merkur, 2014). Within banking system, banks might convert material money to digital rights such as adopting block chain technology that enable to manage the customer information through real-time methods to share the data with other banks (Wang, Ma, Dai, Imran, & Wang, 2020). Marx and Turner (2019) have stated in their research that student loans have effects on educational accomplishment and nudges can influence student behaviour by corresponding information in a way that is more significant than other methods used to communicate the same information.

3. Nudge Products Offered by Financial Institutions

Nudge Banking and HSBC Apps

A Nudge app was developed by the British financial institution HSBC. The app has 38 types of short messages or 'nudges' which users may receive on their phones, such as the day of the week when they spend the most on groceries or the amounts generally spent by people of the same age and in the same income bracket. In such a way users may discover that they spend at restaurants more than their peers and that it is possible to save money if they cook more often at home; or that they spend approximately GBP 200 per month in their favourite coffee shop.

Nudging Banking and P&N Bank's Pay and Save Service

P&N Bank, a financial institution in Australia, nudges their customers to save the tiny fraction of penny by default option. For example, every time a customer spends an amount on a card or Internet banking which is not around the dollar, the bank automatically siphons that change into savings accounts for the customer so that they may use that in rainy days.

Nudge Banking and BNZ YouMoney Apps

Bank of New Zealand (BNZ) displays in their website or apps 'Managing your money' to budget their customers how to protect their money for the future. They believe that debt is a fact of life and at the same time, the bank helps its customers with proper planning so that they may do both 'Debt' and 'Save Money'.

4. Explicating the Choice of Nudge Theory

Incorporating Nudge theory could be beneficial in dealing with business management and corporate culture, as it also relates to health and safety issues of employees. Many renowned tech companies of the USA lead the way to incorporate nudge theory in their corporate surroundings. These corporate bodies are benefitting from practicing nudge theories in various forms to increase production capabilities and human aspects of the employees. In recent times, companies are showing much interest in rendering 'nudge management' to facilitate higher productivity for white-collar employees.

The nudge option may create a new formation to value their customers' expectations in commercial banks and financial institutions. Researchers are working on data management and data privacy in financial industry considering nudge (Wang et al., 2020; Ma et al., 2018), password management (Kankane, 2018), mobile nudging and banking apps (Wijland et al., 2016), investor decision making (Pilaj, 2017). Most interestingly World Bank nudges farmers to create awareness while using fertilizer (Duflo, Kremer, & Robinson, 2011). Dur (2021) with other researchers examined whether a social norm nudge can persuade the households to save more and a nudge that triggers savings intention is expected by people. Technological advancement has led banking customers to anticipate user-friendly excess but banks need to be more cautious that they need to help customers meet their own financial goals.

4.1 Organizational Application of Nudge Theory

4.1.1 Determination of Political Policy

Till today, the application of nudge theory has been observed in the United States, UK, and Australia. The former US President Barack Obama adopted this theory for setting up domestic policy and the former Prime Minister David Cameron also embraced the "Nudge Theory at the British Cabinet Office. In Australia, the government of New South Wales established a behavioural insights community of practice (Freibichler & Wolfgang, 2017) as part of nudging for social welfare.

4.1.2 Business Management

Incorporating Nudge theory could be beneficial in dealing with business management and corporate culture, as it relates to health and safety issues of employees. Many renowned tech companies of the USA lead the way to incorporate nudge theory in their corporate surroundings. These corporate bodies are benefitting from practicing nudge theories in various forms to increase production capabilities and human aspects of the employees. In recent times, companies are showing much interest in rendering 'nudge management' to facilitate higher productivity for white-collar employees (Ebert et al., 2017).

4.1.3 Banks and Financial Institutions

In private banking and financial institutions, the Nudge option creates a new formation to value their customers' expectations. Technological advancement has led banking customers to anticipate user-friendly access but banks need to be more cautious that they need to help customers meet their own financial goals. Several authors found that various forms of nudging (i.e., incentives) that trigger the largest behavior change could help people to stick to their financial goals, and financial institutions can play an important role in helping their clients follow their honest intentions in this regard (Vlaev et al., 2019; Dolan and Metcalf, 2008). Financial

sector has already been concerned about 'nudges' that address behavioural finance by saving money to improve financial comfort through the sound understanding of economic behaviour in market (Puaschunder, 2020).

5. Scope and Importance of Nudge Banking

A new way of banking, "nudge" banking, promises to significantly facilitate customers in achieving their long-term financial goals with the help of a few gentle 'nudges'. A nudge can come in many forms in private banking. Sometimes it is about providing the customer with more information that prevents information asymmetries. One example of nudge is letting people know what other people do and another kind of nudge is making more socially desirable options. An example of this, advocated by Thaler and Sunstein in their book *Nudge* and adopted by the Obama campaign to which Thaler and Sunstein were informal advisers, is automatically enrolling people in a pension plan. Such schemes have been proven to raise the savings rate.

6. Research Methodology

This conceptual paper has adopted an observable focal phenomenon research methodology (Jaakkola, 2020). We expect that this research approach will provide preliminary insights to understand nudge theory adaptation in developing banking products. As such the managers of the banks will get long-term benefit for retaining customers' loyalty and trust which trigger customers' saving habits as nudged by the bankers.

To validate the ideas of nudge banking, we interviewed two different focus groups. The members of the focus groups included existing and prospective customers of the banks and senior bankers who have experiences of more than 10 years, bank consultants, ex-bank officials and academicians (Appendix -I). In the first group, there were 78 participants; 66 of them were males while 12 were females. The first FGD was completed in 5 sessions (first 4 sessions consisted of 20 members and 5th session consisted of 18 members). In one FGD, 12 members are sufficient (Kruger, 1994). The participants were selected from 14 public and private commercial banks who were invited to share their opinions, discuss the study topic and respond to the open-ended questions. The FGDs were conducted in the first quarter of 2020. Respondents in the second group were only 20 who were the accountholders. We also interviewed some future customers of banks to scrutinize their expectation regarding banking digital products in connection with the pandemic situation. The second group was interviewed categorically. The questions were open-ended and the respondents were encouraged to express their points of view that may be arising in their minds during the interview in presence of the facilitators. The study also uses secondary information from publications, journals, annual reports from different public and private banks, Bangladesh Bank, Ministry of Finance (MoF), International Monetary Fund (IMF), World Bank (WB), Asian Development Bank (ADB), etc.

7. Conceptual Framework

Most customers are not good at managing a budget or personal finance. Unwillingly, they are habituated to over-spend every month. In this regard, Veblen (1994) assured that consumers are culturally programmed to spend money, and have a tendency for emulating others. Customers tend to revert on some discretionary expenses when informed that they exceed their usual level of spending or if alerted that their balance may not be sufficient to cover upcoming expenses (Trigg, 2001; Bagwell et al.,1996). All respondents of this study have agreed to welcome the initiatives from the banks that help to turn spending habits into saving habits (Appendix I). Usually, banks provide credit cards too easily without consideration of whether they can really handle the amount of credit cards or given loan (Scott, 2007; Weller, 2007). However, banks can influence their customers more on savings than spending.

If banks help to track the customers' monthly budget by giving more information, the customers will rely more on banks for any financial advice and learn to manage their debt and avoid unaffordable debts. This initiative from a bank enhances customers' confidence level and trust.



Figure 1: Conceptual Framework of 'Nudge banking' for Customer Repurchase Intention

Libertarian paternalism directs to the heuristic psychological research for irrationality of decision makers (Barton & Grüne, 2015). According to them, nudging might be reasonable because it helps the mediator understand their own decision including financial decision (Hertwig & Grüne, 2021; Krpan & Urbanik,

2020). There are several areas that libertarian paternalism insists in decision making such as the trade-off risk investors (Bradbury, Hens, & Zeisberger, 2019), entrepreneurs (Sugden, 2018) and financial decision makers (Hertwig & Grüne, 2021). Hence, after COVID-19 pandemic scenario, a financial institution is resilient to provide financial services to their customers through digital platform and in this regard retaining customers' trust and loyalty on this platform is a key challenge for the banks (Kaur, Ali, Hassan, & Al-Emran, 2021; Ananda, Devesh, & Al Lawati, 2020; Herjanto & Amin, 2020). Several researchers like Issock et al., (2020) demonstrated that the customer trust is the pillar for sustainable behaviour change. So, gaining the customer trust banks might experience the procedure of customer behavioural change through nudging (Fig. I). Customer trust plays a mediating role to boost up purchase intention (Yu, Han, Ding, & He, 2021; Herjanto & Amin, 2020; Chen & Chen, 2017).

Constructs	Attributes	Source
Perceived Economic Incentives (IV)*	- Intrinsic & Extrinsic	Frederiks et al.,
	Rewards	2015
	- Financial Literacy	Lindbeck, A.,
		1997
Perceived Use of Technology (IV)*	- Availability Bias	Yamabe et al.,
	-Ubiquitous Payment	(2009).
	- Instant Messaging (IM)	Sohn, M. and Lee, J., 2007
Perceived Customer Engagement	- Consumer Habit	Quinn et al.,2010
(IV)*	- Consumer Dependence	
Thrift-Saving Habit (DV)**		Fisher, P.J. and Anong, S., 2012.

Table 1: Constructs and	l attributes for building	customer trust through	nudge banking

*IV-Independent Variable, **DV- Dependent Variable

8. Discussion

The main objective of this paper is to investigate the reasons behind the adoption of nudge banking and the expected obstacles. The results suggest that customers' expectations and customers' economic behaviour are the main factors that are responsible for the adoption of nudge banking. This application may build trust and compassion between banks and customers by reckoning information asymmetry if any. A preliminary inquiry through FGDs was launched into whether this concept can serve as a stepping stone for defining a new value system easily applicable in the finance industry. The participants, i.e. bank clients, of the study opened savings accounts in different banks, but 65% want to switch the banks because of poor savings products. 80% of bank managers think that their customers are more cynical because of the existing products and services of the banks. They, i.e. the customers think that banks are very much commercial and do not have a feeling for their customers in terms of the over-spending habit. The clients often emphasize the necessity of building the kind of savings habits that lead to a high saving balance. The clients and the bank managers agreed if banks introduce any scheme or digital apps for removing the temptation to spend more money through popping up a message on client's mobile, it will be more helpful for them to keep the track record of their shopping or other expenditures. The following recommendations are suggested from this research:

- a) The commercial banks need to do further research to cope up with the nudge theory that provides clarity to debates such as ethical appropriateness, effectiveness, and public approval.
- b) The central bank may assist banks to help customers to grow savings habits through the creative application of mobile technology. These products or banking apps will generate self-sustaining movements and lower volatility into the financial institution.
- c) Developing budgeting apps for customers to give soft tips for savings, rather than instruct their customers to pay-off debt or purchasing more through discounted card offer.
- d) Using technologies to improve customer experience is helpful; if we apply the theory for well-intentioned nudging, banks may change the behavior and personality of borrowers also. Nudge Banking App will send an alert when customers spend more than usual and this will help customers adjust their spending behavior.
- e) It can be associated with the agent banking, mobile banking, and other financial services.

To summarize, the nudge banking is a function of three constructs (perceived economic incentives, perceived FinTech Information and perceived use of technology adaptation) each of which may be affected by a bank's encouragement to the customer's sociological engagement towards saving habit. We should emphasize on behavior changes for a specific group of customers who are 'thrift saver'. Technological advancement is widely adopted in many parts of the world as many researchers agreed that pervasive technologies change the consumer behavior. To develop a sustainable Nudge Banking System (NBS) through adaptation of pervasive technology is more rational approach while delivering financial products and services. If the clients are enrolled by a default option to save their money in the moment of unnecessary spending, it will increase banks' trustworthiness, transparency and turn a good savings habit of the customers. This is vital both to the security of our clients and to the profitability of private banks.

Economic incentives are a powerful way of persuading consumer behaviour in beneficiary manner (Yamabe et al., 2009). Many researchers argue that economic incentives actually restrain intrinsic motivation, the spontaneous, internal experiences that accompany behavioural change (Yamabe et al., 2009; Kane et al., 2004). Developing realistic economic incentive systems for the bank customers certainly assist to retain customer trust and trigger saving habits as the financial organisations want. Yamabe (2009) with his research team boldly suggested that a well-designed incentive system can realize large incentivizing effects with less cost and thus results in consumer behaviour changes. Hence, in this paper, we emphasise on behaviour changes for a specific group of customers who are 'thrift savers.'

Customer Engagement (CE) has significant effects on habit change. For example, CE changes the consumption habit and CE encourages saving more for achieving status (Wood & Neal, 2009). Furthermore, using the consistency of actions towards customers in regular basis may change the habits (Quinn, Pascoe, Wood, & Neal, 2010). Nudging customers also develop consumer dependence. Dependent customers enjoy additional benefits at their present providers and more likely they are encouraged to expand business (Henderson, Steinhoff, & Palmatier, 2014).

Technological advancement is widely adopted in many parts of the world as many researchers agreed that pervasive technologies change the consumer behaviour (Zhang & Kizildag, 2018; Cleland, Nugent, & Lee, 2016; Arnrich, Mayora, Bardram, & Tröster, 2010; Yamabe et al., 2009). Ubiquitous interaction techniques give consumers real-time information and control over spending (Perakslis, Pitt, Michael, & Michael, 2014; Zipperer et al., 2013; Yamabe et al., 2009). To develop a sustainable Nudge Banking System (NBS) through adaptation of pervasive technology is a more rational approach while delivering financial products and services.

Saving habit is significant as to develop economic behaviour for maintaining living standard, tackling crisis moments by focusing on utilize cash than credit in case of spending (Anong & Devaney, 2010; Hira, 1987; Lee, Park, & Montalto, 2000). Hence, banks and financial institutions may play an active role to encourage consumer saving and educate about personal finance. In this connection, Frederiks et al., (2015) suggested for normative social influence, intrinsic and extrinsic rewards, and trust to play a vital role for behavioural change of customers.

9. Conclusion

This study shows the importance of 'Nudge Banking' as part of service marketing based on customers' decision-making processes in terms of money management. A bank's interface should offer its clients the opportunity for intuitive action via nudge banking that breaks off the everyday habits of financial decision making. People need benevolent support from their banks when making the right choices by avoiding irrational options. If the clients are enrolled by a default option to save their money in the moment of unnecessary spending, it will increase the banks' trustworthiness, transparency and turn a good savings habit of the customers. This

is vital both for the security of our clients and for the profitability of private banks. In Bangladesh, commercial banks may design their products and services by applying behavioural economics to change customers' behaviour and improve their financial wellbeing.

References

- Aden, A., & Bidarmanesh, K. (2020). Financial literacy: The importance of future orientation and financial literacy for the asset management of pension saving. Master's thesis, University of Agder.
- Ahrend, R., & Goujard, A., (2015). Global banking, global crises? The role of the bank balance-sheet channel for the transmission of financial crises. *European Economic Review*, 80, 253-279.
- Ananda, S., Devesh, S., & Al Lawati, A.M. (2020). What factors drive the adoption of digital banking? An empirical study from the perspective of Omani retail banking. *Journal of Financial Services Marketing*, 25, 14-24.
- Arnrich, B., Mayora, O., Bardram, J. and Tröster, G. (2010). Pervasive healthcare. *Methods of information in medicine*, 49(01), 67-73.
- Bagwell, L. S., & Bernheim, B. D. (1996). Veblen effects in a theory of conspicuous consumption. *The American economic review*, 349-373.
- Barton, A. and Grüne-Yanoff, T., 2015. From libertarian paternalism to nudging and beyond. Review of philosophy and psychology, 6(3), pp.341-359.
- Baten, M. A., & Kamil, A. A. (2010). E-Banking of economical prospects in Bangladesh. *Journal of Internet Banking and Commerce*, 15(2), 01-10.
- BNZ. (2012). Idea to market –Design document. In: F. Gardezi (ed.) Starting Out Experience. Marketing report ed. New Zealand: *Bank of New Zealand*.
- Boubakri, S., Couharde, C., & Raymond, H. (2016). Effects of financial turmoil on financial integration and risk premia in emerging markets. *Journal of Empirical Finance*, *38*, 120-138.
- Bowen, T.R., Chen, Y., & Eraslan, H. (2014). Mandatory versus discretionary spending: The status quo effect. *American Economic Review*, 104(10), 2941-74.
- Bradbury, M.A., Hens, T. and Zeisberger, S. (2019). How persistent are the effects of experience sampling on investor behaviour? *Journal of Banking & Finance*, 98, 61-79.
- Brown, P. (2012). A nudge in the right direction? Towards a sociological engagement with libertarian paternalism. *Social policy and society*, *11*(3), 305.
- Bucher, T., Collins, C., Rollo, M.E., McCaffrey, T.A., De Vlieger, N., Van der Bend, D., Truby, H. and Perez-Cueto, F.J., 2016. Nudging consumers towards healthier choices: a systematic review of positional influences on food choice. *British Journal of Nutrition*, 115(12), 2252-2263.
- Cai, C.W. (2020). Nudging the financial market? A review of the nudge theory. *Accounting & Finance*, 60(4), 3341-3365.
- Cartwright, A.C., & Hight, M.A., 2020. Better off as judged by themselves: A critical analysis of the conceptual foundations of nudging. *Cambridge Journal of Economics*, 44(1), 33-54.

- Chater, N., & Loewenstein, G. (2016). The under-appreciated drive for sensemaking. *Journal of Economic Behavior & Organization*, 126, 137-154.
- Chavali, K. (2020). Saving and spending habits of youth in sultanate of Oman. *Journal of Critical Reviews*, 7(2), 718-722.
- Chen, C.C.V., & Chen, C.J. (2017). The role of customer participation for enhancing repurchases intention. *Management decision*.
- Cherotich, K.M., Sang, W., Mutungú, C., & Shisia, A. (2015). Financial innovations and performance of commercial banks in Kenya.
- Chu, P.Y., Lee, G.Y., & Chao, Y. (2012). Service quality, customer satisfaction, customer trust, and loyalty in an e-banking context. *Social Behavior and Personality: An international journal*, 40(8), 1271-1283.
- Cleland, I., Nugent, C., & Lee, S. (2016). June. The ground truth is out there: challenges with using pervasive technologies for behavior change. In Pervasive health Conference 2016-Future of Pervasive Health Workshop. *Association for Computing Machinery*.
- Dan, O., & Loewenstein, Y., 2019. From choice architecture to choose engineering. *Nature Communications*, 10(1), 1-4.
- Dolan, P. and Metcalf, R., 2008. Comparing willingness-to-pay and subjective well-being in the context of non-market goods (No. 890). Centre for Economic Performance, London School of Economics and Political Science.
- Dudley, S.E., & Xie, Z. (2020). Designing a choice architecture for regulators. *Public Administration Review*, 80(1), 151-156.
- Duflo, E., Kremer, M., & Robinson, J. (2011). Nudging farmers to use fertilizer: Theory and experimental evidence from Kenya. *American economic review*, 101(6), 2350-90.
- Duong, D.H., & Swierczek, F.W. (2019). The impact of top management team and organizational culture on product/service and process innovation in Vietnamese banks. *Journal of Applied Finance and Banking*, 9(2), 55-68.
- Dur, R., Fleming, D., van Garderen, M., & van Lent, M. (2021). A social norm nudge to save more: A *field experiment at a retail bank*.
- Ebert, Philip, Freibichler, Wolfgang. (2017). Nudge management: applying behavioural science to increase knowledge worker productivity. *Journal of Organization Design.* 6, 4.
- Farinella, J., Bland, J., & Franco, J. (2017). The impact of financial education on financial literacy and spending habits. *International Journal of Business*, *Accounting*, & *Finance*, 11(1).
- Fisher, P.J., & Anong, S. (2012). Relationship of saving motives to saving habits. Journal of Financial Counseling and Planning, 23(1).
- Flatters, P., & Willmott, M. (2009) Understanding the post-recession consumer. *Harvard Business Review*, 87(7–8), 106–112.
- Frederiks, E.R., Stenner, K., & Hobman, E.V. (2015). Household energy use: Applying behavioural economics to understand consumer decision-making and behaviour. *Renewable and Sustainable Energy Reviews*, *41*, 1385-1394.
- Furnham, A. (1999). The saving and spending habits of young people. *Journal of economic Psychology*, 20(6), 677-697.

- George Loewenstein, & Nick Chater. (2017). Putting nudges in perspective. *Behavioural Public Policy*, 1(1), 26–53, Cambridge University Press. DOI:10.1017/bpp.2016.7
- Gigerenzer, G. (2015). On the supposed evidence for libertarian paternalism. *Review of philosophy and psychology*, *6*(3), 361-383.
- Hausman, D.M., & Welch, B. (2010). Debate: To nudge or not to nudge. *Journal* of *Political Philosophy*, 18(1), 123-136.
- Henderson, C.M., Steinhoff, L., & Palmatier, R.W. (2014). Consequences of customer engagement: How customer engagement alters the effects of habit-, dependence-, and relationship-based intrinsic loyalty. *Marketing Science Institute Working Papers Series*, 14-121.
- Herjanto, H., & Amin, M. (2020). Repurchase intention: The effect of similarity and client knowledge. *International Journal of Bank Marketing*.
- Hertwig, R., & Grüne-Yanoff, T. (2021). Boosting and nudging: Two paths toward better financial decisions. In financial education and risk literacy. *Edward Elgar Publishing*.
- Hosen, M., Broni, M.Y., & Uddin, M.N. (2020). What bank specific and macroeconomic elements influence non-performing loans in Bangladesh? *Evidence from conventional and Islamic banks. Green Finance*, 2(2), 212-226.
- HSBC prods customers to spend less and save. The Telegraph available at http://www.telegraph.co.uk/finance/newsbysector/banksandfinance/1210629 0/HSBC-prods-customers-to-spend-less-and-save-more.html.
- Issock, P.B.I., Roberts-Lombard, M., & Mpinganjira, M. (2020). The importance of customer trust for social marketing interventions: a case of energy-efficiency consumption. *Journal of Social Marketing*.
- Ivanković, V., & Engelen, B., 2019. Nudging, transparency, and watchfulness. Social Theory and Practice, 43-73.
- Jaakkola, E. (2020). Designing conceptual articles: Four approaches. *AMS Review*, 1-9.
- Kaczmarek, H. (2016). The potential of nudging and gamification for reducing energy demand in the residential sector.
- Kane, R.L., Johnson, P.E., Town, R.J., & Butler, M. (2004). A structured review of the effect of economic incentives on consumers' preventive behavior. *American Journal of Preventive Medicine*, 27(4), 327-352.
- Kankane, S., DiRusso, C., & Buckley, C. (2018, April). Can we nudge users toward better password management? An initial study. In Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems. 1-6.
- Kaur, S.J., Ali, L., Hassan, M.K., & Al-Emran, M. (2021). Adoption of digital banking channels in an emerging economy: exploring the role of in-branch efforts. *Journal of Financial Services Marketing*, 26(2), 107-121.
- Kim, J., Kim, S., Lee, J.S., Kim, P.B., & Cui, Y. (2020). Influence of choice architecture on the preference for a pro-environmental hotel. *Journal of Travel Research*, 59(3), 512-527.

- Koshmarov, M. (2019). Prospects of employment of artificial intelligence in propaganda. Singularity of Propaganda. Право и управление. XXI век, 15(4), 92-99.
- Krpan, D., & Urbanik, M. (2020). From Libertarian Paternalism to Liberalism: *Behavioural Science and Policy in an Age of New Technology*.
- Krueger R. (1994) Focus Groups, A Practical Guide for Applied Research, 2nd edn. Sage Publications, Thousand Oaks, pp. 36–45
- Kumar, D., Hossain, M.Z., & Islam, M.S. (2020). Non-performing loans in banking sector of Bangladesh: An evaluation. *International Journal of Applied Economics, Finance and Accounting*, 6(1), 22-29.
- Lawton, G. (2013). Are you being nudged? New Scientist, 218(2922), 32-36.
- Lindbeck, A. (1997). Incentives and social norms in household behavior. *The American Economic Review*, 87(2), 370-377.
- Löfgren, Å., & Nordblom, K. (2020). A theoretical framework of decision making explaining the mechanisms of nudging. *Journal of Economic Behavior & Organization*, 174, 1-12.
- Ma, S., Guo, C., Wang, H., Xiao, H., Xu, B., Dai, H.N., Cheng, S., Yi, R., & Wang, T. (2018, October). Nudging data privacy management of open banking based on blockchain. In 2018 15th International Symposium on Pervasive Systems, *Algorithms and Networks (I-SPAN)*. 72-79).
- Majumder, D. (2014). Non-performing loans in banking sector of Bangladesh: *Causes and effect.*
- Marx, B.M., & Turner, L.J. (2019). Student loan nudges: Experimental evidence on borrowing and educational attainment. *American Economic Journal: Economic Policy*, 11(2), 108-41.
- McDaid, D., & Merkur, S. (2014). To nudge, or not to nudge, that is the question. *Eurohealth*, 20(2), 3-5.
- Menard, J.F., 2010. A 'nudge' for public health ethics: libertarian paternalism as a framework for ethical analysis of public health interventions? *Public Health Ethics*, *3*(3), 229-238.
- Mgiba, F.M., & Madela, K. (2020). South African fuel industry, customer perceptions and satisfaction, and their impact on customer loyalty and repurchase intention. *Journal of Contemporary Management*, 17(1), 16-40.
- Mills, C. (2015). The heteronomy of choice architecture. *Review of Philosophy and Psychology*, *6*(3), 495-509.
- Mitchell, G. (2004). Libertarian paternalism is an oxymoron. Nw. UL Rev., 99, 1245.
- Moral, M. L. H. (2016). The banking sector of Bangladesh: A general discussion on ten years' achievements. *Bangladesh Journal of Political Economy*, 31(3), 79-122, <u>https://bea-bd.org/site/images/pdf/vol313.pdf</u>
- Murugiah, L., & Akgam, H.A. (2015). Study of customer satisfaction in the banking sector in Libya. *Journal of Economics, Business and Management*, 3(7), 674-677.

- Olayiwola, W.K. (2010). Practice and standard of corporate governance in the Nigerian banking industry. *International Journal of Economics and Finance*, 2(4), 178-189.
- Participants in a Focus Group. https://www.sagepub.com/sites/default/files/upmbinaries/24056_Chapter4.pdf
- Perakslis, C., Pitt, J., Michael, K., & Michael, M.G. (2014). Pervasive technologies: Principles to consider. *Ethics in Biology, Engineering and Medicine: An International Journal*, 5(1).
- Personetics to Showcase AI-powered Banking Applications of 'Nudge Theory' at Money 2020. https://personetics.com/personetics-to-showcase-ai-powered-banking-applications-of-nudge-theory-at-money2020/
- Pilaj, H. (2017). The choice architecture of sustainable and responsible investment: Nudging investors toward ethical decision-making. *Journal of business ethics*, 140(4), 743-753.
- Puaschunder, J. (2020). Behavioral Economics and Finance Leadership. *Springer Books*.
- Quinn, J.M., Pascoe, A., Wood, W., & Neal, D.T. (2010). Can't control yourself? Monitor those bad habits. *Personality and Social Psychology Bulletin*, 36(4), 499-511.
- Rahman, M.A., Asaduzzaman, M., & Hossin, M.S. (2017). Impact of financial ratios on non-performing loans of publicly traded commercial banks in Bangladesh. *International Journal of Financial Research*, 8(1), 181-188.
- Rajput, D.U.S. (2015). Customer Perception on E-Banking Service. *Pacific Business Review* International, 8(4), 1-3.
- Rasheed, H.M.W., Khalid, J., Khizar, H.M.U., Sajid, M., Shahid, M.N., Ahmad, M., & Khan, W.A. (2015). Factors affecting customer loyalty in banking sector: A study on banks in Bahawalpur (Pakistan). *International Journal of Accounting and Financial Reporting*, 5(1), 239-254.
- Rezina, S. (2020). Non-performing loan in Bangladesh: A comparative study on the Islamic banks and conventional banks. *Indian Journal of Finance and Banking*, 4(1).
- Rick, S. (2018). Tightwads and spendthrifts: An interdisciplinary review. *Financial Planning Review*, 1(1-2), 1010.
- Rifat, A.M. (2016). An analytical study of determinants of non-performing loans: Evidence from non-bank financial institutions (NBFIs) of Bangladesh. *Journal* of Business and Technology (Dhaka), 55-67.
- Roy, S., Dey, P.K., & Bhowmik, P. (2014). Non-performing loans in private commercial banks of Bangladesh: Macro-economic determinants and impacts. *The Jahangirnagar Journal of Business Studies*, *4*(1).
- Salman, M. (2021). Determinants of Non-Performing Loans of Commercial Banks in Bangladesh.
- Sarial-Abi, G., Gürhan-Canli, Z., Kumkale, T. & Yoon, Y. (2016). The effect of self-concept clarity on discretionary spending tendency. *International Journal* of Research in Marketing, 33(3), 612-623.

- Schmidt, A.T., 2017. The power to nudge. *American Political Science Review*, 111(2), 404-417.
- Schultz PW, Nolan JM, Cialdini RB, Goldstein NJ, Griskevicius V (2007) The constructive, destructive, and reconstructive power of social norms. Psychol Sci 18:429–433
- Schwartz, B. (2014, April). 'Why Not Nudge? A Review of Cass Sunstein's Why Nudge', The Psych Report. http://thepsychreport.com/essays-discussion/nudge-review-cass-sunsteins-why-nudge.
- Scott, R. H. (2007). Credit card use and abuse: A veblenian analysis. Journal of Economic Issues, 41(2), 567–574.
- Shao, L., You, J., Xu, T., & Shao, Y. (2020). Non-Parametric Model for Evaluating the Performance of Chinese Commercial Banks' *Product Innovation Sustainability*, 12(4), 1523.
- Smith, A.C., & Zywicki, T.J. (2016). Nudging in an evolving marketplace: How markets improve their own choice architecture. *In Nudge Theory in Action* Palgrave *Macmillan, Cham.* 225-250.
- Sohn, M., & Lee, J. (2007, April). UP health: ubiquitously persuasive health promotion with an instant messaging system. *In CHI'07 Extended Abstracts on Human Factors in Computing Systems*. 2663-2668.
- Sugden, R. (2018). Paternalism and entrepreneurship. *Review of Behavioral Economics*, 5(3-4), 243-259.
- Suoranta, & Mattila. (2004). Mobile banking and consumer behaviour: New insights into the diffusion pattern.
- Thaler, R.H., & Sunstein, C.R. (2003). Libertarian paternalism. *American* economic review, 93(2), 175-179.
- Thaler, R.H., & Sunstein, C.R. (2008). Nudge: Improving decisions about health, wealth, and happiness. New Haven (CT): Yale University Press.
- The future of retirement: A balancing act. (2015). HSBC Holdings plc, London, U.K.https://www.hsbc.ca/1/PA_ES_Content_Mgmt/content/canada4/pdfs/per sonal/for-balancing- act-global-report.pdf.
- Thedell, T.D., 2016. Nudging toward safety progress. *Professional Safety*, 61(9), p.27.
- Tightwads, Spendthrifts, Scott, I., Rick., Cynthia, E., Cryder., & George Loewestein. (2007) by Journal of Consumer Research, *Inc. 34*.
- Tiwari, K.K., Somani, R., & Mohammad, I. (2020). Determinants of loan delinquency in personal loan. *International Journal of Management (IJM)*, 11(11).
- Trigg, A.B. (2001). Veblen, Bourdieu, and conspicuous consumption. *Journal of* economic issues, 35(1), 99-115.
- Ullah, M.H., & Mia, P. (2020). How green is the green banking investment in Bangladesh?: A paradox of green banking practices. *In Global Approaches to Sustainability Through Learning and Education*. 270-280.
- Vlaev, I., King, D., Darzi, A. and Dolan, P. (2019). Changing health behaviors using financial incentives: a review from behavioral economics. BMC public health, 19(1), pp.1-9.

- Wang, H., Ma, S., Dai, H.N., Imran, M., & Wang, T. (2020). Blockchain-based data privacy management with nudge theory in open banking. *Future Generation Computer Systems*, 110, 812-823.
- Weller, C.E. (2007). Need or want: what explains the run-up in consumer debt? *Journal of Economic Issues*, 41(2), 583-592.
- Wijland., Hanseen., & Gardezi. (2016). Mobile nudging: Youth engagement with banking apps. *Journal* of *Financial Services Marketing*, 21(1):51-63.
- Wood, W., & Neal, D.T. (2009). The habitual consumer. *Journal of Consumer Psychology*, *19*(4), 579-592.
- Yamabe, T., Lehdonvirta, V., Ito, H., Soma, H., Kimura, H., & Nakajima, T. (2009). Applying pervasive technologies to create economic incentives that alter consumer behavior. *In Proceedings of the 11th international conference on Ubiquitous computing*. 175-184).
- Yordanova, Z. (2013). Innovative business bank products. *Trakia Journal of Sciences*. 11, Suppl. 1. 322-330.
- Yu, W., Han, X., Ding, L., & He, M. (2021). Organic food corporate image and customer co-developing behavior: The mediating role of consumer trust and purchase intention. *Journal of Retailing and Consumer Services*, 59, 102377.
- Zhang, T., Lu, C., & Kizildag, M. (2018). Banking "on-the-go": examining consumers' adoption of mobile banking services. *International Journal of Quality and Service Sciences*.
- Zipperer, A., Aloise-Young, P.A., Suryanarayanan, S., Roche, R., Earle, L., Christensen, D., Bauleo, P., & Zimmerle, D. (2013). Electric energy management in the smart home: Perspectives on enabling technologies and consumer behavior. *Proceedings of the IEEE*, 101(11), 2397-2408.

Appendix I: Focus Group Report

Summary of the Study:

The main aim of this study was to change the banking habit from traditional to digital platform and accustom to savings with bank through "Nudge Theory". Applying the Nudge concept, author tried to shed light on developing a simple mechanism of new-fangled options for bank's customer. In this study, focus-group discussion was considered as data collection procedure. This study showed the importance of 'Nudge Banking' as part of service marketing based on customer's decision-making processes in terms of money management. A bank's interface should offer its clients the opportunity for intuitive action via nudges banking that breaks off the everyday habits of financial decision making.

List of Outcomes:

- I. The Commercial Banks need to do further research to cope up with Behavioural Science "Nudge Theory" that provides clarity to debates such as ethical appropriateness, effectiveness, and public approval.
- II. The Central Bank may assist banks to help customers to grow savings habits through the creative application of mobile technology. These products or banking apps will generate self-sustaining movements and lower volatility into the financial institution.
- III. Developing Budgeting apps for Customers to give soft tips for savings, rather than instruct their customers to pay-off debt or purchasing more through discounted card offer.
- IV. Using technologies to improve customer experience is helpful; if we apply the theory for well-intentioned "nudging", banks may change the behavior and personality of borrowers also. Nudge Banking App will send an alert when customers spend more than usual which will help customers adjust their spending behavior.
- V. It can be associated with the agent banking, mobile banking, and other financial services.

Participants' Information:

The criteria for the members of the focus group were that existing and prospective customers of the bank and senior professional bankers who have experience at least for more than 10 years, bank consultants, ex-bank officials and academician.

SI.	Participants	No. of Participant
1.	AB Bank Limited	02
2.	BRAC Bank Limited	02
3.	ICB Islamic Bank	08
4.	Janata Bank Limited	08
5.	Jamuna Bank Limited	08
6.	United Commercial Bank Limited	02
7.	Modhumoti Bank Limited	03
8.	The City Bank Limited	03
9.	One Bank Limited	01
10.	Mercantile Bank Limited	10
11.	Prime Bank Limited	05
12.	Dhaka Bank Limited	05
13.	Sonali Bank Limited	05
14.	Bank Asia	04
15.	Bank Consultant, Ex-Bank Officials and academician	12
Total		78

List of Participants (for Focus Group Discussion)