

A case for building an Instant and Inclusive Payment System (IIPS) to support progress of the Bangladesh economy

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Abstract

The main objective of this study is to analyze the case for building a proposed IIPS (Instant and Inclusive Payment System) ¹ in Bangladesh. Hence, a diagnostic review of existing payment systems was done also to assess whether their performance was enough to meet the current and future demands of the economy; or whether implementing the proposed IIPS is required for balancing the progress of the economic development throughout the country. The data have been collected from both primary sources i.e. personal interviews and secondary sources. The experience of India, Thailand and the UK is used to justify the need for building an IIPS in the context of Bangladesh. This study highlights some concerns about the services, costs, and interoperability levels among existing DFS providers. I also consider the regulation and operation issues for making the financial inclusion meaningful. Finally, by taking cognizance of the features and recommendations mentioned below for establishing an IIPS in Bangladesh, I am humbly requesting the Government and Bangladesh Bank to consider the issue of building an IIPS as a part of implementing the SDGs by 2030.

Keywords: Drivers, considerations, Fast payment services, IIPS, Bangladesh

Standard JEL Classification Codes: C42, E42, E58

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Views expressed in this article are author's which do not reflect necessarily the views of the institution in which he works.

i. Introduction

The banking system acts as an intermediary for the transfer of fund from surplus units to deficit units of the different segments of the economy of the country, as such the economic activities have been recycled for the development and value of economy. The value has been created for both public and private sectors at large. The payment system infrastructure plays an important supportive role in the money creation process in the economy. The flow of money has been circulated by using banking sector platforms for a long time. The manual clearing system provided logistic support under the control of Bangladesh Bank before 2008. The manual system was not enough to meet up the market demands of the growing economy.

For ensuring the fast and secure money transfer and financial instruments, the Manual clearing system had been replaced by the Bangladesh Automated Cheque Processing System (BACPS) in 2010. Side by side, Bangladesh Electronic Fund Transfer Network (BEFTN) was introduced for debiting & crediting fund electronically on a limited scale among all participating banks since 2011. The national payment switch of Bangladesh (NPSB) had been established in 2012 to bring interoperability of card and online transactions among participating banks under the BB. The EMV Standardization process for cards and implementation of PCI-DSS compliant environment is under process. In 2015, BB started a new journey with the Bangladesh Real Time Gross Settlement (BD-RTGS) system for providing instant settlement of high-value transactions. Another significant development has been made in the field of digital banking in 2011. By using the service of mobile network providers, bank led mobile banking had been enacted. The mobile financial services (MFS) providers have extended their digital payment platform toward the mobile phone users through their agents. Mobile banking transactions are out of the purview of the existing electronic clearing system. The formalities for opening mobile banking accounts are easy. Mobile banking has reduced the need for using branch banking step by step. As such, mobile financial services are becoming popular. During the span of 12 years (2008-2020), the payment systems of Bangladesh have implemented different payment and settlement mechanisms to ensuring secure and quick payment to the targeted customer digitally under the different market segments.

The MFS providers are dealing only in retail transactions ^{III} i.e. P2P and some of the G2P services for social services and distribution of government safety nets. During the pandemic, the use of MFS has been increased gradually. But a significant amount of business transactions (wholesale transactions) in Bangladesh are still routed through a cheque clearing system even though gradual improvement of other digital payment systems like Electronic Fund Transfer Network, National Payment Switch, Real-Time

Gross Settlement system, and mobile Financial services are made. The satisfactory progress of card and ATM-based transactions are observed even during the pandemic situation. The safety and security of the above payments system have been maintained properly by the respective providers and Bangladesh Bank has also enhanced its supervision activities from time to time to ensure a level playing field among competitors and to reduce stability risk at the comfort level.

The whole economy of Bangladesh is cash-based. The electronic banking covers a small portion of transactions. The informal economy is dependent on cash but has contributed to providing significant employment to the economy. Electronic banking has not yet provided services to the customers satisfactorily and is also charging the high costs for each transaction. The publicity and reputation of MFS are in a primitive stage and even creating some moral hazards to the juncture of financial inclusion at the grass-root level. The high growth rate of Bangladesh's economy has been cut down due to the unfavorable effects of the pandemic. Bangladesh Government has a specific target to implement the SDGs by 2030 and to escalate to become a rich country by 2041, supported by continuing high growth rate together with balancing development needs. To achieve the goal, the various segments of the economy and the payments platforms need to integrate into a newer shape.

The present payment platform is not yet customized to deal with the proposed transactions to be aligned with the country's rapid growth due to some limitations. In that situation, the building of the proposed IIPS (*an instant, interoperable, real-time, immediate, rapid and around the clock on a 24/7 basis payment service providers which transmit fund instantly to the beneficiaries to be used by them suitably at anytime and anywhere*) by the Bangladesh Bank in coordination with the Government is one of the panaceas in line with implementing the SDGs under the NFIS and also to remove the existing shortcomings within the payment ecosystem. A comparative analysis of benchmark countries is given below to be used for expediting the initiative by the BB. As per Table 1, it appears that in terms of access to finance, mobile phones, and banking; the position of Bangladesh is below than other 3 countries. The success of those countries depends on the rapid implementation of fast payments² infrastructures, which all of them now have, whereas Bangladesh is in the primary stage together with facing some hassles yet to alleviate the fast payment or IIPS environment. The features and recommendations mentioned in this paper definitely will be helpful for the regulators if they desire to work on this issue.

• **Comparative analysis with countries that implemented fast payments services:
(Table – 1.0)**

Sl.	Indicators	India (2019)	Thailand (2019)	UK (2019)	Bangladesh (2019)
01.	GDP	\$2.875 tln	\$543.6 bln	\$ 2.83 tln	\$351.24 bln
02.	Income Category	Lower middle	Upper middle	High	Lower Middle
03.	Population	1.366 bln	69.6 mln	66.83 mln	166.5 mln
04.	Access to Mobile Phone	68.52%	92.3%	94.53%	54%
05.	Access to Internet	14.13%	54.1%	88.82%	28%
06.	Bank Account	79.87%	81.6%	96.36%	50%
07.	Branches per 1,00,000 adult	14.72	11.88	15.56	8.98
08.	Made or received digital payment in last 1 year	28.69%	62.3%	95.60%	34%
09.	Received government wages or transfer in account	13.06%	38.04%	75.51%	41%

Source: Resources | Fast Payment System (<https://fastpayments.worldbank.org/resources>); The Global Findex Database 2021(<https://www.worldbank.org/en/publication/globalindex/Data>); Bangladesh: internet penetration rate | Statista; GSMA-Achieving mobile-enabled digital inclusion in Bangladesh (<https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2021>); Bangladesh GDP - 2022 Data - 2023 Forecast -1960-2021 Historical - Chart – News (<https://tradingeconomics.com/bangladesh/gdp>); Bangladesh-Bank Branches Per 100,000 Adults - 2023 Data 2024 Forecast 2004-2020 Historical (<https://tradingeconomics.com/bangladesh/commercial-bank-branches-per-100-000-adults-wb-data.html>).

ii. Review of countries' experience of adopting fast payment services:

The World Bank Group (2020)⁴ has prepared a toolkit to guide different countries in customizing policies and existing models to implement fast payment systems (p1-19). This toolkit covers the experiences of implementing fast payment services by the 85 stakeholders around the world. Among them, we took the experiences of three countries for analysis purposes below:

The World Bank (2021)⁵ focuses in a case study of India (p1-52) on the issue of facilitating a fast payment network, RBI and the National Payments Corporation of India (NPCI), which started its journey as a separate institution in India in 2010, worked together for establishing an immediate payment service (IMPS) network by leveraging Smartphone technologies in a real-time 24*7*365 environment. Later on, In2016, RBI and NPCI came up with a convenient solution named Unified Payments Interface (UPI) within 9 months for establishing communication across different mobile banking applications of banks and also adding the option of interoperability. It carries out Bulk payments (e.g., salaries, etc.) by banks and Fin-Techs through APIs (such as Pay U, Cash-free, etc.) or file transfer. 40 percent of UPI transactions are from Merchant payments. The IPO of capital market and the foreign remittance of domestic leg is routed through UPI. The increased bank accounts were a key enabler of UPI with unique 15.96 crore users. The Interoperability between channels, participants, and payment instruments is the key. The ISO 8583 was adopted in IMPS for standardizing the communication format. Both IMPS and UPI have implemented two-factor authentication in line with RBI guidelines. The IMPS and UPI both are under the jurisdiction of The PSS Act, 2007 in India. The NPCI was a non-profit organization. The proper risk management and cyber security are duly ensured throughout the process.

As per case study of Thailand conducted by the World Bank (2021, p1-39)⁶, **Prompt Pay of Thailand** was launched in 2016 for providing a real-time electronic fund transfer operating system (24*7 bases). It is also used for social welfare transfers and tax refunds by the government. The ISO 20022 (for internal switch) and ISO 8583 (member banks) are applied. It provides deferred net settlement. Multiple aliases are supported here. Monetary Authority of Singapore (MAS) and the BOT are working together to link Pay-now and Prompt Pay systems to facilitate cross-border payments. Additionally, The Thai government and the BOT are working on the development of infrastructures, such as the National Digital ID and e-KYC. In 2019, Prompt Pay processed significant transactions. The Payment System Act B.E. 2560, which was announced in 2017, supports the activities of Prompt Pay. The prompt pay has adequate corporate governance with sound risk management. They have a window to mitigate credit and liquidity risks.

As per case study of UK conducted by the World Bank (2021, p1-36)⁷, **United Kingdom's (UK) Faster Payments Service (FPS)** provides real-time 24*7 payment services to individuals, businesses, and government agencies since 2008. FPS was formed under government guidance to reduce payment processing time to a single day. Side by side, the

industry subsequently improved its system to Near Real- Time payments (NRT). As a result, the Users can transfer funds via branch, internet banking, mobile banking and telephone banking. Currently, the FPS also supports standing order payment, forward dated payment, bill payment, bulk payment, and single immediate payments i.e., spontaneous payments on the part of the payer as use cases. The provisions for the Financial Service (Banking Reform) Act 2013; Banking Act 2009; the Competition Act 1998; the Enterprise Act 2002 and Payment Services Regulations (PSRs) 2017 have created sufficient ground to conduct a fast payment network in UK. Bank of England oversees the payments system. On the other hand, in 2015, Payment Systems Regulator (PSR) was formed as an independent regulator to promote competition and enhance innovation in the payments landscape in the country. Bank of England, Financial Conduct Authority, and Payment Systems Regulator came under a Memorandum of Understanding (MOU) for providing the roles and responsibilities of individual entities for payments regulation in the UK.

iii. Review of regulations for payment systems in Bangladesh:

Bangladesh Bank Order-1972 is the main legal foundation to operate the payment and settlement system (Bangladesh Bank, n.d.)⁸ safely and securely. The payment system department of Bangladesh Bank regulates and supervises the activities of different segments of payment systems of Bangladesh. To enact a National Payment System Act in Bangladesh is in underway. There are some other relevant laws such as the Negotiable Instruments Act, 1881; Bankers Book of Evidence Act 2021; The Banking Companies Act, 1991; Money Laundering Prevention (Amended) Act, 2015; Information and Communication Technology Act, 2006; The Bankruptcy Act, 1997; The Foreign Exchange Guidelines, Volume 1 & 2; Foreign Exchange Regulations Act, 1947; The Bangladesh Telecommunication Act, 2001; Anti Terrorism Act'2009; Competition act, 2012 and other related banking laws has been updating time to time for ensuring proper legal backing of a sound electronic payment ecosystem all over Bangladesh.

The feature of **Bangladesh Automated Cheque Processing System (BACPS)** was mentioned in the write up of Ismail, Kazi Mohammad (2016, PPT 1-15)⁹. The rules of BACPS has been updated lastly vide PSD circular No. 07/2019 dated 05 December, 2019 as a part of enacting a newly upgraded BACPS system including a FC clearing system. Learning BD School (2018)¹⁰ mentioned an overview of **Bangladesh Electronic Funds Transfer Network (BEFTN)**, it is operated under BEFTN Operating Rules Version 2.0 enacted vide PSD Circular No. 08/2020 dated 28 October'2020. **“Regulations on Electronic Fund Transfer 2014”** enacted for transferring fund electronically by using different channels.

There was a revolutionary step by the Bangladesh Bank to formulate the **“Bangladesh Payment and Settlement System Regulations, 2014”** by replacing **“Bangladesh Payment and Settlement System Regulation, 2009”**. Bangladesh Bank (n.d.)¹¹

mentioned the feature of NPSB in its website. **The guideline for the National payment Switch Bangladesh (NPSB) logo** vide PSD circular letter no. 01/2019 dated March 11, 2019 for effective use of logo at NPSB designated ATM Booths, POS terminals, Digital display, and all proprietary cards. Bangladesh Bank (n.d)¹² also discussed the issue of RTGS clearly. **Bangladesh Real-time Gross Settlement (BDRTGS) System Rules** were issued in September 2015. Business haunt (2022)¹³ has pointed out the importance of MFSPs in Bangladesh. **The MFS Regulations 2018** was enacted later on by replacing the previous guidelines. **The Payment Service Provider (PSP) and Payment System Operator (PSO) licenses** have been awarded by Bangladesh Bank as per provisions contained in "Bangladesh Payment and Settlement Systems Regulation-2014 (BPSSR-2014)". **Regulatory FinTech Facilitation Office (RFFO)** was established in Bangladesh Bank in October 2019 to review the regulation related to Fintech.

iv. Limitations and challenges in the existing system:

From the survey and from the secondary sources i.e. newspapers, journals, websites, and other related blogs, the following limitations and challenges in the existing system were found:

- Lower access to bank accounts (50%) than expected like in India, Thailand and the UK
- No interoperability
- Monopoly and high charges
- High infrastructure cost
- Cyber threat
- Cash dependent economy
- Check based transactions
- Lack in products
- Lack in oversight
- The existing switch is clumsy to extend or not feasible to be customized with innovative technology or new API
- Lack of implementing the International messaging standards
- Poor governance and Risk Management.
- Lack of agile mindset of regulators, operators, participants, and end- users to adjust swiftly to new developments

v. Objectives to set up an IIPS:

The World Bank Group (2021, p 1-18)¹⁴ has clarified the objectives to set up an IIPS clearly. Before choosing the objectives, for the sake of the stakeholders, a short picture of the market share for the payments system in Bangladesh is given below:

Dynamics of Market share of Payment services in Bangladesh

Table 2.0 - value of transactions (in %)

Time	RTGS	BACPS	BEFTN	NPSB	MFS
2016-17 Q2	32.05	56.68	3.04	0.23	8.00
2016-17 Q4	41.06	48.24	3.08	0.24	7.39
2017-18 Q2	46.48	43.36	2.96	0.26	6.95
2017-18 Q4	5.34	76.02	5.76	0.50	12.39
2018-19 Q2	29.14	56.51	4.33	0.41	9.60
2018-19 Q4	29.18	55.34	4.81	0.51	10.15

Source: Payment Systems Quarterly Trend, July 19 (<https://www.bb.org.bd/fnansys/payments/quarterlyjuly19.pdf>).

Table 3.0 - Number of transactions (in %)

Time	RTGS	BACPS	BEFTN	NPSB	MFS
2016-17 Q2	0.020	1.38	0.87	0.70	97.04
2016-17 Q4	0.034	1.18	0.97	0.75	97.06
2017-18 Q2	0.053	1.14	0.98	0.96	96.86
2017-18 Q4	0.030	1.02	1.11	1.01	96.82
2018-19 Q2	0.048	0.98	1.02	1.00	97.02
2018-19 Q4	0.063	0.86	1.44	1.18	96.46

Source: Payment Systems Quarterly Trend, July 19 (<https://www.bb.org.bd/fnansys/payments/quarterlyjuly19.pdf>).

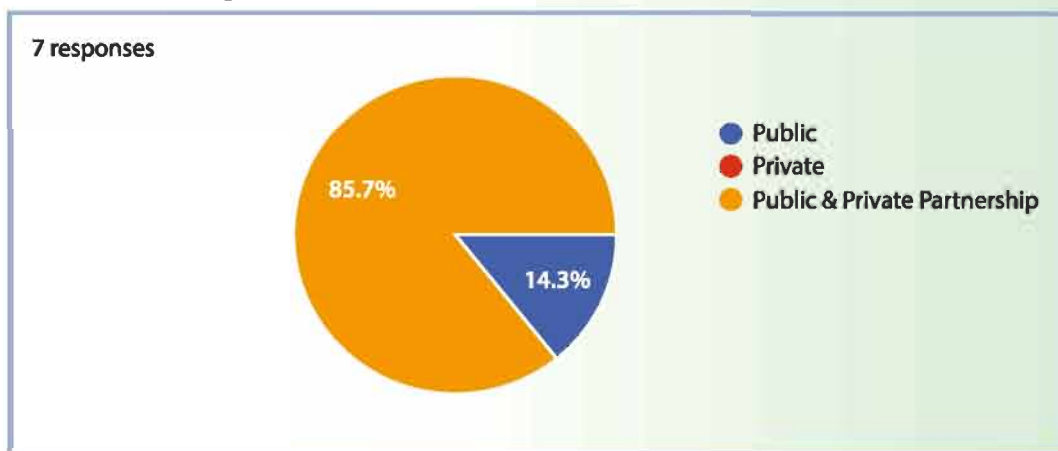
- It appears from the above 2 tables that in terms of the number of transactions, 96.46 percent (2018-19) are routed through the MFS providers. But in terms of volume (BDT), RTGS and BACPS cover the market share of 29.18 percent and 55.34 percent respectively during 2018-19 Q4. At this stage, the share of MFS is only 10.15 percent. **So, the first goal of an IIPS is set up to decrease volumes of retail payments (Committee on Payment and Settlement Systems, 2012, p3)³ initiated via cash and cheques and consequently, increase volumes of retail payments initiated by the IIPS providers.**
- MFS is becoming popular in Bangladesh, but the cash-out charges are very high relative to other countries i.e. India and China, and also than expectations. The 15% VAT is also a concern. The high rates discourage consumers from using MFS at the grass-root level. So the 2nd objective for the set up of an IIPS is to reduce **electronic retail payment costs on the initiation and acceptance side** by creating affordable payment clearing/settlement services for PSPs to the end- user and to increase the number of merchants accepting electronic payments.
- **The third objective is to set up payments related open APIs and aliases like IMPS and UPI in India have done.** The above methods are indicated as the cost of fund transfer through United Payment Interface (UPI) is minimal. UPI supports a wide range of mobile-based apps for small payments. UPI ensures security by not using individual bank account numbers or debit/credit-card related data. It provides an Id or Virtual Payment Address (VPA) for payments purposes. The VPA is simple and easy to remember. It does not require any registration. It is more advantageous than the mobile wallet. Other services i.e. requests for call-back from customer care, blocking/unblocking of debit cards, applying for loans and credit cards, access to customized account statements, making standing instructions for scheduled payments, sharing transaction details, and a seamless shopping experience with partners were performed through UPI (RBL Bank, (2020)¹⁵. Immediate Payment Service (IMPS) is a service that enables to make payments using MMID or mobile or Aadhaar number, consists of benefit mentioned in Bank Bazaar (n.d.)¹⁶, connect quickly to bank accounts for completing payments. It has no minimum amount limit on transactions of funds. IMPS are safe, secure, and cost-effective (indiafilings, n.d.)¹⁷. In Bangladesh, banks and MFSPs use their API for processing payments but those are not bonafide stated above. So, the above objective is to be selected for the betterment of the existing eco-system.
- Existing level of access to bank accounts in Bangladesh is only 50 percent, whereas it is 79.87 percent in India, 81.6 percent in Thailand, and 96.36 percent in the UK. **So, the fourth objective is set up to increase access to transaction accounts for individuals and businesses and to the increased number of physical points and access channels that offer financial services by extending financial inclusion.**

- The government and Bangladesh Bank are on the right track to interoperability of digital transactions among MFS providers in real-time and at a lower cost. Business Outlook (2021)¹⁸ published the benefits of Interoperable Digital Transaction Platform (IDTP), an initiative of the government of Bangladesh. A mobile App for the proposed Interoperable Digital Transaction Platform (IDTP) has been developing in the meantime. Ali, Khondoker Shakhawat (2021)¹⁹ has mentioned some factors to bring interoperability among MFS providers. Registration of each customer with the platform, validation with NID system, authentication, competitiveness, the capacity of the key MFS providers, customer awareness, diversification of products, preparedness of the regulatory authority, data security, acceptance testing, upgrading of the system of various providers for integration with the IDTM are also challenging needs to be resolved by enacting an new interoperable system, switch and governance under IIPS (fifth objective) following Business Outlook (2021)¹⁸ & Ali, Khondoker Shakhawat (2021)¹⁹.

vi. Results of Interviews: Would an IIPS support balanced growth in Bangladesh's Economy?

- Interviews were conducted on the above issue among a limited target group including think tank leaders, CEO of Fintech/ digital technology- related companies, and members of Digital finance Forum, Bangladesh. The sample was limited because the issue of IIPS is a new concept and in our country, most of the people are not aware of this technology except small segments that are acquainted with this concept recently by reading related materials. In total, seven persons responded to the questionnaire. Among respondents, two CEOs and one founder were from digital technologies related companies, two were bankers, one was a distinguished Professor, and rest one was a representative from a regional business have participated in the interview process. The sample covers significant segments from the pool who have sound knowledge about this new innovation and helped the survey to be completed successfully Their responses are summarized below sequentially:
1. **Regarding the existence of a use case for the Instant and Inclusive payment System (IIPS) in Bangladesh:** 2 respondents answered 'no' in terms of the above question, whereas 5 respondents said yes. They said that any digital transmission to and from any account through PSP, Blaze software, an initiative of Sonali Bank Plc., Home Pay, and ITCL in which the expatriates can send money to the country in just five seconds mentioned in the (Bangladesh Sangbad Sangstha, 2021)²⁰, interoperability between bank accounts and wallets, online payments, peer-to-peer payments, loan disbursements, etc are the use cases of IIPS. Their answers mainly highlighted our existing system, which differs from the IIPS.

2. **Regarding the benefit of IIPS for establishing interoperability among MFS providers in Bangladesh:** All the 7 respondents have supported the benefit in principle.
3. **Regarding the possibility of IIPS delivering low-cost services by creating more products in Bangladesh:** Among 7 respondents, 6 respondents said yes to the above question.
4. **Regarding the governance and ownership structure of IIPS in Bangladesh - Public or Private or Public & Private Partnership:** As per the pie chart, 14.3 percent of respondents supported public ownership, whereas 85.7 percent have accepted the public-private partnership proposal for governance or ownership structure of IIPS in Bangladesh.



5. **Regarding hampering the existing growth of MFS providers for switching to IIPS:** 4 respondents commented 'no' on the issue of hampering the existing growth of MFS providers. They also urged that IIPS creates positive competition in the market and also reduces anti-competitive practices. 1 respondent argued 'yes' to some extent and another respondent referred the issue to the market decision on which solution is to use.
6. **Regarding the risk that a common scheme and switch (IIPS) may damage the existing setup of MFS providers and recovery planning in case of loss:** 1 respondent commented that there is an adjustment required to make the whole process commercially viable with the help of the market mechanism. Other respondents have acknowledged the temporary loss but supported the decision for the sake of the greater interests of the country and also for lowering the cost levels. 3 respondents said 'no' on the issue. Other respondents are in favor of introducing digital lending (like nano loan) for helping MFIs to provide loan disbursement & loan payment by using this system. Other respondents emphasized that the market participants (end customers, merchants,

fin techs, etc.) are the key decision-makers in selecting the desired solution to be used. In case of loss due to wrong selection, the burden will be shared among respective users throughout the process.

- 7. Regarding the effect on other businesses due to introducing the IIPS:** 1 respondent strongly supported the question as it speeds up the related businesses and reduces cost, and another 1 provided no answer. 1 respondent emphasizes regulation and the regulator understands of the overall scope. The regulator should consider all licensee's interests rather than hearing major players. The regulator issues licenses only after ensuring the capacity of the proposed company. They advocated for promoting and creating a cashless society, PSO and an Open Banking Enabler and also made comment on the benefit of IIPS i.e. as it reduces the amount of direct integration required to enable Open Banking, lowering cost and offering speed, and reducing the loan processing time in helping both lenders & customers to disburse & recovery of loan quickly.
- 8. Regarding the role of IIPS in extending financial inclusion at the marginal level:** All of them took the matters positively. It helps all stakeholders including banks & MFSPs to participate easily at the grass-root level. Significantly un-banked people may be included in the banking system & get a quick loan in the future.
- 9. Regarding thoughts on the use cases in which IIPS and RTGS may combine each other for extending the scope of hassle-free services among a large population:** 6 respondents positively answered this question. They commented that higher business payments and reconciliations are done in an automated system quickly. It is necessary to combine IIPS and RTGS for hassle-free services. It is required to make interoperability among banks, MFS, and different wallets.
- 10. Regarding the coverage of the existing legal framework of Bangladesh or the requirement of new regulation for establishing an IIPS:** Most of the respondents argued for amendments to existing law or in favor of introducing new regulation like other countries i.e. the UK, India, and Singapore for setting up an IIPS in Bangladesh.
- 11. Regarding the idea of technology for set up an IIPS:** Most of the respondents commented positively. They want to set up a payment initiation model. But they emphasized the need for dialogue held among stakeholders for designing a commercially viable and sustainable model for users. The pure switch level transaction protocol is required including all ASPSP connections. A combination of e-KYC and payment switching is also required. The IIPS can be initiated from Mobile/Internet/ATM channels and instruct Debit & Credit Confirmation by SMS. They also suggest for checking out Fast and Secure Transfers (FAST) in Singapore, UPI in India, Prompt-Pay in Thailand, and Insta-pay in the Philippines in this respect.

- 12. Regarding the contribution of IIPS to achieving the Sustainable Development Goals (SDGs) within 2030 or the capacity of the existing payment system of Bangladesh to meet up the target:-**The respondents supported the benefits of IIPS in general. They have advocated for this new system. They are mainly in favor of the accomplishment of the respective objectives so far framed to set up an IIPS. They expressed some positive views/links for the implementation of SDGs by 2030 together with boosting up the services of IIPS.
- 13. Regarding other comments:** They brought forward the cases of China, USA, Brazil, Argentina, and Turkey for becoming the top 5 nations within the G20 as per the Digital Riser Report 2021 published by the European Center for Digital Competitiveness. On the other hand, they pointed out that among the top 30 nations by Revenue from Digital Services as a share of GDP, 16 countries are from Emerging World. , Estonia first moved to 'Block-chain' technology in 2012. They are giving 24/7 basis Govt. services. Therefore, Estonian people prefer govt. services more than private services. They are less vulnerable to corruption as well as lead the no. 1 position as per the 'Digital Empowerment Index', they are now considered as advanced/developed in the context of using the digital network by the World Bank's evaluation. Though only 5% of Kenyans carry Credit Cards, however, more than 70% have access to 'Digital Banking'. More than 70% of the Egyptian are financially underserved despite mobile penetration in that country exceeding 90% or more.

vii. Drivers for building an IIPS:

Based on different journals, newspapers, literature and hearing from different webinars, the following trends were derived which establish a congenial environment or support for setting up an IIPS:

- The MFS and agent banking activities are increasing at the doorstep of customers.
- The central bank's activities toward digital payment system are satisfactory (new regulation, PS act is in the process). Bank's activities go on online and an Interoperable Digital Transaction Platform (IDTP) is in the process by the BB and Government.
- The use of Smartphone by the general people is increasing; the 5G is in the process to increase internet capacity.
- The govt. is using MFS in distributing social safety nets to the poor segments, many services are routed through the digital platform
- The govt. has implemented Digital Bangladesh initiative programs at different levels
- Availability of electricity

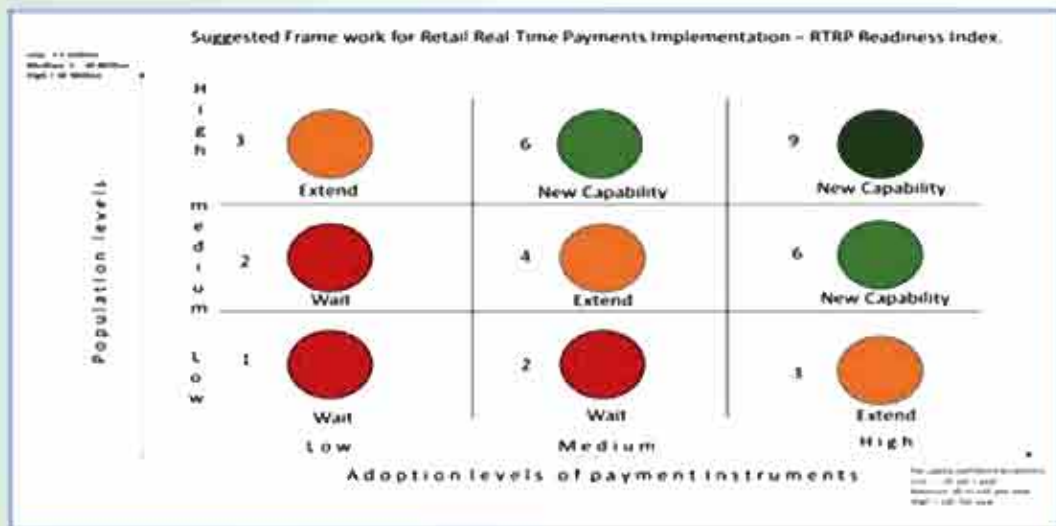
- Regulatory oversight is strengthening
- Implementation of AML practices
- Easy liquidity in the market
- National monitoring cell is working well for implementing financial inclusion strategy by 2030

World Bank readiness index shows medium score is perhaps an indication of relatively medium levels of financial infrastructure and hence the potential for instant and inclusive payments.

viii. Proposed Framework for IIPS implementation:

The following quantitative framework developed by Balakrishnan (2016), used in the publication of the World Bank Group (2021, p 1-18)¹⁴, is applying to assess the readiness of Bangladesh for instant payments.

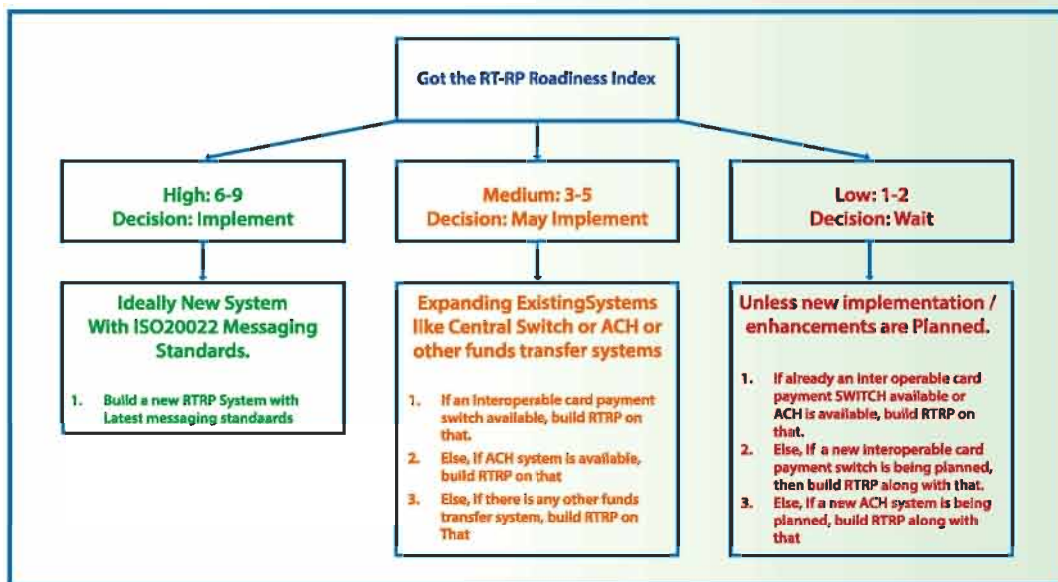
a) Figure: Readiness Index :



Source: Balakrishnan (2016)

By analyzing the above readiness index, the population level of Bangladesh exists in the high level (3) and the adoption level of payment instruments is 2 i.e. medium levels. The medium score is perhaps an indication of relatively better levels of financial infrastructure and hence medium potential for fast payments.

b) Figure: Decision-Making Tree:



Source: Balakrishnan (2016)

The readiness score supports the case of expanding existing system like central switch or ACH or other fund transfer systems (The World Bank Group, 2021)¹⁴. In Bangladesh, the existing system of BACH, RTGS, BNPS, and BEFTN are due to upgrade from time to time. But to expedite retail payments, it is required to set up a separate switch (innovative and technologically feasible), scheme, governance, separate API (open loop and interoperable among every stakeholder), and oversight i.e. IIPS in Bangladesh as a part of accomplishing the objectives mentioned in column (v).

viii. Legal consideration :

The existing legal framework has sufficient provisions to set up an IIPS in Bangladesh. In addition, the competition law-2012 can be exercised to stop any antitrust activities and unhealthy competition.

ix. Considerations Regarding Messaging Standards :

As per the WB guideline, the IIPS of Bangladesh should be required to make use of proprietary message standards, which will be designed in line with international messaging standards such as ISO 20022, and ISO 8583. The decision on messaging standards is based on several considerations such as use cases being considered, cost of implementation, and interoperability, among others. Such an approach would also reduce the learning curve for participating institutions and would also reduce the implementation timelines and perhaps even the complexity of IIPS implementation under the control of the Bangladesh Bank.

x. Considerations Regarding Settlement Options:

As per the CPMI 2016 publication on Fast Payments, the real-time settlement model is preferred for the settlement among service providers at the same time as the successful processing of the transaction. In this mode, transactions are settled in real-time and on a gross basis by using the central bank accounts maintained by the providers. While the decision on settlement models will depend on the intensity of usage and scale of adoption of payment services in general, it would also depend on other aspects such as the availability of liquidity tools for market participants to track and the feasibility of real-time linkage with the country's large value payment system or the equivalent. In the absence of robust liquidity tools like inter-bank markets or collateralized overnight facilities, using the RTRP model could pose liquidity risks and potentially also impact market confidence. The other aspect to consider is the scalability of an existing the large value payment system and its ability to handle the larger volume of retail transactions that will come through for settlement. Under the circumstances, a large value RTGS system is required to be available 24*7 and the IIPS may bring under the umbrella of BB settlement systems to reduce the stability risks.

xi. Ownership Considerations:

A key aspect of fast payment system implementation is the decision on the ownership of the implementation and operations of the system on an ongoing basis. In Bangladesh, I would recommend the model of the central bank and private sector co-ownership (hybrid). The fast payment systems in Australia (NPP), Hong Kong (FPS), Malaysia (RPP), Nigeria (NIBSS), and Poland (Express Elixir) are all examples of the hybrid model. The existing regulation supports to set up of an IIPS in Bangladesh with above formula by issuing circulars or regulations. As cost involves there, Bangladesh Bank and the Government require clear vision to implement this. I think this would not be difficult, because Bangladesh Bank earlier provided full cost to update the clearing system, RTGS, NPSB, and other existing digital modes; Government has also allocated a huge amount of money for building digital Bangladesh infrastructures and side by side implementing SDGs within 2030.

xii. Other considerations :

The following principles may be addressed to set up an IIPS in Bangladesh:

- Open and interoperable payment loop like the UPI system of NPCI
- Real-time payment (Pull or Push both) (24x7x365)
- All use cases (retail transactions-P2P, B2B, G2B, P2B, P2G)
- Irrevocable payment

The costing, products, and customer awareness may be a part & parcel of the total plan:

- low cost
- More products
- Price transparency

Scheme structure considerations:

- All banks, FIs, MFPs, and Fintech companies
- Payment addressing (VPA not using bank account number or card details)
- Inclusive governance
- Fraud utility and Customer Redressal
- Connectivity to others
- Avoid concentration risk
- Scheme and regulatory oversight

xiii. Conclusion:

These final remarks may help guide the process to set up an IIPS in Bangladesh:

- The optimal process guiding the implementation choice of IIPS implementation should be dynamic as per World Bank guidelines. The Bangladesh Bank as well as Government has sufficient capacity regarding modernization of existing / legacy payment systems depending on factors such as general market conditions, maturity, and the technical state of the existing payments infrastructures if they desire. The cost/benefit implications will be shared between public and private based on extending financial inclusion to the larger population segments. Of course, in the public segment, the government and Bangladesh Bank will play a major role by taking a significant stake to ensure the maximum benefit for the major stakeholders and end-users.
- BB is required to take a broad view regarding IIPS implementation and ownership, thereby ensuring both the immediate and wider aspects of financial inclusion and the country's overall growth trajectory. In this context, particular research activities may be needed to establish the most sustainable approach. Moreover, Bangladesh Bank and the Government should undertake particular steps and considerations regarding the process to ensure that it is done most efficiently and aligned with market needs.
- BB may consider modernization initiatives in payment systems as a part of the national financial inclusion strategy (NFIS) to implement SDGs by 2030. In this

case, the public and private initiatives may be augmented in line with NFIS to include all relevant stakeholders.

- A customer redressal approach is very much required to protect customer interest at the end user level.

By taking into account, the above considerations and way forward, the survey report from local stakeholders, and the existing legal setup, I believe that the case for establishing an IIPS in Bangladesh is strong and it will open a new horizon in the field of quick and digitally accepted retail transactions in bulk. Consequently, I would like to recommend that BB, in coordination with the Government, take initiative and necessary steps by following the above guidelines and remarks for accomplishing the target goal of country's sustainable development within due time.

END-NOTES:

- I. William Cook, Dylan Lennox, Souraya Sbeih (2021, p7)¹ focuses on instant payments, which are also frequently referred to as “fast payments” or “real-time payments” (Committee on Payments and Market Infrastructures, 2016)^{II}. These payments are always acting digital, often use mobile as a channel, and frequently use the credit/ push payment as an instrument. However, some instant payment systems support other channels and instruments, such as biometrics, cards, and debit-like services.
- II. According to Committee on Payments and Market Infrastructures (2016, p1)², Fast payments can be defined by two key features: speed and continuous service availability. Based on these features, fast payments can be defined as payments in which the transmission of the payment message and the availability of final funds to the payee occur in real time or near-real time and on as near to a 24-hour and 7-day (24/7) basis as possible.
- III. According to Committee on Payment and Settlement Systems (2012, p3)³, Retail payments differ from large-value payments in several ways. First, retail payments typically relate to the purchase of goods and services by consumers and businesses. As compared with interbank transactions, they are used in more varied situations, such as face-to-face payments at the point of sale (POS) and remote payments via the internet. Second, retail payments are executed using a greater variety of payment instruments than large value payments. Third, retail payments make more extensive use of private sector systems for transaction processing than do large-value payments.

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