

REPORT



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Abbreviations

**Institution Case Study:
Bangladesh Bank**

BB	Bangladesh Bank
CDFP	Certified Digital Finance Practitioner
CIDM	Certificate in Digital Money
CoP	Community of Practice
DFI	Digital Frontiers Institute
DFS	Digital Financial Services
DWC	Development Works Changemakers
eKYC	Electronic Know Your Customer systems
FIU	Financial Intelligence Unit (Bangladesh Bank)
ICT	Information and Communications Technology
MFI	Microfinance institution
MFS	Mobile Financial Services
MMR	Monitoring and measurement of results
MNO	Mobile Network Operator
SMEs	Small and Medium Enterprises

Table of Contents

1. Introduction	3
2. Institution background and role in DFS in Bangladesh	3
3. Outcomes of DFI courses for Practitioners	5
4. Broader impact on the Institution and Beyond	12
5. Conclusion	18
6. Appendix 1	18

1. Introduction

This case study builds on a number of previous research outputs produced by Development Works Changemakers (DWC) for the Digital Frontiers Institute (DFI) in 2018-2020, as part of its monitoring and measurement of results (MMR) process for this period. Along with the overall MMR reports, which draw on a range of data gathered by DFI and DWC over this period, DFI also commissioned a number of case studies to add qualitative depth on DFI's impact on practitioners, the institutions they work in, and more broadly in their countries of origin. Further to case studies of banking institutions in Africa in 2019, DFI has in 2020 requested a case study of the Bangladesh Bank (which is the central bank of Bangladesh), which has seen a large number of employees trained by DFI since 2019.

As with the previous institution case studies, the key question informing this case study is: "Since the commencement of the relationship between BB and DFI, what has DFI's role been in developing the capacity of DFS practitioners working in this institution, and what further impacts are apparent at departmental and institution level?" This question has been explored through three data collection strategies:

- A high level review of BB's website and other relevant documentation, including articles about DFS in Bangladesh, and DFI reports outlining activities with BB practitioners;
- Key informant interviews with 10 practitioners working within different units/areas within BB (see Appendix 1).¹
- An electronic survey of BB practitioners who have taken DFI courses (see Appendix 1).

Interviews were conducted between June and August 2020. The following sections outline findings from this process, and illustrate the emerging outcomes that DFI is having for practitioners working for BB, and for the central bank itself.

2. Institution background and role in DFS in Bangladesh

Financial inclusion in Bangladesh has increased significantly over the last decade, with the government, and key regulators like Bangladesh Bank making enormous efforts to expand financial services to disadvantaged groups.² They face challenges such as a large population, which is still largely rural and semi-literate, and high interest rates. Nevertheless, since 2011, financial account ownership has jumped from 32 percent to 50.05 percent in 2017, with 25 percent of those financially included being included through banks, 23 percent through Non-Bank Financial Institutions, and 17 percent through mobile money platforms.³ This drive has happened in tandem with the government's broader push since 2008 to make Bangladesh a digital country, through expanding internet access and turning government services digital, among other initiatives.

¹ All interviews were conducted remotely using the Zoom platform by the DWC team. All 10 interviewees were based in Bangladesh. Interviews were between 40-60 minutes. All were recorded and transcribed, with permission from the interviewees.

² Mamun Rashid (18 February 2020). "Financial inclusion: Banking going beyond banks". Found at: <https://www.thedailystar.net/supplements/29th-anniversary-supplements/digitisation-and-inclusivity-taking-everyone-along/news/financial-inclusion-banking-going-beyond-banks>

³ Ibid.

As in other developing regions, Bangladesh's growing financial inclusion is driven by mobile financial services (MFS) and indeed, Bangladesh has one of the most successful MFS markets globally.⁴ In 2017 it was reported that it had 54.4 million registered clients and great potential to develop "a growing ecosystem of products such as savings, credit and microinsurance, riding on the mobile money rails."⁵ Digital financial inclusion has been adopted by the government of Bangladesh as a priority in its Vision 2021 development plan, and most banks are in the process of going cashless.⁶ Many banks and financial service agents are providing digital financial services such as Bkash, Sure Cash, Rocket, M Cash and the government-owned Nagad.

This market, however, is still driven by banks because Bangladesh has adopted a bank-led model. Nevertheless, there is scope for mobile network operators (MNOs) to offer a growing number of products and services, including savings, credit and micro-insurance. At present, however, "Mobile money deployments operate as a 'walled garden'..., meaning that transactions can only be performed between users of the same system, i.e. a user can only transfer electronic money to another user of the same mobile money deployment."⁷ There has therefore been a great lack of interoperability in Bangladesh, which acted as a major barrier to the development of the mobile money market. It has therefore been noted that in order to drive interoperability, "regulators and the central bank need to create proportionate regulation and supervision to enable non-banks to compete with traditional banking players when providing financial services to the excluded groups."⁸

Fortunately, this now appears to be happening and there are signs that Bangladesh is finally heading towards greater interoperability. In December 2019, the ICT Division and Bangladesh Bank signed a Memorandum of Understanding (MoU) whose objective is to devise an "Interoperable Digital Transaction Platform (IDTP)". This platform allows fin-tech organisations to undertake financial transactions, transfers, e-commerce, M-commerce, bill payments, merchant payments, remittance exchanges, machine-to-machine payments and other financial services.⁹

As is evident from the above brief sketch of the DFS landscape in Bangladesh, Bangladesh Bank (BB) is one of the key regulators of DFS, with a major role to play in determining policy and regulations in this area. It is one of a number of regulators who take care of different aspects of the DFS ecosystem. These include financial sector regulators: Bangladesh Bank (BB), Ministry of Finance, Microcredit Regulatory Agency (MRA), Insurance Development and Regulatory Authority (IDRA); telecom regulators: Bangladesh Telecommunications Regulatory Commission (BTRC) and Ministry of Posts, Telecommunications and Information Technology.¹⁰

⁴ Mujeri, M.K. and S. E. Azam (2017). "Interoperability of Digital Finance In Bangladesh: Challenges and Taking-Off Options". Round Table Background Paper: Institute for Inclusive Finance and Development (InM). (Pg. 3).

⁵ Ibid. (Pg. 3).

⁶ Hasanul Banna (26 January 2020). "Digital finance: The way forward of banking stability in Bangladesh". Found at: <https://tbsnews.net/opinion/digital-finance-way-forward-banking-stability-bangladesh-39257>

⁷ Ibid. (Pg. 3).

⁸ Ibid. (Pg. 4).

Ibid. (Pg. 3).

⁹ Mamun Rashid (18 February 2020). "Financial inclusion: Banking going beyond banks".

¹⁰ Mujeri, M.K. and S. E. Azam (2017). "Interoperability of Digital Finance In Bangladesh: Challenges and Taking-Off Options". (Pg. 8).

Bangladesh Bank, as the country's central bank is the apex regulatory body for the country's monetary and financial system. It was established in the capital, Dhaka in December, 1971. It has ten offices located around the country and has a workforce of almost 6000 officials.¹¹

BB performs all the core functions of a typical monetary and financial sector regulator, among others. The major functions performed by BB are:

- Formulation and implementation of monetary and credit policies.
- Regulation and supervision of banks and non-bank financial institutions, promotion and development of domestic financial markets.
- Management of the country's international reserves.
- Issuance of currency notes.
- Regulation and supervision of the payment system.
- Acting as banker to the government .
- Money Laundering Prevention.
- Collection and furnishing of credit information.
- Implementation of the Foreign exchange regulation Act.
- Managing a Deposit Insurance Scheme.¹²

This set of functions, and BB's key role as the apex regulator of financial services in Bangladesh, form the context for the examination in the following sections, of DFI's emerging outcomes for officials working at BB, and on the central bank more broadly.

3. Outcomes of DFI courses for Practitioners

In this section we explore the impacts of the DFI courses on individual practitioners working for BB. Before doing so, we provide a brief outline of DFI's growing footprint at BB.

The first DFI course in which employees of BB participated was a Certificate in Digital Money (CIDM) course in July 2016. That was the only course which attracted participants from BB in 2016, and in 2017 the CIDM course again was the only course in which BB employees participated. In 2018, however, more BB students started enrolling in DFI courses, with participants being seen in two CIDM courses and the Anti Money-laundering course. The participation of BB employees in DFI courses experienced a rapid expansion in 2019, with the introduction of a scholarship for BB employees to study DFI courses. Thus, in 2019, BB employees participated in 23 DFI courses, and in 2020, they have participated in no less than 59 courses to date.

The scholarship really has cemented the relationship between BB and DFI. In total, 460 BB employees from across a wide range of departments have taken DFI courses. Between them, they have enrolled in 1975 courses and attended 556 community of practice (CoP) meetings. Sixty-six of these employees are on the journey towards becoming a Certified Digital Finance Practitioner. Since the scholarship was introduced, 437 BB employees have enrolled, in contrast to the 23 BB employees who had enrolled between July 2016 and September 2019. To date, there have been a total of 998 courses completed by the scholarship students, and 883 courses have been passed.

¹¹ <https://www.bb.org.bd/aboutus/index.php>

¹² Ibid.

The students surveyed and interviewed for this case study all pointed to significant gains for themselves as a result of taking the DFI courses. Not surprisingly, most of these gains had to do with the expansion and deepening of their knowledge as a result of taking DFI courses. The following outcomes have been noted by DFI students from BB.

3.1 Deepening DFS knowledge

While employees at BB generally come from a financial management or commerce background, a number of them talked of how their participation in DFI courses had deepened their knowledge, especially of digital finance. Swarup Kumar Chowdhury (Deputy General Manager, who has taken two courses so far) stated the following: *“It really opened my eyes. I saw what different African countries were doing to get marginalised people into financial inclusion. It opened my mind about how people can be financially included. I learnt about what is happening in China. So I really learnt a lot from the lecturers.”* Birendra Chandra Das (Joint Director, Financial Inclusion Department, seven courses) expressed similar feelings: *“Certainly I strongly believe that the courses of DFI that I have completed so far helped me much in understanding the digital financial services in better ways. Especially before taking those courses, I had a partial view of digital finance and payments and identity. But now I can say that I know a little. But since it’s a brand new area there are more subjects and more issues I have to learn in future, but it is very interesting and actually created a trust in my learning about digital finance. That is the great thing.”*

Mohammad Zahir Hussain (Supervisor, Financial Stability Department; seven courses) agreed that his knowledge was enriched: *“Actually, my experience is super. These online courses attracted me very much so I continue these courses very fast. You know, many companies offer online courses, but your [DFI] courses are totally different. And actually, I have learned a lot from your course. If you say that personally have I obtained any knowledge, you know that actually, my, my previous background is a business background. I have completed my masters in accounting and also took an MBA in finance and banking. I had a little bit of knowledge about the digital finance services. But when I enrolled for the course and completed those courses, my knowledge increased very much. I am doing a new course and I am very much updated with the knowledge. Personally, my skill is increased very much definitely.”* Hussain expanded further on how his knowledge had deepened: *“Actually my knowledge has started increasing, very much. You know, I learned a lot on the recent issues from your website from your learning materials. Thereafter my writing capacity is increased. I am also preparing some exercises on my experience and I have prepared some reports. So I think this knowledge what I have gained from the opinions or learning materials, and my capacity of writing has increased.”*

Babu Marma (Assistant Director in the Payment Systems Department; five courses) also testified as to how the courses had impacted his knowledge: *“Certainly it’s a great course and it is indeed because without taking those courses, I cannot know what are digital financial services more accurately and more completely. And the courses which I have taken were so much more effective in my mind because I can analyse the problem of DFS effectively and make reports on the basis of those problems.”* Bayazid Sarker (Foreign Exchange Policy Department, still completing CIDM) agreed: *“Yeah, definitely because earlier I knew this is digital money or digital finance... but I had an overview type knowledge. But now...my knowledge is getting deeper. So then I can come into the details of digital financing and mobile financing service. I even will write a payment system paper: within two or three days I will submit it. I have found a research gap in the digital financial service in Bangladesh and I will try to meet the gap because in our mobile financial services in Bangladesh, I found an unfair competition. So to improve that unfair situation I need to write about it. I think the both parties are required, from the competitor side and also the policymaker sides. So now I’m very familiar, and I am confident that I can suggest to the policymakers, what we need to do to improve*

the situation of fair competitions and I think I can do it.” Thus, the deepening of knowledge is in some cases leading to greater confidence, and to BB employees increasingly speaking up about DFS issues they identify. This is elaborated on in the next section.

3.2 New confidence in DFS knowledge

With the deepening of DFS knowledge has come greater confidence for some BB employees to speak with authority, and to share their thoughts in writing. Mohammad Alim-Al-Razi: (Joint Director, Currency Management Department; 11 courses) testified as follows: *“DFI courses have opened up a new dimension of knowledge for me. It provides lots of thoughts and analytical skills on diversified issues which ultimately make me confident to deliver speeches and share my ideas in a real world situation.”* Similarly, Mehadi Rahman (Officer; Certified Digital Finance Practitioner) explained: *“First and foremost, I have learned a lot of new things about digital finance. These courses are not only developing my digital finance background but also helped me to understand the current digital finance situation of the world. In the case of my personal growth, now I can share my ideas about digital finance, participate in conversations with others and most importantly write new articles on digital finance topics.”*

Ramizul Islam: (Deputy General Manager, Financial Intelligence Unit, no courses himself, but manages several DFI students) explained this impact on his subordinates as follows: *“Okay if I generalize this question...I think after taking this course, first of all, they are very much confident about Digital Bangladesh [government campaign to digitize the country], digitization, digital payments. So any words or any procedure, they already learned, so they think that okay I know something. So it actually makes their confidence increase and raises their confidence level, and also it makes them more smarter than before.”*

Mohammad Alim-Al-Razi expanded on his above thoughts: *“I think I, as a central banker, I have some basic knowledge about business finance, economics and other things. But after doing 11 DFI courses... I learned lots of knowledge actually. Knowledge about the digital financial services, and there are different patterns, different models, different styles or models around the world, especially the mobile financial services is rapidly expanded in the African regions; Kenya model, there is Ghana, Tanzania and different countries, different case studies. And the countries are economically behind than developed nations, their infrastructure is not as strong enough or quite good like other developed countries. I have lots of knowledge: I couldn't explain it with words, what I have acquired from these courses, but I feel confident when discussing whenever I read some things about DFS. Whenever I hear about digital financial services where it happened or whether it is the case of our neighbouring India, or the Chinese model, or European sectors, or USA sectors, and African sectors. It gives confidence, It actually gives me a lot of confidence to continue the conversation or understand the facts what people are talking about whenever I see the news from BBC or CNN or Al Jazeera, or different news channels, and they give that issue of the mobile financial services...”*

Mohammad Zahir Hussain shared that his new knowledge has been of great use to him: *“I can help my department as a whole in a more effective way than before. Because after taking those courses, I am so much more confident to work in my department and I can discuss with my senior fellows about the on-going [payment] platforms in a [confident] way because I feel confident to help my department and also as a person I think that by taking DFI courses, in near future, I can be a key person of my department.”*

3.3 Knowledge that helps in employee's work

Although not every student interviewed noted increased confidence, a number pointed to the fact that the new knowledge they acquired from DFI had helped them in their role at work. This was especially true of interviewees working in the payment systems and financial inclusion departments, which have the most to do with DFS.

Tonmoy Saha (Assistant Director, three courses) explained that the *“Certificate in Digital Money course has given me an idea of the implications of digital money as well as cryptocurrency also.”* Saiful Azam (Deputy Director, eight courses) agreed: *“Yes, the courses have had a change in my mindset about digital finance. I understand things about DFS more clearly than before. As I am working in the Central Bank, I can implement this acquired knowledge when I have scope to do so.”* Golam Rabbi Tanveer (Officer General, one course) expressed it thus: *“I am learning too many things about the basics of banking that were unknown to me.”* Mohammad Zahir Hussain commented more specifically: *“Definitely [there are] new ideas that I have gained about digital money. I have gained sound knowledge in digital money markets in the globe with policy and regulation. I am working in the Financial Stability Department, so I contribute my gained knowledge to the stability concerns in the financial system due to the introduction of digital money in the Bangladesh context.”*

Sukumar Gaorob Chakma (General Officer, seven courses) explained that the courses have applied directly to his work: *“Digital money has given a great insight to relate to my departmental work. As I have been working in the savings certificate department, I can understand how digital services work and its channel to conversion of cash money to digital money. Bangladesh Bank has been playing a great role by bringing change into technological factors like initiation, batch processing, authorization, government posting in the digital system and so on. It is very much related with digital money. So undoubtedly, I would say to create a more secured and sustainable system, the DFI courses are really a mind-blowing art work.”*

Monirul Islam (Deputy Director; CDFP) expressed gratitude for the opportunity to learn: *“The blend of courses has ignited new knowledge of course. But what I think is it has created a learning opportunity for me in this digital era.”* For Mohammad Sajidur Rahman (Officer; one course), keeping up to date with global trends has been essential: *“As a central banker I have to keep pace with the up to date world. DFI helps me [and my colleagues] to share knowledge to each other. New topics are introduced. As a whole it gives me confidence as a central banker.”*

Bidhan Shaha (Deputy Director, Financial Inclusion Department; on the CDFP journey) also feels he can apply his DFI knowledge in his role: *“Yes, definitely. Since I am around working in the Financial Inclusion Department, as we all know that digital financial services is the key enabler in access to finance for all...I have been incorporating my knowledge... I implemented my knowledge of what I have achieved from the courses...So basically, I’m implementing my expert knowledge from DFI In my day-to-day activities at the office.”* While Shaha was reluctant to say there were direct benefits such as promotions flowing from his DFI knowledge, he was quick to point out some indirect benefits: *“So there are lots of indirect benefits. There is that I am applying my knowledge in my day-to-day job, so that is one kind of job satisfaction... As I have already mentioned that I’m applying my knowledge I took from DFI platform into my day-to-day jobs. So since I’m in love with the DFS, and I am doing whatever I have passion to do, so that’s why my job satisfaction increased.”*

Shaha’s close colleague is Birendra Chandra Das (Joint Director, Financial Inclusion Department; seven courses). He shared the following thoughts on the importance of security: *“Definitely [the knowledge is useful]. Actually in the last course I learned that there is information I shared through social media and other media such as Google, Facebook. Actually those social platforms know a lot of information about me. So those, if any secret issues will happen all the information will be shared to*

the third party. So the importance of data security as well as identity documents is important. There is another learning apart from the practical point of view or that is related with my job description... apart from the professional knowledge I personally believe that it created the third eye for me that the digital identity could be used to make people identify and help people get on board in any services. And the data protection, the urgency for data protection about the device security [and] using the passwords, and the importance of actually the need of changing of passwords."

Ramizul Islam, who manages several students who took DFI courses as also noticed the impact on them: *"Yeah, in fact, any course that will add some value to the students. that is undoubtedly so. I think they'll definitely gain some additional knowledge from these courses. And regarding our regular job, we get different types of STR (Suspicious Transactions Reports). So some of these STRs are related with the digital payments, related like with the mobile money or something like that. So I believe that this course will give some additional knowledge for them and one thing is that they will not fear to analyze these courses or knowledge for the STRs because they have some basic idea of the digital money and digital financial system. And regarding the content of the course, this specific goal is directly related with our department that is the FIU [Financial Intelligence Unit]. Because we relate with anti-money laundering issues, so this course actually adds significant values to them."* In fact, Islam went on to explain that he normally chooses to give complex STRs to DFI students: *"So usually I prefer to give these types of STR or SAR to them because they will understand it very quickly than other analysts and also they can attend to these types of jobs without any hesitation. And they, they can do this job with a very short time because if I distribute these types of cases, there are two other employees, other than them, then they will take more and more time to study this case... we get a huge number of STRs now so time management is a crucial point for me. So for the digital payment related STRs I usually choose them."*

3.4 Additional ways in which new knowledge has contributed

The BB employees who were interviewed or surveyed pointed to a number of other ways in which the new knowledge they had acquired from DFI courses have been of value or assisted them. One of these ways relates the understanding of these employees of the role of a regulator, and BB in particular. Sumanta Kumar Saha (Joint Director, one course) put it thus: *"The course increased my understanding about digital financial systems and what a regulator needs to do regarding those issues. I think I can build on this knowledge in my future career and can contribute in resolving digital payment related issues as a central banker."* Muntasir Mamun (Deputy Director, four courses) found that one of his most important learnings was the ways in which regulators can be unhelpful in their oversight of DFS. He remarked that *"Discovering regulatory capture regarding digital money markets"* had been valuable, a point echoed by his colleague Mustafa Sadee Sabereen Towhid (Deputy Director, one course), who gave *"Sniffing out regulatory capture on digital money markets"* as an aspect that resonated with him.

Other students pointed to innovative and different thinking that they experienced through the DFI courses. Khurshid Alam (four courses) stated that he now knows *"about digital money, market, scope, usages, possibilities, regulations etc. As a result I can generate ideas about the digital money and its applications. It gives me the strength to think differently."* Azmal Hossain (Head Analyst, Financial Intelligence Unit) felt that these new forms of knowledge were crucial for the bank: *"...These type of courses, the DFI courses, are very much needed for us, for the employees of Bangladesh Bank...for breaking the conservatism. I think we should go forward and follow the leading countries in digital finance sector and obviously the courses of DFI are helping us a lot."*

Other employees, such as Sukumar Gaorob Chakma (Officer General, seven courses) felt that the broader perspectives about how DFS fits into the economy were valuable: *“The most valuable insight that I found is the evolution of technological change that we use nowadays. It has tremendous impact in our life. [From] a regulator point of view, it is very important to know the impact of its influences in the economy as a whole. It facilitates to think about pros and cons and DFS’s multidimensional effect in the heart of the economy. To critically assess and evaluate the digital services, DFI has given a big hand to raise awareness and delve deep into its process.”* Other students felt that obtaining not only a national, but a global perspective had been important, as Muntasir Mamun (Deputy Director, four courses) explained: *“Exposure to global digital money markets [was valuable]. [I got a] better understanding about the operation of digital money markets globally.”* Mustafa Sadee Sabereen Towhid similarly said: *“Uncovering global digital money markets [was important], and a thorough understanding about the dynamism of global digital money markets.”*

Yet more of the interviewed DFI students valued the courses because it helped them and their institution to enable financial inclusion of the most vulnerable in society. Babu Marma (Assistant Director, six courses), put it thus: *“I am eager to know something new, innovative and want to explore the digital world. As a central banker, I want to facilitate the most easy and transparent money transfers and DFS opportunity to all citizen of Bangladesh. And DFI, enriched me to do this!”* Swarup Kumar Chowdhury (Deputy General Manager; two courses) was eager to continue his work with NGOs who are providing loans to homeless people, through agents. He hopes to assist these NGOs to digitise and use DFS in these humanitarian services. DFI has helped him to see what is possible in this regard. Meanwhile Birendra Chandra Das spoke along similar lines to Babu Marma: *“Certainly, as you know I am working for the Financial Inclusion Department, and especially when we consider making a policy for the maximum people and for the unbanked and unsaved people, to make them financially included, so we think of the digital finance thing and how can the policy help those maximum people there is. It is a must that we have to think of DFS to make them happen and to create a win-win situation for them as well.”*

Finally, a few students stated that the courses could feed positively into new policies and regulations made by the Central Bank. Bidhan Chandra Shaha (Deputy Director; eight courses) explains: *“I am working in the Financial Inclusion Department of Bangladesh Bank. Hence, I need to formulate and implement policies related to inclusive finance. Digital finance is the key enabler of financial inclusion. Therefore, courses taken with the DFI definitely promote me in formulating policies.”* Biplob Barua (Deputy Director; more than four courses) agreed: *“As I am working in the Central Bank, I have to think of the teachings from DFI courses before taking any policy.”* Muhammad Amirul Momenin (Deputy Director; two courses) meanwhile, stated that he is now *“Better equipped to have voice in policy issues.”*

3.5 Exchanging knowledge with colleagues and peers in the field

Another area in which individual employees of BB stated that they had gained significantly was in co-learning and sharing knowledge with colleagues in BB and peers in the DFS field generally, through the DFI courses.

Bidhan Chandra Shaha (Deputy Director; eight courses) stated the following in this regard: *“It is an open platform, where I can share and exchange views with peers who are real-life practitioners in this field.”* He elaborated thus: *“So, I mean, the best idea of the DFI is that in every course, this is a kind of knowledge sharing platform. So in every credit, I mean, for every point, you need to...comment and intercede in what other people are commenting on the specific subject. And most of them are from different central banks or from [other] financial institutions. So first, first and foremost the advantage*

of the DFI platform is to share knowledge among the peers. So that is number one. And then number two is I mean, definitely, it can be advantageous if we, if I need any information, if I need to collect any data, so I can communicate with my peers [and] that would be helpful for me."

Muhammad Sajidur Rahman (Officer, 11 courses) also appreciated the opportunity to share knowledge: *"My communication skill is developed. New topics are acquired. Knowledge is being shared with other professionals."* Swarup Kumar Chowdhury (Deputy General Manager; two courses) talked of the value of meeting other students in the Community of Practice (CoP) meetings: *"Yes, of course, it helps me to improve, to expand my network. Because in our, when we meet in our [CoP] meeting, I found those DFI alumni who are participating in that in the various courses, and we can share our thoughts. And you can get better knowledge also, and we found that there are more than 100 people who are participating in the DFI courses, and it helps me to communicate with them, to convey my thoughts and to receive their thoughts also. And we can say that it is the right opportunity to expand my network."* Thus, Chowdhury also wants to invite more colleagues to join him: *"It's not long that I am with DFI. But within this short space, I am most certain about the courses, that I recommend other of my other colleagues or friends, [that] if you can, you should participate in these courses, you know, in our arena."*

Mohammad Alim Al-Razi (Joint Director, Currency Management) also testified that he enjoyed the opportunity to obtain knowledge from a variety of sources: *"So through these courses...I had got chances to hear lots of videos to share ideas in different practical sessions with speakers and also hear from [others]...I also share my ideas with just the practical discussion sessions with our teachers. I enjoyed a lot and I got lots of things I didn't know before from other participants; someone from African countries, someone from European countries. So it's a platform actually which gifts lots of things. So if one has time enough, to enrich himself or herself in a high level about digital financial services, it is a very good thing."*

Azmal Hossain (Head Analyst, FIU) explained that at BB, there are forums which help to facilitate knowledge sharing: *"Yeah, you know, in our organization, there is a monthly publication, citing in the publications many of us who have completed different courses, CIDM and other courses. They sometimes write articles. These also help us or other people in another place to gain knowledge from our writings."* Ramizul Islam (also of the FIU) similarly described how they share their knowledge in weekly presentations with each other.

But, as some such as Mohammad Zahir Hussain (Supervisor, Financial Stability Department), pointed out, formal collaborations between departments were still less common, although informal communications were growing: *"Actually, collaboration, departmental collaboration, depends on some administrative processes. One thing, one thing that is true, is that employees who took DFI courses, they are engaging with each other but it is unofficial practice. If you make it official, it [needs] some other steps to be made, or talks with human resources department or our higher officials, those who are [in charge of] this process to accept."*

In the next section, we describe the extent to which, and ways in which the DFI courses have started to demonstrate outcomes beyond individual capacity development.

4. Broader impact on the Institution and Beyond

As indicated at the beginning of the previous section, 460 BB employees from across a wide range of departments have taken 1975 DFI courses and attended 556 community of practice (CoP) meetings between them. Sixty-six of these employees are on the journey towards becoming a Certified Digital Finance Practitioner. As impressive as these numbers are, two issues mean that DFI's outcomes for BB are still emerging. Firstly, 460 employees is less than eight percent of BB's 6000 employees. It is likely that far more will need to be trained to reach a critical mass of individuals who can truly effect systemic change. Secondly, a systemic impact will only unfold over a longer time period, and the bulk of DFI students from BB only started their courses just over a year ago, in September 2019, with the introduction of the scholarship. The bank structures, in common with many state institution bureaucracies, are also fairly conservative and hierarchical, with change occurring slowly, and old habits and protocols being difficult to shift. Nevertheless, as the following testimonies from DFI students show, there are early signs of change and outcomes in several encouraging areas.

4.1 New policies, approaches and products developed after DFI learning

While most of the interviewed and surveyed BB employees were cautious about talking of direct change in their units, departments and BB generally due to DFI, they did note that DFI knowledge was filtering into the development of new policies and support for certain kinds of DFS products and services in Bangladesh. Swarup Kumar Chowdhury sums up the cautious approach: *"Okay. In our country, and in Bangladesh Bank, we are participating in the DFI courses for I think seven or eight months. And it's a very short period. I think in this period it is not possible also to change the policy. Moreover, there is only one DFS certified practitioner, only one [person], and if between two or three years we get 50 to 60 DFI members, then we can contribute-to change the policy...and to contribute [significantly] towards digital finance. But not from now. Yes, it's not possible to change dramatically or drastically anything. But I think in two or three years we will be in a better position so that we can have a voice, so that we can implement our course knowledge."* Mehadi Rahman also expressed caution, but noted that BB is looking to be progressive when it comes to DFS: *"The courses couldn't yet have impacted on my department as it is not related to digital finance. As a whole Bangladesh Bank is developing many things considering DFI courses. For example, recently in our country a series of webinars are happening which will finally provide a recommendation to the policy makers how digital finance for our country can be developed. Bangladesh Bank is also thinking how to create interoperability among DFS providers to promote financial inclusion. In the case of creating future policies in Bangladesh Bank they are considering DFI course learning. For example, during COVID-19 crisis Bangladesh Bank has created a policy to provide [small] loans for garment workers through mobile financial services."*

Other employees, however, could actually name areas in which they had noticed some potential influences of the DFI courses. Mohammad Zahir Hussain testified as follows: *"I am contributing in writing some segments about digital money from the point of stability concerns. Those who are in the Payment Systems Department, they have ample opportunity to contribute in the field of policy formulation and supervision related to digital money, if they learn from DFI activities."* Monirul Islam also believes some changes in the focus of policies have flowed from course participation: *"New policy regarding digital money has been impacted by the new learning opportunities. As Bangladesh Bank, the Central Bank of Bangladesh is responsible for formulating and monitoring policy regarding payment systems, the newer concepts of digital money have been in priority in recent policies."*

While Mohammad Rashed was also circumspect about changes, he did point to some areas in which change is starting to occur due to the DFI courses, and the fact that senior individuals have been influenced by the DFI knowledge: *“...we are developing policies and regulations for digital finance...I have one official ...[and] he specifically mentioned to me that he did not understand these areas [like] e-money or what is payment, how to be an e-money provider and what are the challenges. But he developed the operating guidelines for payment service operators and licensing guidance. So that was one of the things I can mention; that he specifically mentioned that the learning of the DFI course contributed for him to make the policies, to make the operational guidelines of those new types of payment service operators... So just right this moment, I can mention that. But, in future, we have plans... we have discussed that we are developing guidance for payments and there will be a regulatory sandbox, so that we can establish a regulatory sandbox unit within the Central Bank...So there are other changes, but not directly, but indirectly because we started the scholarship from last September 2019.”*

Bidhan Shaha, together with four other DFI students in his unit has worked on a new initiative which was aided by DFI knowledge: *“Okay, so including me there were probably four other participants. They are also taking courses in DFI from my department. And very recently, we have introduced eKYC [electronic know your customer systems]. So I was indirectly involved with the eKYC, but the one who was directly involved in the project is also one of the alumni of DFI. So I think he also applied his knowledge together from DFI in implementing the eKYC, which is one of the, you know, flagship programs from our department... eKYC is one of the innovations that basically started with our department. This is one and now we are working on the digital financial literacy. So, that is also basically that knowledge from DFI we are working on that.”*

Birendra Chandra Das argued that BB’s instructions to commercial banks on customer security have been influenced by DFI courses, especially on the issue of new cyber security risks, given that commercial banks are increasingly switching to electronic communications with their customers. Das says that BB can now guide the commercial banks much more effectively and make better policies and regulations in this area: *“I believe so because we got introduced with DFI back in 2018. So we have some mid-level officers who completed several courses. And in each area they are working their knowledge and experience will definitely help them through designing policies in better ways and as well as they could guide the banks and other financial institutions [and] regulate in a better way.”* Ramizul Islam similarly explained that within the Financial Intelligence Unit they have formed committees among DFI graduates to drive important DFS issues: *“Because we have three or four persons [who are DFI students], they make a committee or innovation team. So we did this innovation team. Most of these are related with the digitization, digitization of the system... So these types of activities are now taking place...and some of the persons from payment system and other departments like IT, they are also the member of this committee.”*

Sukumar Gaorob Chakma was quite adamant that DFI has already made a difference, especially in BB’s lifting the restriction on foreign e-commerce: *“{There was a] ground breaking impact. How do I know? Well, Bangladesh had a circular of restricting the foreign currency transactions (buying and selling through the e-commerce online platform). Bangladesh Bank has been trying to stop illicit money (capital flight) flow to the foreign countries in various channels, because there have been various incidents of money laundering. There was a webinar meeting where David [Porteous, a DFI founder] was the moderator answering different questions. So David answered the context of Bangladesh Bank restrictions on e-commerce transaction and one of our senior officials was listening to the discussion who was responsible for the circular of e-commerce restriction. After a discussion, Bangladesh Bank has withdrawn the restriction on international e-commerce transactions. There are*

so many incidents that Bangladesh Bank has learned new ideas and implemented action based on those ideas. I hope, there will be a lot more that can come in near future too."

Biplob Barua argued that increasingly, DFI students at BB are convincing their seniors to take on new ideas: *"I don't have any work on any new products or projects. But DFI courses taught us multi-experiences of digital finance, payment mechanisms, agricultural development and so on. The central bankers and commercial bankers think of the learnings from DFI courses before developing any policy and products. Participants are convincing the authorities to take their ideas and thinking. By this way DFI courses are playing a role in the banking sector of Bangladesh."*

4.2 Other ways in which DFI knowledge is filtering into BB practice and thinking

Besides the influence DFI learning has already started to have on BB policies and approaches to key regulatory issues, a number of other areas of DFI influence were mentioned by DFI students.

Two individuals pointed to BB becoming more aware of its role in driving new DFS opportunities for marginalised populations and small businesses. Bidhan Chandra Shaha explained how he has started to play a role in this regard following his DFI experience, feeding into the Bank's growing focus in this area: *"Digital finance is one of the priority areas of Bangladesh Bank. The promotion of DFS is mostly governed by the Payment System Department of BB. However, I have implemented smaller changes in the case of my work such as we have introduced a new refinancing scheme for the micro-enterprise and marginal people. In that scheme, we have given priority in digital lending through mobile phones. Moreover, we are planning to design a new refinancing scheme to promote digital lending using blockchain technology for SMEs in Bangladesh. I have already mentioned...that DFS and Fintech are considered as one of the key areas for ensuring financial inclusion in Bangladesh Bank. Bangladesh Bank has introduced an eKYC policy in 2019, Agent Banking Guidelines in 2017, working on e-money. Bangladesh is one of the role models in promoting mobile money with more than eight million registered accounts. Bangladesh Bank has declared a stimulus package for the garment workers to disburse their salary through their mobile bank accounts."*

Birendra Chandra Das explains how the Bank's shift to supporting digital finance has been aided by the DFI courses: *"As you know previously, when we think of new financial inclusion policy we actually in Bangladesh we thought of increasing the bank branches and physical presence of the banks, plus network and other service providers...As the digital finance actually arises and is repeatedly changing the world of finance in the present day, so it is no more viable to set up branches in the rural locations...So I have been taking this DFI course. You know...our Central Bank digital finance policy authorised by the authorities, they allowed more people to complete this course as they understand that it is important for the future policy making role. So we as the Central Bank would see the policy implication in a different way: how those policies could attract more people in if it is designed in a digital way. As you know by this time Bangladesh Bank has taken a pilot on actually digital loans so the people can...take a loan from using their mobile phone from a bank. Previously it was not [possible]. I think that may be the invisible hand of a digital finance course because it helped people to understand how the digital technology can help people as well as the policy makers to get things done in the simple way and a faster way...Yeah and the development of such a dynamic policy, previously we did not see such, such policy changes in years!"*

Similarly, other DFI students identified other new models and ideas relating to digital currency and related areas:

Tonmoy Saha: *"Cybersecurity is given number one priority in IT projects. I think Cryptocurrency and mobile banking are at the point of discussion now."*

Sumanta Kumar Saha: *“I work in the financial stability department of Bangladesh Bank. The course helped me to identify potential systemic risks which could arise from digital payment related issues and help me to enrich our financial stability report.”*

Ramizul Islam: *“Yes, definitely. I am very much positive about it and after being on these courses [my staff’s] view will definitely change. And they are very curious about the digitalized products because we already made the committee for cryptocurrency. So they are very eager to participate in this committee, so it is definitely a positive impact in our department.”* Islam also stated that many employees who complete the DFI courses want to transfer to the Payment Systems Department, the Financial Inclusion Department and Financial Intelligence Unit to apply their knowledge.

Muntasir Mamun: *“[We gained from DFI] Global exposure to digital currency and growth of digital money markets and the scope of the Central Bank regarding this issue. [We also benefitted by] understanding the current global trends in digital money markets and how to fit in a better position using current market opportunities.”*

Other interviewees felt that the new DFI knowledge would help BB in its development of digital payment systems. Babu Marma stated the following: *“Currently, I am working in the Payment Systems Department. I think, I can enrich the payment platforms [that we use].... DFI courses help me to make new understandings on this. I think, in the near future we will go through a blockchain-based money transfer system and maybe issue Central Bank Digital Currency for making transactions.”* Marma further stated that he learnt a lot from his DFI course on blockchain and how other countries like China have introduced it. Similarly, Saiful Azam explained: *“As a Central Bank, Bangladesh Bank is constantly working with framing new policies including those about payment systems. Bangladesh Bank is always encouraging digital payments and financial system. In this regard, it is making different regulations and giving instructions to banks and financial institutions regularly.”* Mukitil Islam also thinks that DFI has played a role in this regard: *“DFI courses have helped many of my colleagues to get a good hold on digital aspects of finance and payment systems. They are continuously contributing to enhance the efficiency of the payment system and mobile financial services.”* For Sumanta Kumar Saha, the COVID-19 crisis has necessitated new payment systems, with DFI contributing: *“Bangladesh Bank has promoted digital mode of payment amidst the COVID-19 situation and I think knowledge from these courses had helped us in designing appropriate policies.”*

Finally, Muhammad Amirul Momenin argues that in its work as a regulator, DFI students in relevant positions have been able to hold *“More fruitful meetings with commercial banks.”* In the next section, we outline how through the DFI courses, and especially through the Community of Practice (CoP) meetings and the association that has been formed, BB officials have been able to build stronger connections and relationships with other DFS role-players, which have the potential to transform the DFS landscape in Bangladesh.

4.3 Broader impact of DFI through the CoP and Association

As noted above, BB employees have participated in 556 Community of Practice (CoP) meetings since the first employee registered for a DFI course in 2017. Mohammad Rashed, a senior officer of BB is also the CoP coordinator in Bangladesh. Regular CoP meetings are attended by all DFI students in a particular city for the duration of their courses. So far, CoPs have been run in Dhaka (three groups) and Chittagong/Chattogram, the second largest city. Rashed explains further: *“We have two groups because there are 85 members in the Dhaka city irrespective of organizations. But most people are from the Central Bank because there is a scholarship. Just in February 2020, there were three groups*

of 166 people in the foundation course only. There is another CoP in Chittagong, the second largest city. So in that CoP there were 18 members, and there are another 10 or 12 member from other cities.”¹³ During CoPs, DFI students get to meet, network and share ideas, and their online learning is solidified through discussions, speakers and other face-to-face learning and sharing opportunities.

A number of the BB employees interviewed expressed positive views of the contribution of the CoPs to their knowledge, and to building DFS not only in BB but more broadly.¹⁴ Bidhan Shaha, when asked if the CoPs were valuable stated simply: *“Yes definitely because the idea of the CoP is excellent. So we have a regular CoP meeting here in Bangladesh.”* Likewise, Birendra Chandra Das said: *“Certainly, because the persons we meet in the CoP, whenever we face any problem related to policy making or related to the digital finance or anything that we actually require some expert opinion, the first thing we do we have to look for the CoP partner in that department then call him.”* Babu Marma put it thus: *“[It is] so much valuable because in the CoP meeting we are sharing in our local language. And that’s why it is so much practical and so much effective. And as you know, English is an international language and the courses we have taken are also in English. And we are just international standard, not local standard, you know, because most of the people in our country are not technologically advanced as I am from the commerce students. But I’m not so much good at IT knowledge, and what is IT knowledge, and what is programming knowledge. That’s why I feel some discomfort in that sense. But when I meet others in a CoP meeting, they have some expertise on IT in our country and they provide me, the ones who have the experience and knowledge, and share with us as we are taking our CIDM courses,”*

One of the major positives growing out of the CoPs so far is that a formal association has been formed, known as the Digital Finance Forum Bangladesh. This started as an informal Facebook group in 2017 and has since grown into the formal association due to the enthusiasm of DFI graduates. The Facebook page is still going, with over 800 members. Since January 2020 they have been running a programme of webinars, focussing on different topics. They have chosen to focus on regulatory sandbox, interoperability, digital ID and credit in 2020. The CoP coordinator, Mohammad Rashed expressed the following opinion on the association: *“One of the biggest achievements is that we established an association. We are organizing lots of programs...either in every month or every two or three will be reserved regularly. We have arranged local and international experts...So for me the [launch] of our digital finance association, that is tangible because we can now interact with private sector and public sector people together and discuss on the digital finance issues. We have our Facebook page, our LinkedIn page, our groups also very active groups and if you visit in the Facebook or Digital Finance Forum Bangladesh, then you will find that there is an active people who are discussing very serious things about digital finance, also new ideas and other things that I find very, very encouraging.”* Rashed also argues that the association has also been able to work with other government departments, such as the ICT Ministry.

Bidan Shaha also expressed pride in the formation of the association: *“We have also formed the Digital Finance Forum in Bangladesh, which is basically the alumni of DFI, and I am also one of the convening committee members of the Digital Finance Forum. And we have organized several webinars with different open institutions... Just in the last couple of days, in the last month, we have organized webinars within our own digital lending, in cooperation with Bangladesh Bank and also*

¹³ See DFI (2020). “Jan 2020 Cohort COP Report” for more details on the Bangladesh CoP meetings. The report also outlines the impact of the COVID-19 pandemic on CoPs, and what alternatives have been possible, such as shifting to online meetings.

¹⁴ It should be noted that the three CoPs in Dhaka experienced much lower average participation (48%) than the CoP in Chattogram (81%).

[our members] are currently working with the Prime Minister's Office. So definitely the courses of DFI and this network have encouraged me to engage with the DFI professionals in Bangladesh."

A number of other BB employees felt that the CoPs and association had given them a strong knowledge base and network to draw on, which would ultimately promote DFS in Bangladesh.

Mohammad Alim-Al-Razi: *"Currently I am working in the Currency Management Department of Bangladesh Bank. DFI courses and their learning helps a lot to share different models and ideas of digital currency, their policies, management etc. with my colleagues and related stakeholders, which ultimately is building the base and confidence among central bankers to flourish digital finance in Bangladesh. Through interaction with DFI course mates who are working in public and private sectors, this has created a strong knowledge base, network and platform in Bangladesh. Hopefully in future this close relationship and growing interaction among the organizations will make it easy to adopt new products, projects and policies in coming days."*

Mustafa Sadee Sabereen Towhid: *"Bangladesh is not among the leaders of bringing new digital money market products. But the courses of DFI are bringing up new ideas among the participants. Numerous brain storming sessions are taking place. The impact will be visible very soon."*

Bidhan Shaha: *"Employees are sharing knowledge, so they know what are the best practices, so they can implement these best practices in their work so that will ultimately change the organization. So this is kind of a process."*

Swarup Kumar Chowdhury: *"Okay, one thing is clear about DFI alumni, we are very bonding between us. If we find one of our DFI alumni in that department then we can easily be in contact with him. And as we are like-minded it helps us."*

Mohammad Rashed: *"If a course of DFI is no longer available in future, I can train my colleagues, my junior colleagues, how to deal with the digital finance area, how to make policy, how to supervise the sector. So that's, I think, important: making a wider knowledge base is important because your job is transferable. I become an expert in digital finance...but in the few days later I will be transferred in another department. That's natural, so making the knowledge base is important."*

However, Mohammad Alim-Al-Razi cautioned that despite these positive emerging outcomes, it will take more time for a systemic impact to be felt: *"Actually, the DFI provides the platform for us to develop these things: knowledge, exposure among the professionals who are working in the Central Bank and other banks, and the wider sector. It gives a boost. I think it gives a boost to me and other practitioners, whether working in private sector, government sector or other sectors. It gives a boost and a platform, but the platform needs to be continued. As you know to sustain things needs time, and I think within 3 or 5 years, you will see a lot of confident practitioners and professionals in Bangladesh, who are dealing with digital financial services. And then it will be easy to expand it for the country. If we have such kind of hundreds of professionals, hundreds of people who are feeling comfortable, who can deliver different directions whenever they need it...they will deliver lots of services all over the country in that time. But at present, with current numbers, one by one, 5, 10, a hundred examples... if you continue this and follow the trend of the progress, I am confident within five years, you've got some results which can be seen by outside around other countries."*

5. Conclusion

In September 2019, Bangladesh Bank took the decision to introduce a scholarship for its employees, to enable them to take DFI courses en masse. As shown in this case study, this scholarship has added significant numbers to the small number who had pioneered DFI course involvement since 2017. BB employees are highly enthusiastic about this opportunity, with 66 on the journey to becoming certified digital finance practitioners.

This case study has illustrated a range of positive outcomes experienced by DFI students on a personal level as a result of taking these courses. Not surprisingly, new kinds of knowledge about DFS is the main individual outcome, as well as what acquiring such knowledge does for a practitioner, be it becoming better at their job, gaining a broader awareness of the importance of their role, becoming more confident to share their views, or becoming better able to influence policies or practices in the bank. All of those interviewed or surveyed gave accounts of how they had benefitted from DFI courses, many of which have been included above.

Those interviewed also shared the ways in which they thought their participation was showing outcomes in their departments, or for the bank more broadly. Many of those interviewed rightly pointed to the short time that has passed since a significant number of employees began taking DFI courses. It is also apparent from responses that BB is a very large state institution with engrained hierarchies and processes which cannot change quickly. Nevertheless, a number of DFI students pointed to ways in which they or colleagues were starting to influence various aspects of BB's DFS work – especially those working in departments which directly deal with DFS issues. It was also clear that the CoPs and the newly formed association will continue to build the critical mass needed for systemic change at BB and in Bangladesh as a whole regarding DFS. DFI has clearly played a significant role in establishing the foundations for such systemic change in Bangladesh.

6. Appendix 1

List of BB interviewees:

Name	Gender	Interview Type	Position
Mohammad Rashed	M	Practitioner + CoP Facilitator	Joint Director
MD Azmal Hossain	M	Practitioner	Head Analyst, Financial Intelligence Unit
Birendra Chandra Das	M	Practitioner	Joint Director of Financial Inclusion Department
Bidhan Chandra Shaha	M	Practitioner	Deputy Director of Central Bank in Financial Inclusion Department
Mohammad Zahir Hussain	M	Manager	Supervisor, Financial Stability Department

Swarup Kumar Chowdhury	M	Manager	Deputy General Manager
MD Bayazid Sarker	M	Manager	Deputy General Manager
A.K.M Ramizul Islam	M	Manager	Deputy General Manager: Financial Intelligence Unit
Mohammad Alim-Al-Razi	M	Manager	Joint Director, Currency Management
Babu Marma	M	Manager	Assistant Director: Payment Systems (PSD) - Overseas

List of BB survey respondents:

Name	Gender	Position at Bangladesh Bank
Bidhan Chandra Shaha	M	Deputy Director
Mohammad Alim-Al-Razi	M	Joint Director
Biplob Barua	M	Deputy Director
Md. Jahangir Alam	M	Officer
Babu Marma	M	Assistant Director(G)
Md. Khurshid Alam	M	SDECO
Md. Mehadi Rahman	M	Officer (General)
Muhammad Amirul Momenin	M	Deputy Director
Tonmoy Saha	M	Assistant director
Md. Saiful Azam	M	Deputy Director (G)
Muntasir Mamun	M	Deputy Director
Sumanta Kumar Saha	M	Joint Director
M.Golam Rabbi Tanveer	M	Officer General

Mohammad Zahir Hussain	M	DGM
Md. Monirul Islam	M	Deputy Director
Sk. Mukitul Islam	M	Deputy Director
Mustafa Sadee Sabereen Towhid	M	Deputy Director
Sukumar Gaorob Chakma	M	Officer (General)
Muhd. Sajidur Rahman	M	Officer