

Internship Report

Mobile Financial Services and its Interoperability to a Unified Payment Gateway Solution of
Summit Communications Ltd.



Submitted to:

Saif Hossain

Senior Lecturer & Assistant Coordinator

BRAC Business School

BRAC University

Submitted by,

Billal Hossain Faisal

ID: 10104015

BRAC Business School

BRAC University

Contents

LETTER OF TRANSMITTAL	5
ACKNOWLEDGEMENT	7
EXECUTIVE SUMMARY	8
CHAPTER-1: INTRODUCTION	10
1.1 Background of the study	10
1.2 OBJECTIVE.....	10
1.2.1 Broad objective.....	10
1.3. Methodology	11
1.3.1. Source of Information:	11
1.4. Limitations of the Research.....	11
CHAPTER-2: JOB DESCRIPTIONS.....	11
2.1 Nature of the job	11
2.2 Specific responsibilities	11
CHAPTER-3: OVERVIEW OF SUMMIT GROUP	13
3.1 Background of Summit Group:.....	13
3.2 Other concerns of Summit Group:	14
CHAPTER-4: Summit Communications Limited	16
4.1 Background:.....	16
4.2 Vision:	17
4.3 Mission:	17
4.4 Organization Structure:.....	18
4.5 Project Profile of Summit Communication Limited:	19
4.6 Nationwide Telecommunication Transmission Network:.....	20
4.7 SCL's Product & Services:	22
4.8 Dark Fiber Leasing:	22
4.9 Bandwidth Leasing:	23
4.9 BTS and Hub site Connectivity:	23
4.10 Benefit to the Industry:	24
CHAPTER-5: Mobile Financial Service	25

5.1 Mobile Financial Service	26
5.2 Types of Services MFS offers:	26
5.3 Cash Forecasting:	27
Chapter 6: Interoperability of Mobile Financial Services	29
6.1 INTRODUCTION	29
6.2 MISSION.....	29
6.3 VISION.....	29
6.4 Growth of MFS in Bangladesh:.....	30
6.5 Challenges:	30
6.6 OBJECTIVE:	31
6.7 KEY ASPECTS:.....	31
6.8 KEY CHARACTERISTICS OF UPI:.....	31
6.9 MFS Interoperability.....	31
6.10 Benefits of MFS Interoperability:	35
6.10.1 Benefits at Merchant End.....	35
6.10.2 Benefits at Agents End.....	35
6.10.3 Benefits of SCL	35
6.10.4 Benefits at Customer’s End:	36
6.11 Benefits at Mobile Financial Service (MFS) Providers End	37
6.12 Regulatory Body (Bangladesh Bank) Benefits:	37
6.13 USAGE SCENARIO	38
6.14 Customer Wallet to Wallet Interoperability	38
6.15 Agent Wallet and Customer Wallet Interoperability	38
6.16 Customer and Merchant Interoperability (Summit’s role: Merchant Aggregator)	38
6.17 Aggregating Service Access Channel	39
6.18 Complimentary Service Offering Interoperability.....	39
CHAPTER-7: Unified Payment Gateway.....	40
7.1 Unified Payment Interface	40
7.2 Cash Forecasting.....	42

8. Findings: 44

9. Recommendation:..... 45

10. Conclusion 46

11. Bibliography: 47

LETTER OF TRANSMITTAL

To

Mr. Saif Hosain

Senior Lecturer & assistant Coordinator

BRAC Business School

BRAC University

Subject: Submission of Internship report on “Mobile Financial Services, its Interoperability and an Unified Payment Gateway”.

Dear Sir,

This is my great pleasure to submit the Internship report of my three months long Internship program at Summit Communications Ltd. The title of the report is “Mobile Financial Services, its Interoperability and an Unified Payment Gateway”. This report has been prepared to fulfill the requirement of my internship program at my assigned organization.

I have put my utmost effort to make this report a successful one. It has been a joyful & enlightening experience for me to work in the organization & prepare this report. However, this has been obviously a great source of learning for me to conduct similar types of studies in the future.

I would like to express my sincere gratitude to you for your kind guidance & suggestions in preparing this report. It would be my immense pleasure if you find this report worthwhile & informative to have an apparent perspective on the issue. I shall be happy to provide any further explanation and query regarding this report or any other relevant matters, if required.

Thanking You,

Billal Hossain Faisal

ID: 10104015

Department: BBS

BRAC University

PREFACE

As a prerequisite of BBA program, every undergraduate is required to compose a report paper on separate subject as chose by the advisor. This Program starts as three month temporary job working in any business association, which is clearly a matter of appreciation. It helps the undergraduates a lot in accomplishing useful information and applying the hypothetical learning in genuine ground.

As an outcome, I was designated to work in "Summit Communications Limited" for three months and arranged a report on “Mobile Financial Services, its Interoperability and an Unified Payment Gateway”. I believe this report is the outcome of my hard and sincere efforts in the internship period.

ACKNOWLEDGEMENT

First of all, I would like to thank my Advisor Mr. Saif Hossain for his help, effort, suggestions and utter co-operation. Without his utmost co-operation it would have been impossible for me to complete the report in due time. I shall remain ever grateful to him for his extraordinary gesture and pure interest in completing my report.

I am also thankful and acknowledged to my supervisor Md. Majidul Haque, Senior Manager, SCL, without his direct help, suggestion, and assistance it would have proven quite difficult for me to complete this report. I would also like to thank the authority of Summit Communications Ltd. for helping me by giving an opportunity to work with them.

I am also grateful to the other officials & my friends who helped me while preparing the report by giving their suggestions, assistance & supply of information, which were valuable to me. Their helping hand supported me to complete my report successfully. Finally, I want to thank my parents who gave special attention to me from the very beginning and during the preparation of report & the internship program.

EXECUTIVE SUMMARY

As a part of academic requirement and completion of BBA program, I have been assigned to complete internship report on “Mobile Financial Services, its Interoperability and an Unified Payment Gateway” under the guidance of Mr. Saif Hossain.

As an intern in at a reputed network infrastructure company like “Summit Communications Limited” I have tried my best to analyze the business I have learned within three months.

The report begins with a general description of "Summit Group ", and afterward comes the presentation of "Summit Communications Ltd." and also its motivation, degree and impediment. The Mission and Vision of SCL are additionally talked about. At that point this report continues onto the preliminary discussion of the products of SCL.

After that I talked about the new upcoming projects of Summit Communications Ltd. The Mobile Financial Services, its Interoperability and an Unified Payment Gateway. I have worked on the planning, activation and the process of its flow and those are described in the report.

CHAPTER-1: INTRODUCTION

1.1 Background of the study

The big companies nowadays are looking for more and more options to invest in as it has become very difficult to survive with only one kind of business. The competition in the business world is very stiff now days. The basic rule to start up any new business would be to check the feasibility of the upcoming ventures apart from the profit and other things. If the business is feasible then it means that it would be very easy for the company to run it and gain profit out of it.

Therefore, I tried to observe the feasibility about the two new ventures that SCL is planning to launch; which are the mobile financial services, its interoperability and a unified payment gateway.

1.2 OBJECTIVE

1.2.1 Broad objective

To know overall about the company of SCL and also figure out the possibility of smooth ongoing of the two new projects company is planning to launch.

Specific Objective

To check the feasibility of the business ventures.

The impact of banking the unbanked which may turn into a social economic development.

To analyze the user friendliness of the services that is going to be introduced.

1.3. Methodology

1.3.1. Source of Information:

1. Primary: The primary information collected through face to face interview and observations.
2. Secondary: The secondary information collected from website, magazines and some other relevant sources. Both primary and secondary data sources will be used to generate this report.

1.4. Limitations of the Research

The main limitation of the study is the collection of information because most of the information is confidential. So the organization does not want to disclose them. And I am not able to show the details of the business plans of the company. The time for completion of a report for this company would require a lot more time than allocated as it is a huge organization. It would have been very helpful for the report if I could have had more interviews of the users of the services which is going to be introduced by SCL.

CHAPTER-2: JOB DESCRIPTIONS

2.1 Nature of the job

I started my internship in Summit Communications Ltd. under the MFS department. The nature of the job was mainly research based. I had to work through the current market situation of MFS industries, generate new ideas for business, field surveys and other related works.

2.2 Specific responsibilities

1. Create a marketing campaign for the new MFS business.
2. Field survey for triple play project.
3. Creating business proposal for UPG.
4. Various market research of the competitor.
5. Brand development

CHAPTER-3: OVERVIEW OF SUMMIT GROUP

3.1 Background of Summit Group:

In the year 1972, the first company of the Summit group was Sanguine Traders which was a small thermo-plastic molding compound trading company. Since then the goal of Summit group was to develop the company into a premier business institution. After three decades, Summit has become well established as a top tier business establishment of Bangladesh with the group consisting of more than 10 companies and employing more than 500 people (Summit Group, 2014).

Today Summit Group is known as a highly innovative company who has the reputation to innovate new ideas. This company is currently known as Summit Industrial & Mercantile Corporation Limited (SIMCL) being a holding company incorporated on 1985. The group operates in markets such as power, shipping, oil, containers etc. It also has investments in other diversified fields such as real estate and banking. The two power producers in the group, Khulna Power Company Limited and Summit Power Limited are two of the largest and most advanced private power producers in the country. Out of the groups diversified concerns, four of its companies, Summit Power, Khulna Power, Ocean Containers and Summit Alliance Port Limited are currently listed in the two stock exchanges of the country and have a combined market capitalization of over taka 101 billion or around US \$ 1.5 billion. The figures of the public limited companies alone make it one of the most valuable companies in the country, leaving aside its other privately held concerns (Summit Group, 2014).

Even though Summit is a profit oriented organization but it believes in the betterment of society and takes it as an important responsibility to improve the lives of people around us. Keeping this in concern Summit has set up the Siraj-Khaleda Trust which has built a modern 200 bed hospital to provide treatment to the underprivileged people of the society. It also participates in the

Prothom-Alo Support Fund to distribute fund for different causes in all parts of the country. The group is also concerned about the environment in its actions and ensures its operations do not degrade the environment and they also subsequently go for tree plantations to replenish the losses to environment for industrialization (Summit Group, 2014).

3.2 Other concerns of Summit Group:

Summit Communications Limited.

Summit Power Limited.

Summit Alliance Port Limited.

Khulna Power Company Limited.

Summit Shipping Limited.

Ocean Containers Limited.

Cosmopolitan Traders (Pvt.) Limited.

Summit Pipeco Limited.

United Summit Coastal Oil Limited and many more.

Summit Power Limited:

Summit Power Limited (SPL), sponsored by Summit Group, is the first Bangladeshi Independent Power Producer (IPP) in Bangladesh and until now the only local company in private electricity generation and supply business providing power to national grid. SPL was incorporated in

Bangladesh on March 30, 1997 as a Private Limited Company. On June 7, 2004 the Company was converted to Public Limited Company under the Companies Act 1994.

Summit Alliance Port Ltd:

Summit Alliance Port Limited (SAPL) is an off-dock port service provider including ICD (Inland Container Depot) and CFS (Container Freight Station) services. Located just 6.5 kilometers from the Chittagong port, SAPL has a great geographical advantage. The ICD facilities include empty container storage and the CFS services can handle both import and export cargo.

Khulna Power Company Limited:

Khulna Power Company Ltd. (KPCL) has the distinction of being the pioneer IPP in Bangladesh by having two barge-mounted power plants generating 114 MW of electricity. This is a private limited company located in the southern parts of Bangladesh, Khulna. KPCL is a joint venture in collaboration with Summit Industrial & Mercantile Corporation (Pvt.) Limited and United Enterprises.

Summit Shipping Limited:

Summit Shipping Ltd. (SSL) is a concern of the Summit group chiefly for the transportation of liquid oil. These liquid products mainly are the raw materials required for production by different power plants. Summit Shipping Limited is the first ISO 9002 certified shipping company in Bangladesh.

Ocean Containers Ltd:

Ocean Containers Ltd. (OCL) is the largest privately owned off-dock container port in Bangladesh. It's also the frontrunner for Inland Container Depot (ICD) and Container Freight Stations (CFS). The location of the facility is only 6 kilometers away from Chittagong port.

Established in 1994, the activities of OCL includes loading and unloading of more than 8,000 containers per month. OCL also provide storage facilities of 5,000 containers each day.

Cosmopolitan Traders (Pvt.) Ltd:

Cosmopolitan Traders (Pvt.) Ltd. is a support entity of the Summit group chiefly involved in trading. This holding company is engaged in port-related businesses. These services and businesses include container depot, liquid storage terminal, gas terminal, shipping among other ventures.

Summit Pipeco Ltd:

Summit Pipeco Ltd. (SPL) has been established to complement the already existing services that Summit offers for the energy sector. This venture helps to get the most out of the new opportunities emerging in the ever changing energy sector.

United Summit Coastal Oil Ltd:

United Summit Coastal Oil Ltd. (USCOL) is an oil management company set up to complement the activities of some other ventures of the group. It's the first private organization of its kind in Bangladesh. This is established by Summit in collaboration with the United Group. (Summit Group, 2014)

CHAPTER-4: Summit Communications Limited

4.1 Background:

Summit Communication Limited (SCL) is one of the two authorized Nationwide Telecommunication Transmission Network (NTTN) operators in Bangladesh. SCL is a subsidiary of Summit Group, one of the leading and high net-worth industrial conglomerates of the country. SCL was set up to ensure diversification in the group and to take position into the telecommunication sector and strengthen the country's telecommunication infrastructure. This initiative is also in line with Govt.'s initiative of „Digital Bangladesh“ and to lay foundation for this goal (Summit communications, 2009).

The organization started its journey on 22nd December 2009 after being granted a license from Bangladesh Telecommunication Regulatory Commission (BTRC) to operate Nationwide Telecommunication Transmission Network (NTTN) services. This license will help SCL to concentrate on its mission of strengthening the country's telecommunication backbone by upgrading and expanding the current fiber-optic network in Bangladesh. It authorizes SCL to develop, build, own, operate, maintain and provide fiber-optic based NTTN services to Access Network Service (ANS), Licensed Telecommunication Operators and other authorized users (Summit communications, 2009).

4.2 Vision:

The vision of Summit communications was to connect every household in Bangladesh with world-class multi-media services with the objective to help develop a Digital Bangladesh (Summit communications, 2009).

4.3 Mission:

To implement and operate fiber optic network for the whole country.

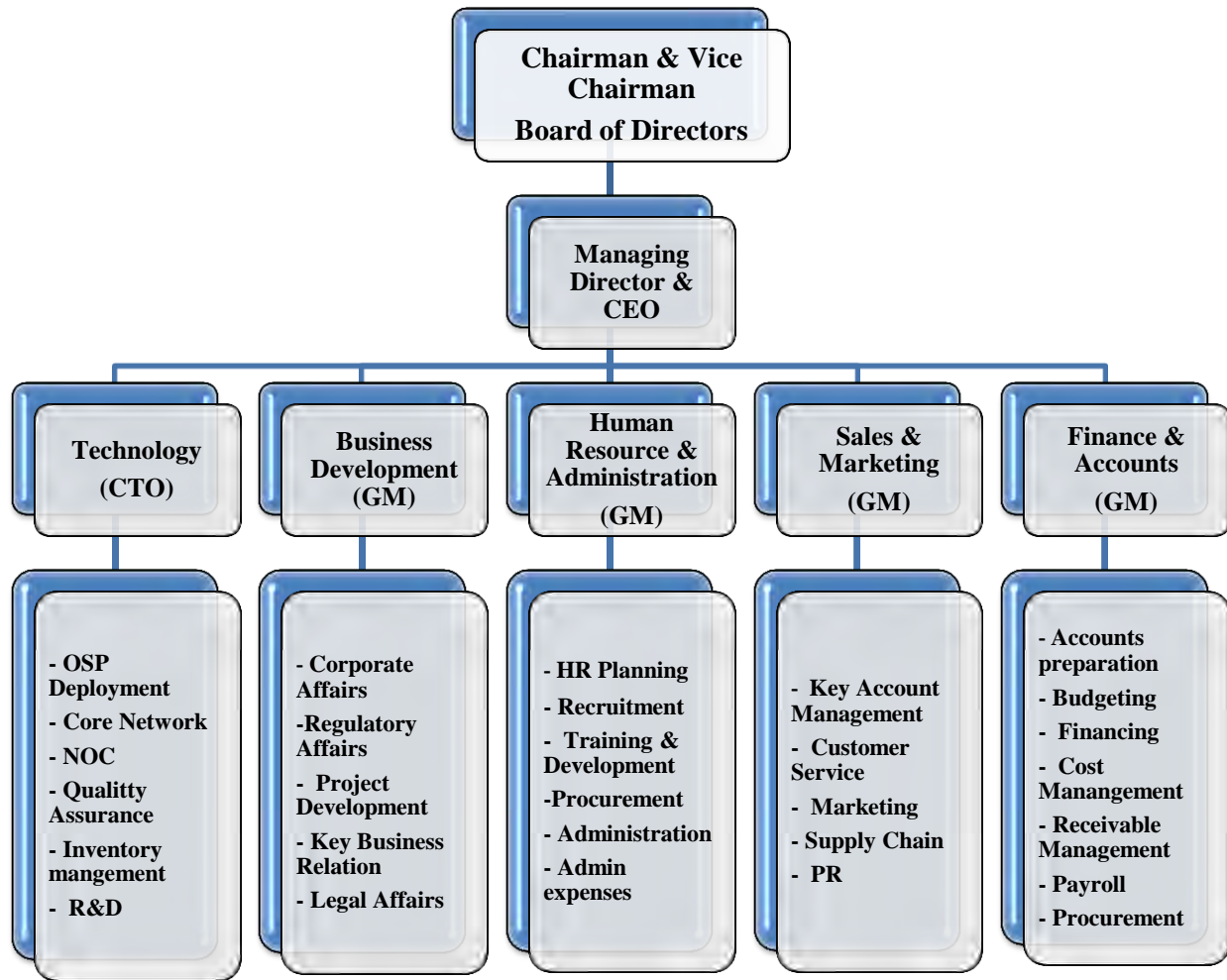
To serve the industry with durable, reliable and affordable network solution in the long run.

To innovate and implement modern up to date transmission technology which will serve current demand of the market.

To explore and work toward future potentiality of different telecommunication services.

4.4 Organization Structure:

Summit Communications Limited, being one of the sister concerns of Summit Industrial & Mercantile Corporation (Pvt.) Limited has set the Management in line with the required expertise & Technical knowhow and relevant supportive divisions. The Board of Directors of SCL shall look after the strategic issues whereas the competent personnel employed by the company will implement its plan and supervise the plan. Here is the proposed organogram of the Company:



[Figure 1: Organogram of Entire Summit Communications Limited](#)

Source: Summit Communication. (2009, December 22). Retrieved February 17, 2016, from <http://www.summitcommunications.net/scl/>

4.5 Project Profile of Summit Communication Limited:

BTRC had issued licenses to private sector for building, operating and maintaining nationwide optical fiber network all over the country known as Nationwide Telecommunication

Transmission Network (NTTN). Summit Communications Limited has been awarded as second licensee to implement countrywide optical fiber network on 9th December 2009. The first license was awarded to a company named Fiber@Home Limited on 2008 and they are already in operation having some decent presence of Optical Fiber Network nationwide (Summit communications, 2009).

4.6 Nationwide Telecommunication Transmission Network:

Resulting from tremendous growth in Telecommunication sector, there is a need of concrete stable and unified optical fiber network in metro cities as well as long haul for network connectivity or transmission purpose. All the telecom companies including Mobile Operators, PSTN and Internet Service Providers have established their network for their network connectivity. Each of them except the mobile operators have made of their network using overhead cables instead of underground network which are hazardous in nature and have low economic life. As a result, the growth in telecommunications demands during recent decade in Bangladesh, much attention has been given to transmission solutions both for active and passive network. A well planned optical transmission network can effectively carry and transmit voice, data and video services to the end customers. Therefore using NTTN operator in the country can strengthen its network transmission, provide cheaper but durable network, reduce wastage of resources and overall can implement a network build up for connecting all kind of operators under common backbone to ease networking facility to every entity without much disruption (Summit communications, 2009).

The NTTN License:

The license has been awarded to Summit Communications Limited on 9th December 2010 which is valid for 15 years in duration, subject to renew every year.

1	License Acquisition Fee	BDT 30,000,000
2	Annual License Fee	BDT 2,500,000

3	License Tenure	15 years
4	Gross Revenue Sharing	0% in 1 st year, 1% for 2 nd year, 2%for 4 th & 5 th year and 3% on ward
5	Performance Bank Guarantee	BDT 100,000,000

Table 1: NTTN License

Source: Home. (2009, December 22). Retrieved February 17, 2016, from <http://www.summitcommunications.net/scl/>

License Premises & Obligation:

The NTTN license has been issued with the view of facilitating total network solution for all telecommunications operators. Following are the objective as well as key features of NTTN operation according to the license issued:

The operator shall develop, build, operate and maintain its NTTN system all over the country.

The operator is authorized to Lease out/ rent out its NTTN resources to the ANS and other licensed telecommunications operators for a specified lease term within NTTN license duration

The operators are permitted to use cable, optical fiber and other wire based technologies to provide NTTN service.

The operator has to option to develop, build, operate and maintain last mile network up to the end users. But no NTTN operator is permitted to provide services directly to the end users. ANS and licensed Telecommunication operators can use the NTTN resources to provide telecommunication services directly to the end users.

The operator shall have to develop NTTN network minimum up to Upazilla headquarters throughout the country and will have to meet rollout obligation stated in the license.

The operator will have to file for Initial Public Offering (IPO) within 5 (five) years of the issuance of license. The operator is not allowed to transfer any share before issuance of IPO and without prior permission from BTRC.

4.7 SCL's Product & Services:

The main service of Summit Communications Limited is to facilitate network transmission service. As per license obligation, SCL will build up, operate and maintain an optical fiber cable network and lease out to ANS operators, ISPs, other licensed telecom operators and cable TV operators. SCL will be building backbone network both in metro cities & in long haul and can provide network service through 1) Dark Fiber Leasing, 2) Bandwidth Leasing. Another service the company offers is BTS and Hub site connectivity (Summit communications, 2009).

4.8 Dark Fiber Leasing:

The term dark fiber was originally used when referring to the potential network capacity of telecommunication infrastructure, but now also refers to the increasingly common practice of leasing fiber optic cables from a network service provider. Dark fiber networks may be point-to-point, point-to-multipoint, or use self-healing ring or mesh topologies. While dark fiber leasing, SCL offers operators to lease cores/ pair (i.e. 01 pair = 02 core) from SCL's network for a definite distance and the operator will pay based on per Km per core basis for dark fiber dark leasing. Additionally the company can build up additional spurs according to the request of operators. The operators can sublease bandwidth to the end customers using their own active device or terminal equipment. Potential customers for dark fiber leasing are ISPs, Mobile operators, PSTN operators, Wimax operators and Cable TV operators. Currently all operators is providing end customer's solution by providing dark fibers to each customers. As a result, there is a discreet need of more dark fibers among all operators for providing backbone and end to end transmission solution which can be mitigated through NTTN operators. SCL will provide minimum 100 Km dark fibers for next 3 years to these operators for facilitating their backbone

solution and these dark fibers will be provided exclusively for their backbone solution and will restrict them to sublease these fibers to other operators (Summit communications, 2009).

4.9 Bandwidth Leasing:

Another alternative way to provide transmission service to operators is to leasing bandwidth. Bandwidth can be generated using active device or terminal equipment and the company will allocate bandwidth to the operators based on SDH (for voice) or FE-GE Ethernet technology (for data) since some of the operators especially some ISPs prefer leasing bandwidth. This service is attractive for local small ISPs who cannot afford leasing 100 Km of Dark fiber and have small requirement of Bandwidth in certain areas in their market. Some other services also can be offered using this technology at the later stage of company's project (Summit communications, 2009).

4.9 BTS and Hub site Connectivity:

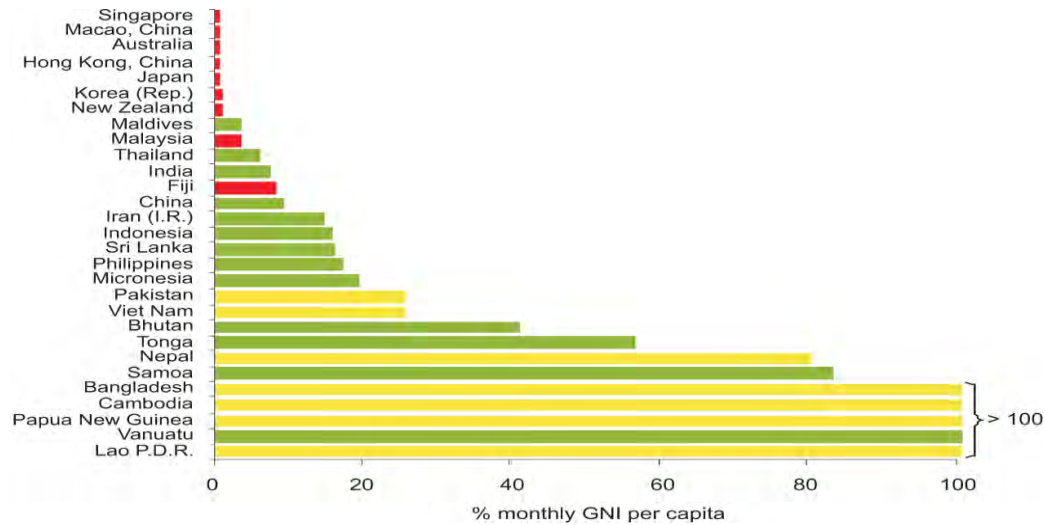
Mobile operators and Wimax operators use BTS towers to facilitate their wireless network. End users get this operator's service without any wire, using these BTS towers. However BTS towers of these operator's gets connected with their Hub sites (often refers to MSC and BSC or aggregation point) using fixed optical fiber. Also most of the BTS-BSC connectivity has been established based on Ethernet which is costly and lacks durability. Big mobile operators already had established their underground backbone to support their hub sites; however most of these networks do not cover up to the BTS connectivity. Moreover some operators lease out other operators built backbone in exchange of monthly lease rental which provides temporary solution for their network connectivity. Also sometimes these operators require tailor made network to connect their last mile connectivity up to their BTS tower, that only NTTN operators can provide. Moreover emergence of 3G technology will increase bandwidth need in a great extent and those 3G supported BTS towers will have to be connected from the aggregation points/ Hub sites with optical fiber to carry more bandwidth (Summit communications, 2009).

4.10 Benefit to the Industry:

Summit Communications Limited will lease out Backbone network transmission facility, Bandwidth to existing and potential service providers i.e. ISPs, Cable TV Operators and ANS Operators. The company will be holding the ownership of the transmission equipment including optical fiber, ODF, joint closure, terminal equipment etc. and the company will be responsible of overall operation & maintenance respective backbone. As a result, whenever any new operator includes in the industry, they will not need to spend time or money to establish their network and thus their Capital expenditure and Operating cost-both will be reduced (Summit communications, 2009).

Also since SCL is building Optical Fiber Cable network underground, hazardous overhead cable will be extinct and durability & reliability of their network will be magnified greatly. Wastage of cable and telecommunication equipment will be reduced and by sharing them each operator will not have to import extra cable and thus it will save national resources. Also company's idea of common network backbone for all operators will make network establishment will be easier and much more organized for total telecommunication industry (Summit communications, 2009).

Building up Optical Fiber Network is one of the key elements of building "Digital Bangladesh". Digitalization of government agencies, automation among different ministry as well as remote offices, countrywide CCTV deployment, traffic control system, citizen centralized database system, online utility bill collection etc. can be possible by using this infrastructure. More over all public & private school, college and universities can be connected and all the hospitals can be connected through this network and this will be helpful to deploy E-medicine or E-learning etc. This means, overall productivity and efficiency can be accelerated by using infrastructure that will be made by Summit Communications Limited (Summit communications, 2009).



Graph 3: Fixed broadband prices as a percentage of monthly GNI per capita

Source: Home. (2009, December 22). Retrieved February 17, 2016, from <http://www.summitcommunications.net/scl/>

Above graph showing cost of bandwidth internet service more than 100% cost compared with monthly GNI per capita which leads Bangladesh even lower position than Nepal. Cost incur for utilization of internet show that Singapore, china, Australia Hong Kong, Japan, south Korea, New Zealand stands at less than 1% while in Bangladesh an individual has to pay more than monthly GNI per month (137.7%) for internet use while countries of SAARC such as, Nepal, Bhutan, Sri Lanka, Pakistan, India, Maldives pay much low for internet. High network and overhead cost of ISPs has lead higher price to GNI per month ratio that can be much reduced through establishment of NTTN network lowering ACPU (Average Cost per User) according to Summit Communication's tariff plan for the ISP companies and thus industry can offer lower cost internet service to the end users (Summit communications, 2009).

CHAPTER-5: Mobile Financial Service

5.1 Mobile Financial Service

The financial sector in Bangladesh has undergone tremendous growth in volume and complexity over the recent years. However despite impressive growth gains in capital base, income, return on equity and other areas, the financial sector remains lagging in reaching out with adequate financial services to large swathes of farm and non-farm economic activities of low income rural and urban population in Bangladesh.

Rapid countrywide expansion of Mobile phone networks and Bangladesh Bank led

modernization of the country's Payments system and financial sector IT infrastructure have opened up opportunities for innovating mobile phone based cost efficient modes of off-branch financial service delivery to the underserved population segments. Bangladesh Bank (BB) is issuing regulatory guidelines for Mobile phone based Financial Service (MFS) platforms in Bangladesh with a view to providing an orderly, enabling and competitive environment for utilizing this new window of opportunity of innovatively extending the outreach of financial services.

5.2 Types of Services MFS offers:

Under the Mobile Financial Service there are a certain range of services that can be offered. These services are all planned to ease the life of people and also include the money that is flowing in the unbanked community under surveillance. The services are-

Merchant Payments

Salary Disbursement

Cash Out

ATM Withdrawal

Send Money

Loan repayments

Foreign Remittance

Cash In

Interest on Savings

Mobile Recharge

P2P transaction

Mobile recharge

5.3 Cash Forecasting:

For Mobile Financial Service the revenues are earned in two ways-

Transactional Revenue.

Interest.

Operating Expenses are listed below-

Technology Platform(Capital Expense)

Salary

Network Maintenance Cost

Office rental and overhead

Above the line marketing

Below the line marketing

Training

SAC

Customer Verification

Agent Acquisition

Channel Campaigns

Vehicle Cost

Chapter 6: Interoperability of Mobile Financial Services

Interoperability of Mobile Financial Services

6.1 INTRODUCTION

Bangladesh is the land of enormous opportunities. There have been many mile-stones accomplished over the past few years in many segments which were really tough for us to achieve. However, with massive effort and hard work, we have been able to reach at a point where we could be really taking pride on. Despite much advancement, we have been yet to explore some of the most significantly beneficial areas of our economy. A substantial amount of the population is hitherto being included in the financial structure. There are certain challenges in order to accomplish that, however the most efficient procedure to involve them under financial insertion is Mobile Financial Service.

It is the way to reuse the unused property especially of our underprivileged segment by storing, maintaining, recycling their money in a proper way. For this purpose, DBBL launched MFS service officially in 2010 for the first time in Bangladesh. Afterwards in 2011, bKash and DBBL commercially started its operation. Over time, many other service providers launched their services in market, but among them most popular service provider is bKash till now.

Now, SCL which is the leading infrastructure support provider having nationwide NTTN and Gateway licenses through optical fiber network, planning to be a medium of mobile banking service with more attractive features and more advanced applications, which will also clear the existing model's weaknesses too and will make peoples life more easier.

6.2 MISSION

To ensure a safe, accessible, modified mobile banking service, targeted especially the poor segments and for all in the country.

6.3 VISION

Achieve basic financial inclusion for everyone.

6.4 Growth of MFS in Bangladesh:

The MFS industry attracted 25.25 million subscribers with a transaction of USD 1.35 billion through mobile network using 5,40,984 independent agents within last four years. Daily transactions stand at around USD 42 million.

Year	Number of MFS account(millions)	Total transaction(USD in millions)	Number of Agents
2011	0.44	26.67	9,093
2012	2	256.7	59,559
2013	13	847.2	82,000
2014	25.25	1345.6	5,40,984

Table: Mobile Financial Services Growth Statistics, Source: Bangladesh Bank

6.5 Challenges:

Over-the-counter transactions (OTC): OTC refers to sending money using two agents' personal MFS accounts, where the sender and the receiver are both unknown to the bank. It seems risky and illegal by the Central Bank. Some agents allow registration of fake accounts without ensuring information to increase their business. It should be more modified and secured.

Corruption by SIM replacement: Some people are hacking money from agent and customer accounts by SIM replacement by availing PIN and other information of MFS accounts. Using the collected information, a replacement SIM is acquired from the respective mobile network operator to transfer the money to a false KYC account from an agent point.

Security issues: Criminals can register on MFSs using unregistered mobile numbers and fake national IDs and can use those accounts to demand ransom via these networks. Every day

different cases are filed in the police station. Multiple incidents with bKash sales representatives have also been recorded.

6.6 OBJECTIVE:

The main purpose of UPI is to facilitate the next generation by building a structure by increasing smartphone usage, increasing penetration of mobile data, Bangla language interfaces etc.

6.7 KEY ASPECTS:

Payment through mobile app, web etc rather than cash.

Payment can be both sender and receiver oriented in a safe, secure and convenient environment.

A design with much adoption of smartphones.

There will be required customers mobile number, permanent address for the service.

It ensures Banks and other players to innovate and offer a superior customer experience to make electronic payment system secure and reliable.

It will support the growth of E-commerce.

6.8 KEY CHARACTERISTICS OF UPI:

Scalable – Innovation in the newer form of Identity, Authentication and Banking

Designed as per current trends – Usage of smart phone

Authorization on App – Full authorization of users even in the Merchant payment

Real time – Real time experience for users for interactive transactions through Banks

Secure – Traceable through the entire transaction chain

6.9 MFS Interoperability

Interoperability can mean different things. At the most basic level, and for the purpose of this study, interoperability is defined as “the possibility to transfer money between customer accounts at different mobile money schemes and between accounts at mobile money schemes and

accounts at banks”. Interoperability should not be confused with interconnection, which is the ability to technically connect with another network. Interoperability is considered important because of its potential effects on consumers, businesses and the economy. In mature markets and where scale has been achieved, interoperability can help businesses to manage costs, increase efficiencies through shared infrastructure and to increase transaction volumes. Customers benefit from network effects and ideally from reduced transaction costs. Governments believe that interoperability can help advance financial inclusion due to reduced transaction costs and can also lower the cost of printing and managing cash.

However, interoperability is not without risks as it creates complexities at the technical, commercial and operational levels that need to be managed jointly by the participants. This is managed by ensuring that all participants adhere to the same standards to maintain the integrity of the system. Also, if imposed prematurely – in the early stages of business development or channel expansion - interoperability can dampen investment. It is more suitable for a market that has already reached scale.

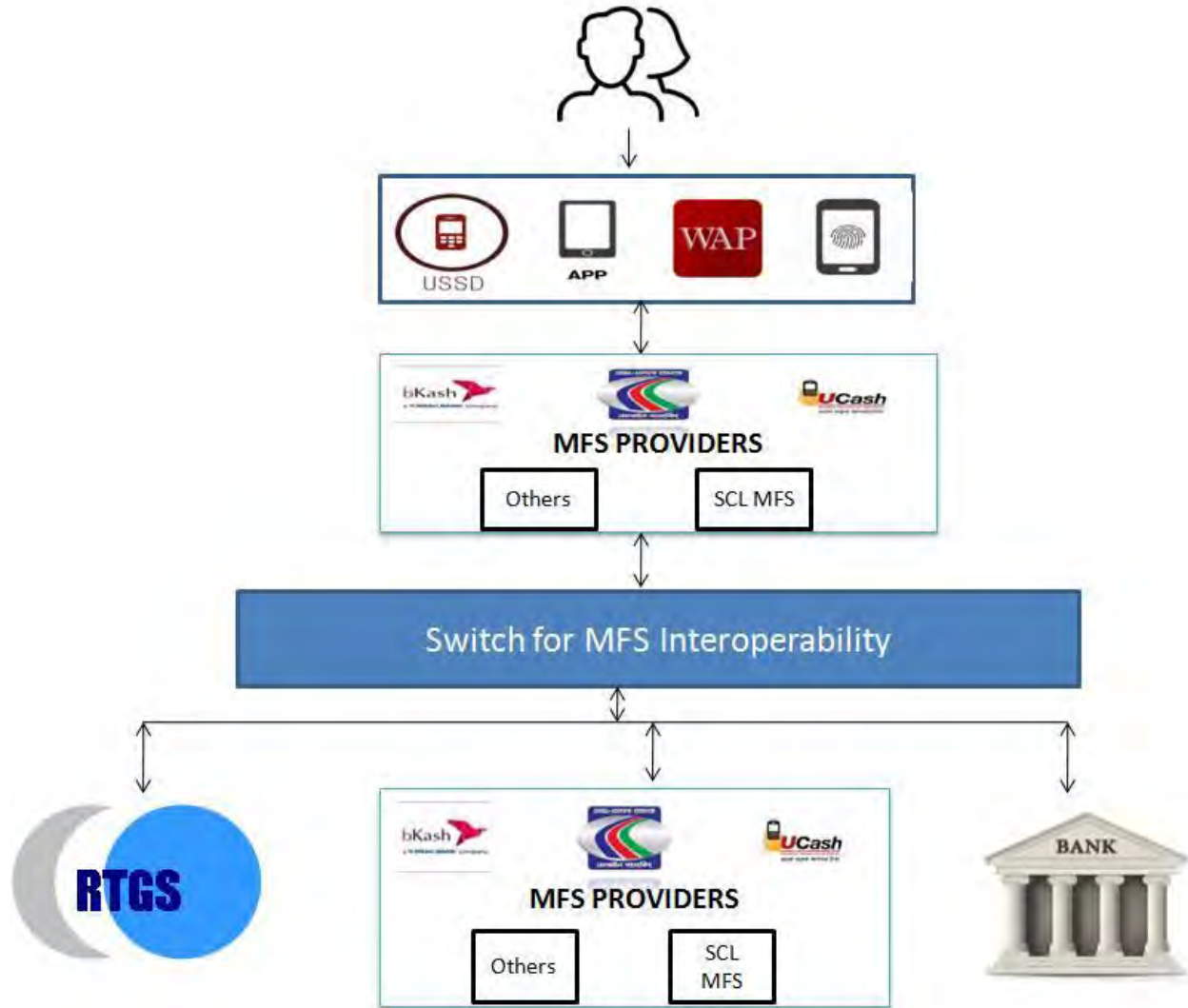


Fig: MFS Interoperability Switch Process Flow

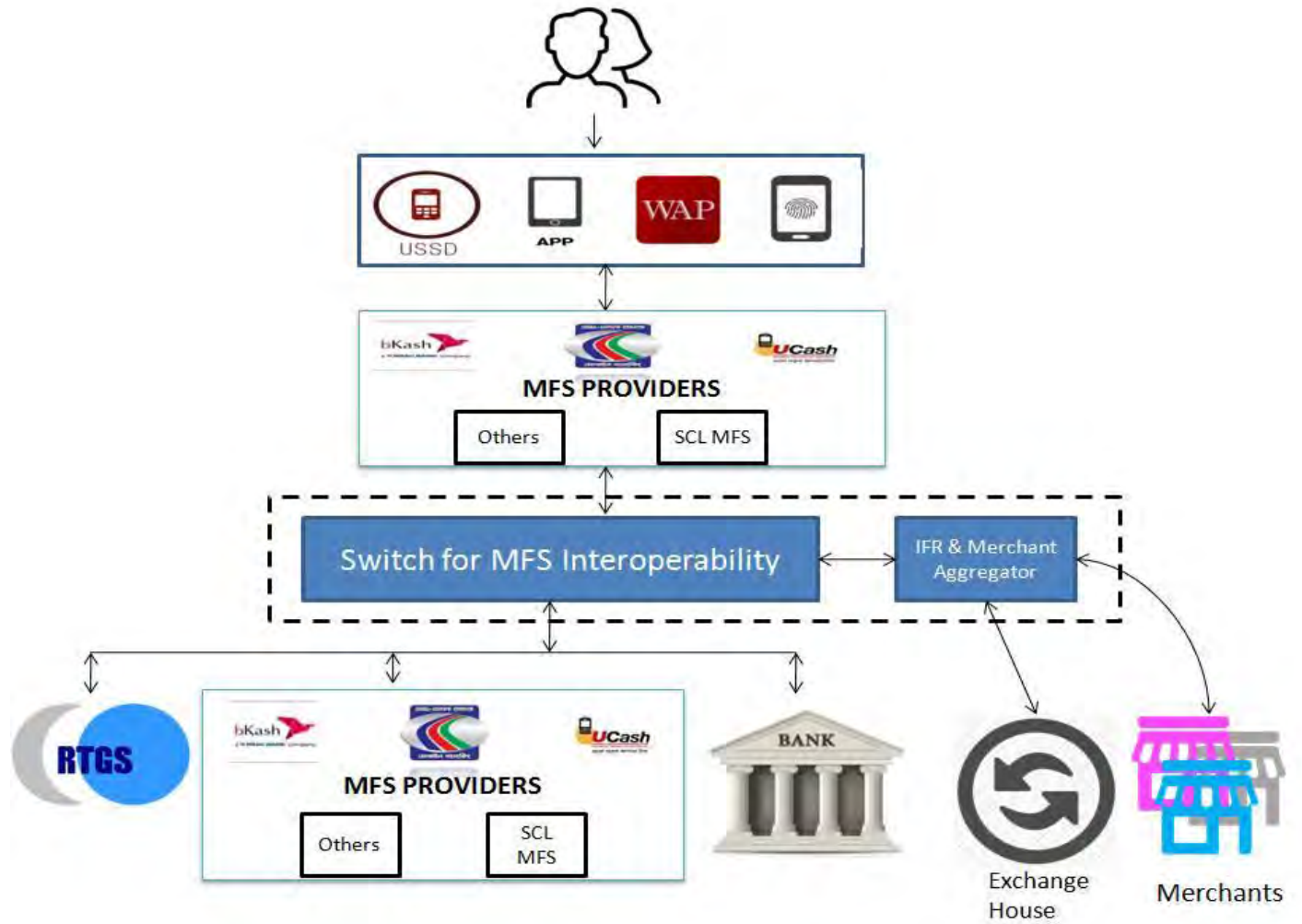


Fig: Extended MFS Interoperability Switch Process Flow

6.10 Benefits of MFS Interoperability:

6.10.1 Benefits at Merchant End

Lesser hassle through single payment interface – Merchants always deal with different types and level of customers. Having a unified payment interface will ease the life of the merchants as all the customers will be paying through the same access channels.

Facilitation of payments from all MFS customers – SCL payment interface will facilitate the merchants to receive payments from all customers using different mobile financial service.

Better convenience for customers – SCL payment interface will create convenience for the customers thus leading customers to the merchant availing the interface.

Increased volume of sales – Higher the customer reach for a merchant, higher the amount of sales for that merchant.

6.10.2 Benefits at Agents End

Increased transactions - Agents will be able to transact virtual money from all the MFS providers using this interface without being the agent of all the MFS providers. This will increase the number of transactions for an agent.

Profitability increment in MFS distribution chain – The increment in transactions will increase the profitability in the distribution channel and agents will be benefited being in the channel.

Higher annual turnover and no. of customers – Higher transaction eventually increase the turnover and also the number of customer per agent.

Better opportunity of growth – As the agents will have more profit and more customers, they will have the opportunity to look further ahead with the increasing capital and grow their business in new directions, developing their social and economic conditions.

6.10.3 Benefits of SCL

Increased brand image – Creating a unified payment interface means creating a platform where all the other brands will be under the same area resulting into increasing the brand image of SCL.

First mover's advantage – First mover's advantage is a term that is applied in any business and SCL payment interface is no different. This interface will be the first of its kind in the country and it is definitely going to have the advantage of gaining the market shares and acquisitions than others.

Significant added advantage for other ventures – As SCL payment interface is going to collaborate the MFS providers under one umbrella, it will pave the way for SCL to look in to other new ventures and also gain added advantage due to the increased branding of the company.

Increasing profitability – New business, increased brand image and opportunity of new ventures will gradually increase the profitability of SCL.

6.10.4 Benefits at Customer's End:

Low Cost Service: The customers nowadays have to run to agent points to cash in or cash out of their preferred mobile financial service, which is very costly indeed because of the time being wasted and also the transportation cost incurred. The introduction of MFS interoperability would make sure that all the unnecessary cost is minimized.

Basic Financial Services for All: The customers can send money, cash in, cash out and have all other financial services from one MFS to with all other MFSs.

More Convenient: The above points would automatically make life more convenient for the customers as they can have all financial services with one interoperable interface.

Socio Economic Development: The introduction of interoperability would enhance people's participation in the economy to a huge extent. This would facilitate everyone from all corners of the country which would eventually socio- economic development.

Exploring the Opportunities: The socio economic development has a logical sequence of flourishing new possibilities in the market. The introductions of new things give the customers new ways of doing things in an easier and more beneficial way.

6.11 Benefits at Mobile Financial Service (MFS) Providers End

Interoperable Platform: MFS providers will have the ability to do business with each other using this interface and expand their reach of business.

Increasing Customer Outreach: A customer of bKash is technically now a customer of all other MFS providers too, as he would be doing transactions with them.

Service Extension: Then MFS providers are now limited to providing a few services but the interoperable interface would allow to include a lot more financial services in their bag, which would eventually make them grow bigger and bigger.

Higher Profit Generation: The no. of transactions of all MFS's would increase significantly with the customer base and this would in turn increase the profitability of the organization.

Shared Facilities: The interoperable interface would allow all MFS providers to share ideas and do better altogether for a greater purpose.

6.12 Regulatory Body (Bangladesh Bank) Benefits:

The central bank of Bangladesh can make sure that people from all over the country and all communities have access to financial services, which can be made possible in the most convenient manner through the Interoperable interface.

The cash inflow in the economy will significantly increase as a significant unbanked population of the economy will now have banking facilities.

The socio economic development would happen under the surveillance of the highest financial regulatory body. This would mean that Bangladesh Bank would be playing an important role not only in economic development but also in the social development of the economy.

The process of forming a cashless economy through digitization is going to minimize hassles and many other problems for the regulatory board. This is going to increase revenue and also power of the regulatory board on the economy.

The ultimate goal of inclusion of whole community in the digitalized financial world would be made possible only through the interoperability interface.

6.13 USAGE SCENARIO

This part provides a set of scenarios of usage of this unified payment interface. The purpose of the scenarios is to illustrate real life use cases and all possible usages. It is expected that a whole ecosystem would be created through this interface.

6.14 Customer Wallet to Wallet Interoperability

Send Money from one MFS to another MFS. Example- A customer of MFS A wallet can send money to a customer of MFS B wallet.

This is the simplest yet the most vital role of interoperability. A friend in need with some money using MFS A cannot receive money from a friend using MFS B and vice versa. Here comes our role of making the transaction possible through our SCL Payment Interface; the request of sending money would be transmitted through us.

6.15 Agent Wallet and Customer Wallet Interoperability

Cash In and Cash Out from one MFS to another MFS. Example- An agent of MFS A can cash in into a MFS B wallet and a MFS B wallets customer can cash out from a MFS A agent point.

It has been seen in many cases that customers keep running from one agent point to another agent point for cash in or cash out. The cause of this scenario takes place because either MFS agents are not of same MFS provider for the customers' preference. Rafi uses MFS A but wants to cash out from MFS B is not going to take place; similarly an agent of MFS A cannot cash in any MFS B wallet. Therefore it is essential for all MFS providers to get connected with SCL payment interface which would facilitate all.

6.16 Customer and Merchant Interoperability (Summit's role: Merchant Aggregator)

Collect money for merchants through the aggregated service access channels. Example- A customer using MFS A can purchase from any merchant using MFS B.

This interoperability is going to facilitate the customers and the merchants and customers both. Sarah goes to a wet market for groceries but all sellers are using MFS A whereas she herself is a user of MFS B. But these transactions of merchants and customers from different MFSs can be made possible through the use of SCL Payment Interface.

6.17 Aggregating Service Access Channel

USSD

Applications

WAP

NFC

Here, the purpose is to facilitate a service access channel which will enhance the customer's access to the interoperable complimentary services that the SCL Payment Interface provides. The customers will be provided with the above mentioned platforms from which they will have to direct access to these services.

6.18 Complimentary Service Offering Interoperability

Collect Fund- Collection of money on a post date. Example- A person with a MFS A wallet can send a request for money from MFS B wallet to his friend, which he needs on a post date.

Two friends Rafi and Rahat go out for movies and Rafi pays for the tickets. They agree to split the bill in half. Rafi wants to collect half of the bill from Rahat and uses his android mobile phone to do so and requests Rahat to pay in a week's time.

The steps below show the simplified process:

1. Rafi uses his phone/smart phone being subscribed with MFS A and he sends a request to Rahat.
2. Rahat is subscribed with MFS B, here lies the problem; transactions don't take place between MFSs.
3. This is where we play our vital role of being the route of interoperable transactions.

4. The request is then transferred to MFS B and Rahat receives a request for confirmation of the payment.

5. If Rahat authorizes the request then on the particular date of payment requested Rahat's account would be debited and Rafi's account would be credited.

Scheduled Payment- A simultaneous process of completing due payments for various services. Example: An insurance premium payment for any customer using MFS A to an Insurance provider using MFS B.

Scheduled pay mechanism has enabled Sarah's MFS company and insurance company to send her the bill/premium collection request in an automated fashion to her virtual address registered with her mobile application through SCL payment interface. Interestingly, with the unified interface having the ability to specify the "pay by" date, these companies can send these bills several days ahead of time to Sarah and allow her to pay any time within the request expiry period. Her mobile phone smartly sets reminders based on the payment request and allows her to pay them on time. As we know insurance premium and many other payments are usually due every month like school tuitions, and electricity bills, etc. Therefore, customers can be provided with the convenience of one time authorization instead of authorizing every time.

CHAPTER-7: Unified Payment Gateway

7.1 Unified Payment Interface

Unified Payment Interface is completely a new business prospect in Bangladesh. It is present in India and other African countries but no other companies have planned to explore this business idea. Objectives of a unified system is to offer an architecture and a set of standard APIs to facilitate the next generation online immediate payments leveraging trends such as increasing smart phone adoption, Bengali language interfaces, and universal access to Internet and data.

Following are some of the key aspects of the Unified Payment Interface.

The Unified Payment Interface is expected to further propel easy instant payments via mobile, web, and other applications.

The payments can be both sender (payer) and receiver (payee) initiated and is carried out in a secure, convenient, and integrated fashion.

This design provides an ecosystem driven scalable architecture and a set of APIs taking full advantage of mass adoption of smart phone.

Virtual payment addresses, 1-click 2-factor authentication, user integration, use of payer's smart phone for secure credential capture, etc. are some of the core features.

It allows banks and other players to innovate and offer a superior customer experience to make electronic payments convenient and secure.

Supports the growth of e-commerce, while simultaneously meeting the target of financial inclusion.

Proposed architecture is well within the regulatory framework of the mobile and ecommerce transactions having 2 factors of authentication (2FA).

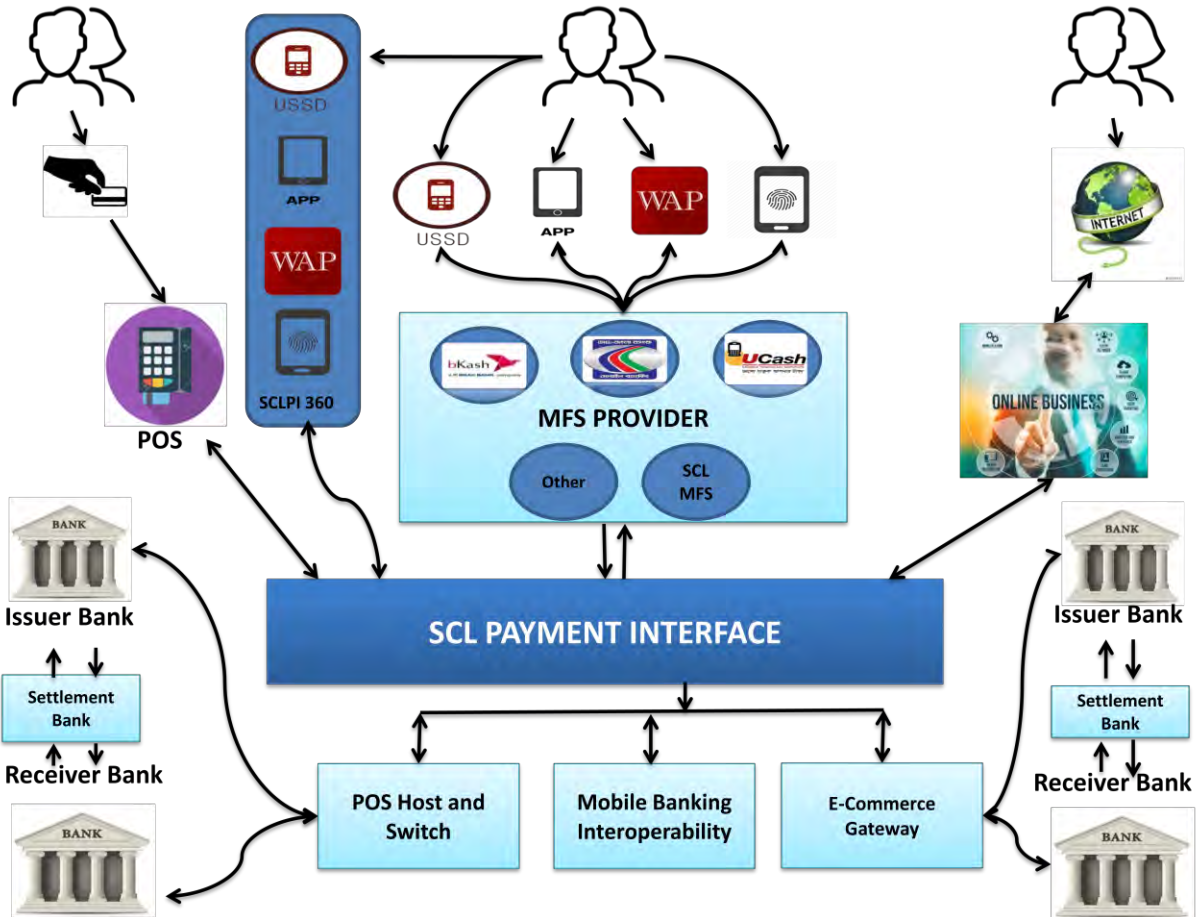


Fig 7.1: Structure of Unified Payment Interface

7.2 Cash Forecasting

For Unified Payment Interface the revenues are earned in two ways.

Transactional Revenue.

Interest.

Operating Expenses are listed below

Technology Platform(Capital Expense)

POS production(Capital Expense)

Salary

Network Maintenance Cost

Office rental and overhead

Above the line marketing

Below the line marketing

Training

SAC

Customer Verification

Agent Acquisition

Channel Campaigns

Vehicle Cost

POS maintenance

8. Findings:

The objective of this internship at the beginning was to find out the feasibility of the business, to check the impact of banking the unbanked which may turn into a socio economic development and to analyze the user friendliness of the services that is supposed to be introduced.

Mobile Financial Services already exists in our country and has a very successful result in terms of a business. We all know about the company called bKash. It has made itself a brand apart and is a part of people's life of Bangladesh. As we all know that a large population migrates to Dhaka for job and sends money on weekly or monthly basis to their families in rural areas and Mobile Financial services has come as a blessing for them. It is fast, reliable and very cost effective for them. In the past they had to send money through post office or courier services but now they can do it within seconds if only they have mobile phone and a MFS account.

Therefore, I think that it would be a very feasible venture for SCL as the existing players of the market are doing very well and according to my supervisor at SCL the untouched mobile users percentage is more than 50% who are potential MFS users.

The institutionalized unbanked population of our economy is almost around 80% . When MFS was introduced in our country the unbanked population of our economy has not changed much but a huge population is having the taste of banking services through the help of mobile financial services. The contributions that MFS are making to social economic development are that a financially insolvent person with a balance of 2000 taka cannot just walk into a institutionalized bank and open an account because this might not even fulfill the yearly banking charges expenses. But he can easily open an account for himself through mobile financial services as its free to open and has no yearly charges and also doesn't require extra expenditure to travel to the bank because we can see agent points of MFS's at almost everywhere.

Therefore I would say that Mobile Financial Services has played a vital role in promoting small entrepreneurs through agent points in all over the country and especially in rural areas which has led to social economic development.

The user friendliness of the mobile financial services is the easiest as it can get. The basic requirement for this service is to own mobile phone and a photo ID. Anyone even without any formal education can easily have this service as it requires you to remember only 4 digit numbers; that is the pin code or password to your account. An account can be opened at any agent point at any time and any place. The main thing is that if you have the virtual money in your account then you can transact even by lying on the bed.

Hence, the user friendliness of this business venture is at its best.

9. Recommendation:

There are 26 players of MFS in the economy of Bangladesh at this moment who took license from BTRC and among them only 3 bKash, DBBL mobile banking and Ucash are running successfully. The leader in the economy is bKash and they have captured more than two third of the market.

Nowadays, what we see that a lot of fraudulent activities and financing of criminal activities are taking place through mobile financial services. bKash and the other mobile financial services has failed to stop this kind of activities. The main reason behind this failure is authenticity check of the photo ID. If Summit Communication Ltd can come up with something which would stop or minimize these fraudulent or criminal activities then it would be an added advantage for them in the market.

The other thing is that the most important factor of the business are the agents and distributor of the mobile financial services. They are not happy with the current commission percentage. If Summit Communication Ltd can come up with something that is going to keep the distributors and agents happy then it would become quite easier for them to capture the market share as the agents themselves would promote SCLs MFS.

The most important factor in the economy of Bangladesh is foreign remittance. It plays a vital role in the BOP of Bangladesh. This means millions of dollars is being sent in Bangladesh

through different modes of payment which are not cost effective and not feasible at all. If Summit Communication Ltd. MFS can come up with something which would be fast, reliable and cost effective then it would help millions of workers working abroad and also take an important part in the social economic development and earn huge revenues too.

The last factor that I would like to talk about is that all the private and public organizations payments. If all these can be brought under MFS then it would be a huge profit thing and also a revolutionary thing; like collecting school and university tuition fees or paying government taxes etc.

10. Conclusion

This internship was academic necessity for Undergraduate Bachelor Program. When I initially started at Summit Communications Limited it was indistinct to precisely what were my obligations were to be. Be that as it may, soon through my Supervisor and Colleagues I could comprehend what my work included and what precisely I needed to do. This entry level position has given me adequate chances to find out about the entire SCL operational framework.

When I started my internship at Summit Communications Ltd; I had an objective to find out the feasibility of the organizations upcoming business ventures in the country. Although the time allocated for such an important task was way too short but still after three months hard work I came to find out that there are many obstacles and hardships to overcome. Nevertheless it would obviously turn into a successful venture as the opportunities are significant.

Last but not the least, the best part of my month's tenure at Summit Communications Ltd. was that I never felt like an intern over there. . My Supervisor helped me a considerable measure to comprehend the easily overlooked detail which was important to clear the understandings of the entire framework. Still I think I have learnt such a large number of things which are going help me in my future profession. The memories that I have brought along from Summit Communications Ltd will always be cherished

11. Bibliography:

Summit Group summitgroup.com. (2014, January 1). Retrieved February 17, 2016, from <http://www.summitgroupbd.com/index.php>

Summit Communications. (2009, December 22). Retrieved February 17, 2016, from <http://www.summitcommunications.net/scl/>

Chowdhury, F. (2014, June 25). Recruitment and Selection Process Of Summit Communications Ltd. Retrieved February 16, 2016, from <http://dspace.bracu.ac.bd/bitstream/handle/10361/3360/10304014.pdf?sequence=1>

N. (2015, February 1). UNIFIED PAYMENT INTERFACE API and Technology Specifications. Retrieved February 16, 2016, from [http://www.mpf.org.in/pdf/NPCI Unified Payment Interface.pdf](http://www.mpf.org.in/pdf/NPCI%20Unified%20Payment%20Interface.pdf)

Regulatory Guidelines for Mobile Financial Services (MFS) in Bangladesh. (2015). Retrieved February 17, 2016, from <http://www.thedailystar.net/round-tables/regulatory-guidelines-mobile-financial-services-mfs-bangladesh-133390>

