

Report On
Use & Impact of “Red Way of Work” in the ICT Product Development
Team of Grameenphone

By

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An internship report submitted to the BRAC Business School in partial fulfillment of the
requirements for the degree of
Master of Business Administration (MBA)

Use & Impact of “Red Way of Work” in the ICT Product Development Team of
Grameenphone
Brac University
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Declaration

It is hereby declared that

1. The internship report submitted is my own original work while completing Master of Business Administration degree at Brac University.
2. The report does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The report does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I have acknowledged all main sources of help.

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Letter of Transmittal

Dr. Salehuddin Ahmed
Former Governor,
Bangladesh Bank,
Professor,
School of Business
BRAC University
66 Mohakhali, Dhaka-1212

Subject: Letter of transmittal

Dear Sir / Madam,

This is my pleasure to handover the report on the use and impact of the red way of work in the ICT Product Development Team of Grameenphone, which I was appointed by your direction. This report is the result of the knowledge that I have acquired on the job.

I have attempted my best to finish the report with the essential data and recommended proposition in a significant compact and comprehensive manner as possible.

I trust that the report will meet the desires.

Sincerely yours,

Md. Tausif Uddin

16264026

BRAC Business School

BRAC University

Date: 17th December, Tuesday, 2019

Acknowledgement

At first, I wish to express my gratitude to the almighty ALLAH for giving me the strength and capability to perform my responsibilities as a full-time employee of Grameenphone Ltd. and complete the report within the stipulated time.

I am deeply indebted to my advisor Dr. Salehuddin Ahmed, Professor, BRAC Business School, for his whole-hearted support and supervision during my internship report preparation period.

I am also grateful to Mr. Md. Redwanul Haque, ICT Product Development Lead, Grameenphone Ltd., as my organizational supervisor. It would have been very difficult to come up with this report without their wholehearted guidance and support.

My sincere gratitude to entire MBA Department, of BRAC University for the arrangement of the Internship Program that facilitates the integration of theoretical knowledge with real life scenarios.

Last but not the least, I would like to convey my gratitude express my gratitude towards my Grameenphone Ltd. colleagues, who supported me through this wonderful journey. I must also mention the wonderful working environment of this organization that has enabled me to come up with this report.

Executive Summary

Grameenphone LTD, a joint venture between the Norwegian telecom company Telenor and the Bangladeshi company Grameen Telecom is the largest mobile operator in Bangladesh. Grameenphone has been the champion mobile operator since the embryonic stages of the telecom industry in the country, and with more than 15,000 2G and 3G sites as well as the growing number of 4G sites (currently more than 10,000), the Grameenphone network covers 99% of the country's geographical area and has more than 75 million customers (as of June 2019). Grameenphone's strategy has constantly evolved to best serve the changing market nature of the telecom industry – from an industry whose major business was built on voice service mostly, it quickly transformed to position itself as the number one mobile data connectivity provider with the emergence of 3G and 4G technology. Now, in this era of 4G and with 5G knocking at the door, Grameenphone and Telenor has already realized that the next paradigm shift of the telecom and connectivity market would cross the traditional use of mobile phones by customers for voice and data to digital, IoT, ICT, automation and smart living. With the ambition to capture the number one position in the digital lifestyle of customers as well as lead the ICT revolution in the country from the front, Grameenphone has added more and more resources into secondary products in the niche market of ICT and IoT products such as industrial automation, M2M communications, cloud infrastructure, software-as-a-service, vehicle telematics, smart home, smart tracking and smart farming. The main demarcation line was drawn out that digital apps were targeted for the consumer segment of the market (B2C) whereas the ICT and IoT products were targeted for the enterprise or business customers (B2B). However, with diffusion of influence and sensing market needs, this demarcation line has been growing thinner with both streams of products being customized to be offered to more target customers, crossing the boundary of consumer and enterprise segments. Grameenphone started to develop products and services with less resources and exposing them to limited enthusiastic customers. This is more commonly known as the “Red way of work” in which the target was to capture customer feedback as fast as possible and work on them to bring new iterations of the product, increasing the exposure to customers in the process and finally complete versions of the products were created. As a member of the ICT Product team of Grameenphone working as a Product Developer, I have had good exposure to these practices. This report describes the product development and product management process of Grameenphone. A survey was conducted to identify which of the practices are followed in the product management and Product Development teams in Grameenphone. It was found that the development team is following the Red Way of Work while the Product Management team follows the Blue Way of Work. Though these teams follow different modalities for their work, it is recommended that the values and the ways of work converge with each other in order to make this venture of B2B business through ICT Products successful.

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List of Acronyms

GP	Grameenphone
ICT	Information, Communication & Technology
ARPU	Average Revenue Per User
AMPU	Average Minutes Per User
B2B	Business to Business
B2C	Business to Consumer
GM	General Manager
DD	Deputy Director
Telco	Telecommunication Operator
4G	Fourth Generation Technology
5G	Fifth Generation Technology
IoT	Internet of Things
NB-IoT	Narrow Band Internet of Things
Ltd.	Limited
SMS	Short Message Service
CBO	Chief Business Officer
CEO	Chief Executive Officer
SME	Small & Medium Enterprise

Glossary

Mobility Product	Basic services like voice, sms and data through with mobile operators provide uninterrupted service for mobile customers are called mobility products.
ICT Product	These are smart solutions that mobile operators offer to customers. These are mainly solutions made up of different components.
B2C	This is a business modality where business sell their products & services to individual consumers.
B2B	This is a business modality where business sell their products & services to other businesses.
Red Way	Development practices that follows the agile practices like (SCRUM, KANBAN) are known as Red Way of Work in Telenor.
Red Way	Development practices that follows the agile practices like (SCRUM, KANBAN) are known as Red Way of Work in Telenor.
Blue Way	Development practices that follows the waterfall method are known as Blue Way of Work in Telenor.

Chapter 1

Introduction

The basic building block of a telecommunication company is its network through which it connects people to one another. The main services are voice, sms and data through which the telcos are serving their customers. According to reports, globally, the number of mobile services users 4.68 Billion and is supposed to cross the 5 billion mark by mid 2020. The telcos are regularly competing against each other in the different country markets for acquiring these users. Arrival of technologies like 4G, 5G has heated up the competition even further. There are mainly two modalities of business in the telco sector. One is B2C and another is B2B. B2C is known as business to consumers and these customers are mainly served with products like voice mins, number of sms, volume of data or bundle packs. But serving B2B customers require a different sort of strategy compared to the B2C customers. B2B or business to business customers are mainly service oriented and they take different services like ICT services, network management services on top of voice, sms, data bundles. In Bangladesh, currently the number of mobile phone users are 154 Million. These customers are served by four operators, namely, Grameenphone Ltd., Robi Axiata Ltd., Banglalink and Teletalk. Nowadays Bangladesh is heading towards digitization through the “Digital Bangladesh” journey, where the mobile operators are playing their parts. This a very big scope for all the operators from a business perspective and this will also enable these operators to be a part in Bangladesh’s movement towards digitization. The digitization trend in Bangladesh has hit the industries more than anything else and they have started their journey towards efficient and cost-effective operations and maintenance, based on different ICT services. The mobile operators are taking these opportunities of providing ICT services to these industries and making a fortune out of it. The population of Bangladesh stands at 164.7 Million, out of which 154 Million are current mobile users. So, the market is already saturated for B2C segment, but opportunities lie at B2B segment. So, all the operators are trying to capture the B2B market through their ICT services. This has made the operators work for creating different ICT services, which has led to creation of teams and entire departments within their organizational structure. Grameenphone Ltd. is also pursuing such a strategy and we will be taking the deeper look at how this team works.

1.1 Origin of the Report

The internship program of BRAC University is a pre-requisite for the completion of the MBA Degree. This study is done for the fulfillment of the partial requirement of the Internship program of MBA curriculum at BRAC University as per direct of Dr. Salehuddin Ahmed. The main purpose of the internship program is exposing the student to a real job situation. Though I have been working in Grameenphone for the last five years, I went through this process in order to provide a glimpse of how things are done in my team. I have taken three months period for this internship and this report is submitted on the use and impact of Red Way of Work in my team. This report also includes information on the products and services of Grameenphone Ltd. and the overview of the organization.

1.2 Objective of the Report

The main objective of this report is to identify the use and impact of the red way of work or agile practices in the newly formed product development team in Grameenphone. The objectives can be specified as below.

- To provide an understanding of the ICT B2B Business of Grameenphone
- To understand the terms “Red Way of Work” & “Blue Way of Work”
- To provide an idea about the organogram of the ICT Product & Operations department of Grameenphone
- To understand the use and impact of the “Red Way of Work” in the product development team
- To recommend activities to be performed in the Red Way and Blue Way respectively

1.3 Scope of the Report

The ICT Product Development team is newly formed team in Grameenphone. The scope of this report is to analyze how this team operates on a day to day basis and to provide recommendation on how this team can improve in their tasks. The report consists of analyzing the agile practices under the Red Way of Work and identifying activities that are required to completed in an agile way. It also highlights activities that aren't fit for the agile ways and will

require the Blue Way of Work to be executed. The report will also provide insights on the use and impact of these practices on the team. As the tenure of the internship period is only three months, I could only concentrate on a single team and do necessary research activity.

1.4 Methodology

Information required to prepare the report were collected from on the job experiences. I, myself is a member of the ICT Product Development team. So, I have access to necessary data sets that is required to conduct the study. In addition to that necessary information related to the Red Way of Work and Blue Way of Work was collected from the internet and from different internal materials which were circulated within the organization. This information was used to design a survey for the ICT Product & Operations Department in Google docs and collect necessary data. Then data was analyzed and presented in the form of information to deduce necessary conclusions. Below mentioned tools were used in the preparation of this report.

- Internet
- Newspapers
- HR Portal of GP
- Text Books
- Microsoft Excel
- Microsoft Word

1.5 Research Questions

The research questions that I will be addressing in this report are as below.

- What is the impact of red way of work in the newly formed Business Division of Grameenphone?
- Does the Red way of work apply to all sorts of activities or is it mandatory to apply the red way of work in all activities?
- Why is it necessary to have both Red and Blue way of work in an organization?
- How can we identify activities that require the Red way or the Blue way?

1.6 Sources of Data

This report has been prepared by collecting information from various applicable sources. The main source of data was the on the job experiences that were gathered by me. In addition to this different websites, research papers, text books and newspapers were also used to collect information. Different internal organizational portals were also used to collect data.

1.7 Limitations

Following limitations were encountered while conducting this study

- There were some challenges in disclosing sensitive data, so all data couldn't be disclosed.
- The Study is conducted with a single team in Grameenphone, so it is not a clear guideline on how the whole organization functions.
- As the team is newly formed, the results of the study might not be conclusive of how the team will operate in the future.
- Being a employee of Grameenphone, there might be some bias towards Grameenphone while preparing this report.
- As I am a full-time employee of Grameenphone, there were certain cases where I had to concentrate on my job activities rather than the collection of data and preparation of the report. This might be considered a limitation as well.

Chapter 2

Literature Review

Grameenphone Ltd is the market leader of the Telecom sector in Bangladesh. It is a subsidiary of Telenor Mobile Communications AS and the parent company is Telenor ASA, Norway. Recently GP has been asserted as operator with Significant Market Power (SMP) in Bangladesh. This has increased the cost of its services for customers. As discussed earlier, the consumer market for the telecom industry has become saturated. Being the SMP, it has become more difficult for Grameenphone to acquire business in the consumer segment. So Grameenphone has taken on a journey to move towards the B2B business with ICT services. ICT Products & Operations team has been created to provide and manage the lifecycle these services. Many new processes have been put in place to provide B2B customers with the right kind of ICT services. GP was dependent on legacy products such as voice, sms and internet volume for capturing its B2C and B2B market. Voice, sms and internet data services are known as mobility products. Due to the saturation of the consumer market and widespread use of mobility products in the B2B market the revenue streams of GP seemed to be a bit stuck. So, GP decided to diversify its business and move towards providing ICT services for its B2B customers. These services required for new teams to be formed and new processes to be established. These teams operate in different ways. There are mainly two forms of operation in GP. One is the Red Way of Work and the other is the Blue Way of Work. We will provide a brief overview of the company and discuss about the organization structure of the ICT Products and Operations teams along with a brief discussion on the Red and Blue way of work. Then we will dig down towards the ICT Product Development Team and know about the ICT products that GP is currently offering to its customers.

2.1 Organizational Overview

The idea of providing universal mobile phone access throughout Bangladesh, including its rural areas, motivated Iqbal Quadir to embark on his journey. He was inspired by the Grameen Bank micro-credit model and envisioned a social experiment. With investment from New York-based philanthropist Joshua Mailman, Quadir work with Grameen Bank and Norwegian telephone company, Telenor to set up the telecommunications company, Grameenphone.

Grameenphone received a license for cellular phone operation in Bangladesh from the Ministry of Posts and Telecommunications on 28 November 1996. The company started operations on 26 March 1997, Independence Day in Bangladesh.

Grameenphone pioneered mobile-to-mobile connectivity, in Bangladesh when interconnectivity with state-run terrestrial phone company was exhausted within two years of operations. The move quickly adopted by other operators created a lot of enthusiasm among the users and garnered international interest. Grameenphone became the first operator to reach the one million subscriber milestone as well as ten million, and then fifty million subscribers in Bangladesh.

At present, Grameenphone, widely abbreviated as GP, is the leading telecommunications service provider in Bangladesh, with more than 74 million subscribers and 46.3% subscriber market share (as of January 2019). It is a joint venture between Telenor and Grameen Telecom Corporation. Telenor, a telecommunication company from Norway, owns a 55.8% share of Grameenphone, Grameen Telecom owns 34.2% and the remaining 10% is publicly held. Grameenphone was the first company to introduce GSM technology in Bangladesh and built the first cellular network to cover 99% of the country.

Grameenphone started its journey as a private limited company and on 25th June, 2007 and converted to a public limited company on 11th November, 2009. They enlisted themselves on Dhaka and Chittagong Stock Exchanges on that very day.

Some important positions in the organization are held by the below mentioned personnel.

- **Petter Boerre Furberg** - Chairman of Grameenphone.
- **Michael Patrick Foley** - Chief Executive Officer of Grameenphone.
- **Yasir Azman** - Deputy CEO & Chief Marketing Officer of Grameenphone.
- **Karl Erik Broten** - Chief Financial Officer of Grameenphone.

History and milestones

- 10 October 1996: Grameenphone was incorporated as a private limited company
- 28 November 1996: Grameenphone was granted the license for cellular service from the Ministry of Posts and Telecommunications.

- 26 March 1997: Grameenphone launched their service in the country
- September 1999: Introduced prepaid service, SMS and VAS
- 16 November 2006: Changed the logo to the parent company Telenor's logo
- 25 June 2007: Grameenphone converted to public limited company
- 16 November 2009: Stocks were publicly listed for trading in Dhaka and Chattogram Stock Exchanges
- 8 October 2013: Launched 3G network
- 9 August 2006: Digital self-care app MyGP launched and available for download on Android Playstore and iOS Appstore.
- 19 February 2018: Launched 4G network starting
- 19 March 2019: Launched Grameenphone IoT (Smart Home, Smart Security, Smart Attendance, NB-IoT network)

Culture

Our strategy spells out what we do; our behaviors explain how we deliver; and our purpose is our reason for existence. Being a part of or a partner to Grameenphone means sharing our commitment and passion for these key elements that shape our culture.

Purpose

- Connecting you to what matters most
- Empowering societies

Behaviors

- Always Explore
- Create Together
- Keep Promises
- Be Respectful

Strategy

- Internet access
- Personalization
- Efficient operations
- Digital positions

Ethical Conduct

- We play by the rules
- We are accountable for our actions
- We are transparent and honest
- We speak up

Grameenphone was the first operator to introduce the pre-paid mobile phone service in Bangladesh in September 1999.

Other services of Grameenphone include:

Internet: Grameenphone provides Internet service in its coverage area. As it has EDGE/GPRS/3G/4G enabled network, any subscriber can access to internet through this network. Grameenphone was the first mobile operator in Bangladesh to offer EDGE and 3G 4G services to its subscribers.

MFS: GPay, formerly Mobicash, is a service to enable users to pay their utility bills Electricity/Gas through mobile.

Ecommerce: Ekhanei.com is a former service (also known as CellBaazar) to enable users sell or buy products through mobile or internet. It was free to use for all Grameenphone customers but was closed in 2017.

Various other services like stock information, Instant Messaging, SMS Based Alerts/Services, Voice-based Services, Downloads, music, Cricket Updates, Web SMS, Mobile Backup etc.

Grameenphone is also working with the fledgling innovation eco-system of Bangladesh and is host to the country's first telco driven Startup Accelerator known as GP Accelerator and an Innovation Lab known as White-Board where startups can seek mentorship & advice. The accelerator program has launched its 6th batch of startups for a 4.5-month-long program through a launching event on November 6, 2019, at GP House.

Entertainment: Bioscope, an on-demand video streaming service, was launched in 2016 streaming movies, dramas and live TV broadcasting. GP Music, on-demand music streaming service, was launched in 2015.

Shoparu: Grameenphone introduced its own ecommerce app Shoparu, connecting millions of its subscribers to the digital marketplace. The service offers door-to-door delivery service to all areas of Bangladesh, including deep rural areas. Feature phone users may visit any one of

the hosts of Grameenphone Express Centers to order their goods online and receive home delivery.

MyGP: In 2017, Grameenphone introduced the very first customer care app that allowed subscribers, through an embedded platform titled Flexiload, to design their own packages based on their personal need for voice minutes, data volumes, text messaging. This app also allowed them to avail personalized discounts. The MyGP app opened up greater transparency for customers who could monitor their usage in real time. Since its launch, MyGP has grown to include several other GP apps such as Bioscope and Shoparu, as well as third party ride sharing apps like Uber and Shohoz.

ICT Products: In 2017, Grameenphone introduced the ICT services like vehicle tracking system (VTS), Contextual Messaging Platform (CMP) etc. At present there are sophisticated, state of the art networking solutions like M2M, Smart Connect, Cloud etc. In addition to these, there are SAAS services and IoT solutions like smart attendance, smart home, smart surveillance etc. These products are launched to increase the ARPU of existing B2B customers and acquiring new B2B customers with a view to making their lives easier.

2.2 Ownership Structure of Grameenphone

Grameenphone is a joint venture enterprise between the largest telecommunication service provider in Norway, Telenor (55.8%), and Grameen Telecom, a not-for-profit organization in Bangladesh. The rest 10% shares are held by general retail and institutional investors.

Telenor is one of the pioneers in developing the GSM service in Europe and is emerging as one of the fastest growing mobile communications services provider across the globe with ownership of companies in nine countries across Europe and Asia – Telenor Norway, Telenor Sweden, Telenor Denmark, DNA Finland, dtac Thailand, DiGi Malaysia, Telenor Pakistan, Telenor Myanmar and Grameenphone Bangladesh. The As of 2017, the Telenor Group is ranked as the ninth largest mobile operator in the world with more than 214 Million subscribers.

Grameen Telecom (GTC) is a non-profit company in Bangladesh, founded by Noble Peace prize laureate Professor Muhammad Yunus. The company's objective is to deliver access to cellular service in rural Bangladesh easily and generate income earning opportunities through self-employment by providing the villagers access to ICT, especially to the poor rural women,

by spreading the services of Grameenphone. With its field force, GTC directs the Village Phone Program, where they train the operators and manage service-related issues.

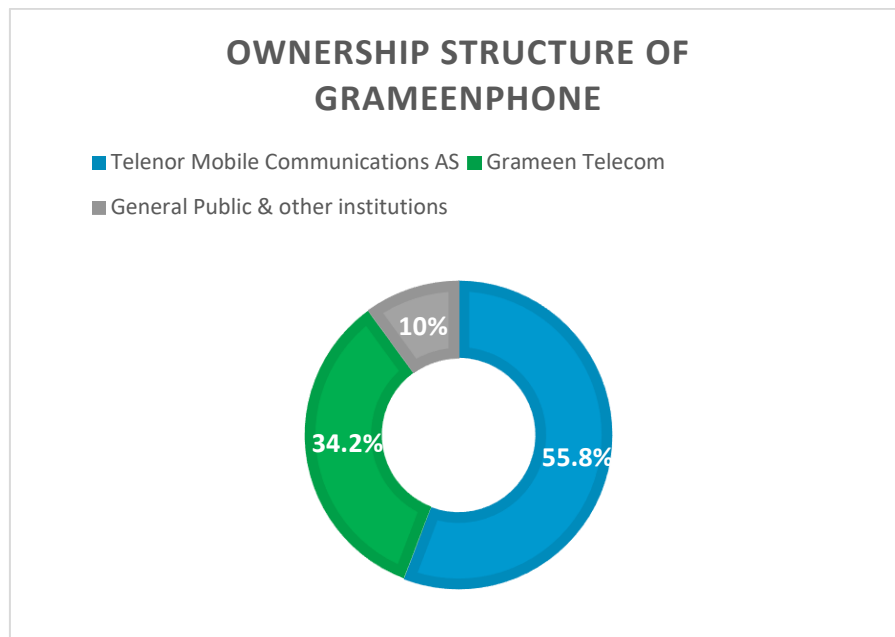


Figure 1: Ownership Structure of Grameenphone

2.3 Financial Analysis of Grameenphone

Here I have presented data from the Annual Report 2018. I have picked some of the important metrics for showcasing the financial condition and market position of Grameenphone in Bangladesh. All data are presented graphically.

The metrics that are represented are as below:

1. Revenue
2. Operating Profit Vs. Net Profit After Tax
3. Total Equity Vs. Assets
4. Net Assets Per Share Vs. Earnings Per Share
5. Return on Assets Vs. Return on Equity
6. ARPU Vs. AMPU
7. Market Size Vs. GP Subscribers
8. Market Share

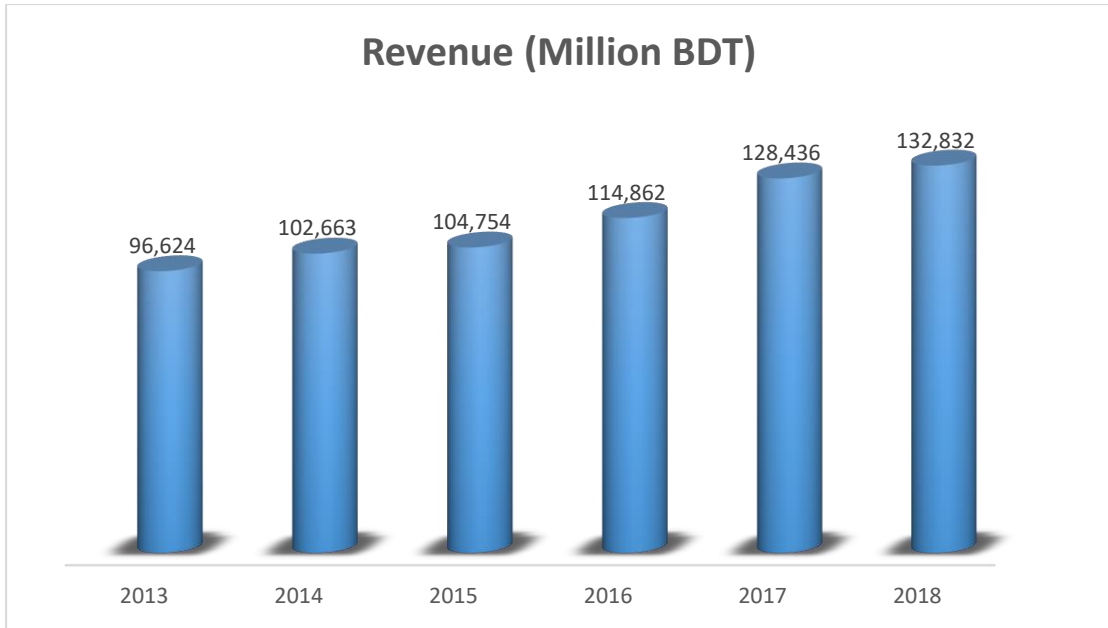


Figure 2: Revenue earned by Grameenphone in last 6 years

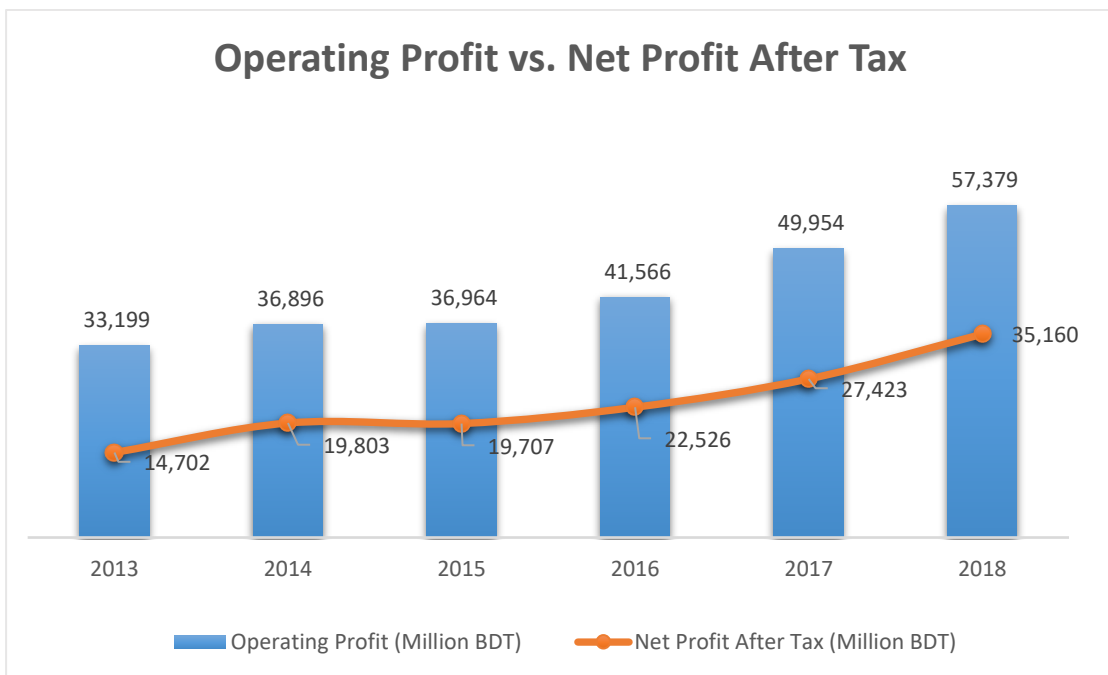


Figure 3: Operating Profit vs. Net Profit After Tax

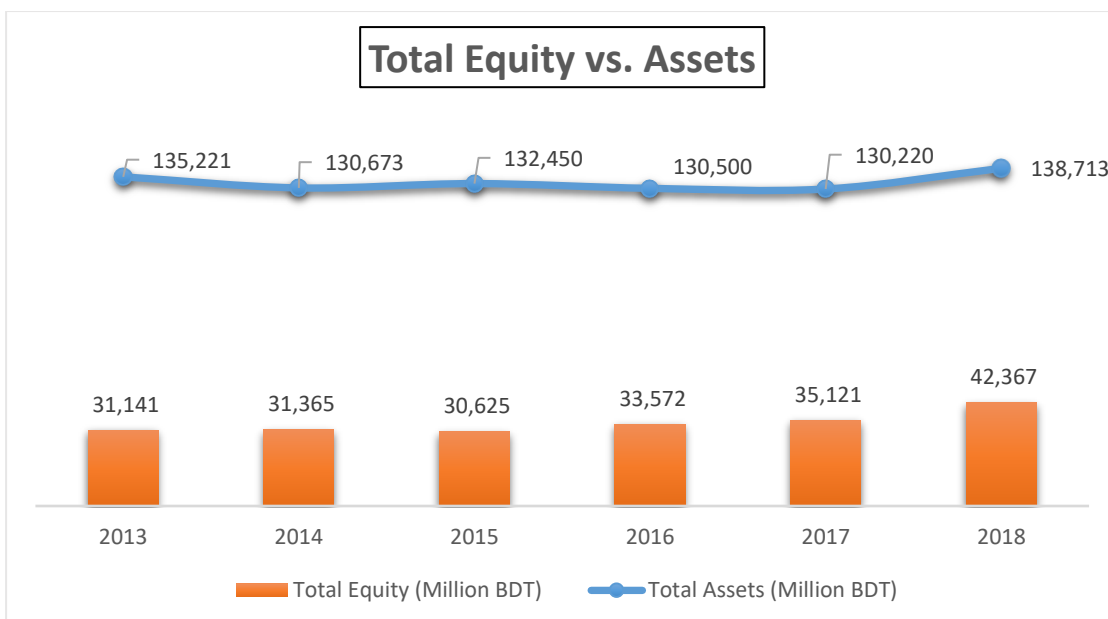


Figure 4: Total Equity vs. Total Assets

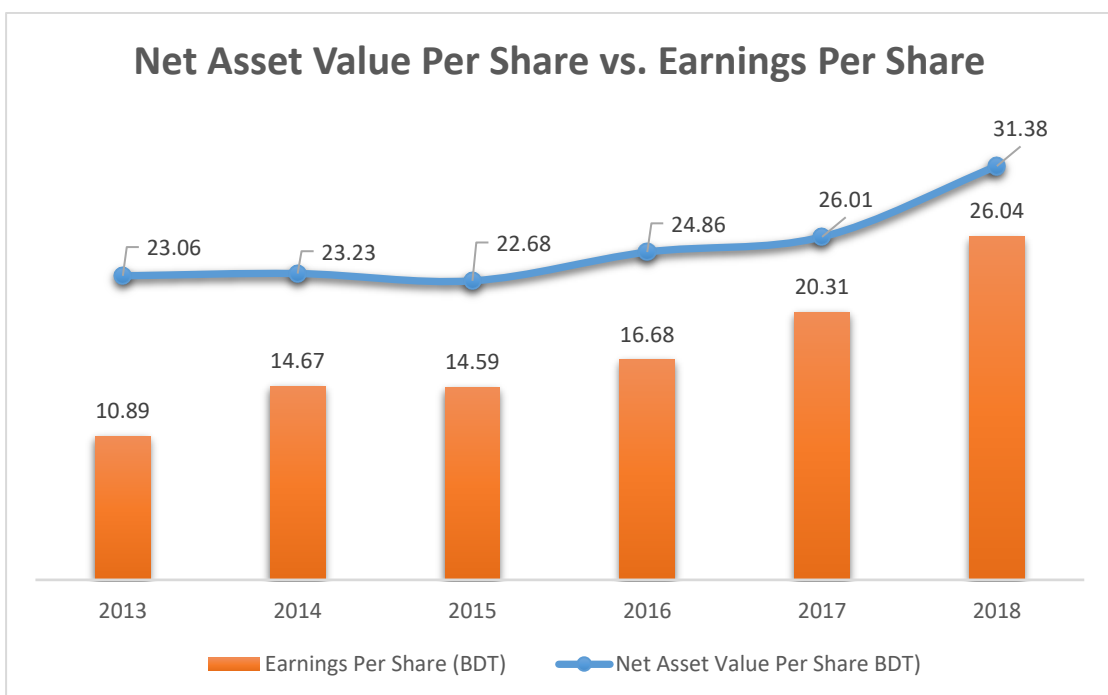


Figure 5: Net Asset Value per Share vs. Earnings per Share

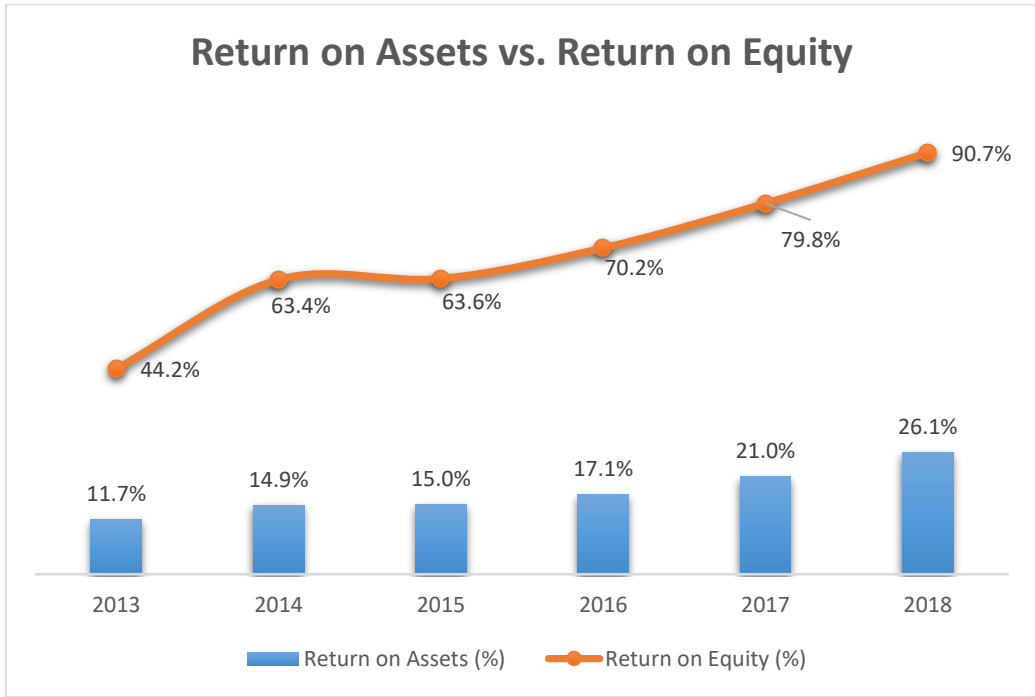


Figure 6: Return on Assets vs. Return on Equity

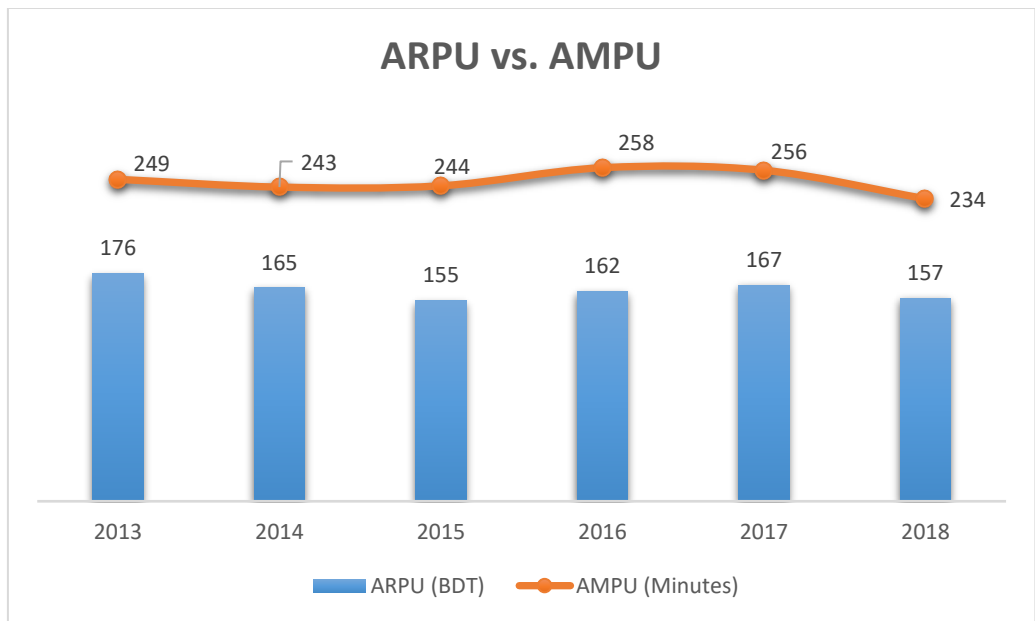


Figure 7: ARPU vs AMPU

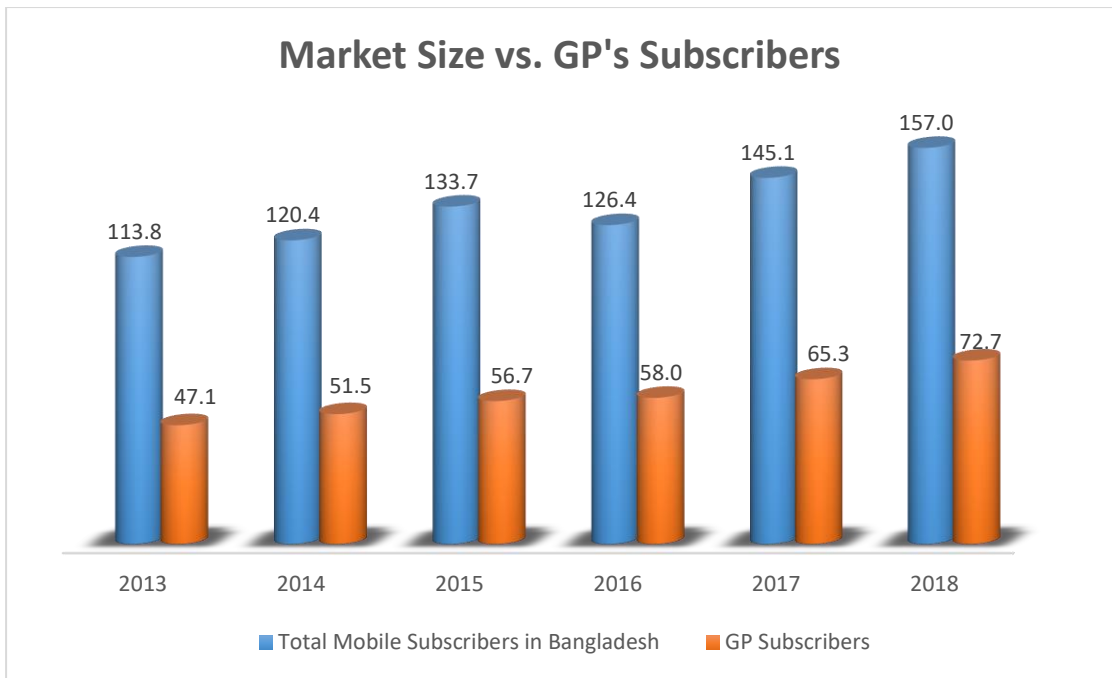


Figure 8: Market size of mobile subscribers vs. GP's subscriber base

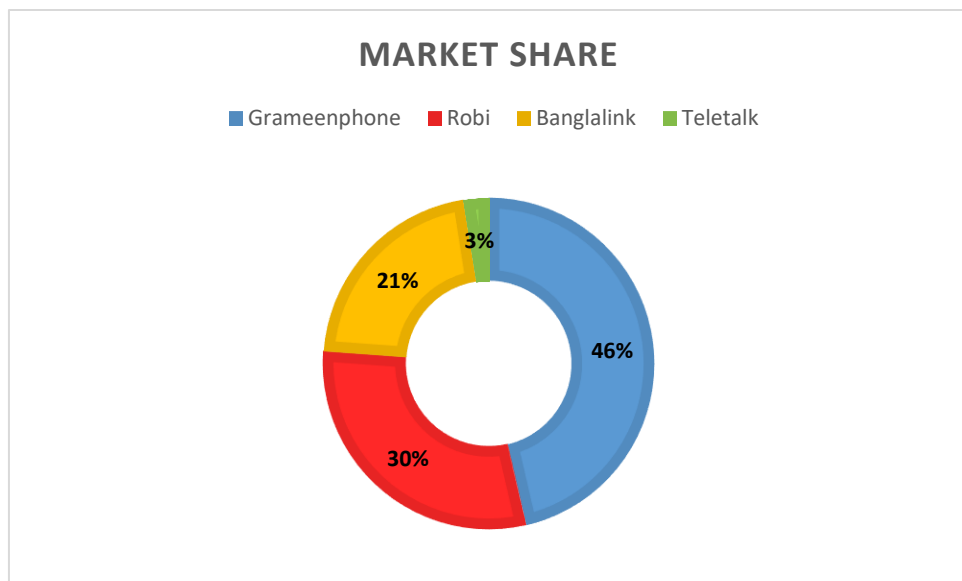


Figure 9: Market share of the mobile operators in Bangladesh

Over the years, GP has shown steady growth in almost all financial metrics and dominated the market. Though the B2C market is becoming saturated, GP is still the growing at a steady by focusing it business on the B2B segment with its mobility and ICT Products.

2.4 Overview of ICT Products & Operations

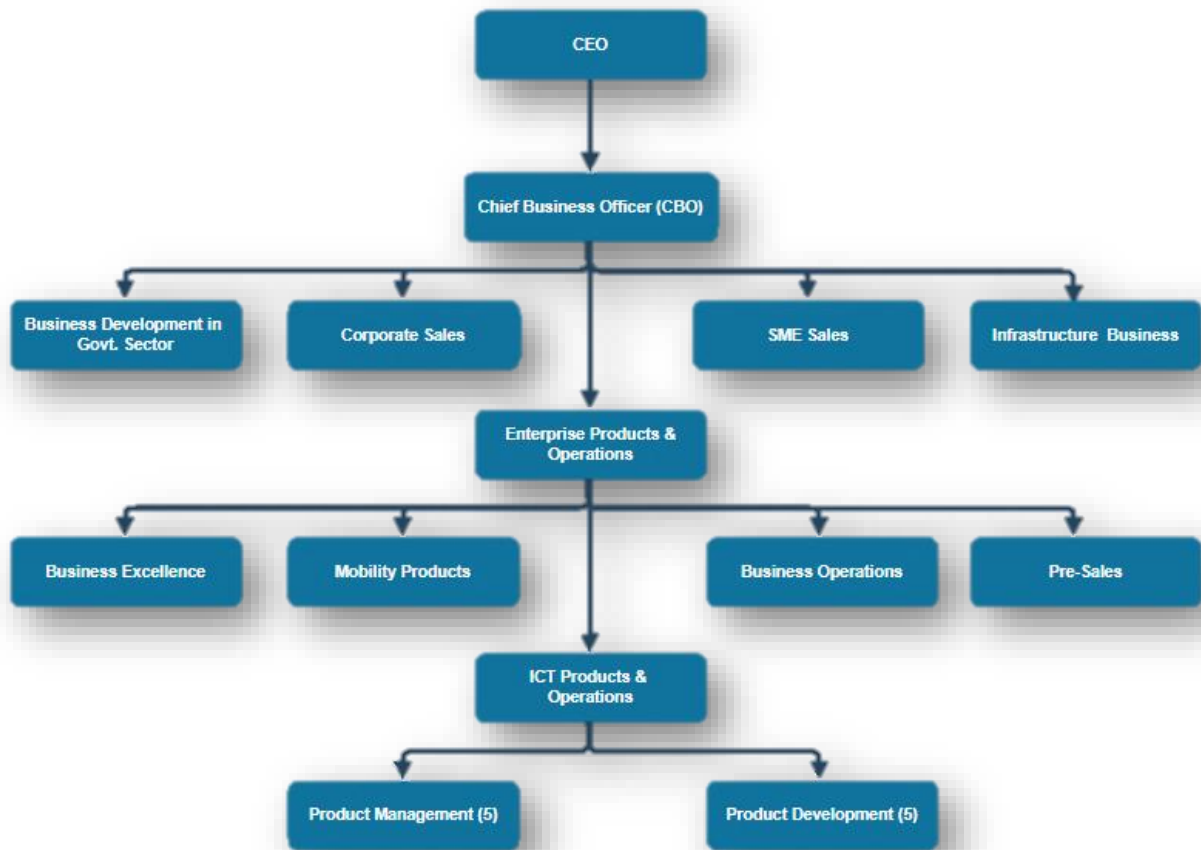


Figure 10: Organogram of Business Division

The ICT Product & Operations is a section under the Enterprise Product & Operations department. If we go from a top-down approach, the CBO (Chief Business Officer) reports to the CEO and is in charge of the Business division. There are five departments under the Business division. They are:

- Enterprise Product & Operations
- Corporate Sales
- SME Sales
- Infrastructure Business
- Business Development in Govt. Sector

The corporate sales and SME sales departments are the direct interfaces of the B2B customer. The Business division serves the B2B customers with different products which include both Mobility & ICT. The Enterprise Product & Operations and Infrastructure Business teams provide customers with products and necessary infrastructure related support for their businesses. The business development department works closely with the Govt. for different govt. projects to support the govt. in their vision towards digital Bangladesh. They develop and maintain relationships with govt. operated bodies for the purpose of acquiring and supporting the govt. with their projects leading to digital Bangladesh. Each of these departments are headed by a Director.

The Enterprise Product & Operations department is made up of five sections which are:

- ICT Product & Operations
- Pre-Sales
- Mobility Products
- Business Operations
- Business Excellence

As the name suggests, the ICT Products & Operations section looks after the ICT products and the Mobility Products section looks after the mobility products. Pre-Sales team is the technical sales team who engages with customers to provide consultation and appropriate ICT product for the customers. The Business Operations team is responsible for all the execution and after sales related activities for the customer. The Business Excellence team is responsible for the monitoring and improvement of different processes that are used by all of these sections under Enterprise Product & Operations. All of these sections are headed by respective General Managers.

The ICT Product & Operations section is subdivided into two teams, which are:

- Product Management
- Product Development

The Product Management team is responsible for the lifecycle management of the ICT products that GP offers to customers. Lifecycle refers to the journey of the product from beginning to end and the overall revenue management of the product. The Product Development team is responsible for the development of the products based on user centered design processes. They are responsible for capturing customer needs and developing the product to fit the needs of the

customer. They are also responsible for optimizing product related processes along with increasing efficiencies of the products.

We will be discussing about how this development team perform their activities and how the Red Way of Work impacts their performance. In order to discuss this on this matter we must first know about the Red Way of Work and the Blue Way of Work. Here I am providing a introduction to the basic principles of Red Way of Work and Blue Way of Work

2.5 Red Way of Work

The Red Way of Work is an approach to product development that is utilized in different organizations. This method assists teams in responding to the unpredictability of developing products. It uses incremental, iterative work sequences that are commonly known as sprints.

The Red Way of Work Defined

A sprint is a period of time allocated for a particular phase of a development. Sprints are considered to be complete when the time period expires. There may be disagreements among the members of the team as to whether or not the development is satisfactory; however, there will be no more work on that particular phase of the development. The remaining phases of the development will continue to develop within their respective time frames. This is the definition of Red Way of Work.

The General Principles of the Red Way of Work

- Satisfy the client and continually develop
- Changing requirements are embraced for the client's competitive advantage
- Concentrate on delivering working products frequently. Delivery preference will be placed on the shortest possible time span
- Developers and business people must work together throughout the entire development
- developments must be based on people who are motivated. Give them the proper environment and the support that they need. They should be trusted to get their jobs done

- Face-to-face communication is the best way to transfer information to and from a team
- Working product is the primary measurement of progress
- Red way of work will promote development that is sustainable. Sponsors, developers, and users should be able to maintain an indefinite, constant pace
- Constant attention to technical excellence and good design will enhance agility
- Simplicity is considered to be the art of maximizing the work that is not done, and it is essential
- Self-organized teams usually create the best designs
- At regular intervals, the team will reflect on how to become more effective, and they will tune and adjust their behavior accordingly

Benefits of Using the Red Way of Work

The Red Way of Work grew out of the experience with the real-life projects of leading developers from the past. Because of this, the challenges and limitations of traditional development have been discarded. Subsequently, the Red Way of Work has been accepted by the industry as a better solution to product development. Nearly every developer has used the Red Way of Work in some form.

This method offers a light framework for assisting teams. It helps them function and maintain focus on rapid delivery. This focus assists capable organizations in reducing the overall risks associated with product development.

Red Way of Work ensures that value is optimized throughout the development process. The use of iterative planning and feedback results in teams that can continuously align a delivered product that reflects the desired needs of a client. It easily adapts to changing requirements throughout the process by measuring and evaluating the status of a development activity. The measuring and evaluating allows accurate and early visibility into the progress of each development.

It could be stated that the Red Way of Work helps companies build the right product. Instead of trying to market product before it is completed, the Red Way of Work empowers teams to optimize the release during its development. This allows the product to be as competitive as possible within the marketplace. It preserves the relevance of the critical market, and it ensures that a team's work doesn't wind up collecting dust on a shelf. This is why the Agile Method is an attractive developmental option for stakeholders and developers alike.

There are many critics of the Agile Method; however, this method produces results that clients can take to the bank. Although a project may not turn out exactly as the client envisions, it will be delivered within the time that it needs to be produced. Throughout the process, the client and the team are changing the requirements in order to produce the quality needed by the client. Clients are happy with the results, and the team satisfies the client's needs. The ongoing change can sometimes give both the client and the team more than they had originally envisioned for the product. The Red Way of Work really is a winning solution for everyone involved in product development.

Disadvantages of Red Using Way of Work

The disadvantages can be listed as below.

- Sometimes it is difficult to estimate the total effort and budget for the entire development life cycle due to changing requirements and priority
- Documentation is not a priority
- Changing requirements from customers can make the project off track from actual purpose

2.6 Blue Way of Work

The Blue Way of Work is one in which each phase of a product's life cycle takes place in sequence, so that progress flows steadily downwards through these phases like a waterfall.

Nobody invented the waterfall method. Rather it was inherited by enterprise product developers from other industries where, once a particular phase of production is complete (like laying the foundations of a building for example), it was incredibly costly or impractical to go back and make changes. The waterfall was only codified when people subsequently realized that it wasn't the only way of doing things

In Blue Way of Work gathering of all the requirements and design work is done before any execution takes place.

In general, these methodologies have stages that deal with what you need to do before a development, during a start-up phase, a planning phase, an execution phase and a closing phase.

They also then have a series of processes for managing work packages, exceptions, reporting, risks and issues.

Benefits of the Blue Way of Work

Potential issues that would have been found during development can be researched and bottomed out during the design phase. If appropriate meaning an alternate solution is selected before any code is written.

The development process tends to be better documented since this methodology places greater emphasis on documentation like requirements and design docs. Many organizations find this reassuring.

Because the Blue Way of Work is a linear one it is perhaps easier to understand, especially for non-developers or those new to product development. Often teams feel more comfortable with this approach.

Disadvantages of the Blue Way of Work

The disadvantages of the blue way of work can be listed as below.

- Scopes are locked at early stages and seldom allows for any revisions
- Business owner gets to see the working software only near the end of the process
- Delivery takes long time as one stage cannot start till the previous stage is complete
- If the delivery takes too long, the finished product may lose its need in the changing market and its technology may become obsolete

Chapter 3

Research & Analysis

As discussed earlier, the main objective of this report is to identify the use and impact of Red Way of work in the ICT Product Development team of Grameenphone. We have already had some discussion on the Red Way of Work and the Blue Way of Work. We can identify the differences between these two development practices on the light of those discussions.

At first, we will look at how the ICT Product Team operates in Grameenphone. Being a newly formed section, the focus of this team is to acquire business with ICT services. A brief report on this team acquired from my on-the-job experiences is provided here. After that we will discuss on the methods used to identify the use and impact of red way of work on the ICT Product Development team under the ICT Product Team. We will also see how the product management team operates and differentiate activities to be performed in either Red Way or Blue Way.

3.1 Report on The ICT Products Team

The ICT Products team consists of two teams as below

- Product Management Team
- Product Development Team

These teams are responsible for jointly driving the ICT revenue target with Corporate Sales &

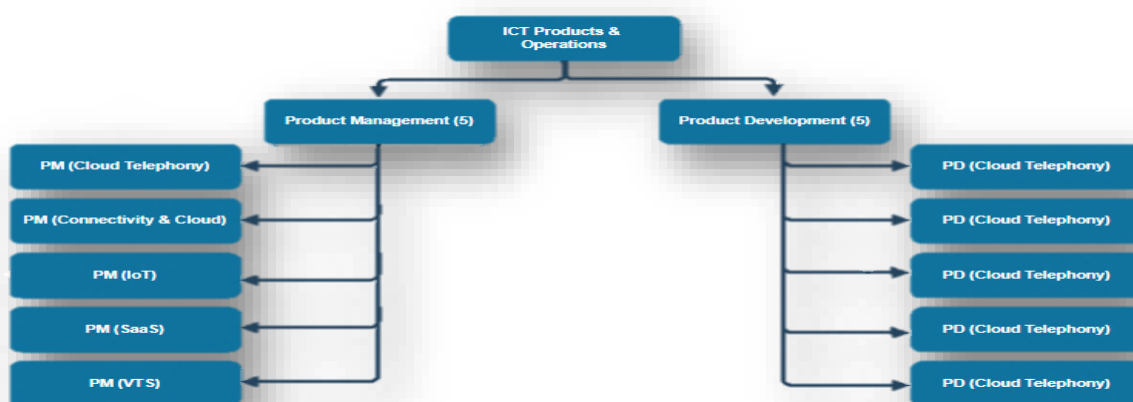


Figure 11: Organogram of ICT Products Team

SME Sales. An organogram for the ICT Product Team is given below. We will discuss about the products of that this team offer and activities of the product management and development team.

ICT Products

As we can see from the organogram the team is divided in two more teams.

- Product Management
- Product Development

There are ten resources in these teams. The product management team is headed by a product management lead and the product development team is headed by a product development lead. There are five product managers according to types of products and expertise in those domains. There are five product developers for developing these products. The product managers and developers are paired according to the type of the product. They both play a 1+1 role for the product management and development, that is, if the product manager can take up the role of the product architect when necessary and vice versa.

Now we will take a look into the ICT products offered by this team.

Cloud Telephony

Under cloud telephony portfolio there are four products as below.

- ACS (Audio Conferencing Service)
- VBS (Voice Broadcasting Service)
- CMP (Contextual Messaging Platform)
- M-Centerx (Mobile PABX Service)

ACS is an audio-conferencing system that works as a conferencing solution for internal employees of a business. It provides business with the solution of tagging each of their employees with Grameenphone numbers and having a cellular network among themselves, where they can perform online meetings, conferences, group calls etc.

VBS is a voice broadcasting solution where business can broadcast voice messages to their intended recipients. This can be done for marketing or informational purposes.

CMP is the contextual messaging platform where businesses can do contextual marketing through SMS. These messages are delivered to the intended customer base for different promotional or informational activities.

M-Centrex is mobile hotline solution for businesses. It provides opportunities to businesses to set up a hotline for interacting with their customers and provide necessary customer service.

These products are taken care of by the respective product manager and product developer.

Connectivity & Cloud

There are three products in the connectivity and cloud portfolio. They are:

1. M2M (Machine to Machine Connectivity)
2. Smart Connect (Office Connectivity Solution)
3. Cloud IaaS (Infrastructure as a Service for Businesses)

M2M is the machine to machine connectivity solution. Nowadays businesses are digitizing their internal processes which requires different machine to machine connectivity. This product provides customer with this connectivity with the help of GP network.

Smart Connect is a smart office internet solution which provides flexible internet services to offices of different businesses. Businesses use this solution to provide their employees with access to a dedicated office network.

Cloud IaaS is a infrastructure as a service solution which provides businesses with managed service for their IT Infrastructure. Nowadays businesses are moving to the cloud from local hosting to ensure operational efficiencies and cost savings. This is the perfect service for such businesses.

These products are taken care of by the respective product manager and developer.

IoT (Internet of Things)

The IoT portfolio has four products. They are:

- Smart Attendance
- Smart Surveillance
- Smart Home
- Industrial IoT

Smart attendance is a cloud-based attendance system that provides businesses with attendance related ERP functions such as: regular attendance, shift management, leave management, reporting etc.

Smart surveillance is a security solution that provides customers with cloud-based surveillance over internet through a surveillance camera and a WIFI router.

Smart home is home automation solution consisting of gas detector, smoke detector, water leakage sensor, motion detector that communicates over the internet with the customer. This makes homes safer and gives customer the visibility and monitoring ability of their homes. It can be used in offices as well.

The industrial IoT is targeted towards the manufacturing industry where automation has now become mandatory. This product provides businesses with different solutions to automate their industrial processes.

This portfolio is taken care of by respective product manager and developer.

SaaS (Software as a Service)

This portfolio has four products. They are:

1. Team Tracker
2. Buddy Tracker
3. M-Reporting
4. HR Software

Team tracker is tracking solution for businesses. Businesses which have extensive use of field forces use this solution to monitor and maintain their field executives.

Buddy tracker is tracking solution for individuals. This ensures security and monitoring services to families of different business individuals who opt to take this service.

M-reporting is a inventory management and sales automation solution that provides businesses with the flexibility to manage their inventory and achieve sales target through a mobile application.

HR software is module-based application that provides businesses with HR solutions for their employees.

This portfolio is taken care of by respective product manager and developer.

VTS

There are two products in this portfolio. They are:

1. Regular VTS
2. eVTS (OBD based VTS)

Both products provide vehicle tracking services. There are differences in functionalities of the device. For example: one device provides the flexibility of turning the engine off while the other provides with engine health check and monitoring facilities.

This portfolio is taken care of by respective product manager and developer.

Product Management

The responsibility of the product management team is as below:

- Maintain product management lifecycle
- Conduct market research
- Identify opportunities
- Launch campaigns
- Enable sales teams with product knowledge and documentation
- Increase revenues through proper product planning
- Product Pipeline preparation with sales
- Product pipeline maturity with sales
- Product development requirements capture

- Product development requirement validation
- Product development requirement placement to developers
- Weekly, quarterly, monthly and yearly product planning
- Being a shadow of the product developer

Product managers perform these activities religiously to ensure their revenue targets for each year. Targets are set for the whole section. Then they are spread across the portfolios according to the previous performances and estimated growth rates. The portfolio targets are spread across the products in the portfolio according to the growth strategy.

Product Development

The responsibility of the product development team is as below:

- Maintain product development lifecycle
- Prioritize product development activities
- Finalize development requirements
- Cross-functional collaboration for product development
- Partner and vendor negotiation for development activities
- New product launching
- New product Go-To-Market plans
- Product development related communications
- Process readiness for product sales
- Conduct testing for new developments
- Communicate results for new developments
- Document developments
- Contractual negotiations with partners
- Being a shadow of the product manager

The developers perform these activities religiously to achieve the revenue target for the section. They work with product managers for each portfolio and identify development activities that will ensure the meeting of the revenue targets for the products. After identification of the activities a prioritization is done based on the revenue impact for each of

the activities. Other metric such as complexity, legal factors are also taken into account while prioritizing the tasks. Then development activities are performed accordingly.

3.2 Survey & Data Analysis

A survey was conducted to identify the use and impact of the red way of work in the ICT product development. The survey was designed to identify if the activities of the participants represent the red way of work or not. The logic is, if they are not using the red way, they are certainly using the opposite to perform their tasks.

Survey Preparation

The survey questionnaire was prepared with the help previous researches on agile practices or the red way of work. Google forms were used to create the questionnaire and collect the survey responses.

Survey Response Collection & Sorting

The survey was circulated among the ICT Product team as it was required to check what way of work is used by the Product Management and the Product Development Teams. A total of 10 responses were collected where, all the product managers and the product developers participated. The responses are summarized according to the product management and product development teams in the tables of the next pages.

Table-1 is created based on the inputs from the product developers. There are 5 product developer inputs for each question.

Table-2 is created based on the inputs from the product managers. There are 5 product manager inputs for each question.

The analysis from the collected data is given in the pages following the tables.

Job title	Way of Work Preference (Collected from Survey Answers)	Questions Related to Red Way of Work	No. of Responses in each category				
			Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Product Architect/Developer	Red Way (Agile)	Using Red way enables me to accomplish my tasks quickly	3	2			
		Using Red way improves the quality of work I do	1	4			
		Using Red way enables flexibility in my tasks	5				
		Using Red Way enhances my effectiveness on the job	3	2			
		Using Red Way fits well with the way I like to work	2	3			
		Using red way has enhanced the functionality of applications that we build	3	2			
		Using red way has decreased the number of errors in the systems/software products we build			1	4	
		Using red way has greatly speeded up our development of new applications	4	1			
		Using red way has definitely made me/my team more productive	5				
		the time we spend in software/systems development	4	1			
		Our customer/user(s) have been satisfied with the functionality of our products since we started using red way	3	2			
		satisfied with us since we started using red way	2	3			

Figure 12: Survey Responses of The Product Developers

Job title	Way of Work Preference (Collected from Survey Answers)	Questions Related to Red Way of Work	No. of Responses in each category				
			Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Product Manager	Blue Way	Using Red way enables me to accomplish my tasks quickly				4	1
		Using Red way improves the quality of work I do				1	4
		Using Red way enables flexibility in my tasks		5			
		Using Red Way enhances my effectiveness on the job				4	1
		Using Red Way fits well with the way I like to work					5
		Using red way has enhanced the functionality of applications that we build		4	1		
		Using red way has decreased the number of errors in the systems/software products we build				4	1
		Using red way has greatly speeded up our development of new applications		2		3	
		Using red way has definitely made me/my team more productive				5	
		Using red way has significantly reduced the time we spend in software/systems development				4	1
		Our customer/user(s) have been satisfied with the functionality of our products since we started using red way				4	1
		Overall, our customer/user(s) are satisfied with us since we started using				4	1

Figure 13: Survey Responses of The Product Managers

Survey Respondents

The survey respondents were members of the ICT Product Management and ICT Product Development teams. We have already discussed about these two teams and their activities. These respondents were selected in accordance to the objective of this report. We want to analyze the use and impact of the red way on work on the product development team. So, we ran the survey among the developers. Also, we want to identify activities to be performed in the red way and activities to be performed in the blue way. So, we surveyed both the product development and product management teams to identify the way of work they follow.

The respondents are aged between 24 to 30 years. 3 of the respondents are serving Grameenphone for less than a year, and 7 of the respondents are serving for 5 years. 5 of the respondents are product managers and 5 are product developers. Among these 10 respondents, 2 are in their current role for around 2 years, 4 are in this role for around a year and rest of them are in the role for less than a year.

Data Analysis

We will start by analyzing the data from the tables. The observations can be listed as below

- Product developers agree to the fact that using red way helps them to accomplish their tasks quickly. On the other side product managers disagree on this.
- Product developers agree to the fact that using red way improves the quality of their work. But product managers disagree on this.
- Both product managers and developers believe that using red way enables them to be flexible with their tasks.
- Product developers agree to the fact that using red way improves the effectiveness of their work. On the other side product managers disagree on this.
- Product developers agree to the fact that using red way improves fits with the way of their work. But product managers disagree on this.
- Both product managers and developers agree on the issue that using red way enhances the functionality of the products.
- Both product managers and developers disagree on the issue that using red way decreases the number of errors in the product.

- Product developers believe that using red way has sped up things for them. Product managers share a divided opinion on this.
- As flag bearers of the red way of work, product developers think that using red way has made themselves more productive, whereas product managers think the opposite.
- Developers think that red way has reduced the time spent in each development. But product managers think the other way.
- Product developers think that using red way has increased overall customer satisfaction, but product managers think the opposite.

This analysis is performed based on collected data from the ICT Products team of Grameenphone. After the analysis, I have come up with some conclusions regarding why product developers and managers have differentiated opinions. This part will be discussed in the conclusion and recommendation chapter.

3.3 Use & Impact of Red Way of Work on ICT Product Development

From the data analysis section, it is visible that the ICT Product Development team is the flag bearer of the Red way of work in Grameenphone. They are regularly accustomed to using the agile methods in their activities. They are mainly responsible for the product development lifecycle which consists of collecting customer insights and converting these insights into product features and launching them for the customers. They prefer the iterative way of work where they build a minimum viable product or a prototype of the product and test with the customers iteratively rather than completing the product and launching it altogether in one go. As Grameenphone is currently starting their journey in this new business area, the investment in this area is minimum. To achieve greater returns with minimum investment from the company, product developers need to be calculative and iterative with their approach. Prototyping and testing products with minimum features is the way to check if the product has traction in the market and if it will be profitable for the company. Also, it will require huge effort and capex to build a complete product only to find out that it is not profitable in the market. So, the Red Way of work has helped the development team in this scenario. Another way of looking at it is the development of existing products according to existing customers requirements. Here, the development team needs to identify and quantify the value of each feature additions. Along with it, there are pressures from competitors. The team is always on a strict timeline in order to beat the competition. Otherwise the competition will

takeover the account with their features. So, this is also a place, where the development team uses sprints for clearing product backlog and develop new features. This is also a part of the red way of work.

The data analysis from the surveys show that, the product developers believe that using the red way improves the efficiency and effectiveness of their job. They also believe that using red gives them the flexibility they require to accomplish their tasks. This is due to the fact that, red way provides the developers to complete different streams of tasks in an agile way, rather than getting stuck with one task for a long time. Product developers think that using red way has sped up their tasks and also increased the functionality of the products they develop, resulting in increased customer satisfaction. This belief can be justified by the fact that using red way enables developers to develop iteratively based on changing customer requirements rather building unimportant features and wasting time on them. This is why customers are also satisfied with the efforts of this team.

Chapter 4

Conclusion & Recommendation

I divided my work in four chapters. In the first chapter, I have provided a brief idea on the topic of the report along with the methodology and limitations of the study.

In the second chapter I have provided an overview of Grameenphone Ltd and its operations in Bangladesh. I have started with a brief introduction of how Grameenphone came into the scene and concluded with the mission, vision, strategy and value of the organization. I have also provided an idea of the products that Grameenphone offer for the Bangladesh customers. I have also provided an understanding of the organogram for the Business division and the Enterprise Product & Operations department. Then I have discussed about the Red Way of Work and the Blue Way of Work.

In the third chapter I have provided an understanding of how the ICT Products team operates in Grameenphone. I have also done an analysis of the data collected from the survey.

In this chapter (chapter 4), I will be drawing conclusions based on the analysis from the 3rd chapter. I will be providing recommendations of how the ICT Product Team can benefit by both Red & Blue Way of Work.

4.1 Conclusion

I would like to draw the following set of conclusions from this study.

- In the ICT Products team, the product developers are the torch bearers of the Red Way of Work, while the Product Managers are the torch bearers of the Blue the Way of Work.
- As discussed earlier, Red way of work is an iterative process where activities are performed in an iterative way. The motto is to Fail Fast and Fail Often. Product developers prefer this way of work as it matches their job responsibilities. They are responsible for developing products based on customer feedbacks. They also responsible for launching new products as per customer demand. So, they prefer to do these activities iteratively and quickly. They develop small chunks of the product and launch quickly. Customers get the experience of the product quickly and this helps the team collect feedback quickly and iterate the changes in the product. So, this speeds

up the development process. As work is done iteratively completion of work activities are sped up and this increases the productivity of the developers as well. They think that they can complete development activities quickly and efficiently. They feel that this makes their team more productive. On the other hand, developers also think that using Red Way increases number of errors in development. This is a regular case for using Red Way of Work. As work is done in quick succession and in bits and pieces, sometimes prioritization becomes an issue. This results in a confusion about the development activities and often creates a problem for the developers. But as issues are observed with the developments, they are also solved quickly because of the iterative nature of the Red Way of Work. Then again, using the Red Way increases the functionality of the products. As this is an iterative process, the features are launched in quick succession. Thus, the functionality of the product increases quickly and it creates traction quicker.

- On the other side the product management team is the flag bearer of the Blue Way of Work. This is mainly due to their job responsibilities. They are responsible for planning ahead of time for their products and setting stretched revenue targets for their portfolio according to their forecasts of sales pipeline. So, they have to plan and execute activities properly. They cannot afford to differentiate their strategy in quick succession. They normally start off with a strategy and look up to the developers for providing necessary development related support in quick succession to support the revenue growth for the product. They think that the Blue Way is the best way for them to work as it encourages proper long-term planning and seamless execution of plans. It is not that strategies cannot change, but the fact is that strategies cannot change rapidly or in quick succession. Whereas development activities can change in quick succession. So, product managers think that the Blue Way of Work increases their productivity along with customer satisfaction. But product managers also think that the Red Way of Work provides flexibility in the work activities and provides quick execution of certain activities which helps in strategy execution. Though product managers perform some activities in the Red Way, they ultimately prefer the Blue Way as it matches the type of job responsibilities they are assigned.

4.2 Recommendation

I would like to recommend the following:

- As we have discussed, Red Way is a quick, iterative process of execution and Blue Way is a process of execution based on long term planning and preparation. There are activities at both product development and product management side that require either red way or blue way. Both the teams should use a blend of both the ways of work to become more productive. For example: the product development team can use the blue way to execute technical developments of product feature so that errors can be minimum. On the other side, product managers can use the red way to keep provisions for changes in their strategy so that they can meet the needs of the market quickly and achieve higher revenues.
- Though the product managers and developers are supposed to be shadow of another, the survey indicates that they have different beliefs and ways of work. This should not be the case. Both the teams should have the same working principles for playing the shadow roles for each other and making this initiative a successful one.

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Appendix A: Survey Questionnaire

Section 1: General Questions

1. What is your job title?

2. Please specify if it is product development oriented or planning & rollout oriented
 - Product Development
 - Product Planning & Rollout

3. How long have you been with your present organization?
 - <1 year
 - 1-3 years
 - 4-10 years
 - >10 years

4. How long have you been in your current role?
 - <1 year
 - 1-3 years
 - 4-10 years
 - >10 years

5. How many people are there in your organization?
 - <100
 - 100-500
 - 501-1500
 - >1500

6. How many people are engaged in activities that are related to your role?

- 3-10
- 11-20
- 21-50
- >50

7. What type of products are developed in your organization?

8. For your role which way of work do you prefer?

- Red Way (Agile)
- Blue Way

Section 2: Red & Blue Way of Work Sustainability Questionnaire

9. Using Red way enables me to accomplish my tasks quickly

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

10. Using Red way improves the quality of work I do

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

11. Using Red way enables flexibility in my tasks

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

12. Using Red Way enhances my effectiveness on the job

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

13. Using Red Way fits well with the way I like to work

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

14. I typically use red way practices in the following activities/phases

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

Section 3: Impacts of Red & Blue Way of Work

15. Using red way has enhanced the functionality of applications that we build

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

16. Using red way has decreased the number of errors in the systems/software products we build

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

17. Using red way has greatly speeded up our development of new applications

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

18. Using red way has definitely made me/my team more productive

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

19. Using red way has significantly reduced the time we spend in software/systems development

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

20. Our customer/user(s) have been satisfied with the functionality of our products since we started using red way

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

21. Overall, our customer/user(s) are satisfied with us since we started using red way

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree