Report On

The Impact of Regulatory and Macroeconomic Factors on the Telecom Industry in Bangladesh: A Study on Grameenphone Ltd.

By

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An internship report submitted to the BRAC Business School in partial fulfillment of the requirements for the degree of
Bachelor of Business Administration

BRAC Business School
BRAC University
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Declaration

It is hereby declared that

1. The internship report submitted is my/our own original work while completing 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/We have acknowledged all main sources of help.

Student's Full Name & Signature:

Adeeba Mahin Hasan

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Lecturer, BRAC Business School

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Letter of Transmittal

Safarath Ahmed
Lecturer,
BRAC Business School
BRAC University
Kha 224 Pragati Sarani, Merul Badda, Dhaka 1212.

Subject: Internship report on "The Impact of Regulatory and Macroeconomic Factors on the Telecom Industry in Bangladesh: A Study on Grameenphone Ltd."

Dear Sir,

I am presenting my internship report titled "The Impact of Regulatory and Macroeconomic Factors on the Telecom Industry in Bangladesh: A Study on Grameenphone Ltd." here. I have combined the knowledge I gained from my years as an undergraduate student at BRAC University with the experience and insights I gained as an intern working at Grameenphone Ltd. to write this report.

I have put my utmost effort into completing this report with accurate and useful information. I hope it will meet the standards set by the university. Thank you for your guidance throughout this entire process.

Sincerely yours,

_____

Adeeba Mahin Hasan
21204040
BRAC Business School
BRAC University
Date: January 6, 2026

Non-Disclosure Agreement

This agreement is made and entered into by and between Grameenphone Ltd. and the undersigned student at BRAC University. In this report titled "The Impact of Regulatory and Macroeconomic Factors on the Telecom Industry in Bangladesh: A Study on Grameenphone Ltd.", I have only used information that is publicly available. During my internship, I have been exposed to a lot of confidential information. I am aware that I must maintain the privacy of this information.

_____

Adeeba Mahin Hasan

21204040

Acknowledgement

First and foremost, I am grateful to the Almighty Allah for granting me the opportunity and wisdom to complete my internship with ease.

I am thankful to Grameenphone for giving me the opportunity to work as an intern in the Strategy and Analytics department under the Product division. I would like to thank my organizational supervisor, Christina Sangma, for guiding me throughout this entire internship period. I am also grateful to the rest of the team for their continuous support, encouragement and teachings.

My sincerest gratitude goes to my academic supervisor, Safarath Ahmed, Lecturer at BRAC Business School, BRAC University, without whose guidance and advice I would not be able to complete this report to meet the high standards set by the university. I would also like to thank my co-supervisor, Tausif Bari, Lecturer at BRAC Business School, BRAC University for his support.

Lastly, I would like to thank my family and friends for always encouraging me and pushing me to take on new challenges.

Executive Summary

This report assesses the impact of macroeconomic and regulatory factors on Grameenphone Ltd.'s mobile ARPU between 2014 and 2024. The report is based on a 12-week internship at Grameenphone in the Strategy and Analytics Department under the Product Division. The independent variables CPI, supplementary duty, GDP per capita and revenue sharing & spectrum charge per user were used to run a linear regression analysis and for qualitative factors like political unrest, previous literature was used to derive relationships. From the regression analysis, it was found that CPI, supplementary duty and revenue sharing & spectrum charge per user have a statistically significant relationship with mobile ARPU. CPI and revenue sharing & spectrum charge per user have a positive relationship, indicating that GP's ARPU is inelastic to price changes and it responds to increased regulatory costs through price adjustments. Supplementary duty has a negative relationship, showing that high sector-specific sector taxes deter users from spending on telecom services. Limitations of the analysis were a small dataset, lack of publicly available data and multicollinearity between a few independent variables. As a result, more focus was put into direction and economic theory rather than the magnitude of coefficients. Based on this, a few recommendations were made for the business. Additionally, this report also discusses the details of my internship journey and Grameenphone's management practices, marketing practices, financial performance, operations and competitive environment. A few recommendations have also been made to further strengthen Grameenphone's position as market leader.

Keywords: Macroeconomic factors**,** Regulatory factors, Mobile ARPU, CPI, Supplementary duty, GDP per capita, Revenue sharing & spectrum charge per user, Political unrest

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List of Acronyms

ARPU	Average Revenue Per User
GP	Grameenphone Ltd.
HR	Human Resource

Chapter 1

Overview of Internship

1.1 Student Information

Name	Adeeba Mahin Hasan
ID	21204040
Program	Bachelor of Business Administration (BBA)
First Major	Finance
Second Major	Management Information Systems

1.2 Internship Information

1.2.1 Internship Details

Period	2nd November, 2025 to 1st February, 2026 (3 months)
Company Name	Grameenphone Ltd.
Division	Product
Department	Strategy and Analytics
Address	GPHouse, Bashundhara, Baridhara, Dhaka-1229

1.2.2 Internship Company Supervisor's Information

Name	Christina Sangma
Position	Head of Commercial Strategy and Planning Strategy and Analytics, Product

1.2.3 Job Description/Duties/Responsibilities

I worked as an intern in the Strategy and Analytics department under the Product division as a part of their Nextern flagship internship program. I had the opportunity to observe and assist in several tasks. My main tasks were:

- Learning about the process of how commercial strategies are made
- Analysing competitor's product offerings and bundles
- Assisting in global benchmarking recommendations

1.3 Internship Outcomes

1.3.1 Student's Contribution to the Company

During my internship of 12 weeks at Grameenphone, I contributed to the following tasks:

- Evaluated the key performance indicators for Grameenphone, its competitors, Telenor subsidies and other relevant telecom companies for the past few quarters
- Analysed the product and services offered by different telecom companies to come up with recommendations for Grameenphone
- Gained firsthand experience and insight from retailers and customers by going on market visits
- Supported in organizing and streamlining data and reports

1.3.2 Benefits to the Student

As this internship is my first glimpse into the real world of corporate, I learnt a lot of things. Being in the commercial strategy and planning team, I learnt about the different types of projects they have to undertake and the process of how strategies are created. Other than my team, I also observed the work done by other teams in my department. I also talked to people from different divisions to truly understand how the company functions as a whole. I went on a market visit to meet retailers which helped me understand their role and the general public's sentiment. Overall, I learnt about how corporate culture works, all the layers and intricacies.

1.3.3 Problems/Difficulties Faced During the Internship Period

There were no major difficulties I faced during my internship. However, since I worked in the commercial strategy and planning team, a lot of the work was confidential due to organizational policies and its competitive nature. As a result, I missed the opportunity to work on a lot of projects and get an in depth look into the procedures.

1.3.4 Recommendations to the Company on Future Internships

I would recommend having some training sessions for all the interns in general to help them build the necessary technical and soft skills needed in corporate. I feel that there is a huge gap between the academic world and professional world which could be bridged through training fresh graduates in a corporate setting. This will be beneficial for both the interns and the company.

Chapter 2

Organization Part

2.1 Introduction

2.1.1 Objectives

- To summarize Grameenphone Ltd.'s history and journey into becoming the leading telecom operator in Bangladesh
- To communicate Grameenphone's purpose, mission, vision, values and strategy
- To describe Grameenphone's organizational structure
- To evaluate Grameenphone's management practices, marketing functions, accounting practices, financial performance and operational practices
- To determine Grameenphone's strengths and weaknesses

2.1.2 Scope of Study

This chapter of the report explores Grameenphone's management practices, marketing practices, accounting practices, financial performance, operations management and information system practices and its competitive positioning.

2.1.3 Methodology

This chapter uses a qualitative research approach. Both primary and secondary resources have been used to write this report.

Primary sources:

- Interviews with employees
- Personal observations during the internship

Secondary sources:

- Telenor and Grameenphone's published reports and presentations
- Published reports from BRAC University's Institutional Repository (https://dspace.bracu.ac.bd/)

2.1.4 Significance of Study

There are several stakeholders that benefit from this study.

- **Students** - Students get an insight into the actual organizational operations of Grameenphone, helping them to bridge the gap between theory and practice.

- **Grameenphone** - This study provides a fresh perspective to the company and identifies gaps in their organizational operations, upon which Grameenphone can make improvements.

2.1.5 Limitations

- **Confidentiality** - This report only contains published information as the company's confidential information can not be disclosed. Secondary sources are the main source. This prevents a deeper understanding of the business.
- **Limited time and exposure** - As the internship period is only 12 weeks, it is hard to fully understand how all the divisions and departments in the company work

2.2 Overview of the Company

2.2.1 Background

Grameenphone Ltd. is the leading telecom operator with the largest subscriber base and widest network in Bangladesh. It began its journey in 1997 as a joint venture between Telenor Mobile Communications AS and Grameen Telecom, with the intention of connecting the rural population in Bangladesh to empower them (*Our Story | Grameenphone*, n.d.). It became a public limited company in 2007 and has been listed on the Dhaka and Chittagong Stock Exchanges since 2009. Over time, its technology and infrastructure have evolved but its dedication towards empowering societies has remained constant. Now, it has over 85 million subscribers all over the country. In the 28 years of its operations, Grameenphone has established the fastest and widest internet coverage in the country by setting up the largest number of 4G towers nationwide. It is constantly innovating and coming out with new products and improving customer experience. Telenor's technological know-how and business management expertise combined with Grameen Telecom's understanding of the country's people and economy have helped Grameenphone to strive for connectivity and economic progress.

2.2.2 Purpose, Values and Strategy

Purpose

With you, for a safer and smarter tomorrow.

Values

Trust. Curiosity. Passion

We are built on trust, driven by curiosity and a strong passion for our customers and what we do.

Strategy

Customer Experience, Innovation, AI-First, Growth

2.2.3 Ownership Structure

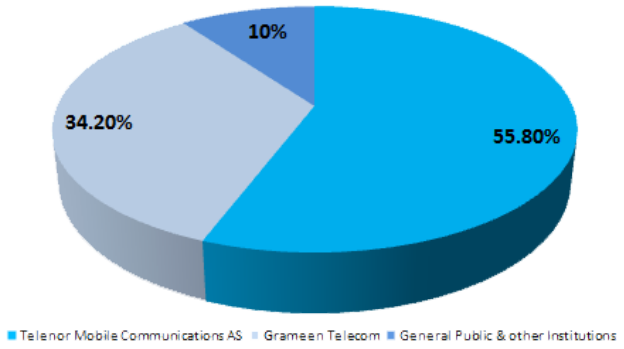

Figure 1: Ownership Structure

2.2.4 Organizational Structure

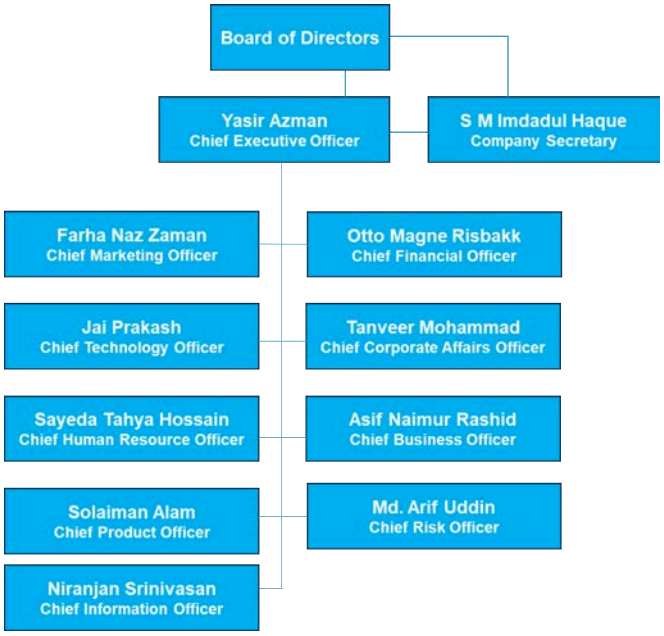

Figure 2: Organizational Structure

2.2.5 Products and Services

Voice services	Prepaid sim - Most of Grameenphone's subscribers use prepaid sims where they have to top up their sims upfront before availing mobile services. There are many packages available which include voice, SMS, data etc.
	Postpaid sim - A small percentage but high value customers use this service. The offerings are in line with the billing cycle, usually monthly or annually.
	Skitto sim - This sim is targeted towards the youth segment.
	International roaming - It allows GP users to use mobile services while abroad.
Data services	Grameenphone has data packs of different sizes and validities. It offers 3G and 4G networks and is starting to roll out 5G too.
VAS	Caller tune, infotainment service, missed call alerts, news service etc.
Digital services	MyGP - self service app that provides one-stop solution to access all GP services and avail all offers
	Bioscope+ - entertainment app offering shows, movies, music, sports, popular live TV channels
	Gpay - mobile wallet that GP users can use to pay their utility bills
Handsets and Devices	Smartphones, accessories, smartwatches, modems, routers
Others	gpfi - Grameenphone pioneered the first wireless broadband connection in Bangladesh
	Alo - GP now offers smart home devices such as CCTV camera, smoke detector, gas detector, vehicle tracker
Business services	Business packages, cloud solutions, broadcasting services, corporate messages, vehicle tracking, enterprise connectivity

Table 1: Grameenphone's products and services

2.3 Management Practices

2.3.1 Leadership Style

According to my observations and conversations with people from different departments, it can be deduced that Grameenphone has a participative leadership style. The participative leadership style encourages employees to share their ideas and give their input when making a decision. In order to gain a competitive edge, it is necessary that the employees play an active role in decision making (Wang et al., 2022). This approach aligns with Grameenphone's culture and values where empowering employees is very important. Although decisions are ultimately taken by the leaders, reaching that endpoint is done through discussions. Grameenphone has a pool of talented and experienced employees who have a lot to offer so it is necessary that their thoughts are valued and nurtured.

2.3.2 Human Resource Planning Process

2.3.2.1 Recruitment and Selection Process

Sources:

- **Internal hirings** - only existing employees can see the postings on the career site. For some roles, existing employees are preferred due to their familiarity and experience with the organization culture.
- **External hirings** - postings are posted on both the career site and LinkedIn. This is done to bring in new talent and innovation.

Recruitment process steps:

- **CV Screening** - Firstly, CVs are screened and candidates are shortlisted to appear for the next step. There are 3 assessments used for the recruitment process.
- **Aptitude and functionality test** - Shortlisted candidates have to sit for an aptitude and functionality test which is taken using TestGorilla.
- **Competency based interview** - After passing that round, candidates have to face a competency based interview which differs based on the role.
- **Final interview** - Lastly, candidates face a final interview. Passing this round secures the job.

2.3.2.2 Compensation System

Employment type:

Grameenphone has 2 types of employees, permanent and contractual employees. Contractual employees are further classified into local and expatriate employees.

Monetary compensation:

- **Compensation structure** - Employees are compensated based on their band and responsibilities. The bands start from A to E, with A being the highest.
- **Salary disbursement** - Salaries are disbursed on the 25th of every month and earlier if there is a holiday.
- **Allowances** - GP has several allowances for its employees. There are basic, house, medical, travel, festival, child education, location, transport, handset and special allowances. This list is expansive but not exhaustive.

Leave entitlements:

There are different types of leaves that employees can take. There are annual, casual, sick, maternity, paternity, miscarriage, pilgrimage and extended sick leave. Work from home is also allowed based on the situation and circumstances.

2.3.2.3 Training and Development Initiatives

There are 2 streams of training and development initiatives. They are:

- Expert stream - This focuses on functional skills. Various courses have to be done for example courses on presentation, Power BI as training.
- Leadership stream - This focuses on developing soft skills. There are different programs for employees from different bands.

2.3.2.4 Performance Appraisal System

Grameenphone appraises its employees' performances by evaluating their fulfillment of personal and company KPIs. Based on this, actions are taken for example, promotions and increments. Annual and quarterly bonuses are also given to employees based on this.

2.4 Marketing Practices

2.4.1 Marketing Strategy

Grameenphone follows a marketing strategy where it positions itself as a company for all while also delivering the highest quality. Nowadays, it focuses more on innovation and quality with tag phrases such as “Go Beyond” and “#1 internet network”. Its product mix has grown a lot over the years, from selling sims to selling wireless broadband, IoT devices, enterprise solutions etc. As the market leader, its pricing strategy is a bit higher than its peers, reflecting its higher quality and coverage. GP invests heavily in its marketing and promotions, launching several campaigns, creating a narrative and story that people can relate to.

2.4.2 Target Customers, Targeting and Positioning Strategy

Segmentation:

Grameenphone generally follows a mass marketing strategy with its prepaid sims which is how it has the largest user base in the telecommunications industry. However, there are several products they have which are catered towards different segments. For example, the Skitto sims and offers are catered towards the youth segment and postpaid sims are for high value customers and corporate clients.

Targeting:

Overall, GP has mass campaigns to attract the mass population. But it also uses a differentiated marketing approach for its different segments. It uses targeted promotions on several channels such as billboards, broadcast advertisements, social media posts to acquire and retain customers. For example, heavy data users get more data related offers on the MyGP app.

Positioning:

Grameenphone positions itself as a reliable market leader in the telecom industry that provides wide coverage and the best internet. Recently, it has transformed itself into becoming a digital service provider instead of just a mobile service provider. It positions itself as a business that is innovative and transformative.

2.4.3 Marketing Channels

- **Traditional channels** - helps to reach a wider audience, especially in rural areas
    - Retailers, dealers, service points, distribution centres for sim sales, top-ups and offer purchasing
    - Mass media such as TV, radio and billboard ads for brand and product launches
- **Digital channels** - helps to reach a more tech-savvy audience
    - MyGP app, Skitto app, USSD, website (https://www.grameenphone.com/). These provide GP's offerings in detail and personalized offers are also given via these channels.
    - Digital and social media advertisements such as sponsored posts and targeted campaigns on Facebook, Instagram etc. are more effective for today's generation.

2.4.4 Product/New Product Development and Competitive Practices

- **Core products:**
    - Prepaid sim, Postpaid sim, Skitto (youth sim), MyGP app
- **New developments:**
    - **5G** - Grameenphone has commercially launched 5G in all divisional cities in Bangladesh in September 2025
    - **Bioscope+** - GP redesigned their entertainment app which was previously Bioscope. It's the one stop entertainment hub with shows, movies, music, sports, live TV channels
    - **gpfi** - Grameenphone pioneered the first wireless broadband connection in Bangladesh
    - **Alo** - GP now offers smart home devices such as CCTV camera, smoke detector, gas detector, vehicle tracker
    - **GP shield** - a next-generation, Cisco-powered DNS-layer security solution for GP users to protect them from online threats
- **Competitive practices -** Grameenphone focuses on driving innovation and improving customer experience which often helps it to stay ahead of its competitors. It has

pioneered several services in the country, such as wireless broadband internet, which help it to retain its leading position.

2.4.5 Branding Activities

Grameenphone started with the mission to connect the people who were unconnected, especially the rural population, by providing them affordable mobile services. Now, it has made its name as the leading telecom brand in Bangladesh and it works hard to keep that narrative alive. In recent times, the industry's competitive nature and push towards digitization has led Grameenphone to rebrand itself as a digital services provider. The phrase "#1 internet network" is widely used in their advertising across all channels. It brands itself as a responsible leader.

2.4.6 Advertising and Promotion Strategies

GP is known for its storytelling. It uses a mixed-media approach for its advertising and promotional strategies.

- **Promotional campaigns** - GP has launched several customer campaigns over the years. For example, in this year, it launched "1 Number Offer er Mela" that offers exclusive offers and rewards such as air tickets, cashback etc.
- **Traditional media marketing** - GP still uses TV, radio and billboards to advertise their products for mass marketing. This helps to reach a wider audience such as older people, people living in rural areas that do not have access to digital channels.
- **Digital media and social media marketing** - Grameenphone's communication partners have won several digital marketing awards, showcasing their success in using digital media for promotions.
    - Own channels - GP has their own dedicated pages on several social media platforms where they post promotional content. They also invest in sponsored posts
    - Influencer marketing - GP partners with content creators and influencers to reach and connect with its youth audience.

2.4.7 Critical Marketing Issues and Gaps

- **Gap between premium pricing and price sensitive customers** - Majority of GP's users are price sensitive. They often complain about Grameenphone being pricier than other mobile operators. This creates a challenge in retaining customers, especially low-income individuals.
- **Overdependency on market leadership** - Grameenphone prides itself on providing the widest coverage and fastest internet speed. Currently, this is its key competitive advantage but it may lose this edge if others improve their coverage. Also, customers in areas with weak coverage will not be able to relate to this marketing.
- **Negative brand perception due to internet blackout** - During the July revolution in 2024, all the mobile operators were forced into a government mandated internet blackout which severely hampered their reputation despite having no control over it. However, it is necessary to actively take measures to increase customer satisfaction after events like this.

2.5 Financial Performance and Accounting Practices

2.5.1 Financial Performance

2.5.1.1 Liquidity

Year	Current Ratio	Quick Ratio	Cash Ratio
2020	0.13	0.13	0.03
2021	0.12	0.11	0.03
2022	0.13	0.12	0.04
2023	0.27	0.27	0.18
2024	0.19	0.18	0.09

Table 2: Liquidity ratios

Grameenphone's current ratio for the past 5 years has been extremely low at an average of 0.17, far below the standard ratio of 1, signifying that the company has very limited short term assets to cover its current liabilities. The quick ratio mimics the current ratio patterns,

indicating that inventory does not make up a significant portion of the company. The cash ratio is also very low at an average of 0.07 showing it has very little cash. Overall, Grameenphone's liquidity position has been very weak for the past 5 years, with an improvement in 2023 but it was not sustained, signalling that its liquidity issues still remain.

2.5.1.2 Solvency

Year	Debt to Equity Ratio	Debt Ratio	Interest Coverage Ratio
2020	0.42	0.65	113.54
2021	0.75	0.69	24.52
2022	1.23	0.75	17.14
2023	0.80	0.67	11.99
2024	1.02	0.67	10.95

Table 3: Solvency ratios

Grameenphone's debt-to-equity ratio sees an increasing trend, reaching over 1, meaning that the company is growing more reliant on external debt as the years progress. The debt ratio has been high consistently at around 0.69, indicating that most assets are financed by debt. This poses a long term financial risk. While the interest coverage ratio was very high at around 113 in 2020, it plummeted to about 11 in 2024, showing Grameenphone's increasing debt burden. The overall trend shows that Grameenphone is becoming more dependent on debt financing and although it is still safe with the interest coverage ratio being more than 10, the significant drop is a cause for concern.

2.5.1.3 Efficiency

Year	Asset Turnover Ratio	Operating Expense Efficiency Ratio
2020	0.94	0.098
2021	0.92	0.099
2022	0.86	0.093
2023	0.82	0.089
2024	0.79	0.090

Table 4: Efficiency ratios

Grameenphone's asset turnover ratio shows a declining trend meaning that each unit of asset is providing less revenue as the years go by. This mirrors the general declining trend of revenue in the telecommunication industry. The operating expense efficiency ratio has remained fairly constant. Grameenphone's efficiency is gradually deteriorating and while its management of operating expenses has been consistent, it is not enough to offset the falling revenue.

2.5.1.4 Profitability

Year	Operating Profit Margin	Net Profit Margin	Return on Equity (ROE)	Return on Assets (ROA)
2020	45%	27%	82%	25%
2021	44%	24%	67%	22%
2022	42%	20%	63%	17%
2023	41%	21%	59%	17%
2024	37%	23%	55%	18%

Table 5: Profitability ratios

Grameenphone's operating profit margin fell from 45% in 2020 to 37% in 2024. This may indicate higher operation and maintenance costs. The net profit margin was also falling from 2020 to 2022 but it has been recovering slightly for the past 2 years. The return on equity was very high at 82% in 2020 but it saw a sharp decline to 55% in 2024. This indicates that the company is less profitable and uses its equity less efficiently now. Return on assets is also declining, aligning with the decreasing margins and asset turnover. The telecom industry is becoming less profitable in general so when compared to that Grameenphone's margins are still strong.

2.5.1.5 Leverage

Year	Equity Multiplier
2020	2.84
2021	3.27
2022	4.01

2023	3.01
2024	3.07

Table 6: Leverage ratios

Grameenphone's equity multiplier fluctuated over the last 5 years, increasing from 2.84 to 4.01 between 2020 to 2022 and then decreasing to 3.07 in 2024. While a high equity amplifies the ROE, it is an aggressive strategy relying on debt. Since GP is facing lower margins and interest coverage ratio, this may be risky so it is good that it has reduced in the last 2 years.

2.5.1.6 Market-value

Year	Earnings Per Share (EPS)
2020	27.54
2021	25.28
2022	22.29
2023	24.49
2024	26.89

Table 7: Market-value ratios

Earnings per share fell between 2020 to 2022 from BDT 27.54 to 22.29, possibly due to COVID-19 pandemic, but recovered well within the last 2 years, reaching BDT 26.89 in 2024. Since the number of shares have remained the same, this means that the earnings have improved. However, this does not negate the overall declining trends of the company.

2.5.1.7 DuPont Analysis

Year	Net Profit Margin	x	Asset Turnover	x	Equity Multiplier	=	ROE
2020	27%	x	0.94	x	2.84	=	72%
2021	24%	x	0.92	x	3.27	=	72%
2022	20%	x	0.86	x	4.01	=	69%
2023	21%	x	0.82	x	3.01	=	52%

2024	23%	x	0.79	x	3.07	=	56%

Table 8: DuPont Analysis

From the analysis, it can be seen that the net profit margin fell from 27% in 2020 to 20% in 2022 but has been gradually increasing since. The equity multiplier follows an inverse trend, increasing from 2.84 in 2020 to 4.01 in 2022 but then falling to 3.07. The asset turnover ratio has consistently fallen for the past 5 years. The ROE is seemingly high from 2020 to 2022 but when the leverage is reduced, it falls significantly, showing an artificial increase. It can be deduced that the asset turnover and equity multiplier are the main drivers for the declining trend in ROE. This means that Grameenphone has been struggling to generate revenue from its assets which may be a result of lower usage growth and competitive pressures in the telecom industry. Leveraging also artificially amplified returns.

2.5.2 Accounting Practices

Grameenphone's financial statements are prepared in accordance with International Financial Reporting Standards (IFRS), the Companies Act 1994, the Securities and Exchange Rules 2020, relevant guidelines issued by the Bangladesh Securities and Exchange Commission, Financial Reporting Act, 2015 and other applicable laws in Bangladesh (Grameenphone Ltd., 2025).

2.5.2.1 Core Accounting Principles

- Grameenphone uses going concern basis to prepare its financial statements
- Historical cost principle is followed unless specifically stated otherwise

2.5.2.2 Method of Accounting

- Grameenphone follows the accrual basis of accounting meaning that income and expenses are recorded when they are incurred or earned, not when cash is received or paid.

2.5.2.3 Accounting Cycle

- The financial statements show that the full accounting cycle has been followed when preparing them. The steps include identifying transactions, recording them in a journal, ledger posting, creating a trial balance, analyzing the worksheet, adjusting

journal entries, creating financial statements and closing the books. The financial statements also have detailed notes and disclosures.

2.5.2.4 Depreciation Methods

- Property, plant and equipment items are depreciated using a straight-line method over the estimated useful life of the asset. The range of estimated useful life of the asset depends on the subcategories of assets.
- Land and capital work in progress (CWIP) are not depreciated.
- Depreciation method, useful lives and residual values are reviewed at the end of the year and adjusted if necessary.

2.5.2.5 Accounting Disclosures

- The auditor's report states an "Emphasis of matter" which highlights an ongoing legal dispute where BTRC gave Grameenphone a demand notice of payment of BDT 125.80 billion. It is currently under court proceedings and due to its uncertain nature, no provisions have been made for this.

2.6 Operations Management and Information System Practices

Grameenphone operates on a very wide scale. It continually invests and innovates on network upgrades, for example 5G rollout, to improve coverage and quality. GP partakes in infrastructure sharing to maximize the use of existing resources in the industry. Grameenphone partners with different companies to manage different aspects of its operations. For example, GP partnered with Wipro to manage application development, infrastructure support and IT security and it also partnered with Ericsson who will use AI to enhance the BSS capabilities. Grameenphone uses multiple enterprise systems for example ERP, CRM, mediation platforms, catalog-driven charging etc to support its operations. Data comes from EDW systems and then queries are run using SQL primarily. If needed, more insights are generated using Python.

2.7 Industry and Competitive Analysis

2.7.1 Porter's Five Forces Analysis

Competitive Rivalry	**Very High**	The competition between Grameenphone, Robi Axiata and Banglalink is very high in the telecommunications industry in Bangladesh. All the companies are constantly coming out with new offerings and products, trying to one-up the other. For example, Grameenphone announced its 5G rollout a few hours after Robi did.
Threat of New Entrants	**Low**	The barriers to entry in the telecom industry are very high. High capital investment is required to build towers and acquire spectrum. Along with this, the industry is heavily regulated and highly taxed, deterring new entrants.
Threat of Substitutes	**Moderate**	There is little to no substitutes for mobile telephony and connectivity in general. However, nowadays OTT platforms such as Whatsapp, Messenger are becoming more popular than traditional voice and SMS which pose a threat. But mobile data is still needed to use these on the go so the threat of substitutes is moderate.
Bargaining Power of Buyers	**Moderate**	Consumers in Bangladesh are price-sensitive so if one mobile operator raises its prices, consumers can easily switch to another as switching costs are low. However, there are only 4 operators in the telecom industry in Bangladesh (Grameenphone, Robi, Banglalink, Teletalk) and competitive pricing is usually done, leaving consumers with little option.
Bargaining Power of Suppliers	**Low**	Suppliers have low bargaining power since there are many suppliers and only a few large mobile operators so they can easily switch. Therefore, suppliers try to create a long lasting relationship by providing good service.

Table 9: Porter's Five Forces Analysis

2.7.2 SWOT Analysis

Strengths	Weaknesses
Market leadership - GP has the largest customer market share in the telecom industry in Bangladesh at nearly 46%. **Strong brand reputation** - GP cultivated a strong brand image over the years by providing quality products and services and taking a customer-centric approach. This created customer loyalty.	**Premium pricing** - A common complaint from users is that GP's pricing is higher than its peers, which may deter potential customers and cause existing customers to switch **Dependency on voice revenue** - Despite providing more digital services now, about 54% of GP's revenue still comes from voice services. The telecom industry is facing a downward

Wide network coverage - It has the highest number of 4G towers, all around Bangladesh, ensuring reliable connectivity. **Innovation** - GP is usually the first to come out with new innovative products e.g. gpfi, alo IoT giving it a competitive edge.	trend in mobile ARPU which is concerning. **Regulatory challenges** - Telecom industry faces one of the highest tax burdens with a total tax burden of about 56% (Hasan, 2025). Spectrum costs are also one of the highest globally.
Opportunities	**Threats**
Widespread 5G rollout - GP commercially launched its 5G services in all divisional cities but it is still in its initial stages. Wider coverage can improve customer experience **Expansion in rural areas** - Some areas in Bangladesh still remain unconnected or have poor coverage. Targeting expansion in those areas can increase subscribers. **Strengthen digital services** - GP already provides several digital services but it is important to promote its growth to reduce dependency on voice revenue	**Competitive pressure** - The telecom industry in Bangladesh is made of a few key players so GP is always at the threat of Robi Axiata and Banglalink's actions. E.g Robi rolled out 5G first **Political instability** - The internet blackout in 2024 took a hit to GP's revenues and the upcoming national election has created a lot of uncertainty in the market in general.

Table 10: SWOT Analysis

2.8 Summary and Conclusions

In summary, Grameenphone's presence in Bangladesh is undeniable. It has managed to maintain its market leadership over its years of operation, with a customer market share of nearly 46% currently. It has transformed itself into more than just a mobile service provider. It is now one of the key players in the digital transformation of Bangladesh. Its marketing activities, offerings and network coverage have established a brand reputation and created a loyal customer base. Its company culture is widely reputed around the country.

While Grameenphone is in a leadership position in the telecom industry, its financial performance has not been at its best. Its profitability is seeing a general declining trend and its efficiency is decreasing. The company is also becoming increasingly reliant on debt with its interest coverage ratio dropping sharply, henceforth, reducing its solvency. Its liquidity position is also very poor. However, Grameenphone's net profit margin and earnings per

share has been gradually improving for the past 2 years. It saw topline growth in the past quarter after 4 consecutive quarters of decreasing performance after the July Revolution.

2.9 Recommendations/Implications

After analysing Grameenphone's management practices, marketing practices, financial performance, operations and competitive environment, the following recommendations can be useful to further strengthen Grameenphone's position in the telecommunication industry:

- **Strengthen Data-Driven Segmentation and Marketing -** Since the telecom industry in Bangladesh is highly competitive, it is important to make effective use of customer data to develop personalized offerings for different segments. This is likely to increase customer engagement and loyalty
- **Improve Financial Efficiency -** GP's financial performance has seen a declining trend over the past 5 years. Rising costs put pressure on the company's profitability so the cost discipline must be improved. It is also becoming increasingly dependent on debt so that also has to be reduced.
- **Expansion Into Untapped Geographic Markets -** Many areas, especially rural ones, in Bangladesh remain unconnected or have poor coverage. If Grameenphone can provide connectivity to these areas, it will increase subscribers.

Chapter 3

Project Part

3.1 Introduction

3.1.1 Background and Problem Statement

The telecom industry in Bangladesh has seen a 56% decrease in ARPU over the past 10 years, standing at just $1.3 now (Ficci, n.d.). This is one of the lowest ARPU worldwide. As a result, the sector's long-term sustainability is questioned. While it contributes to only 1% of Bangladesh's GDP, the telecom sector contributes to around 5% of the country's total tax revenue. Both mobile operators and mobile users face one of the highest sector-specific tax rates. Listed operators face a corporate tax rate of 40% while the unlisted face a corporate tax rate of 45%. In addition to that, they also must pay a minimum turnover tax of 2% on gross receipts. Mobile users are subjected to pay a VAT rate of 18%, a supplementary duty of 20%, and a 1% surcharge. Moreover, Bangladesh also has one of the highest spectrum costs globally, further increasing costs. Coupled with rising inflation, the costs of mobile operators keep increasing while consumer spending decreases. The network blackouts during the July Revolution in 2024 further hampered the revenue streams of companies (Intelligence, 2025). There are several action plans that mobile operators want to do to improve customer experience but are not able to due to regulatory restrictions. This report aims to find out the significance of political instability, high inflation, tax hikes, decreased consumer spending and high spectrum costs on the mobile ARPU of Grameenphone Ltd. Identifying the significant factors can help the company in organizing their efforts to push for change in those areas.

3.1.2 Objectives

- To examine the impact of macroeconomic and regulatory factors on the mobile ARPU of Grameenphone
- To construct a statistical model to find the effect of the independent variables on the dependent variable
- To identify the factors that are statistically significant
- To evaluate the direction and magnitude of impact

3.1.3 Significance

This study is of significance for both managerial decision-making at Grameenphone Ltd. and policy formulation by regulatory authorities in Bangladesh such as Bangladesh Telecommunication Regulatory Commission (BTRC) and other relevant regulatory bodies.
Firstly, from a managerial perspective, mobile ARPU is a key performance indicator that reflects usage behaviour and monetization efficiency. By identifying the macroeconomic and regulatory factors that significantly impact ARPU, Grameenphone's management can push for regulatory changes while simultaneously coming up with alternative products and strategies to increase ARPU.
Secondly, from a regulatory perspective, this study provides valuable insights for regulatory bodies responsible for overseeing the telecommunications industry. Despite being a crucial driver of economic development and digital growth in the country, the telecom industry is still one of the most taxed and regulated industries.

3.1.4 Scope of the Study

This research is limited to Grameenphone Ltd only. While the independent variables affect all the telecom companies in Bangladesh, the impact has only been shown for Grameenphone's mobile ARPU. This paper is relevant in Bangladeshi context only. The data used in this study is quarterly data from 2014 to 2024 so it only reflects this time period.

3.2 Literature Review

The average revenue per user (ARPU) measures how much money a mobile operator earns from a customer on average over a specific period. It is a key metric used in the telecom industry to project the revenue of the business. It is useful in several aspects. It is used to evaluate the financial performance of the company, segment customers based on their usage patterns, compare and benchmark against competitors and gather insights about customer retention (Business Standard, 2023).

The telecom industry in Bangladesh is affected by several macroeconomic and regulatory factors. The country, already riddled by deteriorating macroeconomic trends such as high

inflation and slow economic growth, faced an additional blow during the July Revolution in 2024 (Telenor Group, 2024). Mobile operators were impacted significantly as government mandated shutdowns during the unrest caused a decrease in data consumption, fall in revenue and lack of trust from consumers. The regime change has put Bangladesh in a volatile state politically. With the upcoming national election, political unrest and uncertainty are on the rise, making investors more cautious.

The total tax burden for the telecom industry in Bangladesh now sits at 56%, far exceeding its neighbors (Hasan, 2025). According to Ficci (n.d.), Bangladeshi mobile users are subjected to one of the highest sector- specific tax rates in the Asia-Pacific region. They are faced with a 18% VAT rate, 20% supplementary duty on SIM cards and a surcharge of 1%, adding up to a total of 39% tax burden for users. The corporate tax rate for the telecom industry in Bangladesh is also much higher than its neighbours, with listed companies paying 40% and unlisted ones paying 45%.

The spectrum costs in Bangladesh are double the global median, spectrum-cost-to-revenue ratio sitting at about 16% while the global median is only 7.7% (Castells, 2025). This prevents mobile operators from providing better network coverage and speed. According to Castells (2025), if spectrum prices in Bangladesh were reduced to match the global median at around 8%, 4G speeds would increase by 22% and 5G rollout could be expedited, leading to a $45 billion increase in the country's GDP by 2035.

A tight monetary policy and high inflation have decreased consumer spending and increased operating costs, leading to a loss in profitability (Habib, 2025). For multinational companies, the low foreign currency reserves also make international payments a struggle. While there are some studies that evaluate the factors affecting mobile ARPU in the telecom industry, there is little research on the effects of macroeconomic and regulatory factors on mobile ARPU in Bangladesh, especially at a firm level.

3.3 Methodology

3.3.1 Research Design

This report uses a quantitative, explanatory design to analyze the impact of macroeconomic and regulatory factors on the mobile ARPU of Grameenphone Ltd. The research takes a time series approach as quarterly data over a period of 10 years for a single company has been analysed. The secondary data has been collected from a few sources which are:

- Grameenphone Ltd. and Telenor's annual and quarterly reports
- BTRC reports
- Bangladesh Bureau of Statistics (BBS)
- World Bank

Additionally, primary data has also been collected in the form of interviews with my on-site supervisor and other members of the team, noting their observations and insights about the factors affecting the telecom industry over the years. Descriptive statistics, correlation and linear regression were used to analyse secondary data. Linear regression was chosen as it objectively measures the magnitude, direction and statistical significance of the independent variables on the dependent variable.

3.3.2 Variables

Type	Variable Name	Description	Unit
Dependent	Mobile ARPU	It measures the average monthly revenue generated per subscriber. It is a key performance metric in the telecom industry.	BDT/month
Independent	CPI	It reflects the level of inflation by measuring the change in prices of a basket of consumer goods and services.	N/A
	Supplementary duty	It refers to the indirect tax imposed on SIM cards, the burden of which falls on the users.	%
	GDP per capita	It reflects the average income level of the Bangladeshi population and is used as a proxy for their purchasing power. It was calculated by dividing the annual value by 4 to get quarterly values.	Current US$
	Revenue sharing & spectrum charge per user	As spectrum cost itself is not publicly available, this aggregated variable is used as a proxy. The cost has been divided by the number of subscribers since ARPU is the dependent variable.	BDT

Table 11: Variables Description

3.3.3 Model Specification

For this study, linear regression has been used. The formula is as follows:

$$Mobile\ ARPU_t = \beta_0 + \beta_1 CPI + \beta_2 Supplementary\ duty + \beta_3 GDP\ per\ capita + \beta_4 Revenue\ sharing\ \&\ spectrum\ charge\ per\ user + \varepsilon_t$$

Based on economic theory and the telecom industry's context, the expected relationship with mobile ARPU and the independent variables are:

- **CPI** - A negative relationship with mobile ARPU is expected as higher inflation decreases disposable income and consumer spending on telecom services
- **Supplementary duty** - A negative relationship is also expected between ARPU and supplementary duty as it increases costs for mobile users, influencing demand
- **GDP per capita -** It is expected to have a positive relationship with ARPU as growing income levels should increase consumption
- **Revenue sharing & spectrum charge per user -** It is expected that the relationship will be negative as it increases the operator's cost burden which affects revenue

3.4 Findings and Analysis

3.4.1 Descriptive Statistics

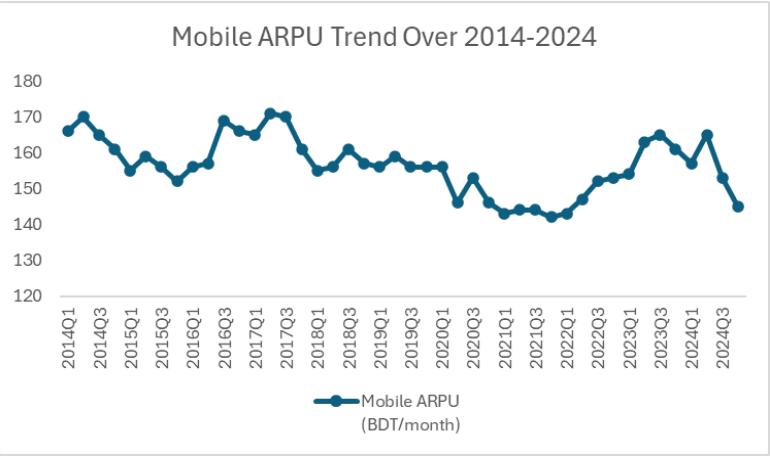

Figure 3: Mobile ARPU Trend

The graph above shows the quarterly mobile ARPU of Grameenphone over the decade 2014 to 2024. It can be seen that the mobile ARPU has fluctuated a lot over this period, with its maximum at around 170 BDT/month and minimum at around 145 BDT/month. The

fluctuations reflect the changes in macroeconomic conditions, usage behaviour and regulatory conditions.

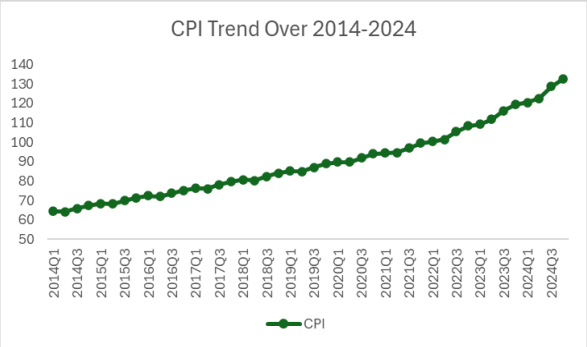

Figure 4: CPI Trend

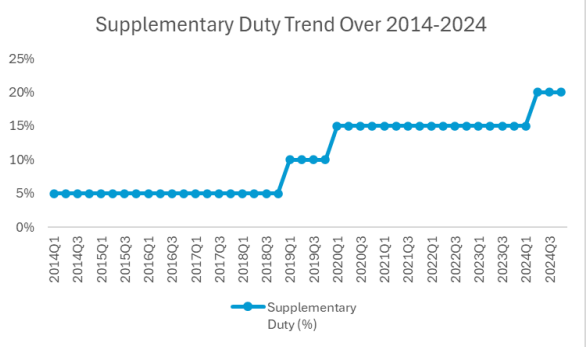

Figure 5: Supplementary Duty Trend

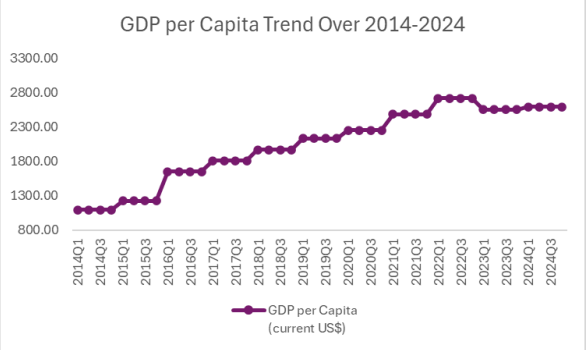

Figure 6: GDP per Capita Trend

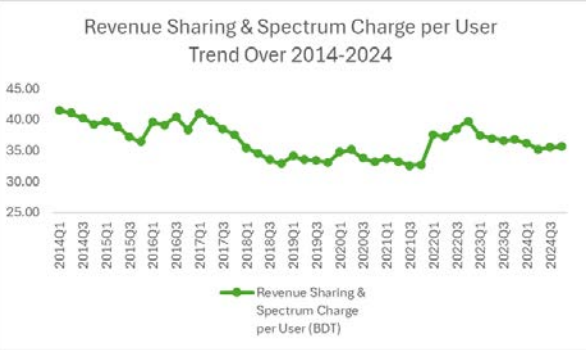

Figure 7: Revenue Sharing & Spectrum Charge per User Trend

Coming to the macroeconomic and regulatory factors that affect mobile ARPU, it can be seen that CPI has an upward trend, reaching from around 65 to 130 in a span of 10 years. This shows the constant increase in inflation over the period. Similarly, the GDP per capita also shows an increasing trend, meaning that people have more purchasing power, given the increase is higher than the inflation rate. The supplementary duty on SIM cards has increased 4 times to what it was in 2014, from 5% to 20% in 2024. This reflects the increasing tax burden on mobile users. The revenue sharing & spectrum charge per user sees a lot of variation in the period, ranging from around 32 to 42 BDT per user.

3.4.2 Correlation Analysis

	Mobile ARPU (BDT/month)	*CPI*	*Supplementary Duty (%)*	*GDP per Capita (current US$)*	*Revenue Sharing & Spectrum Charge per User (BDT)*
Mobile ARPU (BDT/month)	1	-0.371	-0.552	-0.509	0.573
CPI	-0.371	1	0.906	0.887	-0.389
Supplementary Duty (%)	-0.552	0.906	1	0.864	-0.456
GDP per Capita (current US$)	-0.509	0.887	0.864	1	-0.517
Revenue Sharing & Spectrum Charge per User (BDT)	0.573	-0.389	-0.456	-0.517	1

Table 12: Correlation Matrix

The table shows the correlation matrix between the factors. As discussed in the methodology, mobile ARPU has a negative relationship with CPI as inflation increases, people have less money to spend on telecom services. However, the correlation is not significant, sitting at only -0.371, which is unexpected. ARPU also has a negative correlation with supplementary duty as expected and it is significant, with the correlation being -0.552. GDP per capita is negatively correlated with mobile ARPU which goes against the prediction. Since GDP per capita was increasing, it was assumed that consumers would have more disposable income to increase their telecom spending so the relationship would be positive. In this scenario, however, that is not the case. This may be due to the inflation rate being higher or other reasons. Lastly, the revenue sharing & spectrum charge per user has a positive correlation with ARPU which is unexpected as this is a cost for the operator so an increase in it should reduce the revenue.

Additionally, some of the independent variables have very high positive correlation for example CPI & supplementary duty, CPI & GDP per capita, and supplementary duty & GDP per capita. This indicates multicollinearity amongst the variables. This is very likely to occur as all the variables are macroeconomic and policy-driven so they follow the same trend naturally. The sample size is also small, using only 44 data points, so there are not enough observations to move independently. However, all these factors are important drivers of mobile ARPU and were chosen based on the telecom industry's context, so despite the multicollinearity, it is still necessary to include them in the model. As a result of the

multicollinearity, the regression analysis focuses on direction and economic theory rather than the magnitude of coefficients.

3.4.3 Regression Analysis

Regression Statistics	
Multiple R	0.729535299
R Square	0.532221752
Adjusted R Square	0.484244496
Standard Error	5.750482696
Observations	44

Table 13: Regression Statistics

From the regression statistics, it can be seen that the model has moderate explanatory power as the R^2 value is 0.53 meaning that 53% of the variation in mobile ARPU is explained by the independent variables used in the model. The adjusted R^2 value is 0.48 which shows that the model still remains effective after accounting for the number of explanatory variables.

	Coefficients	*P-value*	*Direction*
CPI	0.37134636	0.00741568	Positive
Supplementary Duty (%)	-136.029534	0.00211771	Negative
GDP per Capita (current US$)	-0.00483293	0.23546121	Insignificant
Revenue Sharing & Spectrum Charge per User (BDT)	0.98468992	0.01665479	Positive

Table 14: Regression Results

As discussed before, due to the multicollinearity present between the independent variables, the analysis will focus on the direction and economic explanation rather than the coefficients itself.

Firstly, it can be seen that CPI has a statistically significant relationship with mobile ARPU as the p-value is less than 0.05. CPI and mobile ARPU have a positive relationship which may suggest that Grameenphone's services are price inelastic. People may avail the same level of service despite the inflation, reflecting customer loyalty. This differs from the negative

correlation found between mobile ARPU and CPI previously but this difference is expected due to the multicollinearity.

Supplementary duty and mobile ARPU also have a statistically significant relationship. The relationship between them is negative meaning that higher sector-specific taxation reduces the average revenue generated per user. The tax burden on users is higher as a result, deterring them from spending more on mobile services. This negative relationship mirrors the negative correlation found between ARPU and supplementary duty previously.

Similar to the last two variables, revenue sharing & spectrum charge per user has a statistically significant relationship with mobile ARPU. The relationship between them is positive, mirroring the positive correlation seen previously. This may be due to Grameenphone's constant push towards acquiring high value customers or cost adjustment strategies.

In contrast, GDP per capita and mobile ARPU do not have a statistically significant relationship. This suggests that income growth does not have a direct relationship with an increase in telecom spending, especially in a saturated and competitive market like Bangladesh.

Overall, the regression results indicate that regulatory factors have more influence on mobile ARPU than macroeconomic ones, highlighting the importance of policy changes for Grameenphone's revenue performance. Not mentioned in the analysis is the political unrest in Bangladesh as it is difficult to quantify but it is also a significant factor affecting the ARPU as discussed previously.

3.5 Summary and Conclusions

To summarise this chapter, the relationship between Grameenphone's mobile ARPU and a few selected macroeconomic and regulatory factors were analysed using descriptive statistics, correlation and linear regression. The descriptive statistics showed the trends of the variables over the study period while the correlation analysis showcased the initial association between ARPU and the independent variables. Lastly, regression analysis was conducted to evaluate

the significance and direction of these relationships while keeping the multicollinearity of the variables in mind.

The regression model used has moderate explanatory capability, with 53% of the variations in mobile ARPU explained by the independent factors. Out of the 4 variables used for the study, 3 came out to be significant variables. CPI, supplementary duty and revenue sharing & spectrum charge per user have a statistically significant relationship with mobile ARPU. CPI and ARPU have a positive relationship, indicating that Grameenphone's ARPU is unreactive to inflationary pressure. Revenue sharing & spectrum charge per user also has a positive relationship with ARPU, suggesting that Grameenphone responds to higher regulatory costs through pricing adjustments or focusing on the high-value segment. On the other hand, supplementary duty has a negative relationship with ARPU, showing that high sector-specific tax on users reduces telecom spending. GDP per capita and ARPU do not have a statistically significant relationship. In general, the findings indicate that regulatory factors have a higher impact on Grameenphone's mobile ARPU than macroeconomic ones.

3.6 Recommendations/Implications

Based on the findings of this study and previous literature, the given recommendations may be useful for Grameenphone:

- **Push for Change in Sector-Specific Taxation** - The negative relationship between ARPU and supplementary duty on SIM cards shows the need for policy reforms in the telecom sector. Telecom operators must continue to push for change as this could help create sustainable revenue growth for them and aid in the digital transformation of Bangladesh.
- **Strategic Response to Regulatory Costs -** The positive relationship between ARPU and revenue sharing & spectrum charge per user indicates that Grameenphone's strategic moves play an important role in offsetting regulatory costs. As a result, it should focus on value based pricing and premiumizing offers to high-value customers.
- **Focus on Service Innovation for ARPU Growth -** Since GDP per capita has an insignificant relationship with ARPU, growth in ARPU is likely to arise from improved customer experience and service innovation.

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Appendix A: Data Table

Year & Quarter	Total Subscribers (millions)	Mobile ARPU (BDT/month)	CPI	Supplementary Duty (%)	GDP per Capita (current US$)	Revenue Sharing & Spectrum Charge per User (BDT)
2014Q1	48.7	166	64.5	5%	1094.46	41.49
2014Q2	49.2	170	64.2	5%	1094.46	41.07
2014Q3	50.3	165	65.9	5%	1094.46	40.17
2014Q4	51.5	161	67.3	5%	1094.46	39.23
2015Q1	52.0	155	68.5	5%	1224.39	39.69
2015Q2	53.1	159	68.2	5%	1224.39	38.87
2015Q3	55.5	156	70.0	5%	1224.39	37.19
2015Q4	56.7	152	71.4	5%	1224.39	36.40
2016Q1	56.3	156	72.4	5%	1649.28	39.53
2016Q2	56.9	157	72.0	5%	1649.28	39.11
2016Q3	55.0	169	73.8	5%	1649.28	40.46
2016Q4	58.0	166	75.3	5%	1649.28	38.37
2017Q1	59.9	165	76.3	5%	1811.08	40.97
2017Q2	61.6	171	76.1	5%	1811.08	39.84
2017Q3	63.9	170	78.1	5%	1811.08	38.41
2017Q4	65.3	161	79.7	5%	1811.08	37.58
2018Q1	67.5	155	80.7	5%	1965.24	35.45
2018Q2	69.2	156	80.3	5%	1965.24	34.58
2018Q3	71.4	161	82.4	5%	1965.24	33.51
2018Q4	72.7	157	84.0	5%	1965.24	32.91
2019Q1	74.1	156	85.1	10%	2129.80	34.12
2019Q2	75.3	159	84.8	10%	2129.80	33.54
2019Q3	75.7	156	87.0	10%	2129.80	33.37
2019Q4	76.5	156	88.8	10%	2129.80	33.05
2020Q1	75.3	156	89.8	15%	2248.85	34.77
2020Q2	74.5	146	89.7	15%	2248.85	35.15
2020Q3	77.6	153	91.9	15%	2248.85	33.76
2020Q4	79.0	146	93.9	15%	2248.85	33.14
2021Q1	80.7	143	94.5	15%	2482.85	33.73
2021Q2	82.0	144	94.6	15%	2482.85	33.21
2021Q3	83.6	144	97.0	15%	2482.85	32.59
2021Q4	83.3	142	99.5	15%	2482.85	32.71
2022Q1	83.7	143	100.3	15%	2716.49	37.58
2022Q2	84.6	147	101.3	15%	2716.49	37.16
2022Q3	81.8	152	105.4	15%	2716.49	38.46
2022Q4	79.1	153	108.3	15%	2716.49	39.76
2023Q1	80.1	154	109.2	15%	2551.02	37.47
2023Q2	81.3	163	111.7	15%	2551.02	36.95
2023Q3	82.0	165	116.3	15%	2551.02	36.61
2023Q4	82.0	161	119.2	15%	2551.02	36.81
2024Q1	83.0	157	120.4	15%	2593.42	36.18
2024Q2	85.3	165	122.6	20%	2593.42	35.21
2024Q3	84.6	153	128.7	20%	2593.42	35.50
2024Q4	84.3	145	132.4	20%	2593.42	35.64

Appendix B: Descriptive Statistics

Total Subscribers (millions)			*Mobile ARPU (BDT/month)*			*CPI*	
Mean	70.54751		Mean	156.5227		Mean	89.622562
Standard Error	1.848304		Standard Error	1.207136		Standard Error	2.800451239
Median	74.93		Median	156		Median	86.02107014
Mode	#N/A		Mode	156		Mode	#N/A
Standard Deviation	12.26026		Standard Deviation	8.007231		Standard Deviation	18.57609201
Sample Variance	150.3141		Sample Variance	64.11575		Sample Variance	345.0711942
Kurtosis	-1.32603		Kurtosis	-0.70614		Kurtosis	-0.504887535
Skewness	-0.46941		Skewness	-0.11042		Skewness	0.624060423
Range	36.57568		Range	29		Range	68.22666667
Minimum	48.7		Minimum	142		Minimum	64.2
Maximum	85.27568		Maximum	171		Maximum	132.4266667
Sum	3104.09		Sum	6887		Sum	3943.392728
Count	44		Count	44		Count	44
	1			3			5

Supplementary Duty (%)			*GDP per Capita (current US$)*			*Revenue Sharing & Spectrum Charge per User (BDT)*	
Mean	0.103409		Mean	2042.443		Mean	36.62101
Standard Error	0.00803		Standard Error	80.20445		Standard Error	0.403994
Median	0.1		Median	2129.799		Median	36.70668
Mode	0.05		Mode	1094.462		Mode	#N/A
Standard Deviation	0.053263		Standard Deviation	532.0161		Standard Deviation	2.679791
Sample Variance	0.002837		Sample Variance	283041.2		Sample Variance	7.18128
Kurtosis	-1.5468		Kurtosis	-0.9686		Kurtosis	-1.22943
Skewness	0.221802		Skewness	-0.50031		Skewness	0.107008
Range	0.15		Range	1622.024		Range	8.900395
Minimum	0.05		Minimum	1094.462		Minimum	32.58918
Maximum	0.2		Maximum	2716.486		Maximum	41.48958
Sum	4.55		Sum	89867.51		Sum	1611.324
Count	44		Count	44		Count	44
	7			9			11

Appendix C: Regression Analysis

Regression Statistics	
Multiple R	0.729535299
R Square	0.532221752
Adjusted R Square	0.484244496
Standard Error	5.750482696
Observations	44

ANOVA					
	df	*SS*	*MS*	*F*	*Significance F*
Regression	4	1467.323275	366.8308187	11.09320946	4.18657E-06
Residual	39	1289.653998	33.06805123		
Total	43	2756.977273			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	111.1190598	16.59906645	6.694295739	5.64818E-08	77.54427882	144.6938408	77.54427882	144.6938408
CPI	0.371346357	0.131453188	2.824932312	0.00741568	0.105457188	0.637235526	0.105457188	0.637235526
Supplementary Duty (%)	-136.0295341	41.31863609	-3.292207754	0.002117709	-219.6043642	-52.45470409	-219.6043642	-52.45470409
GDP per Capita (current US$)	-0.004832933	0.004010704	-1.205008686	0.235461212	-0.012945348	0.003279482	-0.012945348	0.003279482
Revenue Sharing & Spectrum Charge per User (BDT)	0.984689917	0.393568688	2.501951878	0.016654791	0.188622106	1.780757728	0.188622106	1.780757728