Chapter 4

Feasibility Study

4.1 Introduction:

A feasibility study is a task that entails recording all feasible fixes for a certain system. An analyst assesses whether or not the alternative is possible through an initial feasibility analysis. The analyst assesses the potential systems and recommends the optimal solution that satisfies the performance and cost requirements. To create an effective system, we must take into account the three components of economic, technological, and behavioral variables when conducting a feasibility study. The system is tested for viability via a feasibility study. An analyst identifies potential solutions to issues, makes a decision that avoids incurring more costs, and determines whether the potential solutions are profitable for the firm.

In our analysis of "Bangladesh Telecommunication Company Limited, Rajshahi Branch," we gathered data and identified a few issues through an initial investigation of viability. From this chapter, we can find the best solutions and determine whether they are practical for developing the best system.

4.2 Feasibility analysis

4.2.1 Lack of Man power

A system's manpower is crucial to its efficient operation. Humans are capable of resolving complex issues.

There is a labor deficit in the system that we have witnessed. Our observed system has a manpower deficit, making it unable to be used to its full potential. Security guards, receptionists, trainers, and other positions are lacking.

In our initial assessment on feasibility, we recommended adding more personnel. The system will be more workable if the number of trainers, startup project managers, and staff is raised. The increase in manpower is far more effective than any other choices. Increasing the workforce is beneficial if the system is functioning. The system might crash if there aren't enough staff or if some of them aren't properly educated. So, rather of using freshmen, we need trained personnel. However, managing that personnel can cost more given that you are a skilled individual. Therefore, there are certain benefits and drawbacks to rising.

In this matrix, we have considered efficiency, alternatives and speed of processing in performance section and we have considered salary and training in cost section. We have given 5 for efficiency, 3 for alternatives, 4 for speed of processing, 4 for salary in cost section and 3 for training of manpower of Bangladesh Telecommunication Company Limited, Rajshahi as

weighting factor respectively. We also rated the criteria and then we multiplied the rating and weighting factor to give them scores.

Table 4.1 shows the weighted candidate evaluation matrix.

Table 4.1:

Evaluation Criteria	Weighting Factor	Present Manpower		By increasing Manpower	
		Rating	Score	Rating	Score
Performance					
Efficiency	5	4	20	5	25
Alternatives	3	3	9	3	9
Speed of processing	4	3	12	3	12
Cost					
Salary	4	2	8	3	12
Training	3	3	9	4	12
Total Score			58		72

After checking the weighted candidate evaluation matrix, we have found by increasing manpower is more feasible.

4.2.2 Lack of Security

We are aware that one of a system's most crucial components is security. A system's equipment is protected by security elements. The security system assists us in keeping track of system activities, and if those security components are compromised, advancement cannot be made.

Only a few security problems were discovered in the system we observed. This issue could prevent development. The entire region is not covered by a CC camera. The gates are less securely guarded because there are just one guards.

We recommended more CCTV cameras and security personnel in the initial feasibility study to cover the entire Rajshahi area of Bangladesh Telecommunication Company Limited.

This allows the authorities to monitor what is taking place locally. Setting up CC cameras can improve workplace security and fairness.

In order to demonstrate the impact of installing CC cameras and adding more guards, we created a weighted candidate evaluation matrix.

Performance in this matrix includes security and efficiency, and in the cost area, we include maintenance, short-term and long-term effects. We assigned weighing factors of 2, 5, 3, 4, and 2 for security, efficiency, short-term impact, long-term impact, and maintenance. We assigned weighting factors of 2 for security, efficiency, and maintenance. For increasing the number of security guards, we have given the following ratings: 3, 2, 4, 1, 5, and 2 for security, efficiency, short-term effect, long-term effect, and maintenance. For increasing the number of CC cameras, we have given the following ratings: 5, 3, 2, 4, and 2. To compute scores, we multiplied ratings and the weighting factor.

Table 4.2 shows the weighted candidate evaluation matrix of increasing security guards and increasing CC camera.

Table 4.2:

Evaluation Criteria	Weighting Factor	By increasing Security Guards		By increasing CC camera	
		Rating	Score	Rating	Score
Performance					
Security	5	3	15	5	25
Efficiency	5	2	10	4	20
Cost					
Short term effect	4	4	16	2	8
Long term effect	4	1	4	4	16
Maintenance	2	5	10	2	4
Total Score			55		73

After checking the weighted candidate evaluation matrix, we have found by increasing security guards and by increasing CC camera is feasible.

4.2.3 Budget Issues

The Bangladesh Telecommunications Company Limited (BTCL) fixed-line telephone operator is in critical need of a new lease of life, according to the government.

It is approving project after project to keep the state-run enterprise, whose primary service is in decline and whose income is plunging to unprecedented depths, relevant.

Its revenue and net profit in the 2008–09 fiscal year, when it was converted from a state organization to a business, were 1,689.4 crore and 106.2 crore, respectively. It suffered a loss of Tk 324.7 crore eleven years later, according to the BTCL's audited financial report for the 2019–20 fiscal year.

According to AKM Habibur Rahman, deputy managing director of the BTCL's Planning and Development department, "We undertook big plans to enhance the BTCL's quality of service and to enhance network across the country." He added that one of the initiatives would bring telecom services to remote areas of the country, where no such facilities are currently available.

Increasing the ability to install additional underground optical fiber for the 5G rollout is one of the initiatives. The Bangladesh University of Engineering and Technology is currently conducting a feasibility study for the project, which has a Tk 1,265 crore cost estimate.

After the project is finished, BTCL will be able to improve their fixed network services while also providing the 5G connectivity that mobile operators demand.

Another project of Tk 459.85 crore has been launched to build and enhance broadband access, Wi-Fi, and communications amenities for marginalized people in rural regions and wetlands.

The project survey is over, and work is now moving forward on network design.

References: https://archive.dhakatribune.com/

4.2.4 Lack of Facility

There aren't enough practical items like chairs, tables, student desks, etc. in the system we witnessed. There, we only discovered a small number of those items. The facilities of our observed system are lacking. Few water purifiers are available. These might impede the system's overall development.

Therefore, we created a matrix for weighted candidate evaluation. Here, we have taken into consideration both the existing amenities and the growing number of facilities, comparing both sets of facilities. We assigned weighing factors of 2, 5, 3, 4, and 2 for security, efficiency, short-term impact, long-term impact, and maintenance. We assigned weighting factors of 2 for security, efficiency, and maintenance. For increasing the number of security guards, we have given the following ratings: 3, 2, 4, 1, 5, and 2 for security, efficiency, short-term effect, long-

term effect, and maintenance. For increasing the number of CC cameras, we have given the following ratings: 5, 3, 2, 4, and 2. We have increased the weighting and ratings.

Table 4.4 shows the weighted candidate evaluation matrix of present vs increased facilities.

Table 4.4:

Evaluation Criteria	Weighting Factor	By Present Facility		By increasing Facilities	
		Rating	Score	Rating	Score
Performance					
Security	5	3	15	5	25
Efficiency	5	2	10	3	15
Cost					
Short term effect	3	4	12	2	6
Long term effect	4	1	4	4	16
Maintenance	2	5	10	2	4
Total Score			51		66

After checking the weighted candidate evaluation matrix, we have found by increasing security guards and by increasing CC camera is feasible.

4.2.5 Unavailability of Startup Fundings at Any Time

Organizations may require cash to build their businesses. A startup firm requires cash to grow, and Bangladesh Authority works to provide that funding to such startups. Startup companies need funding to build their systems.

The financing is only accessible for a specific period of time in our system, and it takes time, which might impede overall progress. A student or group had to wait for the funds, which made it impossible for such organizations to finish developing their system by the deadline. They stand to gain if they succeed.

However, this is not a workable option. Because there is a potential that the money may be misused or corrupted, an uneven system may result. If it takes longer, the government's funds can be used in the right way and at the right time. In some cases, money might be wasted if a starting organization doesn't exist. Misguided individuals may potentially attempt to use the

funds for illegal purposes. Because of this, it is not practical to have startup money available **constantly.**

4.2.6 Maintenance

Bangladesh Telecommunications Company Ltd. provides internet services at competitive pricing, however owing to subpar maintenance, the government-run company hasn't been able to draw in the anticipated number of consumers.

According to the managing director of the firm, the BTCL has backhaul facilities and optical fiber cable connection in 40 districts.

For one megabit per second of dedicated data, the corporation has decreased its internet costs by 40% to Tk 4,800 from Tk 8,000; the price is the same throughout the nation.

Kolimullah noted that government and autonomous bodies will pay less for internet services, while educational institutions will get a 25% discount.

The BTCL offers three different services: dedicated internet service at the personal or bulk level, shared bandwidth internet service at the personal level, and optical fiber cable connectivity.

The company is now trying to address the service-related issues, according to a director of the business. The director, who asked to remain anonymous, stated that the state-run organization is pushing through with an initiative to enhance its internet access and services.

According to analysts, the nation's internet backhaul connectivity—the fiber that carries data from one location to another—faces challenges.

In Bangladesh, backhaul connection is still a pricey service.

References: https://www.thedailystar.net/news/poor-maintenance-drags-btcl-internet-down

4.3 Conclusion:

By assessing a system, feasibility studies can reveal the logistical, financial, and behavioral aspects of a proposed project. A feasibility study evaluates whether the objective of a proposed project will be achieved or not. In order to determine if the project is worthwhile of investment or not, the research considers all essential project-related elements, including technical, economic, and legal concerns. Therefore, a feasibility study is required for a newly built system in order to ascertain the truth.