

Internship report on
“working experience at Barikoi Technologies Limited”



الجامعة الإسلامية للتكنولوجيا
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BBA in Business and Technology Management (BTM)

Submitted by:

I understand that my final report will become part of the permanent collection of the Islamic University of Technology BBA in Business and Technology Management Program. My signature below authorizes release of my final report to any reader upon request.

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18th April 2022

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Subject: Submission of Internship Report on “Barikoi Technologies Limited”.

Dear sir,

It is a pleasure for me to be able to submit my internship report for the completion of a three-month-long internship program at Barikoi Technologies Limited. I have tried my best to ensure that the report becomes a meaningful and successful one by the experiences I have gathered during my internship period. This report was a huge chance for me to reflect on the learnings I have gathered on corporate life, working environment, and organizational policy that is associated with the function I was assigned to. I am very hopeful that I will be able to use the gathered knowledge in my professional career. I would like to share my gratitude for all the assistance and guidance you have provided me in the process. I hope that the mistakes I have made during the preparation of the report will be apologized and I am open to clarifying any part of the report if necessary.

With best regards,

Asadullahil Galib

Student ID: 170061075

Internship report on working experience in Marketing Department at Barikoi Technologies Limited, Bangladesh.



This internship report is submitted to the Department of Business and Technology Management (BTM) at the Islamic University of Technology (IUT) for the course BTM 4800.

Acknowledgement

This report was a display of collective efforts and collaboration from a number of people. I am really honored by their support and their continuous motivation and guidance have enabled me to complete this report.

I really want to take this moment to thank our Almighty Allah, for rewarding me with patience and resilience to complete my responsibilities as an intern, in Barikoi Technologies Ltd. After that, I want to express my gratitude to my honored Advisor, Farjana Nasrin, Lecturer, Business & Technology management, for her relentless support and advice throughout the process. I am grateful to Md Al Amin Sarker Tayef, my supervisor and CEO of Barikoi technologies ltd, a huge debt of heartfelt gratitude for his support and mentorship throughout the internship period. It would have been impossible to produce this report without his assistance.

I am grateful to the entire BTM department for working tirelessly to make the internship program a success for myself and my classmates. They were the ones who ensured that theoretical knowledge and first-hand corporate experience could be combined.

Finally, I would like to thank my family for helping me in staying strong and healthy throughout the entire period. I'd like to also thank my coworkers for guiding me with helpful recommendations and suggestions. I'd also like to thank my friends and inmates as their support enabled me to overcome numerous challenges.

Executive summary

The report is an attempt to summarize the three-month internship program that was aimed to provide me with practical professional experience. The paper precis my experience as a marketing intern in Barikoi Technologies Ltd.

Barikoi Technologies Ltd is the leading geospatial location service provider in Bangladesh that provides very specific location information to other businesses and government bodies to utilize their time and process. I worked there in the marketing department, to create awareness of the products of Barikoi among the potential consumers of the product/service. Being a technology based startup, Barikoi provided a multifaceted working experience in this short period. I worked on various projects closely and could put my opinion directly to the leads and understand their strategies as well. I was also a part of product analysis for our upcoming product and service and tried to offer my best as I got the opportunity to work with the cores of the company.

I explored the business culture and process during my three-month long internship period. I was able to enhance my skills by adapting to the culture. This also helped me to work on my personal growth as well. Wherever I may end up in the future, this journey will have an impact on my professional plans. I was able to identify where I need to improve, learn and contribute.

I have given an overview of the report in the first section, followed by company analysis and industry analysis. The details about my duties and responsibilities as an intern is the discussion of the next part. A thorough analysis of the company from three different perspectives is provided in the fifth section. Finally, I have expressed my recommendations to improve the overall process of Barikoi technologies Ltd.

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Chapter 1

Introduction

1. Introduction

This report is an integral part of the course – Internship 4800 for the 8th semester. This report is written with an aim of sharing the experiences that I have gathered while working in a location service provider, Barikoi Technologies Limited. As a final semester student of the Business and Technology Management Department, this 9-credit internship course is a must. Hence, it plays a significant role in fulfilling my graduation successfully. I have completed a 3 months' internship in the Marketing department of Barikoi Technologies Ltd.

This internship granted me exposure to the inner workings of the several business sectors of a technology based B2B startup. They allowed me to go behind the curtains to obtain a sense of the unique knowledge and daily practices that each position necessitates. My responsibilities were mostly ideation of various projects, strategies of the projects, documentation and presenting product/project summary, research on numerous business prospects and information about banking, verification, retail, third party logistics alongside my core responsibility of creating awareness of our product and services.

It will show how far a task has progressed. It focuses completely on the activities of my internship and how they enhance my career. I'll analyze relevant points and make recommendations based on the task report. The purpose of this report is to document the justifications of the internship's benefits as well as an overview of the related industry. I'll cover the purpose of this study and scope of the work completed during the internship period. I will be analyzing and evaluating how my organization operates. Additionally, the company's management, marketing, and financial practices will be discussed to the extent practicable based on the information I have gathered and that has been revealed to me.

Chapter 2

Company Overview

2. Company Overview

2.1 Barikoi Background

Barikoi Technologies Limited started its journey in 2018 with a vision to provide reliable location data for Bangladesh. It collects, formats, organizes location data through mapping urban areas and collaborates with city authorities to do so. Barikoi helps companies to improve their location-based services, automate logistics, enhance the user experience, Verify KYC, Address verification, etc. Additionally, it helps city authorities to increase revenue and city monitoring capability. Barikoi consists of a Business department, an IT department and an Operations department. The Business department includes the management, admin and product team. Barikoi currently offers its services to several renowned B2B platforms of Bangladesh namely The City Bank Limited, HungryNaki, OBhai, Sheba.xyz, Dhaka North City Corporation (DNCC), Ajkerdeal, Kludio, Maya.inc, LandKnock Limited, 10 Minute School, Shikho, TruckLagbe, GoZayaan, Save The Children, Rapido Limited, Now Delivery etc.

2.2 Company Profile

- **Company Name:** Barikoi Technologies Limited
- **Origin:** Bangladesh
- **Mailing Address:** Level-13, Barikoi Office, Wasi Tower, House 572/K, Matikata Main Road, Matikata, Dhaka Cantonment, Dhaka.
- **Email:** hello@barikoi.com
- **Website:** <https://www.barikoi.com>
- **Date of Founding:** March 2017
- **Date of Incorporation:** 27 September, 2018
- **Business Type:** Information Technology (IT)
- **Primary Line of Business:** Location (geospatial) data, Maps data, Verification
- **Status:** Private Limited Company

2.3 Mission and Vision

Purpose: Create root level digital infrastructure in Bangladesh.

Mission: Make cities smart and searchable with reliable location data.

Vision: To enable reliable location experience in Bangladesh.

2.4 Operating sectors

1. Finance
2. Banking industry
3. GovTech (Smart city)
4. Transportation
5. Ride-sharing
6. Delivery

2.5 Product & services offered

Products

- **Location API:** Provider of highly accurate location data of Dhaka City and other local regions of Bangladesh. Relevant services under this product includes the following specifics:
- **Search and Geocoding:** Free text search and geocoding helps people to look for any address in Bangladesh.
- **Reverse Geocoding:** Transforms a machine readable location coordinate into a human readable location data.
- **Rupantor:** AI-enabled Geocoder that fixes malformatted addresses.
- **Routing:** Provides directions, routing, distance matrix etc.
- **Snap to Road:** Visualize the road view of a particular route.
- **Urban Engine:** A dashboard for City Corporations, Paurashovas, and Union Porishod to unify and monitor all their services using one map-based dashboard.
- **Barikoi 360:** A Google Street view alternative specially developed for Bangladesh.

Services

- **Verify:** A tech-enabled Contact Point Verification (CPV) service to provide time-saving advantage to potential clients.

2.6 Current Users and Clients

Consumer Internet Companies:

Sheba.XYZ, Maya Inc., HungryNaki.com, Kludio.com, Shikho.com, Handymama, Ajkerdeal.com, 10 Minute School

B2B Internet Companies:

Landknock limited, EasyTrax, Rapido Deliveries, ShopUp (verify, Logistics), Accigone, Loop Logistics, TruckLagbe, StartIt, MudiHat, Walletmix

Government Organizations:

333 - Call center (DNCC Ward Zone Detection), Dhaka North City Corporation, Bangladesh Post Office

Bank and Financial Organizations:

The City Bank, Jamuna Bank

Pipeline Customers:

Dhaka South City Corporation, Narayanganj City Corporation, Mymensingh City Corporation, Unilever Bangladesh, Bangladesh Post, PepsiCo Bangladesh, Midland bank.



Figure 1: Clients of Barikoi technologies Ltd.

2.7 Organogram

Figure resembles the corporate structure of Barikoi. Total number of employees is 39, which consists of 33 permanent employees and 6 contractual/temporary employees. Md Al Amin Sarker is the MD & CEO of Barikoi. At present, department-wise employee distribution is –

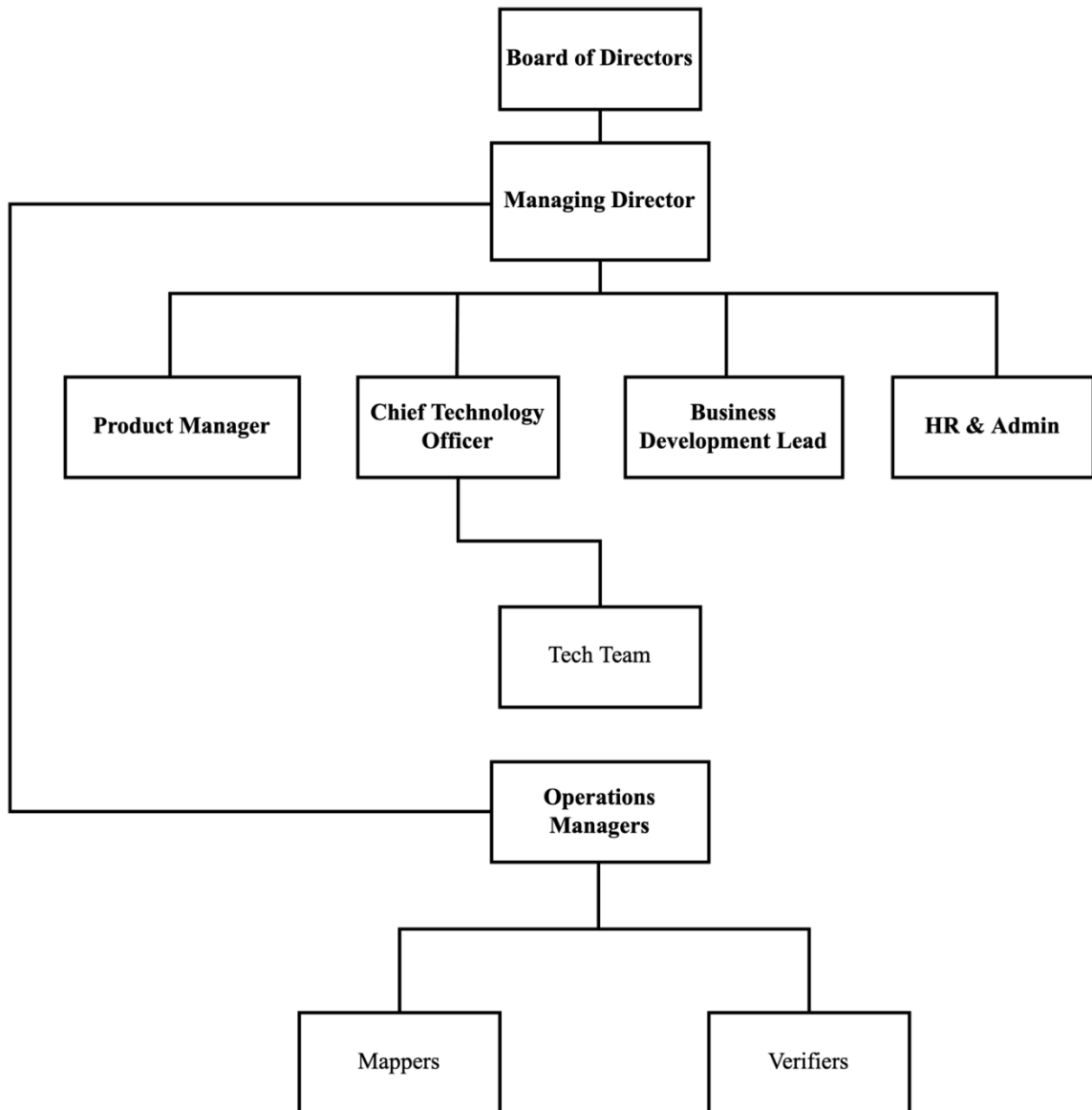


Figure 2: Organogram of Barikoi

2.8 Concept of digital mapping and Barikoi

The market is still in the learning phase who are capitalizing on and exchanging services in the digital mapping industry. The most prevailing questions that have been frequently asked regarding the digital mapping industry are discussed below.

- **What is location mapping?**

Proper planning is very necessary before we encounter the daily challenges in our lives. Location mapping provides the best data-driven solution to support the planning process in a simplistic manner. It is the process of drawing a visual representation of geospatial information related to the objects and spaces within our horizon. E.g., information related to Lands, buildings, cities, natural resources, traffic, water bodies etc.

- **Why do we need location information?**

Technology adoption and technological revolution have changed the direction of human life. People are thinking of innovative ways to reduce the time and effort to do regular activities. With the user acceptance of tech-products and wearable devices the world is getting small enough to access the desired data easier than ever. People are becoming more curious about the widely spread data. Thus, the idea of location mapping services came up to accumulate the widely spread information around our horizon in a single platform to meet the information requirement of people around the world.

- **What is API?**

API or Application Programming Interface is a way of connecting a user to a server of any service provider. It communicates among different application servers to generate the requested output by the user. E.g., We use Maps in our smartphones to check for alternative routes to heavy traffic areas before attempting any commute. Whenever we set the route and hit the go button, an API call is automatically made in the back-end and the server returns all the possible routes as requested. Simply put, searching anything at the Google search bar or asking any question in Quora always makes an API call on each input.

- **Google Maps and Barikoi Comparison**

Google, a renowned tech-giant, is the world’s most resourceful and efficient search engine. It provides location data and services to the whole world using the information collected via different google portfolio services. Today, google refers to the name of reliability to millions of people on earth who seek location data on demand.

In contrast, Barikoi is on a mission to make the location of Bangladesh accessible with the most sought-after data so that people can access their desired information incurring minimal effort. It is committed to provide the most accurate location data which is more accurate than the google maps services. It is already popular among the renowned industries of Bangladesh with its diversified products & services.

Let’s take a look at the comparison table of Google Maps and Barikoi to better understand their differences:

Table 1: Barikoi Maps & Google Maps comparison table

Point of Difference	Barikoi Maps	Google Maps
Service Area	B2B, B2G	B2C, B2B and B2G
Address Line Context	Local context of Bangladesh	Global context
Cost	90% cheaper compared to Google (Initially 30,000 free API calls)	\$0.5/1000 additional requests up to 100,000 daily
Business Model	API based business model	Advertisement based business model
Customization	Easy API customization	No customization available

Method of Field Data Collection	Purely human-based accurate data collection method by hiring field operatives called mappers	Road sensors, user contributions and local transport departments
Accuracy of Data	High	Not as accurate as Barikoi
Number of Services	Total of 6 active services	Around 273 active services
Payment System Support	Local MFS payment support, bank payment and credit card	Credit card payment only

It is evident that Barikoi has come up with a noble goal – to support tech-based businesses (mostly small and start-up businesses who cannot afford large EMIs that google maps charge) operating locally in Bangladesh by providing easily affordable services. Therefore, there are factual reasons to choose Barikoi over Google Maps when it comes to taking API services for business operations in Bangladesh.

The screenshot displays the Barikoi app interface. On the left, a search bar contains 'House 11, road 67, gulshan'. Below it, a list of results is shown:

- Charukanta: House 11, Road 67, Gulshan 2, Gulshan, Dhaka
- House 10: Road 67, Gulshan 2, Gulshan, Dhaka
- House 12: Road 67, Gulshan 2, Gulshan, Dhaka
- Tranquility: House 6A, Road 67, Gulshan 2, Gulshan, Dhaka
- Windsor: House 67, Road 27, Gulshan 1, Gulshan, Dhaka
- House 12A: Road 67, Gulshan 2, Gulshan, Dhaka

On the right, the app shows details for 'পিটার স্ট্রিং' (Peter's String) with a rating of 8.1 and 102 reviews. Below it, other businesses are listed, including Standard Chartered Bank and Pi International Education PIE Banani.

Figure 3: Data accuracy and address line comparison between Barikoi & Google Maps

2.9 SWOT Analysis

The following analysis reveals the internal strengths and weaknesses along with the external opportunities and threats of Barikoi Technologies Limited:

Strengths

- Monopoly in local mapping for Bangladesh
- Massive collection of local data
- Collaboration with government projects

Weaknesses

- Lack of awareness among the B2C segment of the country
- Horizontal and vertical expansion rate of the services are low

Opportunities

- Huge growth prospect with the availability of useful data
- Product diversification initiatives into the B2C and B2G segments
- First mover advantage in the country

Threats

- Competition against large investment at rival firms
- Threat of information loss due to corruption or data leakages

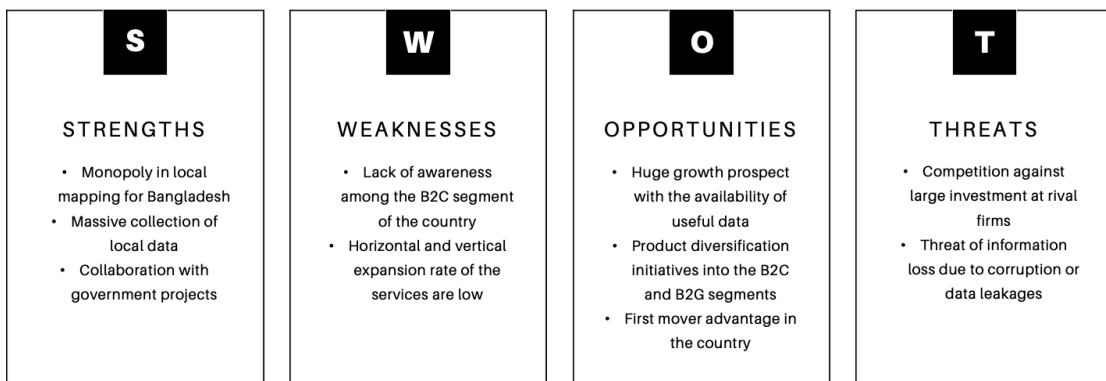


Figure 4: SWOT analysis of Barikoi

Chapter 3

Industry Analysis

3. Industry Analysis

3.1 Industry Size

With the growing number of internet users globally and increasing demand for clean data, the digital mapping industry is growing rapidly around the world. As of 2021, the industry size was worth US \$19.2 Billion globally. The industry is anticipated to experience a CAGR of 15% over the period of 2021-2026 which is an attractive indicator for the investors.

In Bangladesh, the digital mapping industry had no significant operation locally before 2017, but had a growing demand. Since its inception in 2017, Barikoi has grown overtime as a location service provider in Bangladesh. Currently, the local mapping industry in Bangladesh is worth around BDT 3.0 billion whereas Barikoi is valued at around BDT 18.0 crore covering almost 6% market share in the country.

3.2 Growth Trend

The digital mapping industry started gaining its popularity from the emergence of Google Maps services back in 2005. It got more public attraction after the introduction of street view in 2007. With the ease of access to the internet, consumers started to learn the utility of having location data for efficient business operations. Google started to serve these consumers with their location data in exchange for money. Thereby local entrepreneurs found a strategic gap where Google's monopoly needed to be addressed closely to provide more accurate and organized location information for efficient business operation locally. Thus, Barikoi came up with the initiative to address this issue in 2017 to enable reliable location experience for Bangladesh. Due to the tech learning phase among the consumers, both businesses and government sectors, of Bangladesh it took much time to attract the market towards the utility of the digital mapping industry. After successfully completing some major data feeding processes in its BMaps system, Barikoi started to stabilize its business operation and attracted the local service takers towards its own maps to capture its revenue in the market. Barikoi's year in review during 2020-21 is shown in the figure below that explains the overall activities and achievements of the company so far.

3.3 Maturity of the Industry

The digital navigational map industry is booming with more potentiality than it had when the idea was first generated. The growth is increasing mainly due to the number of business opportunities it is creating within the country and thus improving the economy alongside it. The once emerging industry is already now in its growth phase due to its increasing demand and the evolution of technology. Through the evolution of technology, the supplier needs for a company becomes localized and makes it less laborious for the company to conduct its operation and for these reasons, more startups are coming into the market. The digital mapping industry started its journey a long time ago globally. Eventually, people started using it and after some time the businesses started embracing the technology. Now, with the help of this solution, businesses such as the SMEs and logistics businesses are able to operate more efficiently than they could before. It is imperative to say that the digital mapping industry paved a way for new businesses such as the ride sharing businesses, food delivery businesses, trucking businesses and so on. The same happened for this country when the need for a digital mapping solution was first recognized. The recent pandemic even provided a boost for the industry as businesses felt the need of a mapping solution even more than before. Within the last five years, the industry gradually started to climb through the phases of industry life cycle and it got promoted to the growth phase from the emerging phase a while back. Now, the industry is worth around BDT 3.0 billion in Bangladesh. The reasons for its immense growth can be:

- The ease of technological use and its evolution.
- The increasing demand of the new business opportunities opening up.
- Able to carry out certain governmental projects efficiently and make life easier for the people.
- Growing importance of mapping technology.
- The time saving ability of all the businesses and people which are helping in the growth of the economy.
- The cost effectiveness compared to Google, TomTom etc.
- Less amount of tightness in the local law and regulations.

The digital mapping industry has more services in mind that it can offer and it still needs a good amount of time and revenue growth to improve its position in the industry life cycle. With how things are still going on in the country, the industry will see more growth in the future and will take time to reach the maturity of it.

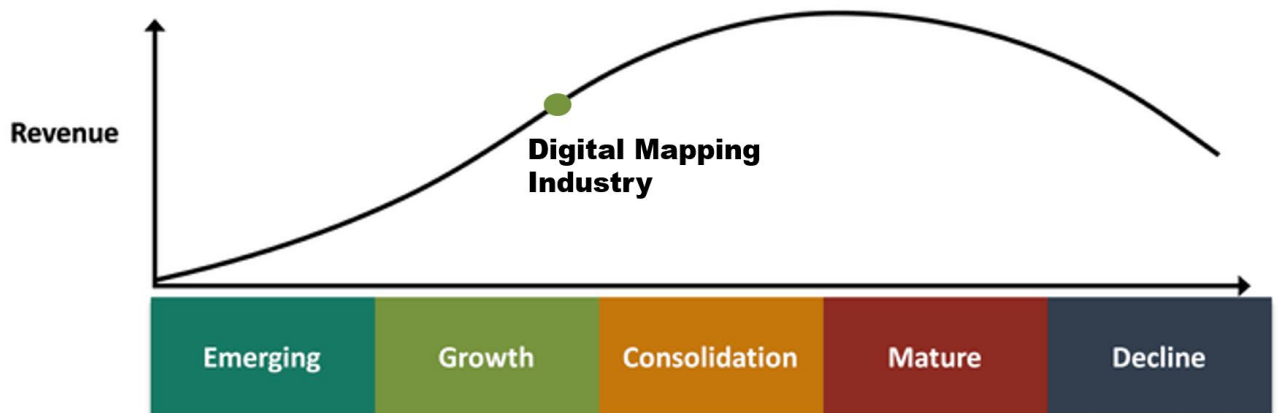


Figure 5: Industry life cycle of Digital Mapping Industry

3.4 External Economic Factors and Their Effect on the Industry

External economic factors refer to the factors that influence the consumer buying behavior affecting the overall performance of a company. Usually, companies don't have control over these factors. Key factors affecting the environment of digital mapping industry are explained below:

- **Existing market size**

Digital mapping industry has crossed US \$4.17 Billion in 2021 and it is expected to grow further during the coming days. Google holds the majority of the share, around 60.59%, in the API market while other competing candidates have started to capture their share in the market gradually. Due to its longer tenure compared to other existing competitors, such as Mapbox, OpenStreetMap, Baidu etc., Google has gained a lot of experience and popularity in the market. As a result, they could capture a substantial number of consumers in the market. However, the scenario has started to change for local markets with the emergence of local mapping industries in the developed and developing nations. In Bangladesh, for instance, Barikoi has started to provide similar services as Google in a more precise manner with their self-developed mapping services, solely based on the locations all over Bangladesh. With the growing popularity of the local mapping industry and its cheaper costs, Google is losing some of its share to the regional competitors as a consequence.

- **Consumer confidence**

Consumers will buy more goods or services when they are confident about their own financial conditions and the overall condition of the economy. Digital mapping services will gain more popularity among its users with the economic development of its goods in the market. As internet usage accelerated the technology adoption rate among users, consumers, businesses and governments have started to take services from the digital mapping industry to meet their ever-increasing requirements for location information. Google has gained its popularity by providing its efficient location information to consumers with accurate traffic data. As a result, users started to develop confidence within their services due to their global presence in the marketplace with their value-added services.

- **Competition**

Competition is a key economic factor for the digital mapping industry. Because it drives them to provide quality services to sustain in the marketplace. In the service industry, even a minor deviation in expected quality standards may cause the service taker to switch to other service providers. Thus, it promotes the tendency to maintain a culture of constant improvement and innovation within the industry. Firms like Mapbox, HERE technologies, OpenStreetMap, Bing etc. are competing with Google, which holds the highest share in the market, within the digital mapping industry. Meanwhile, the local and regional service providers have started to attract consumers and businesses towards their own mapping services during the past few years with technology adoption being the enabler of such services. In Bangladesh, for example, Barikoi has initiated their own mapping services for the B2B and B2G segments of the market with the belief that Google has only started meeting consumer demands while these segments have still remained untouched. Dingi Technologies Limited, a similar tech startup, has come up with similar services being the only local competitor of Barikoi in the marketplace. These companies have started to grow within the industry and attracted the local companies as well as the government due to their efficiency in services and reduction in service costs to develop a scalable economy with access to valuable location data for efficient business operation. The competition is popular in the logistics and supply chain, retail chain, government agencies, security and the banking sectors. With the ever-increasing demand for such data, location mapping industries are expected to grow further with this competition in the near future.

- **Reliability of the distribution of data**

Reliability of the distribution system is another important factor that fosters the popularity of the local mapping industry among its users. Users generally get their services based on monthly, quarterly or yearly subscriptions. If the service provider is at a distant location, then the service taker has limited control over the quality of information they are being provided with. The distant company may provide them with speculative data that are not the exact estimate the company is looking for. Thus, the reliability of data and its distribution to the user may be exposed to some form of risk. However, the problem seems to be nonexistent in case of the local service providers. Because the local mappers focus on a micro-domain, the regional data being collected by the regional mappers, so that the

quality of information doesn't lose accuracy and provide the service takers with reliable location data. Local industries are more accountable to their users due to their geospatial locus point in the host site. Thus, it increases the reliability of the local mapping industries over the global ones.

3.5 Seasonality

Seasonality refers to the pattern in which businesses within an industry generate the majority portion of their income streams within a particular period of time while portraying some form of predictability in its nature. However, the digital mapping industry doesn't portray such patterns directly, due to its nature of business practices.

The digital mapping industry earns revenue based on the search patterns of consumers and businesses. The direct match with the search keywords, advertisement, API calls, development support etc. are some of the major sources of their revenue. Maps generate different seasonal search trends depending on the geography and the needs of the consumers throughout the year. For instance, businesses that require efficient logistics and transportation support will subscribe for real-time tracking services throughout the year using mapping data and visual interface support. So, demand for the tracking services will remain close to constant over the year. Therefore, it would be very difficult to find out seasonality in the business of the digital mapping industry.

3.6 Competitive Environment and due changes

Competition in the digital mapping industry has started to grow high in the past decade and is anticipated to get more intensified during the coming years. Google, Mapbox, TomTom, HERE technologies, Digital Mapping Solutions etc. are some of the major players in the global digital mapping industry. These companies are developing collaborative strategic alliances among themselves to foster their capabilities to capture the leadership position within the market. Meanwhile, Bangladeshi entrepreneurs have already started to compete in the market to take their stake within the industry.

Barikoi is providing navigation services using various tools and technologies to assist the local businesses in the local market to start making its impact gradually. To better

understand the competitive position and the industry attractiveness of Barikoi within the industry, a Porter's Five Forces analysis has been performed below.

3.7 Barikoi Porter's Five Forces Analysis

The following analysis identifies five competitive forces that shape the company's competitive position within its industry and helps to formulate better business strategy to conduct its business proficiently and be more competitive.

Competition in the industry: Moderately strong

- Monopolistic business in the local mapping industry.
- Limited global customers and a small number of mapping companies with seamless map solutions available such as Google, TomTom etc.

Bargaining power of suppliers: Very Weak

- Supplier needs are localized as the company adopted the technology with ease.
- Less laborious for the company to manage the technology due to the technological evolution.
- Easiness in the local law and regulations.

Bargaining power of buyers: Moderately weak

- More expertise solutions available such as Google, TomTom but these are costlier.
- Free of cost for the local consumers to use the Barikoi Map (BMaps).
- A good number of B2B and B2G consumers are available to use the company's tech-based products.
- The bargaining power might reduce due to the growing importance of local mapping technology as it may attract more global buyers later on.

Threat of substitute products: Moderate

- No other local mapping company in the country
- The company provides cost effective solutions than other worldwide used mapping solutions.
- The other mapping companies have more experience in the business.

Threat of new entrants: Moderately Weak

- A new company will need a good amount of supplier base, technological ability to create a new local mapping platform.
- Fair amount of resources is required to maintain the seamless expertise and operational sustainability of the map which may be difficult for a newcomer to establish from scratch.

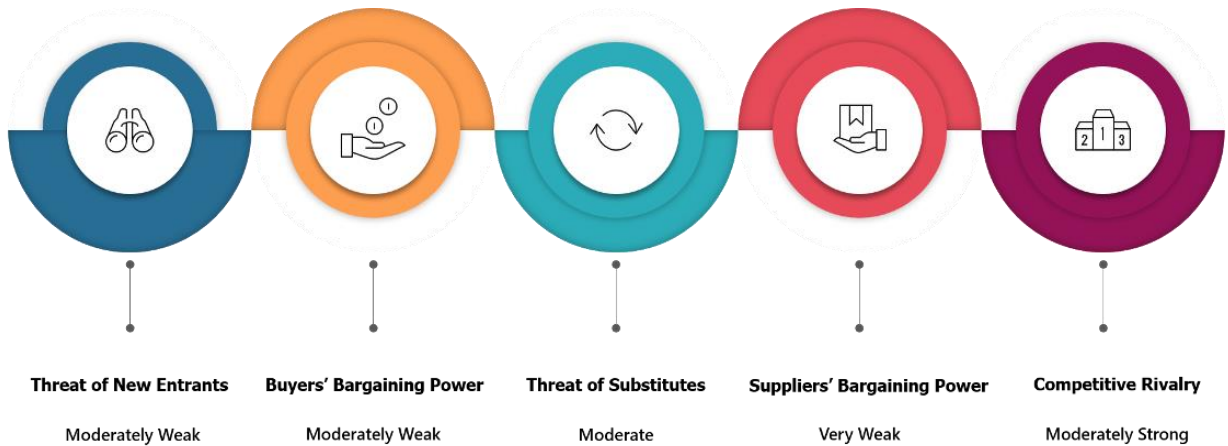


Figure 6: Barikoi's Porters Five Forces Model.

Chapter 4

Description of Main Duties

4. Description of main duties

4.1 Designated Role

I was appointed as an “Marketing intern” for a period of 3 months (12 working weeks) at Barikoi Technologies Limited. My core responsibilities were about working on the marketing department of the company and creating impact on the marketing maneuvers of the company. Alongside this described duties, I also had the opportunities to work on multiple projects, and various business administrative works. Being a technology based start-up, Barikoi provided the facility to attach with their core service lines and projects from diverse levels.

4.2 Completed Tasks and Learning Experiences

I have performed multiple tasks and worked on several projects during my internship period. I had recurring tasks like data sorting, data entry but most tasks were based on research and creativity. The major tasks i had performed and activities are described below aligning with the main projects:

4.2.1 Dispatch Management System

Dispatch management system was the project of my internship period. I worked with this project for a significant amount of time as it was a tender project by one of the biggest Electricity providers of Bangladesh. The main duties under this project were-

- **Research and analysis:** To start working with the project I was given documentation about the project and the demo structure of the task. I sat with our product manager and CEO to understand the project. I learned about the project of dispatch management, the base problem and solution of this system, how much contribution we have and what duties I have regarding this. I studied the whole project, analyzed the main points and designed the most suitable format to put this project proposal.
- **Strategies and Restructuring:** After analyzing the project proposal and its insights, I started making a feasible structure based on the given information of this project. I attempted to make one simply logical, understandable and feasible structure of our

providing system to portray in the tender submission paper for what this whole is about. I changed the structure, shuffled among the steps and points, added a few points and made infographics for better understanding.

- **Charts and infographics:** I created all the flow charts and infographics added on the project proposal from our end. Initially I structured the steps accordingly and received feedback and repeated the process till all the charts were perfect. Finally, I made all the charts and added infographics to make it visually pleasurable and understandable. I made these on PowerPoint and Figma and portrayed the whole process visible.
- **Write-up:** writing up the whole project proposal of the software system part, more specifically the dispatch management software part was the final step. I wrote the complete document with the attached infographics according to the prepared structure. Described every point and process for what I needed to study these software systems and the process of dispatch from supervisors and research.
- **Project Discussion:** I attended a meeting in Digicon group with the senior executives along with my supervisor and CEO of Barikoi. It was about finalizing the project proposal and tender submission paper. It was an interesting session and I had to continue the meeting and receive feedback from them on the software system part we had created. There were some changes to perform in the write-up and the process of the whole dispatching system, I took notes and worked on this afterwards.

4.2.2 Marketing Blogs

As a marketing intern my role designates to work for the marketing and promotions of Barikoi technologies limited. Barikoi is a location service provider who have product and service both vertical. I mainly worked on the service part of the company, specifically on the verification and KYC service named “Verify”. For its product verticals like location API, urban engine, Trace Barikoi wasn’t making any typical marketing activity because these products were different from any available services of the market. Location API,

urban engine is handled by senior managers and onboard the customers through mainly personalized marketing and word of mouth or recommendation. Another unusual aspect of Barikoi was they wanted to stay under the radar. I formerly worked to create awareness regarding the importance of a well-structured map, advance mapping system, benefits of having local mapping facility, importance of faster verification system, and integrated our solution for these problems.

- **Study and analysis:** I had gone through the service on which i was working on, “Verify”, I learned every aspect of the service and how it works. Then researched on multiple parameters that improve due to faster verification or more elaborately advanced mapping systems.
- **Planning:** Writing promotional blogs or articles is a creative task that takes time and planning to fulfill the motive it is bearing. To earn the attention of the potential customer and to aware the general public, we had agendas to fulfill writing the articles that came from the CEO. We had done planning and discussed what we needed to focus on the articles. Then I started procuring the data and connected each other to make more sensibility about our motives. I planned what questions these articles will solve and more importantly what questions should ring the customers mind. I prepared all the questions, metaphors and brought out data as proof. Afterwards I aligned the storyline with the prepared structure and approached my supervisor for approval.
- **Research:** Performing research is a major task for every project, but in Bangladesh curating data is one of the toughest things to do. Our infrastructure is so poor on data availability, that it took almost weeks to get all the necessary data. As it's a service used mainly in the sector of banking, I had to analyze a lot of financial data, banking data and make it a proper information that will convey to the customer and readers.
- **Composing Article:** After making the steps, insights, information to share, finally i had to compile all the procured information to a format with necessary charts and infographics. It was more a lingual process to portray our thoughts and message clearly to the customers so that they get aware of the system. It took days to rightly put the words and information accordingly and put it up to the desired standard. After completing the articles, I received feedback from the CEO, Business development lead,

product managers and employees related to this function. I worked on the feedback and finalized the blogs to post on Medium platform and share it on LinkedIn.

4.2.3 FMCG project

It was a new project about the retail industry or largely fast moving consumer goods industry to improve their operation and increase efficiency by using location technology to upgrade their delivery system. We had several sessions with our product manager to build this future product. This project leads us to following activities-

- **Product analysis:** Working on a product from its inception is an interesting journey itself. This product is based on the supply chain and GIS technology to develop the FMCG sector more. Research for a new product is the base and thus I along with my fellow interns were assigned to analyze the product and its prospects to match the product goal and pitch before clients. We had several brainstorming sessions and research to create questionnaires according to the product's preliminary objective. I mainly worked on the development part and analyzing the probable problems within the retail markets. Also worked on the solution of these problems which can be solved by improved location information and tracking service.
- **Market research:** I conveyed market research on retail channels and its existing or concealed problems and characteristics. I researched on the shelving problem of retail shops, consumer buying behavior and demand forecasting for retailers. Made three sets of questionnaires to identify these three concepts for further research and survey. We also analyzed the top six retail service providers and players of the market. I worked on "Mokam" and "Supplyline", their characteristics, strategies, operation processes and impact on the real market. Further merged the outcomes of the services and found out some irregularities which are not creating significant impact on the retail chain.
- **Market survey:** I was assigned to survey a few retail market areas in Dhaka city along with two other intern associates. The purpose was to communicate the existing retail markets and understand the shopkeeper's experience regarding the use of mobile app services like Mokam, Tallykhata, sManager etc. Initially I started with the market of

Nikunja-2, Khilkhet, Dhaka. I managed to survey a total of 31 retail shops of Nikunja-2 along with my team. After that I visited the markets of Manikdi and Paikpara Bazar, Mirpur-1. I surveyed 62 major retail shops to understand their experience and difficulties and their adaptation with technology.

- **Data sorting and Documentation:** After conveying the preliminary market survey, I made a documentation with statistics and a report that we got from the market survey. We made checklists of issues that can be focused when getting the full market survey. After our report, the survey team completed the survey of five thousand retail stores and their available data. But one major data was missing from the whole survey, which is the proportion of the shops by which we could segregate the shops by size. To do that I had to analyze 1700 retail store pictures and data, 5000 stores in total and segregated it in 6 segments which i partiated earlier.

4.2.4 Industry analysis

It was my last task in Barikoi Technologies limited, to research on three different industries and capture industrial growth, market growth and opportunities in Bangladesh. There were a total of 9 industries that we were surveying on, all of them were technology or internet based and can be benefitted by location information hence our system. The curb here was similar to any research based work in Bangladesh, lack of data. I have searched for the data available in several platforms with variation of information and less credibility. The industries i had worked on are-

- Food delivery industry
- Internet user
- Mobile financial service

The core data from the industry analysis were –

1. The inception and the current market state of the industry
2. The growth ratio of the industry
3. Competitor analysis within the industry and their market shares
4. Potential market growth of the industry
5. Past financial and growth analysis

After figuring out these data, I made systematic representation of the analysis in google sheet and made documentation regarding the overview of the analysis.

4.3 Learning Experiences

While working at Barikoi during the 3 months of my internship period I could gather substantial knowledge to support my learnings. Mentioning the key learning experiences, I have gathered so far:

- Got to experience how the business people and IT engineers interact and perform collaborative project works.
- Experienced how to respond to an unsupervised learning environment and pull off the tasks.
- Experienced project tender procedures and systematic progression, worked on a tender proposal.
- The importance of clean data in the digital mapping industry and its revolutionary power.
- Learned about the consumer goods industry of Bangladesh and the business prospects of Barikoi within the industry.
- The retail businesses of Bangladesh and the role of SRs (Sales Representatives) and DSRs (Distributors) within the industry. I found that there is a need for sales force automation for efficient distribution of goods in the market.

- Learned how to attend business meetings and prepare formal documents for business proposals.
- The functionality of the mobile and web applications used in the digital mapping sector.

4.4 Working Conditions

- **Usual Office Hours:** When I joined Barikoi as an intern in November 2021, the regular office hour was 10.00 AM to 6.00 PM, 6 days a week (Saturday - Thursday). Due to their constantly evolving nature and the demands of the employees as well as other industry alignments, Barikoi rescheduled their working hours to 10 AM to 7 PM, 5 days a week (Sunday - Thursday), starting from January 2022.
- **Overtime:** During the time of project development and delivery usually there's a lot of workload going on over the permanent employees to meet the client requirements. Thereby they had to stay in the office longer than the usual working hours. As an intern, I did not have to take the extra workload and could leave the office as per the usual working hours. However, during some important meetings or some crucial task accomplishments, I had to stay in the office a bit longer than the usual working hours to attend the meetings or work on and deliver the tasks I was assigned to perform.
- **Work from Home:** Due to the renovation of the Barikoi office I had to work from home for a week during December 2021.
- **Field Visits:** I performed a few market visits on behalf of my company to understand and collect data from various retail markets of Dhaka city namely, Nikunja-2, Manikdi Bazar, Balughat Bazar and Paikpara market throughout the regions of Khilkhet, Dhaka CANTT and Mirpur-1.

4.5 Difficulties and Challenges

The infrastructure of Barikoi is completely IT based and engineers play a vital role in the service development area. However, I had to face some challenges to cope up with the culture of the company during my initial days of joining as an intern. I am giving a debrief of these experiences below:

- **Understanding the organization:** It took me some time to get to know each employee of the company after my joining as an intern. I was a bit confused about the acceptance of my opinions to the existing people and the rules and regulations of the organization as a whole. Eventually, with time, I received a warm welcome from everyone that helped me to understand the things I should be doing as an intern within the organization.
- **Availability of data:** Almost every project and task demands a certain level of research. We get data from the research that defines further processes, but while working in Barikoi, every data based research was difficult and time taking because of the unavailability of data.
- **Introduction to new topics:** Some topics were entirely new for me. Since I had no prior knowledge of those topics, I had to learn those from scratch by conducting extensive research to deliver the results. Although it was difficult for me to understand the topics in the first place, it was a very unique learning experience for me.

4.6 Frequency and Mode of Communication

The office area of Barikoi is pretty much compact which makes it more accessible to the employees throughout all the departments. As a startup company there is immense scope for the employees to speak up about their issues frequently and more directly than others. The frequency and mode of communication as of my observation at Barikoi is as follows:

- **Frequency of communication:** My tasks were mostly directed by our Managing Director, Md Al Amin Sarker Tayef. I used to communicate frequently with the employees of Barikoi to get their opinions while performing my tasks. I reported all the final deliverables directly to our MD upon successful completion of each task.
- **Mode of Communication:** Microsoft teams is the most frequently used tool to communicate among ourselves and take attendance at Barikoi. All the sections are associated with relevant channels in teams so that an organization wide awareness is ensured and everyone gets updated once an announcement is being made. My supervisor used to assign my tasks via team messages. I used to contact him directly in case I needed further clarity regarding my assigned tasks.

4.7 Key Working Tools Used

I mostly used different tools like google doc, PowerPoint and spreadsheet to document my works. The authorization was shared between me and my supervisor to keep him updated about my work all the way through. Sometimes I used Canva to design some interactive slides for reporting purposes. During the partial requirement of a retail engine project I used the retail trace web-app designed and developed by Barikoi to analyze and record some retail market data of Dhaka city. I also used the trace app for android mobile during my field visits to enter detailed imagery data in the trace database and test the piloting of the tracking service offered by Barikoi.

Chapter 5

Analysis

5. Analysis

5.1 Company Level Analysis

The observed efficient and inefficient processes during the period of my internship are explained below:

5.1.1 Efficient Processes

Goal setting and accountability: Employees at the individual level within the team set their own goals at the beginning of the day during the standup meetings regularly. They used to set their Objective Key Responsibilities (OKRs) for accountability purposes and take on the tasks as planned by the whole team.

Streamlined communication: All the employees are connected to the internet 24/7 and they use Microsoft teams for communication purposes among themselves. All the major updates are communicated via the channels so that everyone is aware of the changes.

Efficient project management: The agile framework is being used to carry out most of the project works at Barikoi. The work breakdown structure is written on a board of scheduled tasks. Each task is assigned, ordered and removed based on the progress of the overall project. It ensures efficiency in the tasks performed and accelerates the project performance overtime.

One-to-one dealings with the clients: Barikoi approaches any of their clients within an industry on a one-to-one basis. During the client engagement in one of their verticals (verify), they pursued the City Bank initially. Only after they on boarded the City Bank, they approached the Jamuna Bank later on. Barikoi analyzes their client's pain points very closely and they invest a substantial amount of time to develop a sustainable solution for them. Therefore, they are able to generate trust among their client base overtime.

Individual consideration and consultation: Employees are given the opportunity to consult both their personal and professional needs with the top management anytime. They are given the full autonomy of work so that they can evolve overtime. The CEO takes good

care of his employees at an individual level to promote motivation among the employees. Therefore, a friendly work environment exists within the organization.

5.1.2 Inefficient Processes

Barikoi has just started growing and there is still room for improvements. Since it is a startup company its growth prospect is enormous. There are no significant inefficiencies within the company.

- **Centralized Decision making process:** I found that some of the employees are too reliant on taking approval from the top management or the CEO himself on every tiny detail. Although they prefer to maintain clarity all the way through, such tendency sometimes leads to delay in project schedules and co-workers might have to wait for the preceding task to be completed before they can move forward. Thus, it created an inefficiency in the planned processes and employees had to work longer to normalize the overall work schedule.

5.2 Market Level Analysis

Barikoi's nature of business and a large assortment of location data in their database created a core competency for their business operations within the digital mapping industry. The popularity has already started to grow among the businesses of Bangladesh. They are able to compete in the market with the following competitive advantages:

Industry knowledge and experience: The pioneers of Barikoi are very good at what they do, they are always out there with a visual map within their minds. They know the locations, directions, challenges and the pain points of consumers and businesses all along. Employees of Barikoi are given comprehensive training so that they can understand the actual need in the market before they start developing any solution for the client. It helps the organization excel towards excellence with its industry knowledge and the ever increasing experience within the digital mapping business practices in Bangladesh.

Technological support: Employees are well aware of the market demands and have the technological knowledge to design and develop the systems required to meet those.

Collection of data: Barikoi has a large collection of data in their repository, around 1 million location points in the major cities of Bangladesh. Their collection of data is increasing even more and their business prospects are growing faster than before. New entrants will require giant investments and infrastructural support to collect this much data and compete with Barikoi. In spite of that, the time required to collect data and develop a competitive business model should also be considered. Therefore, Barikoi is way above the threat of competition from new entrants.

Monopoly in the local market: Locally, only Dingi Technologies Limited is serving the same industry as Barikoi in Bangladesh. Provided the coverage and verticals Barikoi has, they are currently the most efficient location data service provider in Bangladesh.

Communication: The sustainably efficient services provided by Barikoi have brought them to the limelight within the existing business organizations of Bangladesh. Therefore, they are able to develop a good relationship with the existing businesses being popular by providing their uninterrupted services.

5.3 Professional Level Analysis

The knowledge I have gathered during the period of 3 months of internship at Barikoi will help me to learn more about my capabilities and encourage me to develop a constructive career plan in the coming days of my career.

Influence on my career plans: Since the beginning of the internship, I was carefully noticing the business administration and activities happening surrounding the projects. All upcoming projects and future products were mainly handled by our product manager. I've closely observed the product's managers processing and product analyzing technique. I was formerly influenced by my supervisor and the CEO of the company by his managerial and decision making skill. His intrapersonal skill is fabulous. I had been attending meetings with our clients and understood the corporate behavior that can make us more responsible.

Adjusting with the office environment, discipline, working in a constructed and time bound manner and providing the best possible outcome is the most desired outcome of this internship. As for working for an IT company, I've got some insights of the IT industry and grew interested in working in the IT industry which is also aligned with our course curriculum. One more amazing learning from the internship is I've got to learn that I can create impact and work in a diverse field that excites me.

Relevance with academic knowledge: My academic knowledge had a significant correlation with the practical implication of my internship tasks in the office. I found myself privileged enough to have the understanding of the business terminologies as well as the underlying technologies that I could develop using my knowledge of the academic courses. I will describe below some of the relevancies between the learning outcomes of my academic courses and the practicality at Barikoi:

- As an IT company, it was my privilege that I had computer science courses in my academics. It helped me understand the workflow of the developers in the project. I could observe how the back-end developers write codes to support the front-end developers and how the product manager passes through the key requirements to the developers for checking functionalities and designing interactive interfaces to make it a successful product launch.
- The financial courses helped me to understand the point of interest of the stakeholders and their decision-making processes in my organization.
- I could relate the marketing techniques used in Barikoi from the academics in such a way that the company markets according to their target market and company goal. Barikoi maintains a subtle promotional activity by publishing and sharing blogs to create awareness to the target consumers.
- The quality management course helped me understand the quality perspective in the service industries and the importance of zero defects when it comes to technology products.
- I was introduced to practical project management methodologies like Agile, Waterfall methodology to execute a certain project and maintain quality.

- I noticed how a friendly and supportive work environment can increase employee loyalty and performance significantly.

Challenges and difficulties: The challenges and difficulties I faced during my internship are outlined below:

- Although I had the fundamental knowledge of IT, I did not specialize in any of the technological courses. If I had more tech-oriented courses and laboratory tasks, I could dive deeper into the organization.
- There was no direct supervisor to the marketing intern position. I had to report directly to our MD for all the updates. As a result, I had to play the role of an employee as well as an intern and the learning process was quite unsupervised. If there were more business people in the business department, the experiences I have gathered so far would have been even more enriched.

Chapter 6

Conclusion and Recommendation

6. Conclusion and Recommendation

6.1 Conclusion

The internship period of three months in Barikoi Technologies Limited was an eye opener for me. Getting the opportunity to work with the brightest minds specially under a great leader helped me to gain knowledge about the sector itself and enhanced my competence in terms of the market requirements. The valuable experiences that I have gained throughout the journey will help me to decorate my career. As an intern, it helped me to understand the functionalities of business and optimum promotional practices. This also helped me to gain critical knowledge regarding the work expectations from leading organizations.

The best part of my internship period was not having to do any repetitive tasks. Normally interns are tasked with doing usual repetitive tasks in an organization. In Barikoi, I had the opportunity to actually work in achieving the team goal and work closely with many decision-making individuals to better comprehend how they think. I had observed the core business operations, dealings, tender submission, resource management and decision making very closely that accentuated more because of the sheer guideline and leadership ability of my supervisor, CEO of Barikoi. I have learned a lot from him and the company in large.

While working for them, I discovered some critical factors that needed the attention of the concerned authority and made some recommendations regarding those factors, in the next section.

6.2 Recommendation

I can undoubtedly say that Barikoi was a great place to learn and work for. The supportive environment and close organogram helped me to be involved in the Barikoi team very easily and understand and perform each task effectively. To the extent i observed the organization analyzing their nukes, i have some recommendation that might develop the working process and efficiency of Barikoi technologies ltd-

- I observed some communication gaps between departments, especially the business and IT department in the organization. Reducing these gaps can develop a better work environment and understanding of the projects they are working in and their progress.
- I strongly felt the inadequacy of business departments and business administrative employees as I had no direct supervisor for my department, I had to communicate directly to the CEO. Though it was also an advantage to share thoughts and reviews directly to the top lead of the organization. I will recommend the Barikoi technology to increase the number of business employees that can help expanding the overall operation efficiently.

7. Reference

- Google Maps Platform Announced New API pricing model. (2018, July 12). Uplers. <https://www.uplers.com/blog/google-maps-platform-announced-new-api-pricing-model/>
- Barikoi | Full-Stack Location Platform. (n.d.). Www.barikoi.com. Retrieved April 17, 2022, from <https://www.barikoi.com/map-api-pricing>
- Barikoi. (2020, May 26). A Pricing Comparison between Barikoi Place API VS Google Maps Places API. Medium. <https://barikoibd.medium.com/a-pricing-comparison-between-barikoi-maps-platform-vs-google-maps-platform-800a21955c9f>
- Mohan, M. (2021, March 4). Over 271 Google Products & Services You Probably Don't Know. Minterest. <https://www.matrics360.com/google-products-and-services/>
- Barikoi. (2020, April 24). Barikoi API's — Explained! How and Where Can We Use Them. Medium. <https://barikoibd.medium.com/barikoi-location-apis-explained-how-and-where-can-we-use-them-c5a22e091718>
- Datanyze. (n.d.). Google Maps API Market Share and Competitor Report | Compare to Google Maps API, Google Maps API (free), Leaflet. Datanyze. Retrieved April 17, 2022, from <https://www.datanyze.com/market-share/mapping-and-gis--121/google-maps-api-market-share>
- What is the economic environment. (n.d.). BDC.ca. <https://www.bdc.ca/en/articles-tools/entrepreneur-toolkit/templates-business-guides/glossary/economic-environment#:~:text=The%20term%20economic%20environment%20refers>
- Barikoi Technologies Ltd. (n.d.). Idlc.com. Retrieved April 17, 2022, from <https://idlc.com/mbr/article.php?id=376>