

**Internship Report**  
**On**  
**Unlocking the Future:**  
**Journey at Singularity Limited**



الجامعة الإسلامية للتكنولوجيا  
UNIVERSITE ISLAMIQUE DE TECHNOLOGIE  
ISLAMIC UNIVERSITY OF TECHNOLOGY  
DHAKA, BANGLADESH  
ORGANISATION OF ISLAMIC COOPERATION



**Submitted To:**

7 **Islamic University of Technology**  
in partial fulfillment of the requirements  
for the Internship program

**Submitted By:**


I understand that my final report will become part of the permanent collection of the program of *Bachelor of Business Administration* in *Technology Management* at the Islamic University of Technology. By signing below, I consent to the reader's request to get my final report.

Tawsif Ahmed Riyad

ID: 180061130

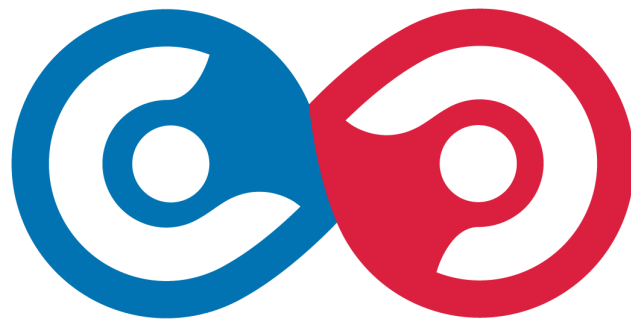
1 Department of Business and Technology  
Islamic University of Technology (IUT) - OIC

**Approved By:**

  
05.12.2023

1 Dr. Mohammad Shamsu Uddin  
Assistant Professor  
Department of Business and Technology  
Islamic University of Technology (IUT) - OIC

**Internship Report**  
**On**  
**“Unlocking the Future:  
Journey at Singularity Limited”**



**singularity**

unlock the future

## Letter of Transmittal

Date: May 9, 2023

1 Dr. Mohammad Shamsu Uddin  
Assistant Professor  
Department of Business and Technology Management  
Islamic University of Technology (IUT) - OIC  
Board Bazar, Gazipur-1704, Bangladesh.

1 **Subject: Submission of Internship Report on “Unlocking the Future: Journey at Singularity Limited”**

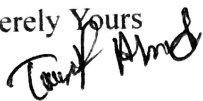
Dear Sir,

This is to certify that 17 I would like to submit my internship report titled “Unlocking the Future: Journey at Singularity Limited”, which is an essential part of the internship program requirement by the department. And I am very glad to have you as my academic mentor for the internship program. Working directly under your direction was a major achievement for me.

During my internship, which started on January 22, 2023, and ended on April 22, 2023, I had the opportunity to work as an intern at Web & Platform Solutions - Unit 1 of Singularity Limited. This internship was a valuable experience that gave me practical insight into the IT industry and a variety of new technical and soft skills. 6 I would like to express my sincere gratitude to the entire team at Singularity Limited. Especially Unit 1 of Web & Platform Solutions. Their expertise and encouragement helped me deepen my understanding of the IT industry and gave me a vision of the future of how I should prepare myself in the fast-moving world.

I will be highly obliged if you kindly accept this and provide me with any expert advice or comments, I would be greatly appreciative. I would consider this study a huge success if you find it useful or beneficial in any way.

Sincerely Yours



.....  
Tawsif Ahmed Riyad

ID: 180061130

1 Business and Technology Management  
Islamic University of Technology

## Declaration

I, Tawsif Ahmed Riyad, a student from the BTM Department of the Islamic University of Technology, hereby declare that I have prepared an internship report titled “The Realm of Frontend Technologies and Development at Singularity Limited” under the guidance of my supervisor, Dr. Mohammad Shamsu Uddin Lecturer, Assistant Professor BTM Department. Furthermore, I confirm that no other person or organization was provided with the report in exchange for a certificate of any kind.



Tawsif Ahmed Riyad

Students' ID: 180061130

Business and Technology Management (BTM)

Islamic University of Technology (IUT) - OIC

Board Bazar, Gazipur-1704, Bangladesh.

## Acknowledgment

First of all, I'd like to thank Almighty Allah for providing me with the ability to complete my internship. As part of my undergraduate studies at the Islamic University of Technology, this report on my internship is being prepared.

I'm very happy to thank my academic supervisor, Dr. Mohammad Shamsu Uddin, for assisting me with the internship. He's been a great mentor to me, and he has helped me through some difficult times.

In addition, I must express my gratitude to Md. Ahsanur Rashid and Md. Ruhin Mia, who were appointed to be my supervisors, respectively, at Singularity Limited. Both of them joyfully accepted my duties, gave me a lot of time, and generously shared their professional experiences with me. As a student majoring in technology management, I had to understand how an organization operated and delivered client projects efficiently. With their assistance and guidance, I was able to comprehend not just the terminology but also the office atmosphere and how to fit in with standard industry practices.

Last but not least, I would like to thank my family for helping me stay healthy and strong during the entire time. As my hometown is very far away from the capital, staying positively focused was a big achievement for me during my whole internship period. I also want to express my gratitude to my coworkers for their encouragement and helpful advice. I also need to emphasize the welcoming and supportive environment, which enabled me to overcome many challenges.

## Executive Summary

This report is an overview of my internship experience at Singularity Limited, one of the leading IT firms in Bangladesh. Singularity Limited focuses on three sectors: - Software, Studio, and Xperience(VR/AR).

Throughout my internship, I got the chance to collaborate with both the software and project departments and work with them on organizing, planning, and carrying out projects. I additionally assisted to identify and reduce project risks, participate in software testing, give comments on front-end technologies, and coordinate project completion.

During the internship, I've been able to play a substantial role in the teams, successfully completing some projects along the way. I've also gained valuable knowledge and experience in the areas of information technology, communication, and a wide variety of technical and soft skills. My senior colleagues also helped with and cross-checked this report's preparation.

Overall, I learned a lot during my internship at Singularity Limited, which helped me have a future vision for a career in the IT industry. Singularity Limited is an excellent choice for anyone seeking to create technological products and get practical experience in the world of information technology, and I wholeheartedly endorse it.

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# **Chapter 01**

## **Introduction:**

## **1.1 - General Information**

A 2012 startup in the IT industry, Singularity Limited is headquartered in Dhaka, Bangladesh. The business specializes in initiatives including experiential marketing, the creation of commercial software, and the production of mobile applications. Singularity Limited is focused on leveraging the most recent technological advances to precisely design its solutions, enabling it to efficiently handle complex, challenging scenarios.

A group of highly qualified specialists work at Singularity Limited and are dedicated to offering clients cutting-edge, superior goods and services that are tailored to their individual requirements. While keeping a primary focus on the creation of commercial software, mobile applications, and digital content, the company has recently expanded its revenue sources.

Singularity Limited's key principles include a dedication to excellence, creativity, and serving the greater good. The company's objective is to develop and create. The business invests in the skill development of its employees and offers them equal growth possibilities, fostering a culture of quality and innovation.

It will identify key success elements and problems in overall software development at Singularity Limited and make recommendations for how the organization may enhance its practices to achieve better results. In addition, it will identify important success factors and challenges in overall software development at Singularity Limited.

The research of the report will highlight frontend technologies and development at Singularity Limited and conducted with the goal of providing insights and recommendations that can assist the company in optimizing its processes and practices, enhancing its performance, and accomplishing its strategic goals.

Readers will be able to gain a better understanding of Singularity Limited's software operations, the kinds of services offered, the working circumstances, the scope of the market, and the general concept of the information technology industry as a whole. It will also provide information about the software business as a whole, as well as details regarding my complete internship experience and the knowledge I gained over the time period covered by the report.

Throughout the course of my internship, I worked under the direction of four different people: Md. Hashibul Hasan, Md. Golam Kibria Asif, Md. Ahsanur Rashid, and Md. Ruhin Mia. They have all done an outstanding job of fulfilling the position of mentor, and I am indebted to them for the many things that they have taught me. In addition, we were able to acquire a far better understanding of the front-end technologies that are necessary for technological advancement thanks to the training we received, which was really helpful. When we go about our daily lives,

we are the ones who put our theoretical ideas into practice. It is the practical application of academic knowledge that determines its usefulness, and in this regard, the internship program was of tremendous assistance to those who participated.

**Chapter 02**  
**Company Overview**

## **2.1 - An Overview of Singularity Limited**

With the goal of unlocking the future, Singularity was created in 2012. Since then, it has grown substantially without straying from its original intent to create tools for enhancing online identities. It's a top choice for creating cutting-edge software. It's proud to be among the best IT firms in the world. Singularity builds products with the latest tech stacks and methodically crafts them to solve challenging problems.

Because of its foundation in shared values, Singularity is able to advance the greater good. The company Singularity believes that everyone should have the freedom to live as they see fit and strives to foster a culture of pleasure for all resources.

Singularity is largely a technology company that has developed into a tree-like structure with several subsidiaries and divisions. They are particularly skilled in the process of coming up with content. It is compatible with graphic materials such as motion graphics, corporate videos, market explainers, campaigns, and spinoffs that are related to this type of content. In addition to this, it possesses a separate business unit (SBU) that concentrates on the creation of commercial software and mobile applications for large businesses. It has established a new strategic business unit that will concentrate on experiential marketing projects. These projects will make use of augmented reality, virtual reality, augmented reality gaming platforms, and mixed reality gaming platforms. Here, the mission is to improve the world through the utilization of technology. It offers all of its employees the same chances for advancement and makes additional investments to help them improve their skill sets. Over the course of the past several years, it has successfully diversified its revenue source, refocused its business model, and is now operating with the primary goal of becoming a brand that is known for both its excellent execution and its innovative products.

## **2.2 - Units of Singularity Limited**

**Business Development Unit:** This department is responsible for finding new business opportunities and clients for a company, determining new products, services, and business lines, and developing marketing and sales strategies in order to assist in the expansion of a company's business.

**Client Service Unit:** The customer service team acts as a liaison between a company and its individual customers. The organization's customers are considered to be its "public face." In addition, a client services manager is the individual who is in control of this group. They are in charge of increasing the output of this particular squad.

**Human Resource Management Unit:** The HR group is in charge of planning, coordinating, and managing the hiring of new staff members.

**Web and Platform Solution:** There are a total of four units under this umbrella. Members of the development unit are responsible for a wide variety of tasks over the duration of the project, including but not limited to planning, testing, and analysis, in addition to programming.

**Project Management Unit:** The responsibility of monitoring and ensuring the completion of all required deliverables in planning and project management. Using any and all forms of delegation and project assurance duties while adhering to predefined reporting structures. Plans for the project, the stages, and any exceptions should be made and kept up-to-date as necessary.

## **2.3 - Contact Information:**

**Email:** [info@singularitybd.com](mailto:info@singularitybd.com)

**Official Site:** [www.singularitybd.com](http://www.singularitybd.com)

**Location:** 138/1, Level 4, Tejgaon I/A Dhaka 1208, Bangladesh

## **2.4 - Operation Sector:**

Operational divisions and teams provide digital marketing services and solutions to clients. The company's main operations are:

**Account Management:** The account management team manages customer connections and ensures client satisfaction.

**Creative:** The creative team creates unique and engaging designs for digital marketing campaigns and projects. Graphics, photos, and movies are designed.

**Software Development:** The software development team builds and maintains client websites, applications, and mobile apps. This includes creating the user interface, generating code, and making the website mobile-friendly.

**Quality Assurance:** The company's quality assurance team ensures high-quality digital marketing solutions and services. Testing, debugging, and improving are included. QA executives are onboarded in both the software development unit and the project management unit.

**Project Management:** The project management team looks after projects, and generates sheets on bugs, feedback, change requests, and the client's satisfaction. Planning, resource allocation, and risk management are examples.

## **2.5 - Services Provided**

Singularity Limited provides a variety of services to enhance a company's online visibility and facilitate communication with its intended clientele. Some examples of the most popular services they provide are as follows:

**Software Development:** The term "singularity software" is used to describe the technological holy grail that we strive to achieve. Our products facilitate the digitalization and automation of our customers' processes.

**Mobile Application Development:** Offer clients native or <sup>22</sup> hybrid mobile app development services for both Android and iOS.

**Studio:** Singularity Studio has a staff of talented storytellers who can create engaging videos, animations, 3D assets, motion graphics, and innovative visualizations for client businesses. TVCs are also made in this section.

**Xperience(AR/VR):** Virtual, augmented, and mixed realities, together with a compelling game world, are all part of the Singularity Xperience. With Augmented Reality (AR), users may superimpose digital information on top of real-world environments to produce a one-of-a-kind effect. With the use of VR, providing customers with an experience they will never forget.

## **2.6 - Customer Segmentation:**

**Mini business:** Customers with a small business have limited resources and require affordable digital marketing strategies.

**Local businesses:** In order to succeed in the competitive local market, local businesses require local SEO services and location-based digital marketing initiatives.

**E-commerce:** Customers in the e-commerce sector need specialized services like SEO, SMM, and email marketing to increase foot traffic to their websites.

**Startups:** These businesses need a wide variety of digital services to launch their businesses online and raise their brands' profiles in the market.

**Enterprise businesses:** Custom web development, enterprise-level search engine optimization, and data analytics are just some of the digital services that large firms need.

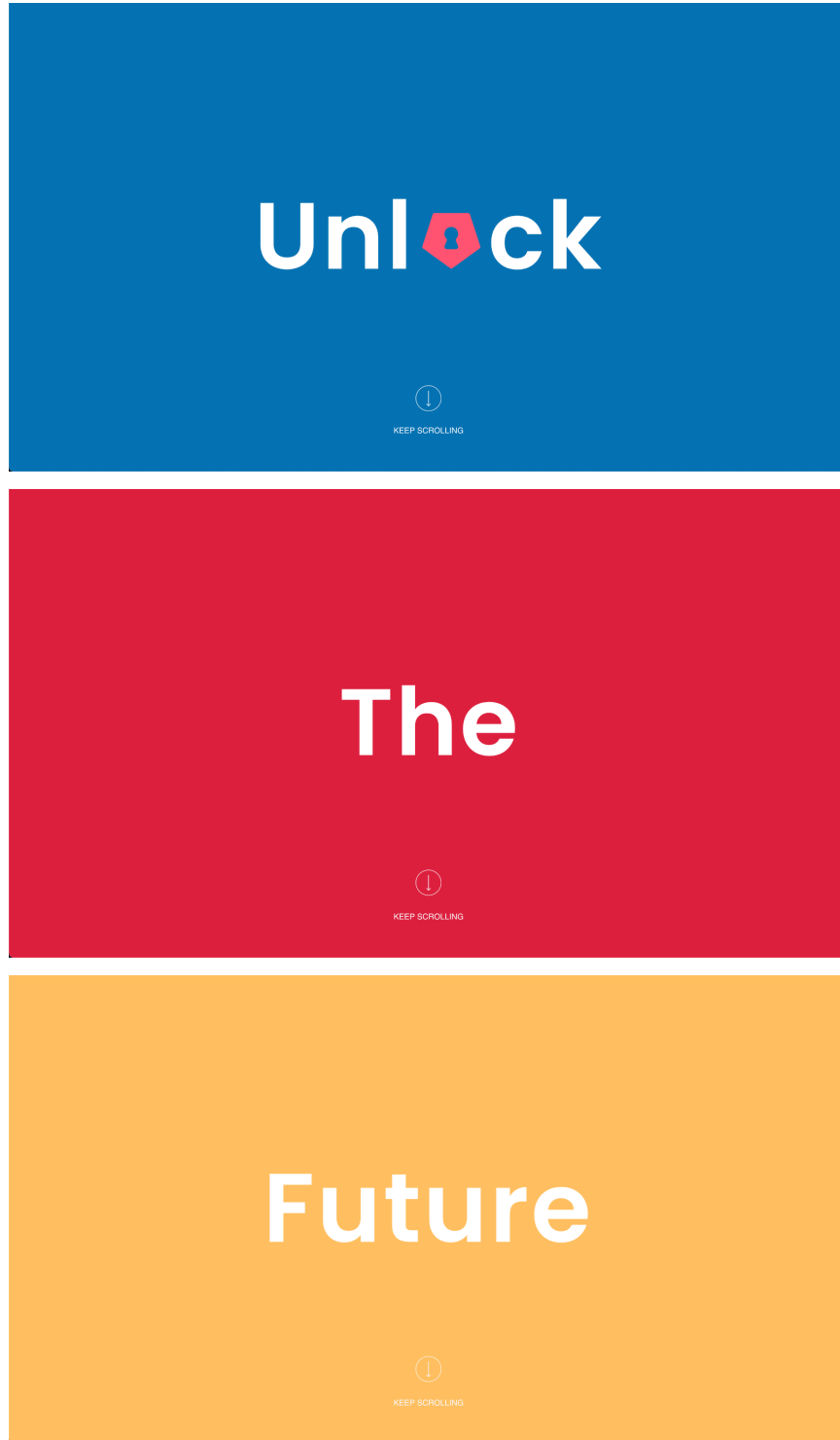
**NGOs:** To effectively reach their intended demographic and generate interest in their noble cause, nonprofit organizations need the assistance of expert digital marketers.

## 2.8 - Organization Chart

There are primarily three heads of departments. Fifty people are working here currently. The organizational structure is given below:

1. **The Chief Executive Officer/Managing Director** <sup>12</sup> is responsible for setting the company's long-term vision and strategy and for providing leadership and direction to the company's upper management.
2. **The senior management team**, which includes the COO, CMO, and CFO, <sup>10</sup> is responsible for setting the company's overall direction and overseeing its day-to-day operations.
3. **The Account Management Team**, which includes roles like Account Director and Account Manager, is responsible for overseeing interactions with customers and guaranteeing their complete satisfaction at all times.
4. **The Creative Team**, which consists of professionals in roles like "Creative Director," "Art Director," and "Graphic Designer," is responsible for conceptualizing and designing digital marketing campaigns and other related tasks.
5. **The Software Development Team** is responsible for creating and maintaining websites and apps on the World Wide Web on behalf of clients. Here, software engineers such as, frontend, backend, mobile application, SQA, etc. are present.
6. **The Human Resources and Administration** department is in charge of hiring new staff, maintaining positive connections with current workers, and running <sup>24</sup> the day-to-day operations of the business. Some of the roles are, Senior/Junior Executive - HR, Assistant HR Manager, Head of HR, etc.





*Fig. 01: The Theme of Singularity Limited (Can be found in the intro of the company website)*

## **2.9 - Company Analysis**

### **SWOT Analysis**

The strengths, weaknesses, opportunities, and threats framework (SWOT) is commonly used to assess these internal and external elements. SWOT analysis involves considering positives and negatives, as well as potential benefits and dangers. The following is a SWOT analysis of Singularity Limited;

#### **Strengths:**

- professionalism and digital marketing knowledge to spare.
- long history in the field and devoted clientele.
- robust financial footing and ample avenues for funding expansion.
- Innovative solutions and services are made possible by a high-quality technological foundation.

#### **Weaknesses:**

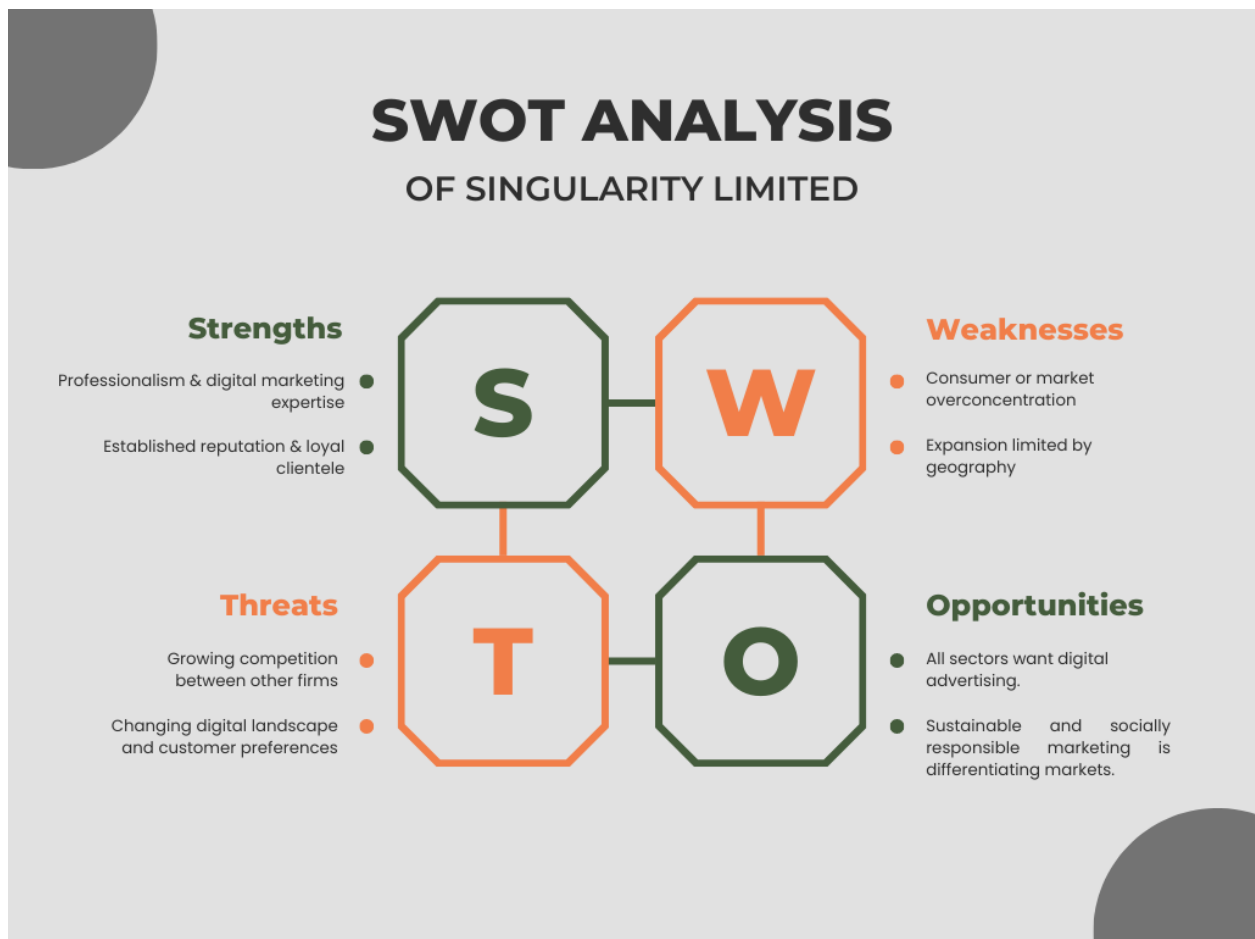
- over-concentration of a small number of customers or markets.
- inability to expand into new areas due to the company's limited regional presence.
- The team's morale and output could take a hit due to inadequate strategies for employee engagement and retention.

#### **Opportunities:**

- increasing interest in digital advertising services among all business types.
- the emergence of cutting-edge technological platforms, such as AI and ML, could present the business with exciting new avenues for growth and development.
- the organization can use data analytics and customer insights to provide more tailored services to each individual consumer.
- increased potential for differentiation in the market as a result of the growing interest in sustainable and socially responsible marketing practices.

#### **Threats:**

- an increase in the rivalry between long-standing digital marketing firms and up-and-coming startups.
- constantly updating and adapting to the ever-shifting digital landscape and customers' ever-changing desires.
- threats to the company's revenue and growth include: - Economic downturns and changes in consumer behavior.
- Data privacy and security are becoming increasingly important, and as a result, the organization may need to make some additional investments.



*Fig. 02: SWOT Analysis of Singularity Limited*

**16** Porter's Five Forces Analysis:

Singularity Limited's Porter's Five Forces study follows;

- **New competition risk:** Due to the low barrier to entry, the digital marketing industry is saturated with competitors. It is simple for upstart businesses to enter the market and compete with more established ones. However, it takes time and effort to establish credibility and a steady clientele.
- **Buyers' bargaining power:** When it comes to digital marketing, consumers have a lot of leverage in negotiations. Having access to so many alternatives for the same type of

service makes it simple for consumers to find the best possible deal. This necessitates that businesses go above and beyond for their customers in order to stand out from the crowd.

- **Exposure to Substitute Goods or Services:** Many organizations offer comparable services to digital marketing agencies. For their digital marketing needs, companies might employ in-house teams or contract with independent contractors. As a result, businesses need to put up significant effort to prove their worth to customers and convince them to pay for their services.
- **Conflicting Competitors:** The level of competition within the information technology sector is incredibly high. In today's fiercely competitive market, numerous companies are vying to offer similar services, thereby leading to a saturated market. To thrive in such an environment, companies must strive to distinguish themselves from their rivals and deliver unparalleled service to their clients.

## **PESTEL Analysis:**

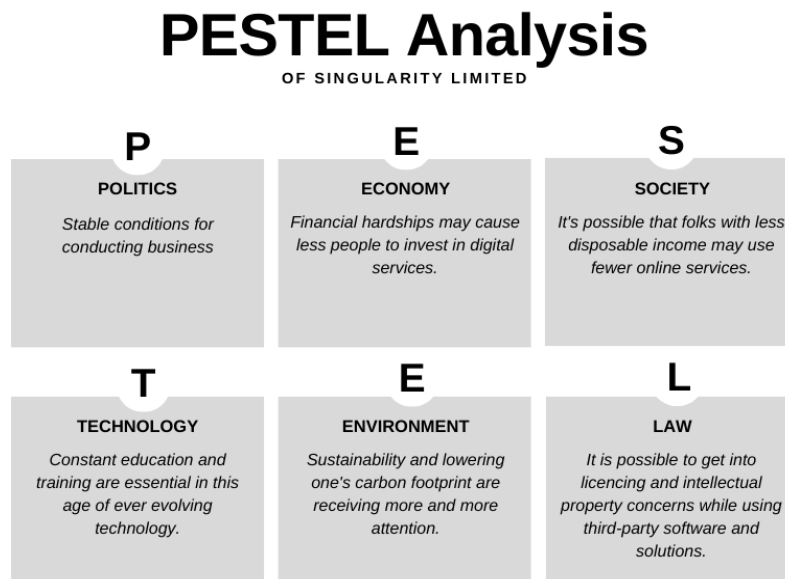
The PESTLE analysis is a framework for evaluating the potential environmental influences on a company. Political, Economic, Sociocultural, Technological, Legal, and Environmental factors make up the acronym PESTLE. You can break each of these down to see how it might affect your business's productivity, income, or expansion plans. Here is a PESTLE analysis of Singularity Limited:

- **Political:** Political factors include elements such as tax policies, changes in trade restrictions and tariffs, and the stability of governments.
- **Economic:** Economic factors include elements such as interest rates, inflation rates, gross domestic product, unemployment rates, levels of disposable income, and the general growth or decline of the economy.
- **Technological:** The digital industry relies heavily on technological innovations, so businesses must keep up with the times or risk falling behind the competition. Continuous learning and upskilling, especially in technical roles, may be necessary due to the rapid pace of technological change.
- **Legal:** There are a number of laws that affect the digital sector, most of which deal with data protection and security. The use of third-party applications and resources can raise questions of ownership and permission.

- **Environmental:** Although the digital sector's environmental impact is relatively minimal compared to that of other sectors, there is a growing interest in minimizing its carbon footprint. Businesses in the digital sphere can lessen their environmental effect by doing things like switching to more efficient technology and encouraging employees to work from home.

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The PESTLE analysis is a useful tool for identifying potential threats to the digital company you once worked for. The company may adapt its strategy and operations to stay competitive and satisfy the evolving needs of its customers if it keeps these considerations in mind



*Fig. 03 PESTEL Analysis of Singularity Limited*

**Chapter 03:**  
**Industry Analysis**

### **3.1 - Industry Size and Growth Trends**

The IT market in Bangladesh was valued at about \$1.5 billion in 2020, according to a report by the Bangladesh Association of Software and Information Services (BASIS). Demand for software development, IT outsourcing, and related services is driving annual growth in the industry to around 25%.

Web development, mobile app development, and enterprise software development are the mainstays of Bangladesh's information technology sector. Electronic commerce, digital advertising, and IT service outsourcing are three additional expanding markets.

The IT sector in Bangladesh has shown resilience in the face of the COVID-19 pandemic and has continued to expand. The government of Bangladesh has established IT parks and training programs, among other initiatives, to foster the growth of the IT industry there.

The large and growing pool of skilled IT professionals, a supportive government, and a favorable business environment all bode well for the future of Bangladesh's IT industry.

Lastly, Bangladesh's software development, IT outsourcing, and related service sectors have contributed to the industry's steady expansion in recent years.

### **3.2 - Development of Bangladesh's Information Technology Sector**

Despite recent growth, Bangladesh's IT industry is still young. Industry maturity is difficult. Bangladesh's IT sector struggles with untrained workers. Many IT graduates lack the practical experience businesses want. This talent gap may hinder industry growth. Bangladesh's IT sector likewise struggles with outsourcing. The industry is vulnerable to global markets and recessions because of its heavy reliance on foreign contracts. Despite these challenges, Bangladesh has taken some steps to boost the IT sector. These include tax advantages, IT hubs, and IT education. Both a more welcoming business climate and a more well-trained and experienced workforce are the goals of these programs.

Demand for digital solutions and services, as well as an expanding talent pool within the IT sector, have shown that Bangladesh's IT industry can expand. The IT industry in Bangladesh has the potential to develop into a mature sector and make a sizable economic contribution if the government continues to invest in infrastructure and training.



*Fig. 04 Created poster for Singularity Limited for the “BASIS SOFT EXPO2023”*

### **3.3 - External Economic Factors and Their Effect on the IT Industry**

A variety of external economic factors that affect Bangladesh can have both positive and negative effects on the industry.



The global economic environment is one of the most important external economic factors influencing the IT industry in Bangladesh. Consumer behavior changes and global economic recessions can both have an impact on the demand for IT services, which in turn can affect outsourcing practices.

Swaps in the currency market are another external economic factor that can affect Bangladesh's IT sector. Depreciation of the Bangladeshi Taka relative to the US dollar, for example, can increase interest in IT outsourcing from Bangladesh among foreign clients.

The ease with which financing and investment are available may have an impact on Bangladesh's IT sector. Potentially stunting the IT sector's expansion is the widespread belief that investing in or lending to companies operating in the sector is too dangerous.

Finally, government policies and regulations may affect Bangladesh's IT sector. Tax incentives and investments in infrastructure are two examples of pro-growth policies that could benefit the IT sector. However, heavy regulation or restrictions on access to capital can slow the development of a sector.

Several different types of external economic factors affect the IT sector in Bangladesh, both positively and negatively. Understanding and properly managing these external factors is crucial for the industry's maximum potential.

### **3.4 - Seasonality**

The seasonality of a Bangladeshi IT firm can be highly nuanced, depending on the nature of the services and products it provides. Demand for some IT companies may remain relatively constant year-round, while demand for others may rise and fall with the seasons.

Businesses providing services like software development or IT outsourcing, for example, may experience more consistent demand because their clients have a year-round need for these services. But there may still be minor shifts in demand due to things like holidays or seasonal business trends.

However, businesses that facilitate electronic commerce or sell goods over the Internet may see a greater cyclical variation in their customer base. During the holiday season, when more people are likely to shop online, there may be a spike in demand for e-commerce services.

Similarly, businesses that offer digital marketing services may see a seasonal uptick or dip in business, depending on whether or not their clients' industries run promotional campaigns or sales events in conjunction with specific times of year.

Overall, while the seasonality of an IT company in Bangladesh can vary depending on the specific services or products offered, companies need to understand and anticipate any seasonal fluctuations in demand to effectively manage their resources and plan for growth.

### **3.5 - Technological Factors**

The operations, competitiveness, and growth of IT firms in Bangladesh are all susceptible to the effects of technical variables. A number of technological problems could have an impact on an IT firm in Bangladesh, including:

#### **Developments in Technology:**

Companies that don't adapt to the ever-accelerating rate of technological development in the IT sector risk slipping behind the competition. To maintain a competitive advantage, IT firms in Bangladesh need to engage in R&D and regularly refresh employee knowledge and skills.

#### **Foundational Elements:**

The availability and dependability of fundamental services like the internet, a dependable power grid, and contemporary computing hardware may have an impact on IT firms' productivity and ability to compete in the global market. Investments from both the public and commercial sectors are being made to upgrade the country's infrastructure, which will help the IT sector.

#### **Online Safety:**

IT firms in Bangladesh are realizing the importance of investing in robust cybersecurity measures as more and more of their services and operations migrate online. Businesses must take serious cybersecurity precautions to safeguard not just their own but also their customers' sensitive information.

#### **Hosted services:**

Cloud computing is becoming increasingly popular in Bangladesh, and a growing number of IT Firms there are moving their service delivery models to the cloud. This growth is anticipated to continue because of the numerous advantages provided by cloud computing.

#### **Wireless devices:**

IT firms in Bangladesh now rely heavily on mobile technology due to the widespread use of portable electronic gadgets. Businesses that prioritize mobile users by providing accessible products and services are more likely to succeed.

The overall prosperity of Bangladesh's IT sector is heavily reliant on technological considerations. Adaptable businesses that put a premium on mobile technology and cybersecurity stand a better chance of succeeding in this dynamic market.

### **3.6 - Regulatory, Political, and Legal Concerns**

There are several political, legal, and regulatory issues that might affect the success of IT businesses in Bangladesh. A few major worries are:

#### **Adherence to requirements:**

Data protection, intellectual property, and taxation are just a few of the areas where IT firms in Bangladesh must adhere to the law. In the event of noncompliance, the firm may face penalties, legal action, and reputational harm.

#### **Proper safeguarding of ideas:**

Because piracy and copyright infringement are so common in Bangladesh, protecting intellectual property is a top priority for IT firms there. To guarantee that their rights are honored, businesses must take precautions to safeguard their intellectual property.

#### **Dishonesty:**

IT firms in Bangladesh must be on high alert to avoid breaking anti-corruption regulations and combat the prevalence of corruption in the country.

#### **Cybercrime:**

Cybercrime is becoming more of a problem in Bangladesh, so IT firms there need to take precautions to safeguard their networks and customer information. Companies that don't do this run the danger of losing customers, money, and legal trouble.

IT enterprises in Bangladesh have tremendous difficulty due to regulatory, political, and legal issues. The country's rapidly expanding IT sector presents significant problems, but also opportunities for businesses that make compliance, transparency, and cybersecurity top priorities.

### **3.7 - The Changing Business Climate and Future of Singularity**

The market, consumer tastes, and technological developments all play a role in shaping a Bangladeshi IT firm's competitive landscape. A Bangladeshi IT firm may face new challenges as a result of shifts in these elements.

When it comes to the IT industry in Bangladesh, the availability of skilled personnel is one of the most important variables determining the competitive climate. In the information technology sector, competition for talent is fierce, therefore, businesses that can successfully recruit and keep talented employees will have a leg up on the competition. Companies in Bangladesh may have to pay more to attract and retain qualified IT staff if the labor market continues to tighten for this skill set.

Innovations in technology are also influencing the business climate of Bangladesh's IT firms. Companies that are able to keep up with the market and provide cutting-edge services and products are more likely to succeed. IT firms in Bangladesh are benefiting from the advent of cloud computing, mobile technology, and AI, but they are also facing more competition.

Finally, changes in the regulatory and legal framework may have an impact on the competitive environment of IT firms in Bangladesh. Companies, especially those with a smaller market share, may face difficulties as a result of new rules, tax laws, and other legal changes. Companies that are able to quickly adjust to these shifts will likely gain market share.

In general, Bangladesh's IT industry is a highly competitive and fluid market. Successful businesses in this rapidly expanding sector tend to be those that can anticipate and respond quickly to market shifts.

**Chapter 04:**  
**Overview of Activities**

## **4.1 - Working Period:**

Singularity's internship program lasts three months and entails full-time participation. As a result, my internship schedule is typically Sunday through Thursday, 10 a.m. to 6 p.m., with occasional overtime. During my internship, I had to commit at least 35 hours per week; sometimes the committed hours exceeded the number due to work pressure.

## **4.2 - What I did during my internship**

The main topics covered during the internship at Singularity include:

- Built frontend features and interfaces with on demand frontend technologies such as javascript, typescript and javascript frameworks- React.js, Vue.js, Nuxt.js
- Integrated client project requirements and incorporated feedback and change requests and ensuring timely and correct deliverables
- Assisted the development team find and repair errors and improve the performance of the online apps they were working on
- Used PHP Blade templates to generate server-rendered pages with dynamic content
- Used frontend technologies such as pre-processors like Sass and SCSS along with a CSS framework like Bootstrap to create mobile-friendly, aesthetically pleasing sites
- Project specs, code comments, and user guides all benefited from your input into the documentation process
- Managed and entered data into spreadsheets for project tracking and management
- Participated in daily stand-up meetings and sprint planning sessions as part of an agile development team
- Performed extensive testing and quality assurance to detect and fix any problems with the front end
- Coordinated with designers, back-end developers, and project managers, among others, to ensure projects went off without a hitch

Developing innovative frontend technology has become increasingly important in today's digital landscape. As a frontend intern, I had hands-on experience with a wide range of resources that have proven invaluable to the success of web development projects, including frameworks, framework components, tools, and documentation.

### **4.3 - Frontend Technologies and Development: Enhancing User Experiences**

During my internship, I concentrated on using frontend technologies like Vue.js, Nuxt.js, and TypeScript to create user interfaces that are both interactive and dynamic. Thanks to these frameworks, I was able to create easily re-usable modules with a high degree of modularity and scalability. The dynamic BTM course curriculum, which contained theory courses such as CSE 4361, 4461, & 4561 and also lab courses such as CSE 4362, 4462, & 4562 helped me a lot for this internship.

I took part in agile development procedures to guarantee smooth communication and project management. I was able to better communicate with my team and match my efforts with the project's overall goals thanks to the daily stand-up meetings and sprint planning sessions. I used a method of iterative development known as "continuous integration and deployment," which allowed me to deliver software more quickly and effectively.

Using CSS frameworks such as Bootstrap, I was able to speed up development processes while also producing designs that were both responsive and aesthetically pleasing. Pre-processors like Sass and SCSS made it possible to create stylesheets that were both modular and reusable, cutting down on unnecessary code and speeding up development. Clients' suggestions and requests for alterations were acted upon with the use of these tools, which resulted in an improved user experience and satisfied customers.

Also, I have used version control tools such as Git, and Github command lines to pull/push project files into GitHub repositories.

As my internship progressed, I came to appreciate the value of documentation in ensuring continued high-quality code and in sharing what I had learned with others. Specifications, code comments, and user manuals were all things that I made a point to document. By doing so, I reduced the amount of time required to train new developers and team members and increased the efficiency with which we could all work together.

In addition, I made it a point to perform thorough testing and quality assurance procedures. In order to find and fix frontend-related issues, I used testing frameworks and techniques to carry out unit testing and integration testing. The projects were successful as a whole because of the developers' meticulousness and dedication to creating high-quality software.

In conclusion, I gained valuable expertise in a variety of front-end technologies, development workflows, and tool sets throughout my internship. I helped produce top-notch UI by employing

modern tools like Vue.js, Nuxt.js, TypeScript, PHP Blade templates, CSS frameworks, pre-processors, and testing approaches, among others. I accomplished effective teamwork and continued high-quality code by using Agile practices and placing a premium on documentation. I'm eager to keep learning new things about front-end development in order to be at the forefront of technological advancement and provide game-changing solutions to pressing problems.

Example JavaScript Code for String Concatenation	Annotated the result with the number type in TypeScript
<pre>1 const result = "5" + 5; 2 console.log(result); // Output: "55"</pre>	<pre>1 const result: number = 5 + 5; 2 console.log(result); // Output: 10</pre>

*Fig. 05 Basic difference between JavaScript and TypeScript*

## **4.4 - Difficulties and Challenges**

The challenges and obstacles I overcame during my internship pushed me to the limits of my problem-solving skills and contributed greatly to my technical and professional development. Here are some of the challenges I faced:

### **Cross-browser compatibility:**

Maintaining compatibility between browsers and versions proved to be a formidable obstacle for the web app's developers. Due to the fact that each browser uses a different rendering engine, the behavior of certain features or styles can vary. I ran extensive tests and used targeted CSS adjustments or JavaScript workarounds to solve these compatibility problems.

### **Responsive design:**

It wasn't easy to make a design that would adapt to different screen sizes and look good on all of them. I had to optimize layouts, plan media queries, and test the app's responsiveness on a variety of devices.

**Performance optimization:** Optimizing web application performance becomes crucial as complexity increases. Problems with page load times, excessive file sizes, and inefficient programming were obstacles I had to overcome. To boost application performance, I optimized JavaScript code, compressed images, and cached.

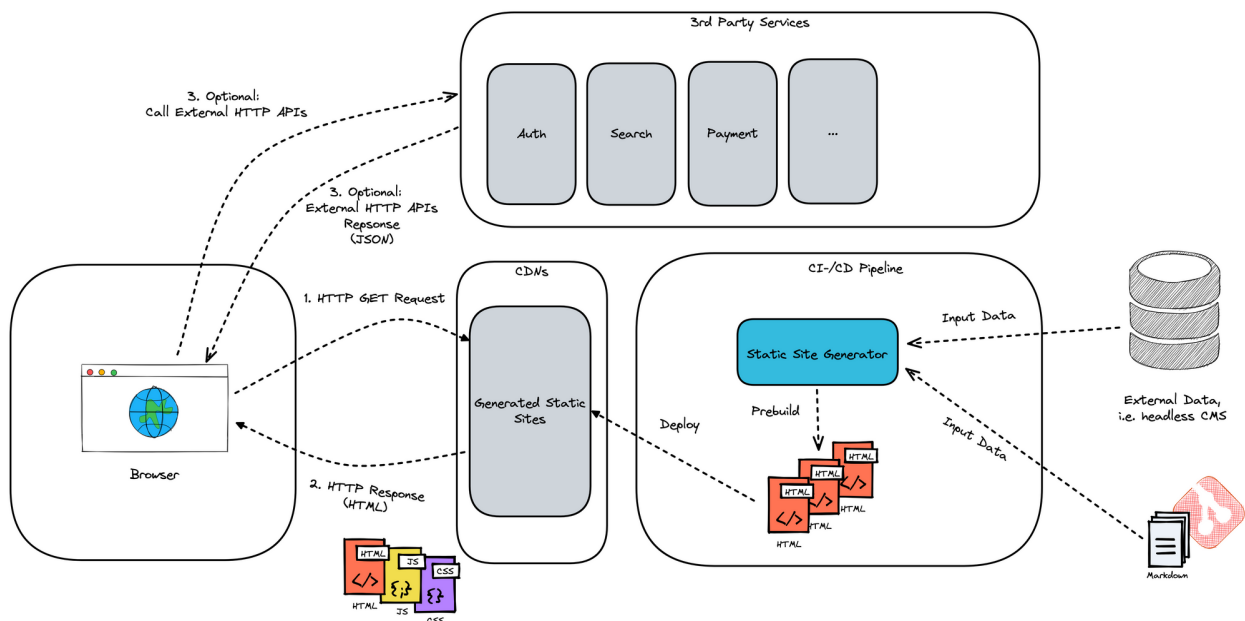
**Debugging and troubleshooting:** Debugging and troubleshooting bugs and issues in real-world client projects was common. Systematic testing, backend team collaboration, and problem identification were needed to solve problems.



**Keeping up with changing frameworks and technologies:** There are always new technologies and frameworks being introduced into the front-end development landscape. It was difficult to master new skills and keep up with emerging trends. However, I overcome this challenge by regularly engaging in professional development activities such as webinars, podcasts, and online forums.

**Managing multiple projects:** Client work often necessitates handling many priorities at once. The ability to prioritize work, set and meet realistic deadlines, and communicate clearly with clients and team members were all crucial to the timely and successful completion of the project.

Despite the difficulties, I took them on as personal challenges and possibilities for development. I overcame these challenges and provided excellent frontend solutions by being positive, working together with coworkers, and looking for help wherever I could find it. These experiences have greatly improved my ability to solve problems and general readiness to face new challenges in front-end development.



*Fig. 06: Static Application Generation on Frontend Development*

**Chapter 5:**  
**Analysis**

## **5.1 - Company Level Analysis**

Singularity is an information technology consulting and software development company with headquarters in Dhaka, Bangladesh. The following is an analysis of Singularity performed at the company level:

### **The goal and objective:**

Singularity's goal is to become Bangladesh's go-to software development and consulting firm, and its mission is to deliver first-rate IT services to its customers by creating cutting-edge applications that help their businesses succeed.

- **Services:** Singularity is a full-service IT company that provides solutions in software engineering, web, and mobile app development, user interface and user experience design, information technology consulting, and online marketing.
- **Market focus:** The majority of Singularity's customers are small and medium-sized businesses (SMEs) in Bangladesh and elsewhere. Finance, healthcare, hospitality, and e-commerce are just some of the fields that this firm has served.
- **Advantage in the Market:** Singularity's strength is in its ability to provide clients with novel solutions that take advantage of cutting-edge technologies like AI, ML, and blockchain. Software products from the company are known for their ease of use and intuitive interface because of the firm's dedication to user experience design.
- **Leadership and staff:** The executive team of Singularity includes of seasoned experts in fields including IT, business, and finance. Over a hundred people work for the company, and they all contribute to providing excellent IT services to the company's customers.
- **Economic output:** The rising demand for IT services in Bangladesh and elsewhere has contributed to Singularity's consistent revenue and profit growth over the past few years. To lessen its dependency on any one market or customer, the corporation has broadened its client base and diversified its services.

Singularity is a leading IT consulting and software development firm in Bangladesh recognized for its dedication to these three core values: innovation, user experience, and social responsibility.

We have achieved **prestigious awards** for outstanding work

**4x Digital Marketing Awards**



*Fig. 07: Awards won by Singularity Limited*

## **5.2 - Market Level Analysis:**

The attractiveness and potential of a market can be determined through a market-level analysis, which involves studying market conditions and trends. Here are some steps to conduct a market-level analysis:

- **Define the Market:** An IT agency in Bangladesh targets individuals or organizations with its products or services. Due to businesses and individuals using technology, the IT services market in Bangladesh is rising rapidly. Industry, size, geography, and client needs might segment the market. Bangladeshi IT agencies target banking, finance,

healthcare, education, retail, telecommunications, and government. IT solutions increase operations, customer experience, and performance in these industries. IT agencies can also target SMBs without the means to create their own IT expertise. Some regions have a stronger need for IT services than others, which might affect market segmentation. IT agencies can target customers who need software development, site design, digital marketing, cybersecurity, cloud computing, or IT consulting. Customized solutions for specific clientele may also be needed. IT agencies in Bangladesh can specialize and differentiate themselves based on their expertise and target audience in a diverse IT services industry.

- **Examine Market Size and Growth:** To determine an IT agency's market size and growth in Bangladesh, one must consider the size of the IT industry in Bangladesh, the agency's market share within that industry, and the industry's and agency's growth rates. In recent years, Bangladesh's IT industry has grown by 20% every year, according to BASIS. The Bangladeshi IT industry was valued at \$1.5 billion in 2020 and is predicted to increase. An IT agency's revenue and market share determines its market size. An IT agency with \$10 million in sales and a 5% market share would estimate the industry's market size at \$200 million. An IT agency's success depends on its ability to attract new customers, extend services, and satisfy customers. Technology, competition, and customer preferences can also affect an IT agency's growth. An IT agency's market size and growth in Bangladesh depend on several elements and must be examined individually.
- **Determine the Target Customers:** IT agencies in Bangladesh target different clientele depending on their services and goods. Most of the customers of Singularity Limited are on B2B based.
- **Competitor Analysis:** Identifying the top market rivals and analyze their strengths, weaknesses, market share, and pricing tactics. IT companies in Bangladesh are competing in a fast-growing industry. Some of the competitors of Singularity Limited are: Tiger IT Bangladesh Ltd, Therap (BD) Ltd, StreamsTech Ltd, Brainstation23, etc. The competitors are all based on local market.
- **Examine Current Market Tendencies:** In recent years, Bangladesh's IT industry has flourished, and many homegrown IT firms have expanded their operations to serve a wider range of customers both at home and abroad. In Bangladesh's IT sector, some current market developments include:
  - Demand for IT services in Bangladesh has been on the rise thanks to the increased use of computers in key economic sectors including banking, healthcare, and retail online.

- Many companies in Bangladesh are putting more effort into digital transformation projects in order to streamline their processes and boost productivity.
- The availability of a big pool of experienced IT professionals at cheap rates has made Bangladesh a popular outsourcing destination for foreign corporations.
- New businesses springing up: A growing number of information technology companies serving both the local and global industries have emerged in Bangladesh in recent years.
- With the growing reliance on technology comes a corresponding increase in security concerns. Bangladeshi IT firms are putting more resources towards offering customers comprehensive cybersecurity services.

The information technology sector in Bangladesh is predicted to grow steadily over the next few years, providing local businesses with exciting new chances to develop and compete on a global scale.

- **The Potential of the Market:** Market potential helps decide how to enter, produce new items, and drive sales. Singularity's future in Bangladesh is bright as more companies adopt technology and digitize. Singularity Limited's Bangladesh market prospects include:
  - Tech's Up-and-Comers Bangladesh's IT sector has grown 20% annually during the past five years. The government's various new policies aim to grow the IT industry.
  - Smartphones, cheap data plans, and digital payment methods have increased e-commerce, online banking, and digital content consumption.
  - Bangladesh has more start-ups in numerous fields, including technology. These conditions allow IT corporations to collaborate and help new enterprises.
  - Bangladesh has a large IT workforce due to its many IT schools. This helps IT organizations discover competent and economical workers.
  - The Bangladeshi government supports IT industry growth with initiatives like the "Digital Bangladesh" campaign, which provides digital services to citizens nationwide.

The high-level market analysis must be updated frequently to reflect the market's ever-changing tendencies.

## Our Clients

Some of our favourite clients we are working with regularly.



*Fig. 08: Some of the clients of Singularity Limited*

### **5.3 - Professional Level Analysis:**

My time as an intern at Singularity Limited has been quite interesting. It has given me independence and responsibility, given me a stage upon which to showcase my talents, and given me the opportunity to test my own limits. Having the opportunity to work on so many different projects across so many different areas of the organization has been invaluable to my professional development. However, there are unquestionably some downsides. It has been pointed out that giving up so much control over others can increase the likelihood of failure due

to a lack of oversight. And my job goals will change drastically as a result of this event. I was able to gain hands-on experience in the IT field as a result. The internship was also crucial in helping me make the transition from classroom learning to real-world practice. I was able to get experienced with common programming libraries, frameworks, and practices. This experience taught me a lot more than I could have learned in a classroom and greatly improved my knowledge of front-end development.

In sum, despite the organization's youth, it has established a professional infrastructure and a set of standards for its work and conduct. It's a great option for those who want to strike out on their own.



**Chapter 6:**  
**Conclusions & Recommendations**

## **6.1 - Recommendations**

Below, I've outlined a few of my primary takeaways and suggestions for Singularity Limited that could be helpful to the company as a whole:

- Modify their processes to be more cost-effective and up-to-date
- Promote an atmosphere conducive to the growth of new ideas and innovations
- Should prioritize service quality in addition to expansion
- Create reliable programs to incentivize staff to do their best
- Adding qualified individuals to the business department can increase the company's potential for rapid expansion
- Changes on reward recognition programs
- Arrange Intra-organization technical contests
- The level of internal communication should be raised as much as is feasible.
- Despite the staff's best efforts, there are times when they are unable to complete the next step of the process as instructed

## **6.2 - Conclusion**

Following my internship at Singularity Limited, I feel well-versed in the inner workings of a cutting-edge technology firm. Through taking part in the exercises, I have learned about all of the procedures. After finishing the internship program, I have gained the practical knowledge I needed to connect the theories with the real-world scenario, whereas before, I had a variety of theoretical information about the activities undertaken in an organizational environment. Singularity Limited has been working hard to develop a long-term environment for its clientele. The mission of the organization is to empower individuals by providing them with robust, easily accessible, and reasonably priced linked technology. I have done my best to reflect on the things I've done and the lessons I've learned during my stay here. Singularity Limited provided an exceptional workplace, which enabled me to zero in on my work and get it done quickly and efficiently. The staff at Singularity Limited went above and beyond to help me out. I've just finished a three-month internship, from which I've gained invaluable knowledge that will serve me well in my future endeavors, both personally and professionally.

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