

**Internship Report on Commercial Activities at KONA  
SOFTWARE LAB LTD.**



الجامعة الإسلامية للتكنولوجيا  
UNIVERSITE ISLAMIQUE DE TECHNOLOGIE  
ISLAMIC UNIVERSITY OF TECHNOLOGY  
DHAKA, BANGLADESH  
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**Submitted to**

**Islamic University of Technology**

**In partial fulfillment of the requirements for the degree of  
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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## LETTER OF TRANSMITTAL

22 April, 2022

Dr. Md. Abul Kalam Azad  
Associate Professor  
Business and Technology Management  
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**Subject: Submission of Internship Report.**

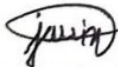
Respected Sir,

I hereby submit the Internship report titled "Internship Report on Commercial Activities at KONA SOFTWARE LAB LTD." which is a part of the internship program. It was a great achievement on my part to work under your direct guidance.

While preparing this report, I have tried my best to portrait the condition of the company and reflect on my personal experience at the organization. The opportunity to work at KSL has opened a door of huge possibility of learning about the corporate field operations and grow personally. It was a great experience working there and preparing this report under your supervision. If required, I will be available for any further clarification.

I will be highly obliged if you kindly accept this report any provide me with any kind of expert judgement or feedback you may have. It would be a huge success for me if you find this report informative or useful in any way.

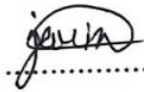
Sincerely Yours



.....  
Tasnim Ahmed Jarin  
*Business and Technology Management*  
ID: 170061011  
Islamic University of Technology

## DECLARATION

I, Tasnim Ahmed Jarin, a student of the Department of Business and Technology Management of Islamic University of Technology hereby declare that I have prepared this report on KONA SOFTWARE LAB LTD. by myself with the guidance provided by my supervisor Associate Professor Dr. Md. Abul Kalam Azad Sir. I have not breached any copyright purposefully. The work is authentic to the best of my knowledge. I further declare that the report was not submitted to any other party or institution for any degree of certificate.



.....  
Tasnim Ahmed Jarin

*Business and Technology Management*

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Islamic University of Technology

## ACKNOWLEDGEMENT

This report was the result of many people's tireless efforts and support. I am grateful to each and every one of them for providing me with the support and direction that enabled me to complete this report.

Firstly, I'd like to express my gratitude to Allah for providing me with the ability to do so, patience, and resilience to carry out my responsibilities as an intern at KONA SOFTWARE LAB LTD., which is the focus of this report. After that, I'd want to express my gratitude to my honored Advisor, Associate Professor Dr. Md. Abul Kalam Azad sir, for his unwavering support and advice throughout the process. I owe Mst. Sabiha Samad a debt of gratitude for her unwavering support and advice throughout my internship. I'd also like to express my gratitude to Mohammad Arifur Rahman for his guidance during the process. It would have been impossible to produce this report without their 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.

Last but not least, I'd like to thank my family for assisting me in remaining strong and healthy throughout the entire period. I'd also like to thank my coworkers for guiding me with helpful recommendations and guidance, as well as for motivating me. I must add emphasize the welcoming and supportive environment, which assisted me in overcoming numerous challenges.

## EXECUTIVE SUMMARY

The report is an attempt to summarize the three-and-a-half-month internship program that was aimed to provide me with practical professional experience. The paper outlines my experience as an intern in KONA SOFTWARE LAB LTD's commercial department. The internship taught me about the realities of working in a software lab. This gave me the chance to see firsthand how the digital banking solution and smart card industry are growing and evolving in Bangladesh. Apart from that, the chance broadened my experience of working in a corporate environment, which supported not only my professional development but also my personal growth. This has surely had a significant impact on my professional plans. It showed me where I have room to improve, learn, and contribute.

KONA SI Co. Ltd., a South Korean smart card industry pioneer, has established Kona Software Lab Limited as an R&D center and global solution business wing in Bangladesh. KONA services 500 customers in 90 countries throughout the world (ranks among top 4 banking card manufacturers). In Bangladesh, KONA serves over 30 banks and controls 50% of the card market.

The report focuses on the general processes the commercial department of the company uses to run the business in a timely and efficient manner. The internship's outcome is discussed in depth in the following section of the report. My work in the company mainly included documentation of the requirements necessary for different purposes. To successfully write up the documents I had to go through a series of interactions with the other employees of the company. This actions greatly enhanced my skill and level of communication. Step by step I came to understand about the processes a sales team of a company has to go through. The commercial team plays a critical role in the company's success by turning prospects into customers and expanding the client base. They indeed play a crucial position in Kona Software Lab Ltd. Being a part of this team and working with them was an absolute honor for me.

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## 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 software company Kona Software Lab Ltd. 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. Under this requirement, I have completed a 3 and a half months' internship in the Commercial department of Kona Software Lab Ltd. which is an R&D center and global solution business wing of KONA SI Co. Ltd., a South Korean smart card industry pioneer.

Internships are becoming increasingly significant as a way to supplement our education while also securing our future employment. They provide us with a useful insight into what it's like to work for a livelihood, provide insights into how our chosen sector works and what it takes to achieve, and they can demonstrate to a potential employer that we are serious about wanting to be a productive, successful employee. The three-and-a-half-month internship in Kona Software Lab Ltd was a lifelong experience for me.

This internship granted me exposure to the inner workings of smart card and digital banking sector. They allowed me to go behind the curtains to obtain a sense of the unique knowledge and daily practices that each position necessitates. I got the advantage of watching qualified professionals accomplish activities that I would have instead only read about, as well as the opportunity to try out the jobs myself.

The report will concentrate on the commercial department of the organization where I worked, my duties and responsibilities as an intern, and an analysis of the lessons learned throughout the process. In many ways, the program was beneficial to me. The program introduced me to the corporate world, which will serve as a foundation for new learning and growth for me. This experience, I believe, will always serve as a stepping stone for me in the corporate world. For my department mates who will follow me, I believe this will be a fantastic opportunity to learn practically and prepare for a career in the corporate world.



## **Background of the Report**

Kona Software Lab Limited, founded in 2012, is an R&D facility and global solution business division of KONA I Co., Ltd., a South Korean smart card industry pioneer. It makes smart cards, develops cutting-edge payment and security solutions, and ships to clients all over the world.

KONA is a market-leading E2E supplier in Korea, with a significant market share. With continuing attempt to restore payment transactions to a wide range of formats (chip, mobile, wearable, etc.) by leveraging years in the industry in the EMV and smart card domains, KONA has expanded its operations scope in international recent years, bringing all stockholders in the eco - system closer together. KONA developed its main product KonaMoney, a prepaid digital wallet system available to consumers in the Korean market, to add a new dimension to it.

## **Origin of the report**

The Islamic University of Technology's internship program is a requirement for students of Business and Technology Management to complete their undergraduate degree. This report is a requirement for the same department's Internship program. The primary goal of this program is to introduce the first batch of BTM department graduates to the job market and the corporate world. The program's goal is to expose students to the working world. Because the students are already familiar with the theoretical concepts of the business world, the internship program was designed to allow them to apply the theory to the reality of the world and gain professional experience. The real hurdle here is to apply theoretical knowledge to real-world concepts and experiences.

## **Main Purpose of the program:**

- Gain experience in a real-world corporate setting.
- Students should be introduced to the job market.
- Connect theory to experience.
- Organize detailed information about the job description.

- Completion of BBA program requirements.

The report is the result of a three-and-a-half-month internship at Kona Software Lab Ltd. and was prepared in accordance with the University's requirements for the Business and Technology Department. It contains information about the company and its products, as well as information about the industry in which the company operates.

## **The Objective of the Report**

### **Generic Objectives:**

During the three-and-a-half-month internship, the main goal was to gain an understanding of the operations of the company's commercial department and how they work to achieve their objectives. The program can be described as an undergraduate student's understudy of the corporate world. This report describes the activities I took part in during my internship. The purpose of this report is to demonstrate my comprehension of the work completed as well as the experience gained during the internship program. It is a comparison of activities and learning with the goal of determining my learning yield in the organization.

### **Specific Objectives:**

- Outline my duties and responsibilities as an intern.
- To depict the company's overall condition and status in both domestic and international markets.
- Obtaining information about the overall operational processes of the smart card and digital banking industries.

### **Methodology:**

I gathered information and insights from both primary and secondary sources while preparing this report.

### **Primary Research:**

A large portion of the report is devoted to describing the data gathered through primary research. The majority of the major components and insights reported were obtained through face-to-face conversations with the company's employees and workers.

**Information Source:**

Official employees of the company.

The Diary and notes I maintained throughout the internship period.

**Secondary Research:**

While primary research constitutes the majority of this report, a significant amount of the information presented in the report was gathered from secondary sources. Several sources were used as secondary sources of information for my report.

**Main sources:**

- Company Website.
- Google search engine.
- Research papers about smart card industry.

**Scope of the research:**

This report provides an insightful and concise overview of the organization, the commercial department of Kona Software Lab Ltd., and the industry in which the company operates. It primarily focuses on the employee perspective and provides specific statistics about the company's performance in both the local and international markets. This report will educate readers on smart cards and digital banking solutions, as well as the potential for Bangladesh in this industry.

**Limitations:**

Three-and-a-half-months was comparatively short for achieving all of the company's knowledge and insight. Despite this limitation, I have done my best to make the most of this experience.

## Company Overview

This chapter focuses on the brief history of the company, the sector this company operates in, company's products and services produced and offered to its customers and the performance in both local and international markets.

### About Kona Software Lab Ltd

KONA SI Co. Ltd., a South Korean smart card industry pioneer, has established Kona Software Lab Limited as an R&D center and global solution business wing in Bangladesh. KONA services 500 customers in 90 countries throughout the world (ranks among top 4 banking card manufacturers). In Bangladesh, KONA serves over 30 banks and controls 50% of the card market.

### Historical Background of Kona Software Lab Ltd

Kona Software Lab Limited, founded in 2012, is an E2E provider in the business with a considerable market share in the Korean local market. KONA has expanded its business scope in international markets in recent years, with ongoing efforts to bring secure payments to a variety of form factors (chip, mobile, wearable, etc.) by leveraging years of expertise in the EMV and smart card domains, bringing all stakeholders in the ecosystem closer together. KONA developed its main product KonaMoney, a prepaid digital wallet system available to consumers in the Korean market, to add a new dimension to it.

**Industry type:** Information Technology and Services

**Company size:** 100+ employees

**Headquarters:** South Korea

**Type:** Privately Held

**Founded:** 2012

**Website:** <http://www.konasl.com>

## Vision



Contribution



Creative



Challenge

## Departments

Kona Software Lab Ltd has brought substantial value to the digital transformation of the financial institutions in Bangladesh and is working relentlessly to create the next generation of secure digital payment to touch and improve millions of lives through its innovative and sustainable approach. KONA SL mainly consists of the following departments.

1. Block chain Lab
2. Commercial
3. Data Lab
4. Engineering
5. Facility Management
6. Finance & Accounts
7. Management
8. Payment Lab 01
9. Payment Lab 02
10. People Care
11. Product Engineering
12. Project Management
13. Software Quality Assurance
14. System Operation & Service Delivery

## Certifications

1. **Visa Ready Certification for Cloud-Based Payments:** The Visa Ready Program makes it easier for new payment partners to traverse the intricacies of the payments ecosystem, such as mobile payments platform providers, mobile device makers, technology partners, wallet providers, and software suppliers.
2. **FIPS 140-2 Level 3 Certification for Security Product:** The National Institute of Standards and Technology (NIST) under the Commerce department produced FIPS (Federal Information Processing Standards) 140-2 to verify that any cryptographic hardware fulfills particular security standards in the United States and Canada.

## Technology Partnership

1. **Reseller Partnership with Underwriters Laboratories (UL):** Kona Software Lab Ltd. signed a contract with Underwriters Laboratories (UL) in Singapore's Transaction Security (now "Identity Management & Security") division as its official reseller of Brand Test Tool (BTT) and EMV Personalization Validation Tool (EMV PVT) in the South Asia region in September 2015.
2. **ASAP Partnership with Thales:** Kona Software Lab Ltd. and Thales UK Limited inked an official agreement in 2015 for Thales UK Limited's Alliance for Solution & Application Providers (ASAP) program to build a technological and business connection that ensures mutual benefit by cooperatively driving marketing initiatives. Kona Software Lab Ltd. was able to obtain a Thales Hardware Security Module (HSM) through this agreement and integrate it with the KonaPay Digitization Platform.

## Focused development areas:

The main focused development areas of Kona Software Lab Ltd are;

1. Manufacturing Smart Card
2. Digital Payment Solutions
3. Blockchain as service based on Ethereum and Hyperledger
4. Secure element based on IoT Security

## **Specialized Focused Development Areas:**

Some of the Specialized Focused Development Areas of the company includes;

1. Payment Platform and Services
2. Secured Payment Solutions
3. Smart Card Services and Solution
4. Identification Solutions and Services
5. Card Personalization Solution
6. Public Key Infrastructure
7. EMV and Financial Technology

## **Products & Solutions:**

### **Digitization Platform:**

1. **Kona Pay:** Any payment or non-payment card, as well as an account, can be digitized using the Kona Pay digitization platform (bank account, mobile money account, etc).
2. **Kona Card:** The KONA CARD PLATFORM is a card payment platform based on Kona's own smart card security technology and expertise.
3. **Kona DFS:** KONA DFS is a custom-tailored solution for any service provider looking to adopt and serve the unbanked in their area.

### **Smart Card & Personalization:**

1. EMV Card
2. Card Personalization System (K-CPS)
3. Instant Issuance System (K-ISS)
4. EMV Verification Tool (K-EVT)
5. Electronic Card and Validation System

### **Security Solutions:**

1. Public/ ID

2. K-CCS
3. KONA Authentication Service
4. FIDO U2F
5. PKI

**IOT Platform Service:**

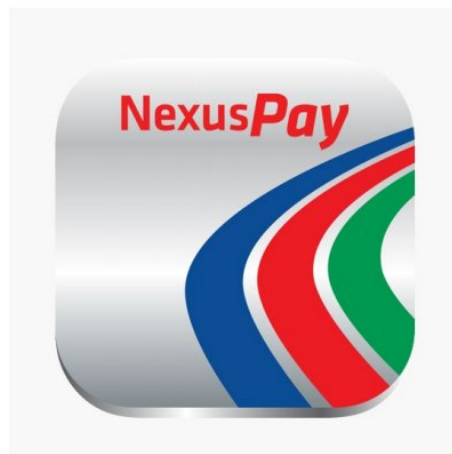
1. KONA DM & FOTA
2. Home IoT
3. KONA Things Platform

**Enterprise Solution:**

**Veaver:** Veaver is a video-based knowledge-sharing platform and corporate solution tool that replaces prior document-centric working environments and makes it easier and safer to manufacture, renew, and exchange enterprises' important information assets and expertise.

**Notable Business Solutions**

**NexusPay**



NexusPay is a digital payment wallet of Dutch-Bangla Bank Limited, one of Bangladesh's leading commercial banks. It is the country's first-ever Digital Payment Wallet, designed, produced, and delivered entirely by KONA SL. On January 1, 2018, NexusPay started its official journey as a nationwide banking product of Dutch-Bangla Bank Limited. Kona



Software Lab Ltd is the Technology Solution Provider of NexusPay. NexusPay serves around 2.5 Million users with more than 11 MN. Transactions/ month.

### **Nagad**



Bangladesh Post Office's Digital Financial Service (DFS) is Nagad. Nagad is the fastest growing DFS in Bangladesh, aiming to lead the country's rising DFS revolution by facilitating the day-to-day financial transaction needs of those in need. Nagad serves more than 50 million users and around 100K agent. Kona Software Lab Ltd is the Technology Solution Provider of Nagad. Average 600K transactions per day is done by Nagad. The digital onboarding solution (d-KYC) of Kona helps Nagad faster customer acquisition (up to 80K per day).

### **MBL Rainbow**



MBL Rainbow is Mercantile Bank Limited's digital banking platform. Customers can use smartphones, laptops, and PCs to conduct transactions, make payments, purchase online,

transfer funds, and top-up mobile phones from anywhere, at any time. Kona Software Lab Ltd is the Technology Solution Provider of MBL Rainbow. MBL Rainbow ensures faster, safer and convenient end-to-end banking activities being away from bank. MBL Rainbow is directly connected with BEFTN, EkPay, DPDC, DESCO, BTCL, Dhaka WASA etc. Customer can open direct CBS account from MBL Rainbow. Customer can withdraw cash by just only scanning the QR code in branch.

### **Global Presence**

In addition to local offices in Nigeria and Brazil, In the United States, China, India, and Korea, Kona SL has international sales offices and technical centers.

#### **Kona SL - Leading the global credit card and payment solution market.**

Financial organizations require payment mechanisms that are both convenient and secure. Kona provides financial institutions with a variety of solutions at a reasonable cost like, outstanding R&D ability, extensive product portfolio and custom applet development.

## Industry Analysis

This chapter focuses on the brief industry analysis of the smart card industry.

### Industry Overview

The global smart card size was estimated at Usd 7.82 billion in 2020 and is predicted to rise at a CAGR of 4.4 percent to USD 10.11 billion by 2026, according to the projected period of 2021-2026.

- Smart cards enable the holder and third parties seeking access to the card to be securely identified and authenticated. The chip's structure makes it tamper-proof. It has enough processing capacity to encrypt and secure the data it keeps, as well as execute any command from a software that uses the established interface. It has the ability to store passwords, account numbers, private keys, and other sensitive data. Apart from the obvious goal of examining information of when / where every card was used at an endpoint, such as a POS kiosk or a door access reader, RFID technology in a modern type of smart cards allows for the acquisition of much more vital data. Businesses will be able to employ mapped readers in doorways and other high-traffic areas to monitor improves without needing each user to submit a card to the terminal separately.
- The smart card business in the telecoms and healthcare sectors is less affected than other verticals during the COVID-19 epidemic. The rise of healthcare data has posed new hurdles in terms of providing good medical care while maintaining individual privacy. Smart cards overcome these problems by allowing for far more data storage (than a magnetic stripe card's 150 bytes) and faster data dissemination. Furthermore, higher healthcare spending is expected to encourage smart card adoption in the healthcare industry.
- The Centers for Medicare & Medicaid Services, for example, forecasts that US health spending would exceed USD 6 trillion by 2027. Furthermore, the launch of coronavirus has instigated some governments to produce vaccination-proofing programs, that should aid market growth. The epidemic's management is projected to be primarily reliant on digital credentials.

- The government of Macao introduced payment cards that were contactless and prepaid and also pre-loaded with credit in July 2020 to assist citizens in coping with the economic implications of the COVID-19 pandemic.
- Nonetheless, the latest coronavirus epidemic has impeded the economy's growth and transition to a cashless economy due to a shortage of swipe equipment to process digital payments at retail establishments.

### **Segment Overview**

The smart card industry can be broken down into three categories: kind, end-user, and geography. On the market, there are 3 kinds of contact, contactless, and dual interface devices. Depending on the end-user, it is divided into BFSI, telecommunication, health, government, transportation, and others. Smart card market trends are examined in North America (the United States, Canada, and Mexico), Europe (the United Kingdom, Germany, France, and the Rest of Europe), Asia-Pacific (China, Japan, India, and the rest of Asia-Pacific), and LAMEA (Latin America, Middle East, and Africa) (Latin America, the Middle East, and Africa). The Asia-Pacific smart card market is propelled by the region's increasing need for communications products and rapid digitization. During the projection period, Asia-Pacific is expected to grow rapidly. North America is likewise in second place, with its growth rate predicted to accelerate by the end of next month. Europe is third.

Thales, NXP Semiconductors NV, and Giesecke+Devrient GmbH, among the fastest-growing card manufacturers, are investing in considerably more high-tech, cost-effective, and secure solutions and products for a variety of applications.

### **Top Impacting Factors**

The increased acceptance of smart cards in the financial industry and the contactless smart card's increasing demand are two significant drivers influencing the smart card market's growth. The industry is driven by ongoing technology breakthroughs such as blockchain and IoT technologies. However, the high costs of adding chip cards limit market expansion. Increased demand from the Asia-Pacific region, on the other hand, is likely to generate

profitable chances for the market. As a result, these factors are expected to significantly impact the worldwide smart card industry throughout the projection period.

### **Competitive Analysis**

The major smart card industry players evaluated include Alioth LLC, CardLogix Corporation, CPI Card Group Inc., Giesecke+Devrient GmbH, IDEMIA, Identiv, Inc., Infineon Technologies AG, NXP Semiconductors NV, Thales, and Watchdata Technologies.

### **Covid-19 Impact Analysis**

The COVID-19 epidemic impacted negatively on the automation equipment sectors. As a result of an increase in COVID-19 cases, businesses and assembly plants in many countries have shuttered, and they are expected to remain suspended in 2021. Moreover, the closure has affected the worldwide supply chain, making it more difficult for firms to connect with their customers. The entire production process has been damaged as a result. The global smart card market, on the other hand, is being driven by the telecoms category's rise.

The coronavirus epidemic is causing devastation on societies and economies around the world. This pandemic's influence is growing by the day, and its wreaking havoc on global commerce.

The closure of manufacturing operations in the region has resulted in a significant loss of business and money for the Asian and European countries under lockdown. The COVID-19 disease has had a substantial impact on production and manufacturing activities, resulting in a decrease in smart card industry growth in 2020.

The epidemic has hugely influenced the electronics industry, as manufacturing facilities have stagnated, resulting in significant product demand in industries. This led to widespread production disruptions across Europe and a halt in Chinese parts shipments, all of that are projected to slow the smart card industry's growth.

## Key Industry Trends

### **BFSI is expected to be the market's driving force.**

- Personal data protection and safe data transactions are two advantages of using smart cards in BFSI. In the industry of BFSI, smart cards are utilized as credit or debit cards, payment confirmation cards, and access control cards. They are being used as e - wallets by depositing funds into the virtual wallet, that can then be exchanged using cryptographic protocols to both a vending machine or an account. For a long time, the banking sector has realized the benefits of biometric authentication card technology and has recently shifted to micro sd card or microcontroller on card technology. Nonetheless, fraud rates have risen steadily during the last decade, rising sharply in 2020 from 2019, owing to the growing demand for safe payments using smart cards. The number of fraudulent actions began to rise as technology advanced. As a result, many new methods of payment like EMV chips, PIN cards, and mobile wallets were introduced, causing the cards and payments industry to undergo a digital transition. Smart cards have a high acceptance rate in the BFSI sector due to the difficulty of decoding the data stored on them.
- For example, according to the Federal Trade Commission of America's Consumer Sentinel Network 2020 Data Book, 2.2 million fraud observations were lodged in 2020, with 17 percent of those reports involving forms of payment, with both credit and debit cards taking account for 91,515 and 63,352 reports, respectively.
- Biometric contactless smart cards will likely acquire substantial traction in the BFSI industry throughout the projection period, with numerous financial institutions recognizing the trend. Major worldwide corporations such as IDEMIA are using biometric technology to accelerate the creation of smart cards.
- The tendency of producing smart cards as a investment asset by adding numerous peculiarities in terms of functionality is becoming more prevalent. As a result, the demand for multi-functional smart cards is expected to rise, positively affecting favorably to the growth of market.

**The Asia-Pacific region is expected to grow the most.**

- China was one of the first countries to phase out checks in favor of contactless payments, which led to the development of digital cards. Smart cards have been utilized in a variety of industries, including transportation.
- In addition, Customers will be able to store digital currency in both physical and digital wallets, according to the People's Bank of China. The People's Bank of China (PBOC) has added a contactless "hard wallet" and NFC wearables to its central bank digital currency (CBDC) trial, allowing clients to use their digital yuan to pay for products and services at stores and on public transportation.
- China Construction Bank stated in June 2021 that it would be testing a biometric 'hard wallet' smart card that would allow clients to store digital yuan and confirm payments made with the central bank's digital currency using their fingerprint. Advanced fingerprint recognition and authentication are used to secure the card's stored value.
- Japan has been one of the best technologically developed countries in the world, and it has adopted smart cards in a variety of industries to take advantage of their better security protocols.
- Smart cards are being deployed across the country in the transportation industry, which is propelling the market under investigation. Smart cards have long been used for public transportation in Japan, and demand is expected to rise in the future years. Prepaid smart cards, such as Suica and Pasma, are widely used in the industry and are expected to help the country's market flourish.
- Furthermore, during the upcoming period, it is expected of RFID to grow in popularity for contactless smart cards. You can use your cards without getting them out of your pocket or backpack thanks to RFID technology. Sony Corporation's technology, for example, is incorporated in the Felicity Card, which is used for transportation in the region.

## **Competitive Landscape**

Several worldwide and regional firms compete for market share in the smart card market, which is highly competitive. Despite the market's significant obstacles to entry for newcomers, a number of entrants have found success. Reasonable differentiation strategy, rising levels of market growth, and high intensity of skill characterize this market. The solutions are typically marketed as a package, with the simplified offering included as part of the whole suite. For example, smart cards are sold in conjunction with point-of-sale terminals.

## **Recent Developments**

Gemalto NV introduced a new card with a biometric sensor in July 2021, boosting user security. The contactless biometric card allows for easy proximity payments while maintaining privacy. MasterCard and Visa, as well as other major EMV payment methods, have fully validated the cards. In June 2020, Vodafone, Bundesdruckerei, and Giesecke+Devrient teamed up to develop a new electronic ID function for cellphones. The eSIM maintains ID data in a easy manner. It's a solution that works with all European smartphone models and manufacturers.

## **Smart Card Industry in Bangladesh**

In Bangladesh, card usage has been steadily expanding over the previous few years. We see cards being used regularly for things like NID verification, banking, and other things. Because we are still in the early stages of the card era, it is easy to predict that card usage will increase significantly in the following days. The headquarter of Kona Software Lab Limited is Kona I Co., Ltd, a South Korean smart card industry pioneer. KONA I's Kona Software Lab Ltd is the company's second-largest R&D facility and global business solution wings. For worldwide and local partners and clients, it manufactures smart cards and develops a variety of cutting-edge payment and security solutions.

Based on an internally created COS (Chip OS), KONA now has over 40 local and international certificates and 300 various product kinds and supplies its products to over 500 financial institutions in 90 countries. It is capable of developing and delivering smart cards



following customer specifications.

Based on in-house technology and many years of experience, KONA offers a variety of payment solutions to meet the needs of diverse financial institutions. Banking cards, health cards, student cards, and NID cards are available through KONA. IC Chip & Smart card, DO N card, and Special Material card are the three types of banking cards available. It can consult with manufacturers to make designs in various materials such as metal, jewelry, mother-of-pearl, and natural wood and provide specific cards for payment, transportation, and public services to fit diverse purposes. By providing high-quality personalized smart cards, KONA has earned the trust of numerous multinational corporations and government bodies.

With its new technology and experience, Kona Software Lab Ltd is working tirelessly to explore the card market in Bangladesh. Banks and other card users are interested in exploring new card business options. They provide a variety of cards to their consumers to expand their customer base through innovative and secure solutions in which KONA adds immediate value.

## Main Duties

### Documentation

One of my main responsibilities included interacting with the developers of different teams. These interactions went step by step. I will try to elaborate all the steps in detail here.

**First Approach:** When I got instructions from my team to collect information from a certain developer of the organization, at first, I approached him/her and introduced myself. In some cases, my team would also introduce me to them. Then I requested them to give me some time for the discussion of required information.

**Second Approach:** After fixing a certain date and time for meeting them, I prepared all the inquiries I require from them beforehand. This made it easier for me and them both to be precise. Then at the fixed time I approached them for the second time.

**Information Collection:** During the meeting I tried my best to acquire all the information that I needed from them and clear all my confusions. Everyone I approached was very helpful and cooperative all the time.

**Document Preparation:** After collecting information from them I started to prepare my documents. I tried my best to input all required information in the documents in a correct manner.

**Feedback:** After the document preparation I approached them one last time for their feedback on my work. With their valuable feedback I incorporated the changes in to the documents and then finalized it.

My other responsibilities included,

- PowerPoint preparation
- Presentation in meeting
- Ad hoc support
- Document preparation for customers

## Tender Preparation

A tender is a request filed in response to requests for proposals by a potential provider. It presents a proposal to supply services or goods, including a price and, if necessary, recommendations for how the criteria will be accomplished. At KONA SL, I was able to watch the drafting of tender documents as well as the complete procedure.

A request for tender gives prospective suppliers tender papers with all the information they need to create their offer. If actual pricing are to be received, tender documentation must be complete and clear, increasing the standard that project will stay under budget when work begins and decrease the chances of misunderstanding, mistakes, and claims.

Tender paperwork may include the following:

- An invitation to offer in the form of a letter.
- The tender's format (formal acknowledgement that the supplier understands and accepts the terms and conditions of the tender documents).
- Preliminaries (a summary of the project that allows the supplier to estimate costs that are not part of the deal's package of works but are required by the manner and conditions of the works, such as basic equipment, staff, and welfare facility).
- If architectural information modeling (BIM) is utilized, a design that allows for amendments to make a BIM protocols part of the contract documents could be included. If BIM is implemented, the employer's information requirements will be different (defining the information that will be required for the development of the project and for the operation of the completed built asset).
- Tender pricing documentation (or contract sum analysis on design and build projects). This is an unpriced method of valuation that outlines how potential suppliers should decompose their overall tender price.

- A schedule for drawing.
- Design blueprints, as well as a building information model that may already exist.
- Requirements and specifications
- The project manager's master program may be included in tender papers for contracts of sale on construction management contracts.

### **Learnings**

From my experience in Kona Software Lab Ltd. regarding tender preparation and submission, I have learned some valuable lessons about tender.

- To avoid misunderstanding or ambiguity, care must be made to make sure that the documentation are consistent. For record-keeping purposes, copies of the tender papers should be preserved. It might be a good idea to transmit appropriate papers directly to subcontractors specified in the tender documentation and notify the tendering provider so that they are not needed to do so themselves.
- Tender documents must be divided down into a sequence of package (even if there would only be one primary contract) on larger or even more complex projects, within each design specifications and drawings that the main contractor can offer to possible subcontractors. This makes it easier for the contractor to price the tender, and it also makes it easier for the customer to evaluate tenders, such as evaluating how different suppliers have allocated expenses, which can be important in following negotiations.
- It's vital to make sure that package interfaces are correctly defined and explicitly assigned to one product or another after this is done. The amount of interfaces and consequently the potential for difficulties grows as the number of packages grows.
- Before handing the tender documents onto every subcontractor to price and return, the suppliers must assess them. This can take some time, so think about how complicated the

distribution network is going to be or how crucial it is to have responses as quickly as possible when setting a deadline.

- Mid-tender conversations can be conducted to clarify concerns that otherwise result in the submission of an inaccurate tender; they can also give the customer with insight into prospective challenges or possibilities in the projects as detailed in the tender paperwork. Responses to queries presented throughout the competitive tendering may result in the tender documents being clarified or modified, as well as the tender period being extended. Allowing ample time during in the tendering process to examine opportunities and explain issues is desirable, since the final tenders would be better prepared, saving time and money in the long run.
- After the tenders have indeed been received and analyzed, there may well be additional interviews. A tender settling meeting may be convened to commence discussions once the chosen supplier has been determined. Additional revisions to the tender materials and the filing of an updated tender may be required as a result.

### **Workshop Arrangements**

KONA SL hosts a variety of workshops on the products they sell and how to use them. During my internship, I attended one of those workshops. It was a valuable experience for me. I assisted in the preparation of workshop documents, as well as in the organization of the workshop, and I attended the entire event. The workshop was an excellent way to teach hands-on skills because it allows participants to experiment with new methods and fail in a safe environment. Participants also shared their insights and ideas on how to solve the problem, providing a new perspective when dealing with product.

### **Work Environment**

The work environment and culture of Kona SL was extremely co-operative. On my typical working days, I had to interact with other employees on an almost daily basis. Each and every one of them were extremely helpful.

Employee productivity can be boosted in two ways when they work in a healthy workplace. Healthy personnel will, first and foremost, feel good; they will get more energy and stamina,

and they will be able to focus better on their work. Second, a positive work atmosphere can have a big impact on employee satisfaction. In Kona SL, my productivity rose in similar ways. This encouraged me to work hard and achieve my objectives.

Another work culture of Kona Software Lab Ltd. that I have to mention is team outing. Every month Kona SL has a fixed budget for the teams of the company to go out and enjoy their companies outside work. This helps boost team bonding as well as fresh their minds.

### **Challenges**

The only challenge that I faced during my first days of internship was getting familiarized with the employees of Kona SL. The total number of Kona SL employees is 100+. It was a bit difficult for me to know and learn about them. But this challenge stayed for only a little time as everyone in the company was extremely helpful.

### **Tools**

The tools that I mainly used during my internship period was Microsoft word, Microsoft Excel and Microsoft PowerPoint.

## Analysis

### Company-level analysis:

According to my internship experience, Kona Software Lab Limited is concentrated on the game-changing and continuously changing market like-Fintech, Blockchain, Machine Learning, IoT Security, etc. Some noteworthy points need to be mentioned to describe the efficiency of the organization I have seen during my internship at the commercial department.

1. **Motivations for efficiency:** This software development firm is always motivated focusing on 3C's. Contribution, Creative and Challenge. This organization emphasizes everyone's participation in a project and even their small contribution is significant. Creativity is the main playing factor in the developmental activities. The last, challenges arise to win. The employees of this organization occupy their values focusing on winning the barriers and challenges. The overall holistic movement made the organizational structure so efficient.
2. **Impactful process management:** As a part of commercial department, I was to collaborate with the developers and other technical members to point out the key insights that may be a factor in generating revenue. Before finalizing the deals, the commercial and R&D team shares their insights through the thorough presentation of ins and outs of a project. During the operations, the work stations of commercial and R&D team are linked to make efficiency in outputs. Summarization of final project is also structured in a co-operative manner.
3. **Data-driven management:** Data is the big playing factor in this era. Successful organizations take important decisions based on the data available to them. Data driven decision making is also practiced in this software firm. Going deep into the customer characteristics, strategic operations management, systematic project management-all are driven by data strategies, utilizing different tools, mostly Microsoft Excel and SQL (Structured Query Language).

## Market-level analysis

A market analysis is a thorough assessment of a market within a specific industry. There are many benefits of conducting a market analysis, such as reducing risk for your business and better informing your business decisions. I tried illustrate a competitive analysis relevant to my duties in commercial department of Kona Software Lab Limited. Here I analyzed to find out the key insights of other near competitors in the market.

- 1. Prioritizing cost-effectiveness of the customers:** After the analysis of data related to price comparison provided from business intelligence team, it can be stated that some companies in the same industry considers the cost-effectiveness of clients the most and utilizes the resources according to plan.
- 2. Projects of renowned brands:** To attract the new customers, Kona Software Lab Limited has shown in their website that they were previously attached with the big projects of Mobile Financial Services and their apps such as Nagad and Nexus Pay. These two projects have boosted their credibility more than the other competitors.
- 3. After sales monitoring and management:** Some companies lead this list because of assisting consumers with proper content and monitoring after the deal closed. In the website of some companies, they add different florid parts like- resources and blog to help the clients with to-do after getting the services. Further analysis suggests that some organization are specialized in web development, so it's quite easy for them to reach out to clients, resulting in high response rate.
- 4. Quality and content management:** Some companies have a different team named quality assurance and content management team, absent in other organizations. Whereas, In case of other companies in the industry, it takes 2 or more days to update the concerns due to technical bugs in the development.



### Professional level analysis

Employees working here enjoy a very collaborative and co-operative environment. During the period of my three-and-a-half-month internship, I experienced the proper reflection of the basics of business communication that I learned in the first semester. As a software development company, they created a healthy and effective platform for communication where the employees maintain some systematical steps during a project management. Before starting communication, an employee tries to find all the possible ins and outs of target people and summarizes the communication objectives. To make an efficient communication process, they design the messages following some theoretical methodologies at the second step. After the communication, the outcomes are taken into account for further activities and feedbacks are obtained from the participants in the communication. Basically, the commercial department follows this procedure step-by-step efficiently to understand client's mindset and accelerate the process properly.

For the efficient continual of everyday operations of Kona Software Lab Limited, some framework of organizational behavior is maintained by the employees, I have experienced here. At the individual level, each executive member of this firm exists here with unique value and personality. Diversity is one of the most prioritized and emphasized inputs as a part of organizational behavior. For the process management activities, this organization works at different levels to ensure the full practice of proper organizational behavior. At individual level, each employee's motivation, perception, emotion and moods have been taken into account while developing a healthy culture in this organization.

Since this organization works with software development, maintenance, improvement of technical loopholes, the organization has a skillful database management team. Reflecting the learnings of CSE 4461-Computer Science and Technology II on fourth semester, I have seen that Structured Query Language (SQL) is used to ensure the correct finding, analysis of the information and proper management.

It is also noteworthy that the concepts of Research Methodology course illustrating the steps of creating effective questionnaire, conducting the survey, gathering the data and the methods of finding a solution have also been experienced on a practical perspective. Strategies of proper forecasting and the computation of operational processes have also been pointed out

as a practical understanding of theoretical concepts mentioned in Operations Management course.

The only challenge I felt at the first few days of my internship. The adjustment with workplace did not work properly. But day by day, the co-operative environment and culture in this organization made my path easy to get positive outcomes.

This internship will assist me to shape my future goal in the continuous-changing world. I have got the knowledge of skills required, conceptualization of proper management in teams and other behavioral influencing norms in the organization which will help me move myself forward in my career path. Both implementing the theoretical course knowledge and experiencing the real-world perspectives have made positive outcomes in my everyday activities. Development of leadership, decision making, process and time management will be capitalized to reach my future goals.

## Conclusion

An internship provides a real life experience and exposure by ensuring that students gain working experience. This helps in the careers of interns because it prepares young professionals about specific industries and helps interns in creating a network with senior professionals in the industry.

During my internship period at Kona Software Lab Ltd., I managed to do assigned works on time with the guidance of my supervisor. The time spent at Kona Software Lab Ltd. proved to be very significant for my learning. The learning will improve my future careers be it in academia or job markets because of various skills learnt in the course of my stay at Kona Software Lab Ltd.

My three-and-a-half-month internship at Kona Software Lab Ltd. not just helped me grow as a person, but also taught me new skills that I didn't have before. I also learned more about the smart card sector, built a new network, and made a few new acquaintances for the future. Above all, I got a new sense of professionalism as well as a better grasp of what it required to be a professional.

As a result, I would encourage everyone to reap the benefits of internship opportunities, even if they are not in the sector in which they wish to work. There is a lot to gain from it, both professionally and personally.

In a nutshell, this internship has been an excellent and rewarding experience. I can conclude that there have been a lot I've learnt from my work at Kona Software Lab Ltd.

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