

Report On

Analysis and Optimization of Data Entry and Application of Processing
Workflow: A Study on MOSAIC VISA.

By

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22204278

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

BRAC Business School
BRAC University
May 2026

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I. Declaration

It is hereby declared that,

1. I confirm that this internship report is the product of my personal original work, done in the process of earning my degree at Brac University.
2. No information that has been previously published or written by others has been included in this report unless it is properly cited with full and correct references.
3. None of the sections of this report has been presented to obtain any other degree or diploma in any university or institution.
4. Every important source of assistance and help has been recognized or acknowledged.

Student's Full Name & Signature:

Student Full Name Student ID:

Arif Khan Nazari (22204278)

Supervisor's Full Name & Signature:

Supervisor Full Name:

Raad Ryasaat Khan

Lecturer

BRAC Business School(BBS)

II. Letter of transmittal

Mr. Raad Ryasaat Khan

Lecturer

BRAC Business School (BBS)

BRAC University

Kha 224 Pragati Sarani, Merul Badda, Dhaka 1212, Bangladesh

Subject: Internship Report Submission

Dear Sir,

I am pleased to submit my internship report titled “ Analysis and Optimization of Data Entry and Application of Processing Workflow: A Study on MOSAIC VISA.” This has been prepared as a requirement for the completion of my undergraduate program at BRAC University.

This report gives a description of my experience as an intern, which consists of a description of what I did during the internship in terms of the insights, skills, and knowledge that I gained in the internship. You can contact me through my email in case of any additional information or clarification at (arif.khan.nazari@g.bracu.ac.bd).

I would like to appreciate your support and guidance throughout this internship journey. It was an incredibly helpful and enriching journey for me, and I believe that all the learnings from this industry experience will play a significant role in my academic pursuits and career growth in future.

Sincerely yours,

Student Full Name: Arif khan Nazari

Student ID: 22204278

BRAC Business School

BRAC University

21/05/2026

III. Non-disclosure agreement

This agreement is prepared and mutually signed by the MOSAIC Visa and Arif khan Nazari
A student of Brac University, who commits to maintaining the strict confidentiality of all
information shared during the internship.

The MOSAIC Visa

Arif khan Nazari

IV. Acknowledgement

First and foremost, I want to sincerely thank the Almighty God for giving me confidence, knowledge, ability, and desire to pursue this academic journey. My comfort and strength at this time have come from knowing that He is always at my side.

I owe my tremendous debt to The MOSAIC Visa for providing me with this chance to work as an intern at the company. I would like to thank Mr. Hazratulah Siyabi and those who work at The MOSAIC Visa, spending their time, supporting, mentoring, and advising me. This internship has helped me to improve both my working skills and my knowledge in the industry.

Additionally, I would like to thank Mr. Raad Ryasaat Khan, my academic supervisor, and Sir Shihab Kabir Shuvo, my co-supervisor at BRAC University, for their helpful recommendations, academic guidance, and support during the entire procedure. This report's quality and depth have been greatly impacted by his commitment and help.

Finally, I want to express my gratitude to my family and close friends for their endless love, support, and faith in me. They have been a pillar of strength to me during this learning journey, by supporting me unconditionally.

V. Executive Summary

The purpose of this report is to look at the MOSAIC Visa operational efficiency and digital infrastructure of the exclusive authorized visa service partner of Republic of Türkiye Embassy in Bangladesh. The company is an international service provider and needs to strike a balance between strict diplomatic security and fast document processing. The study highlights some of the major pain points in the operations such as reliance on the stability of international servers, manual data entry with Visa Management System (VMS) and financial ledgers, as well as technical hurdles during peak processing volumes of 70+ applicants per day.

In addition, The study adopts a mix of methods which are analysis of the synchronized service flow and analysis of information system (MIS) practices applied in the branch. The results show that the existing "Human-Touch" approach guarantees data security, but it also adds to a "Turnaround Time" (TAT) and a risk of application processing time delay.

This report presents a Digital Optimization Framework to solve the issues. The key recommendations are to work towards the use of Optical Character Recognition (OCR) technology for automatic capture of information from the passport. Additionally, the study also recommends that it employ Offline Buffering protocols in order to reduce the effects of international server latency. MOSAIC Visa will be able to move to a more automated and secure system by implementing such technologies. As a crucial administrative connection between Bangladesh and Türkiye, these optimizations will guarantee the organization's First-Time-Right processing standard, and in the long run, will be helping to become more financially responsible and operationally influential.

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IX. List of acronyms

VMS: Visa Management System
MIS: Management Information Systems
OCR: Optical Character Recognition
TAT: Turnaround Time
FTR: First-Time-Right
VAS: Value-Added Services
MRZ: Machine Readable Zone
RBAC: Role-Based Access Control
AES: 256 – Advanced Encryption Standard (256-bit)
API: Application Programming Interface
PWA: Progressive Web App
GDPR: General Data Protection Regulation
UI/UX: User Interface / User Experience

Chapter 1: Internship overview:

1.1 Student information:

ID: 22204278

Name: Arif khan Nazari

Program: Bachelor of Business Administration(BBA)

- **Major:** Management Information Systems (MIS).
- **Minor:** Finance (FIN).

Institution: Bracu Business school, Brac university

1.2 Internship Information:

1.2.1 Period, Company Name, Department/Division, Address

Time Frame: (01/15/2026 to 03/15/2026) two months

Company name: MOSAIC Visa

Department: Operations and Customer Service

Address: Block - M, Unit - B2, Level 2, House - 77, Road No. 11, Dhaka 1213, Bangladesh

1.2.2 Information about the Company Supervisor (Name and Details)

Hazratullah Siyabi

Country Manager

1.2.3 Job Scope

During my time at MOSAIC Visa, I worked as a cross-departmental intern in the Operations Department. This position was strategically planned so as to get to know the life cycle of a visa application processing system from the starting point of first contact until submission at the embassy and delivering the passports to the applicants.

I had the following key areas of responsibility in the organization:

1.2.3.1 Reception and Front-End Vetting of the Applicants:

In the beginning, I was appointed in the reception desk where my job was the initial screening of the applicants. This demanded a thorough knowledge of the document checklists of the Turkish

Embassy. My role was to check on the necessary documents like No Objection Certificates (NOC), bank solvency certificates, passport validation (6 months at least), travel insurance, and other other necessary document which varied depending on travel purpose. I was able to control applicant expectations by giving them correct information about the types of visas and the time needed to process them and I had to make sure that only complete files were sent on to the next step of the workflow.

1.2.3.2 Data Entry and Systems Management (VMS)

One of the essential technical aspects of my internship was the computerization of applicant information. To record metadata such as passport details, traveling history and host information in Türkiye, I used the internal Visa Management System (VMS). In case of any difference between the hard-copy and the digital electronic-copy can cause rejection of the application. Therefore the data entry process has to be done with 100% accuracy. I got instruction on how to use the system's interface and ensure that the applicant profile-data and the biometric information (digital photographs and fingerprints) matches.

1.2.3.3 Financial Administration and Dual-Layered Reporting

Being a student who has a minor in Finance, I was incorporated into the financial processes of the company to help the Finance Officer and the Administrative Assistant to coordinate complicated revenue streams. My main role was daily reconciliation of revenue so that all the cash and card payments received on Value-Added Services (VAS), such as Premium Lounge access and mandatory health insurance, were perfectly matched to the number of applications created by the Visa Management System (VMS). I helped to prepare two-layered reporting procedure. Firstly, I created a Daily Collection Report using Microsoft Excel that monitored the amount of cash on hand and the issue of small and large notes to the Branch Manager to supervise at that time. Second, I helped to transfer these numbers into the centralized accounting software used by the company, which is the main tool of preparing the daily, monthly, and annual reports to the Country Manager and owner. These exercises gave me an opportunity to examine the internal audit trails and financial controls required to ensure 100% transparency in a high volume service based business environment.

1.3 Internship Outcomes:

1.3.1 Student's Contribution to the Company

At the beginning my main contribution was focused on Data integrity and operational efficiency. I was a facilitator during the high-volume period in January to March to minimize the number of bottlenecks at the reception. I did work as a customer care to enter applications data to the system, and helped the senior employees faster to focus on applicants with more complicated cases. In addition, I also helped the receptionist for document translation of Turkish invitation

letters to English. I had a high rate of accuracy in VMS entries which helped to create a smoother flow of the processing process and minimized the necessity of corrections. Moreover, my assistance in the finance department also enabled me to reconcile daily at a quicker rate, which helped the administrative department to fulfill their deadlines of end-of-day reporting.

1.3.2 Benefits to the student

This internship was an important bridge between my BBA coursework and the actual real-world work in a corporation.

- **Technical Proficiency:** I was able to get a practical exposure to specialized Management Information Systems (MIS) and understand the flow of data between the private organizations and diplomatic organizations in a secure manner.
- **Financial Literacy:** Understood the significance of multi-phase financial reporting, transitioning between the plain Excel logs to high-end accounting software to have it monitored by executives.
- **Professional Communication:** I have gained the ability to communicate rules and regulations to a wide range of applicants as well as employees, especially under high pressure.
- **Operational Awareness:** I learned about the value of processing First-Time-Right (FTR) in the service sector because customer satisfaction and organization's reputation are mostly determined by accuracy of the work.
- **Communication and Interpersonal Skills:** Communication was also critical in meeting the organizational goal of being a high-integrity bridge to applicants.
 1. **Team Collaboration:** I was working with the Customer Care team (Sanjida Jahan Joti and Dipti Sarker) daily so that the applicant queries were addressed in a professional manner.
 2. **Written Communication:** I had to prepare Daily Collection Reports using Excel, which involved clear and concise reporting of financial figures to be under the supervision of the Country Manager.
 3. **Interpersonal Effectiveness:** I engaged with a variety of applicants in a positive way and was able to explain the document requirements of the Turkish Embassy and control expectations when under high pressure.
- **Academic Integration and Use of Technology:** This internship was an experience of putting the theoretical frameworks into practice that were taught in the BRACU Business School.
 1. **MIS Application:** My Management Information Systems (MIS) major helped me to navigate the Visa Management System (VMS). I applied knowledge of database metadata and role based authentication to guarantee a 100% data integrity when digitizing the passports of the applicants.

2. **Financial Integration:** With my Finance minor, I helped Sabera Sarowar (Finance Officer) to reconcile revenues on a daily basis in Value-Added Services (VAS). I was able to overcome the barrier of manual Excel logs to centralized accounting software and maintain an accurate audit trail of all the embassy fees.
3. **Problem-Solving:** Diagnosing international server latency, I used rational thinking to handle the entry of data using protocols of Offline Buffering mechanisms, which allowed the process to continue running, even with technical issues.

1.3.3 Challenges and difficulties faced during internship period

The main issue was a technical one that relied on the stability of Turkiye foreign ministries' servers. Applicant backlogs resulted from a few times the computer system went down, necessitating rapid improvisation to control the number of applicants and keep things orderly. In addition, applicants who came in with missing information owing to the misinformation of external (agencies) required extensive counselling and patience. The first few weeks of my internship were a great learning curve and professional challenge because I had to balance the speed I needed to react to the number of applicants that came in in the mornings with the absolute precision that was necessary when entering the data into the visa system.

1.3.4 Recommendations (to the company on future internships)

I would recommend that the MOSAIC Visa create a rotation program for the department to enhance the learning opportunities for future internship students. This would enable interns to work in various units including: Reception, Customer care counter, Biometrics and Finance, to provide an overview of the visa processing lifecycle. I also suggest that a technical mentor be assigned to interns and guide them on a weekly basis in the use of the Visa Management System (VMS) and on the use of diplomatic data privacy. Also, a formal orientation session in the first week will make the new intern more aware of the company's "first time right" targets and security measures in a faster manner. Sensitive data should finally be available to students at an earlier point during their internship to enable them to do more in-depth and accurate research for their university reports.

Chapter 2:

Organization Overview

2.1 Introduction:

This chapter gives a detailed organizational analysis and strategic audit to the Turkish visa application center or MOSAIC Visa as the official diplomatic service partner of the Embassy of the Republic of Türkiye in Dhaka, Bangladesh. Given its high-security environment, the company's success depends on the proper, efficient integration of its management practices, financial integrity, and advanced Information Systems (MIS).

The aim of this chapter is to assess the congruence and the alignment of the internal functioning of MOSAIC Visa with its "First-Time-Right" service philosophy, from HR to digital infrastructure. This study relies on strategic tools like SWOT and Porter's Five Forces to analyze the competitive advantage of the company in the field of visa application centers. Additionally, the section examines the company's financial and accounting practices to gain insights into its strategies for transparency and resilience in managing large volumes of diplomatic information and cross-border transactions.

2.1.1 Objectives

The main goal of the MOSAIC Visa is to establish a high-integrity administrative connection between the Turkish Embassy and the Bangladeshi applicants. The particular objectives of the organization are:

- **Operational Excellence:** To have a First-Time-Right data entry standard, that is to make sure that zero files are submitted by the Embassy as a result of an error on the part of clerical personnel.
- **Data Security:** 100% security of applicant biographical and biometric data by means of secure VMS encryption.
- **Efficiency of Workflow:** To ensure the “Turn-around Time” (TAT) is smooth, with the target of 20 minutes per applicant.
- **Revenue Growth:** To maximise profitability by growing the uptake of Value-Added Services (VAS) such as travel insurance and premium lounge access by 15 per cent. per year.
- **Technical Resilience:** To ensure that the system is available 99.9% of the time, reduce the operational effects of international server latency and connectivity problems.

2.1.2 The Scope of Study

This study focuses on the operational and management system of the Dhaka branch of MOSAIC Visa. The research looks at the full visa application cycle, from initial document vetting at reception, biometric enrollment, through to financial reconciliation. The study specifically investigates the everyday use of the Visa Management System (VMS) and the strategic role of the branch as the "exclusive partner" of the Turkish Embassy. This analysis is conducted over a period of time from January 2026 to April 2026.

2.1.3 Methodology

This report uses a qualitative research approach to delve into the issue of organizational efficiency. Primary data was collected through participant observation in my internship which lasted for 12 weeks and structured informal interviews conducted with key personnel in the IT, Finance and Operations departments. Secondary data was taken from the internal Standard Operating Procedures (SOPs) of MOSAIC Visa, the corporate website and Turkish diplomatic guidelines. The analysis of the data was done using the SWOT Analysis framework to get a strategic audit.

2.1.4 Significance of Study

The study is particularly relevant because it provides a link between the use of manual administrative tasks and the optimization of such activities through digitalization in a high-security diplomatic setting. With MOSAIC Visa, the findings highlight certain pain points and offer a blueprint for embedding automation (e.g. OCR) to minimise errors. The study confirms the relevance of data integrity and the "First-Time-Right" processing as important issues in the context of the Turkish Embassy. Last, from a student's perspective, it will give the student a practical application of Management Information Systems (MIS) theories to address real world operational issues.

2.1.4 Limitations

The biggest constraint in the present study was the extremely sensitive character of the diplomatic data, which required the utmost level of confidentiality. This meant that it was not possible to gain access to the full backend encryption and server architecture of the Turkish Ministry's webpage. Furthermore, the internships were conducted over a 12-week period, which made it hard to identify long-term trends or trends during certain times of the year when the volume of applicants increased. Lastly, the study is limited to a particular diplomatic outsourcing partner and results might not be generalisable to other commercial travel agencies or services sectors.

2.2 Overview of the Company:

MOSAIC Visa MOSAIC Visa is a dedicated international agency specializing in visa outsourcing and technology integration of diplomatic missions. Having a global headquarters and base in Türkiye, the organization processes sensitive documents on behalf of different governments. MOSAIC Visa is the only official partner of the Embassy of the Republic of Türkiye in Bangladesh. The company is located in a commercial area of the city in Banani, Dhaka which serves as the main point of contact between the Bangladeshi visa applicants and the Turkish Ministry of Foreign Affairs.

2.2.1 Mission, Vision, and Values

Mission: To deliver secure, transparent, and high efficiency administrative services that serves as a smooth conduit between international travelers and the Turkish diplomatic mission. Our commitment is to make sure that all visa applications are done with the highest level of accuracy and international security requirements.

Vision: To be the gold standard in visa outsourcing in South Asia through the innovation of digital products, uncompromised data integrity and the First-Time-Right customer experience.

Values:

- **Security & Data Privacy:** The absolute protection of the information of the applicants and diplomatic records will be given the priority.
- **Integrity:** Being transparent in financial reconciliations and administrative practices.
- **Professionalism:** Providing a professional, respectful, and disciplined service environment to applicants that is in line with diplomatic standards.
- **Operational Excellence:** The company is continually streamlining its operations by technology to minimize processing times and reduce systematic errors.

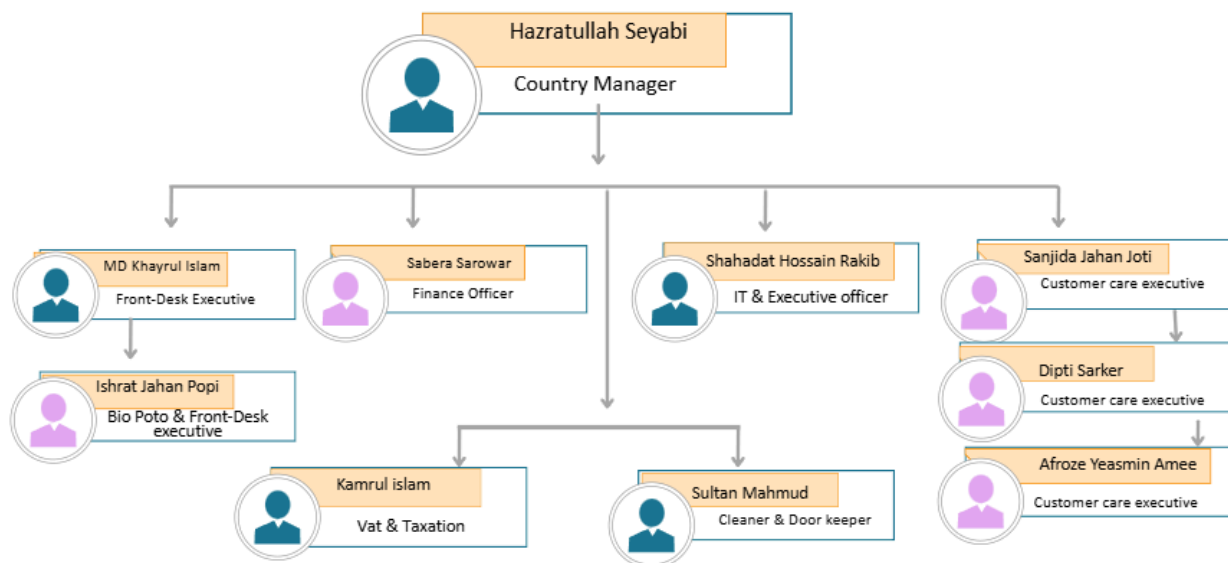
2.2.2 Departments of the company

MOSAIC Visa, Dhaka has a dedicated departmental structure to handle the high-security requirements associated with processing visas for foreigners. The departments act as "links" in a chain that takes an applicant from inquiry to embassy submission.

- **Executive Management:** This unit under the leadership of Hazratullah Siyabi is responsible for strategic leadership and is the official interface between the Turkish Headquarters and the Embassy. To make sure that all the office works are done in the best way possible as per Consulate and legal standards.
- **Front-Office & Reception:** Khayrul Islam & Popi are responsible for the front office/reception where incoming paperwork is checked and the appointment list is kept. They are the "gatekeepers" to ensure complete files are presented for digital processing.

- **Operations & Data Management:** This core unit is responsible for the operations of the five service counters. The staff employs specialized VMS software to digitize the applicant's metadata, ensuring 100% accuracy of the data for the Embassy while also maintaining a high speed of entry.
- **Finance & Accounts:** Sabera Sarowar is the head of this department and she is responsible for reconciling all the fees. They have a two-layered system, Excel for daily cash tracking and Accounting Software for high level reporting to the Country Manager and owners.
- **IT & Digital Security:** This team, managed by Shahadat Hossain Rakib, guarantees the "uptime" of the systems and connection security with Türkiye. They take care of the hardware maintenance, daily backup and troubleshooting the server problems, on behalf of the Turkish Ministry.
- **Biometrics & Insurance:** A unit managed by Popi that takes digital fingerprint and photo data. They are also in charge of selling travel insurance, which is one of the major revenue generating services to the company.
- **Logistics / Hospitality:** Sultan manages this department and is in charge of packing passports securely in bag to transfer to the Embassy and the VIP Premium Lounge so as to provide a high-end customer experience.

2.2.3 Organizational structure



2.3 Management Practices:

MOSAIC Visa relies on a combination of direct supervision and online communication to ensure high quality operation:

- **Training Method:** The company follows a Shadowing approach. New employees and interns are trained by sitting with the senior employees while working in all the departments (Reception, Finance, Biometrics) and watching the real-time or live software and document handling.
- **Daily Communication:** All internal office updates, government holidays, and urgent updates from the embassy are shared via a company WhatsApp group to the Employees, keeping the whole team updated in real-time.
- **Feedback & Meetings:** The company Manager hosts Evening Meetings usually after working hours if there was any important updates from the Embassy regarding any new rules or documentations. Feedback of the owners in Türkiye, and how to manage large numbers of applicants are the topics of discussion during these sessions.
- **Operational Culture:** The management encourages a “help-All culture”, which involves training the staff to be multi-taskers, who can move around to the various departments such as Reception and Finance to Customer care just in case one of them has to assist the other during peak seasons.

2.4 Marketing practices:

The MOSAIC Visa has a hybrid marketing strategy of B2B (Business-to-Business) and B2C (Business-to-Consumer) marketing strategy. The firm is an exclusive partner of the Turkish embassy, so its customers are secured. However, its development is based on the quality of the services it provides and selling of premium features.

- **Service Differentiation (B2C Focus):** The organization differentiates itself with the Hybrid Support Model against its competitors. Whereas most of the agencies are relying purely on online information, MOSAIC offers both online information and offline reception. This Human-Touch strategy creates trust and assists applicants who are not technologically inclined, and makes the brand a high-end, friendly service provider.
- **Value-Added Services (VAS) Upselling:** One of the main marketing strategies is "Convenience Products". Once the applicant comes in to the office they are sold "Value-Added Services" including:
 - **Premium Lounge Access (VIP):** Attracting or Targeting high-net-worth Customers, who value Time, comfort and privacy .
 - **Travel Insurance & SMS Alerts:** Positioned as "peace of mind" services during the vetting process.

- **Ancillary Services:** Marketing professional photography, hotel bookings, and flight reservations as a "one-stop-shop" solution.
- **Strategic Location & Brand Presence:** The physical office in **Banani, Dhaka**, serves as a marketing tool. Being in a high-end commercial hub reinforces the brand's image as a secure and elite partner of a foreign government.
- **Digital Word of Mouth:** The company's reputation is its Data Integrity and document processing speed. The streamlined workflow results in extremely satisfied applicants, and is essential to keeping a steady stream of more or less 70 applicants in a day.

2.5 Financial Performance and Accounting Practices:

MOSAIC Visa operates as an outsourcing company, so the money it makes from transactions is the revenue that keeps it afloat. They have a conservative and transparent accounting model which makes sure that every taka they collect is accounted for.

2.5.1 Financial Performance Overview

Daily Transaction Volume is the measure of the branch's financial performance. The firm itself gets an average of 30-35 applicants on a daily basis and makes money in three ways:

- **Embassy Fees:** These are collected on behalf of the Turkish government (Pass-through revenue).
- **Service Charges:** The main operating revenue for MOSAIC Visa.
- **Value Added Services (VAS):** Value added services are those which have a higher margin which are Travel insurance, SMS booking, Hotel&Ticket booking, Premium lounge fees and Biometric photography.

The only success metric that the branch has is Daily Reconciliation Rate, which means that cash and digital payments received at the end of the day should be as close as the 100% rate of the Turkish headquarters.

2.5.2 Accounting Practices and Controls

The department, under the Finance Officer Maliha, operates a very strict dual system of books of account to avoid any error and fraud:

- **Dual-Layered Reporting:**
 - **Manual/Excel Logs:** Each transaction is logged in a localised Excel ledger for immediate tracking. This enables an instant denomination track and cash-on-hand verification at the end of the shift.
 - **Centralised software accounting:** The data is then centralised in a formal corporate accounting system for monthly and yearly financial statements, reported to the global head offices for audit.

- **Internal checks and balances:** Which are maintained, that is, Operations Department and Finance Department are separated to ensure financial integrity. The Finance Officer matches the "Application Tokens" issued by the counter officers to the amount received from cash/card. No unauthorized processing of visa files is allowed.
- **Revenue Audit Trail:** Each applicant is issued with a computer generated receipt by the VMS software. This establishes a digital trail that connects the applicant's passport number to the payment and cannot be changed once the application file has been submitted to ensure financial records are not changed after the submission.
- **Cash Management & Security:** The company uses End-of-Day Liquidity Settlement, where all payments are secured or deposited according with company security regulations to reduce the danger of theft or loss, due to the large volume of physical cash handled every day.

2.6 Operations Management & Information System Practices:

The seamless coordination of physical administrative operation and digital Infrastructure are the bases for the successful operation of the MOSAIC Visa. The organization, as an authorized partner of the Turkish Embassy in Dhaka, has to process the data at a fast speed without losing the integrity of the data.

2.6.1 Operations Management Practices

MOSAIC Visa is a Synchronized Service Flow - they might get more or less 70 applicants during peak days. The operations are guided by three main practices:

- **Workflow Standardization:** Processing is linear, starting from the Reception vetting, then on to Biometric capture and subsequently to Financial reconciliation. At this point all the files go through the same quality monitoring procedure.
- **Capacity Balancing:** Cross-functional support" management practices are used to handle peak hours. When the Reception desk starts to feel stress of too many applicants staff from the back-office is moved from that position to keep the "turnaround time" per applicant within acceptable limits.
- **Double vetting protocol:** All of the applicant files are manually audited in the reception counter and again checked at the time of final data entry phase which means the Embassy maintains a "First-Time-Right" processing standard to reduce data entry errors in its records.

2.6.2 Information System (MIS) Practices:

The Information System is the main engine of the "Data Entry and Application Processing" process flow. The Dhaka office is using specific MIS processes to guarantee security and efficiency of its workflow:

- **Enterprise Software Ecosystem:** MOSAIC uses a locally installed Visa Management System (VMS) as opposed to a standard web-based platform. This software guarantees a secure area for collecting the candidate metadata and travel history, which is afterwards encrypted and sent to the main servers in Türkiye through the system.

- **Tiered Access Control:** The MIS architecture safeguards important and sensitive information of the diplomatic and Consulate with the help of Role-Based Authentication. Which means that each worker (Customer care, Finance, Biometrics, IT etc) has access to only those modules required to carry out their own specific tasks giving a clear and secure digital audit trail.
- **Data Resilience & Synchronization:** One of the important MIS practices is Automated Daily Sync, known as Data Resilience & Synchronization. Each evening, it is backed up completely with all application processed files sent to the international headquarters. This will guarantee the continuity of the business even if there were any problems with the local hardware in Dhaka.
- **System Crisis Management:** The IT department monitors connection with the web site of the Turkish Foreign Ministry. If there's international server latency, the system uses "Offline Buffering" which means that the data is downloaded and stored locally and then uploaded when the server connection is restored, so no work is lost.

2.7 Industry and Competitive Analysis :

2.7.1 Porter's Five Forces analysis

In order to understand the competitive environment of the visa outsourcing industry in Bangladesh, the following 5 forces are analyzed:

- **Barriers of Entry is high (Threat of New Players is Low):** Government contracts and diplomatic trust are required. New companies are not allowed to come unless they are officially appointed by the Turkish Ministry of Foreign Affairs.
- **Bargaining Power of Suppliers (High):** The "Supplier" is the Embassy of Turkey. They have full control of the visa policy, visa fees and system requirements, which MOSAIC Visa has to adhere to.
- **Bargaining power of buyers (Low):** No bargaining power for the applicants (Buyers) as MOSAIC is the only authorized partner. Turkish visa processing is not provided by other agencies, it is the only agency which provides this service for the consumer.
- **Threat of Substitutes(Low):** There is no legal alternative to a visa. For some categories, there are E-visas available, but the physical vetting and biometric enrollment of the documents are something for which there is no alternative to MOSAIC's services.
- **Intensity of Rivalry (Low):** MOSAIC Visa is exclusively contracted, which means that there is no direct competition to its Turkish visa services. Rivalry is possible only at a macro level, with agencies for other countries, and not at the Turkish visa level.

2.7.2 SWOT analysis of MOSAIC Visa operation in Dhaka Branch

The SWOT analysis below Analyzes the internal business environment, as well as external factors that will influence the performance of the branch of the organization in Dhaka.

1. Strengths (Internal):

- **Market Property:** The Company possesses stable and guaranteed customers as it is the only legally authorized service provider to Turkey Embassy, Bangladesh.

- **Secure MIS Framework:** A fully 100 percent enterprise level Visa Management System (VMS) is used, which ensures that sensitive information of diplomatic and other biometric data remains secure and encrypted.
 - **Operational Resilience:** MOSAIC Visa effectively handles a high workload, with an average of 30-35 in normal working day and over 70 applications in high pressure workflow being processed daily, and the service path is well-defined and linear.
 - **Financial Accountability:** Maliha Finance officer and Counter Officers are interconnected in a dual layered system of reconciliation with the aim of zero revenue leakage.
- 2. Weaknesses (Internal):**
- **System Dependency:** If the entire system depends on the Turkish Foreign Ministry web portal, then it's vulnerable to complete outages due to latency on an outside server, which halts processing locally.
 - **Manual Redundancy:** Workflow is manual as data has to be fed manually into the VMS and individual ledgers on excel spreadsheets, increasing the risk of human error and causing delay in Turnaround Time.
 - **Peak Volume Bottlenecks:** With a high number of applicant walk-ins in the mornings, the Front-Office (Reception) and Data Entry(Customer care) staff are put under a great deal of strain and this can cause potential operational fatigue.
- 3. Opportunities (External):**
- **Technological Automation:** The process of capturing the information on passport could be automated, which could save time and would reduce the typing errors to a great extent by using Optical Character Recognition (OCR) technology.
 - **Software Integration:** If local financial reporting tools can be directly integrated with the VMS, then there would be no need for additional logs, and the entire accounting process would be optimized.
 - **Value-Added Service (VAS) Expansion:** Opportunities abound with introducing or enhancing high margin digital tracking or premium document preparation or assistant packages.
- 4. Threats (External):**
- **International Server Latency:** The connections between international servers to Dhaka and Türkiye are unstable and threaten to get the daily processing deadlines.
 - **Policy Volatility:** Turkish visa policies change often and/or suddenly, resulting in expensive and urgent revision of the Standard Operating Procedures (SOPs).
 - **Diplomatic Sensitivity:** The branch is a diplomatic service partner and its size is directly affected by the change in the geopolitical relation between Bangladesh and Türkiye.

2.8 Summary of chapter 2

In conclusion, the organization audit of MOSAIC Visa shows a good mix of diplomatic security and operational effectiveness. With their "help-all" culture and shadowing training, the company achieves high performance in all departments, and the dual accounting system and secure VMS structure ensures complete data integrity. These are management and finance procedures that are necessary to deal with the security demands of the Turkish Embassy.

MOSAIC Visa sits in a strong and distinctive competitive position as a result of its exclusive partnership, which will be a difficult competitive advantage for others to imitate. While the branch has its share of problems like data entry redundancies and international server latencies, it also has plenty of opportunities for streamlining with automation. In the end, the organisation acts as a safer and more professional matchmaking platform for Bangladeshi candidates and the Turkish embassies.

Chapter 3:

Analysis and System Design Process

3.1 Introduction :

Visa Application Centers (VACs) play an crucial administrative role in the global mobility environment, as the critical administrative interface between international travelers and foreign diplomatic missions. The operational performance in very high-security environments such as the Turkish visa outsourcing sector can be estimated by the speed and hundred per cent accuracy of the management of sensitive metadata. . Nevertheless, numerous service organizations face a number of operational issues, which they must address, restricting their ability to provide data entry services, coordination across borders, and a maximum impact per day. Such problems are usually caused by excessive reliance on manual administrative and arrangements, and the absence of automated data capture capabilities, as well as the overall shortage of localized system resiliency.

Other challenges in an organization whose operations are interconnected to servers of the international government are technical differences and network delays. Such inefficiencies may frequently manifest themselves through the following: increased processing times, high share of administrative errors, and general gridlock of office work in case of a breakdown of the server, all of which adversely influence the overall customer experience and the overall organizational effectiveness.

In the given report, attention will be paid to the MOSAIC Visa that is the only registered partner of the Turkish Embassy in Bangladesh and is situated in Banani, Dhaka. As the internship course had moved forward it was understood that despite the high professional standards that the organization has, it is faced with some of the following critical challenges in its day to day operations.

Specifically, the fact that manual data entry is utilized and that the only connection to the servers of the Turkish Foreign Ministry is live introduces major bottlenecks in case any of the systems collapses. Lack of simple and integrated automated solutions to read passports makes the process quite time consuming with an average of 15-20 minutes per application per counter. Such administrative errors has a huge impact on core processes such as digitization of biographical data, reporting to the embassy in any emergency situation, and financial adjustment. To gain a clear insight into these concerns, the existing workflow was assessed through direct observation and the experience of working with data entry to estimate the current incidence of data filling errors, averaging 10-12 per 40-50 applicants, and to realize the needs of a modern digital solution in terms of priorities.

3.1.1 Background and Problem Statement

The majority of the visa processing entities in South Asia are third parties that facilitate international diplomatic missions but struggle with technology, latencies in the system and manual redundancies. At MOSAIC Visa, these challenges create obstacles in effective coordination between local operations and the Turkish central servers. The main problem is the manual transcript of biographical data in the Visa Management System (VMS) that poses a major "throughput bottleneck". The manual process is exceeding typical capacity with 70+ applicants daily, causing fragmented processes and fatigue.

Also, there is no local data coordination and resource allocation system, which has a dramatic impact on real-time collaboration, causing complete paralysis of the office during downtimes if the international server is affected. Inefficient data entry creates a 10-12% error rate, hindering coordinated program organization and affecting "First-Time-Right" processing, if there is no automated solution to address these gaps. An OCR-based automation framework and a localized buffering system that aligns with cloud are needed to fill these gaps, allow seamless collaboration, and improve the operational efficiency of the organization.

3.1.2 Research Questions

- What are the most important technical and operation-related challenges of MOSAIC Visa to preserve an efficient and high-volume application processing workflow?
- How an OCR based automation system can solve and decrease high data entry errors rates and long application processing times?
- What characteristics should be considered in a localized digital solution to allow continuity in operations during international server latency?
- What is the influence of optimization of data entry workflow on the company ability to promote as well as grow Value-Added Services (VAS) revenue?

3.1.2 Objectives

The following objectives are used in this project to systematically tackle the operational problems at MOSAIC Visa to achieve an effective technical solution. They focus on identifying current workflow constraints, proposing suitable technology integrations, and prioritizing features that improve efficiency and revenue.

- To Identify and record the fundamental technical and human issues in current manual work processes in operation which cause and lead to errors and delay.
- To develop a secure and scalable infrastructure using OCR technology based on the particular data-entry requirements of the Turkish Visa Management System.
- To identify and focus on features in a localized data-resilience protocol to improve productivity when server connectivity is disrupted.

- To test the possibility of higher adoption of Value-Added Services (VAS) by decreasing time-per-application bottle-neck.

3.1.3 Strengthen

The value of this study is that it can contribute in making Dhaka branch of MOSAIC Visa a perfect high tech error-free service centre. This research will help to establish a path forward for:

- **Improve Data Integrity:** Shift to "First-Time-Right" philosophy helps to prevent the occurrence of typographical errors in the processing of sensitive diplomatic data.
- **Better Customer Experience:** The "Turnaround Time" (TAT) is directly impacting the applicants waiting time in the office.
- **Strength Consulate Trust:** The Turkish Embassy will value the company's efforts when it provides 100% correct data, thereby enhancing its reputation as a reliable international partner.
- **Scalability:** The branch can scale easily and handle seasonal volumes, such as at the peak in March, without the need of extra staff or extended hours.

3.1.4 Scope of the Study

This research is specifically directed towards the Operational and Data Management workflow of MOSAIC branch in Banani, Dhaka.

- **Process Boundary:** The study focuses on the process of an application that begins with the receiving of the passport in Reception, continues through Data Entry and Biometrics to the preparation of a file for Logistics.
- **Technical Focus:** It deals with the efficiency of the internal Visa Management System (VMS) and the synchronisation with international servers.
- **Limitations:** The study does not include the 'Internal Decision-Making' process of the Turkish Embassy (Visa Approval/Rejections) and the international operation of MOSAIC Visa from the Bangladesh market.

3.2 Literature review:

3.2.1 Operational Efficiency in Diplomatic Outsourcing

Visa Application Centers (VACs) play a pivotal role in the global migration infrastructure. The effectiveness of these centres is not only a goal within the centre but a diplomatic one too. TapacoBa (2023) points out that service-oriented organisations, which are external partners of government missions, are challenged with "scalability hurdles". When dealing with visa outsourcing, this limitation will be seen as "Throughput Bottlenecks" and occurs when the number of physical document checks is more than the number of documents which the staff can process digitally. This study shows that lack of alignment between manual administrative setups

and peak demand makes the organization miss its strategic goals. At MOSAIC Visa, this is reflected in the 15-20 minutes required to process the visa application per applicant, similar to the inefficiencies observed in other recent studies of the service hubs of South Asia, where manual transcription is the main way of data entry.

In addition, the accuracy and trustworthiness of VACs data is rigorously investigated. Rocha (2013) maintains that the greatest cause of mismanagement in a high-stakes administrative setting is the "human element". For example, when the employees had to enter repetitive, and important data information such as passport details, and fingerprint data, measurable differences may be caused by mental exhaustion. A 10-12 percent error rate in the visa industry is not only an inefficiency, but a risk factor that may cause diplomatic tensions and refusal of applications. The literature indicates that the only sustainable solution to safeguard the "First-Time-Right" (FTR) processing standard demanded by embassies is to move away from the so-called manual redundancy.

3.2.2 Digital Transformation in Immigration and Passport Systems

The backbone of modern visa services is digital metadata management, which eliminates the need for the physical paper documents.

According to Prayuda's (2024) study, the introduction of automation in the passport system is directly and positively related to user satisfaction, as digital transformation plays a crucial role in the success of integrated passport systems. Research hypothesis is that if applicants think that there is an efficient and technology oriented workflow, then the applicants will have more trust in the institution. For an organisation such as MOSAIC Visa, where sensitive applications for Turkish visa are involved, implementing innovative digital processes is a strategic must. This literature validates that "timeliness" and "accuracy" are the two indicators of service quality in diplomatic outsourcing and that the manual nature of the MOSAIC Visa's Banani branch's workflow hinders these two indicators.

3.2.3 The Role of MIS and OCR in Data Integrity

Modern service operations are the "nerve center" because of Management Information Systems (MIS). Shmatko et al. (2020) state that MIS facilitators offer a scalable and cost-effective architecture to ease data management complexity. In particular, the field of visa processing has seen OCR as a "groundbreaking" optimization tool. OCR enables automated collection of the Machine Readable Zone (MRZ) data present in the machine-readable zone on a passport card, as opposed to manually typing this information into the system.

Al-Azzawi & Kaya (2021) has also conducted a study on the impact on MIS in enhancing the performance of an organization by ensuring smooth data flows across different portals. An integrated MIS in the visa center would facilitate the automatic transfer of data collected at the reception desk to the Embassy's Visa Management System (VMS) without manual effort. The theory helps substantiate the idea that by using automated data capture, the processing time for

acquiring a MOSAIC Visa can be reduced up to 40% from 20 minutes to bring the service level in line with the world-wide accepted "Gold Standard" for diplomatic service.

3.2.4 Technological Resilience and International Server Latency

One of the problems for visa outsourcing partners is that they rely 100% on the servers of the corresponding foreign ministry. This creates a Single Point of Failure that may impact local operations. Research on information systems has suggested that relying on centralized architectures can impact system resilience, which can increase the vulnerability of the system to delay or failure (Laudon and Laudon, 2020). The issues are further compounded by the digital infrastructure gap in developing countries, leading to disjointed workflows and inefficiencies (World Bank, 2021). The Banani branch used to suffer from huge workloads and overtime because the Turkish central server would stall and the Banani branch wouldn't receive any instructions or could not perform any systematic work.

Technological Resilience literature indicates organizations need to adopt the concept of "Asynchronous Data Management" in order to overcome global network latency. Localized data buffering lets the applications get saved locally and when the connection is back, the data is synced to the Embassy server, allowing the organization to maintain 100% productivity during outages. The overall contribution of this work is that it will form an academically sound basis for the "Resilient VMS Architecture" for the MOSAIC Visa, so that the branch can keep working even if international connectivity is an issue.

3.2.5 Analysis and Research Gap

The existing literature is clear on the advantages of digital transformation in government and diplomatic services, but there is an apparent "Research Gap" with respect to the condition of the authorized visa partners in Bangladesh. Most of the research available either addresses an overall positive MIS benefit over the whole lifecycle of government or is conducted at a macro-governmental level and looks at the government outsourcing firm interface, which is referred to as the "front-line." In addition, no local study exists that focuses on the effects of automated data entry on Value-Added Services (VAS) financial development.

Staff are freed from data entry responsibilities and can dedicate more time to premium counseling and service upselling, thanks to the 10-12 minutes per applicant time saved by OCR. The overall objective of this project is to close this educational gap by developing a detailed, data driven analysis of the direct contribution of technical optimization at MOSAIC Visa for operational accuracy (MIS) and revenue maximization (Finance).

3. 3 Methodology:

3.3.1 Research Approach

In this report, I used a mixed-method research strategy which is essential for development of a balanced MIS solution. This methodology involves the combination of quantitative data (numerical statistics) and qualitative data (descriptive feedback) in order to develop a 360-degree picture of the operational requirements of MOSAIC Visa.

The mixed methods will be used because it ensures that the proposed system on cloud can be technically sound and user friendly. Although quantitative information enabled me to identify the overall patterns, like latency of the server and volume of each applications, and the qualitative data helped me to capture the feelings of frustration experienced by the staff on a daily basis due to the manual process of data entry. By incorporating the two, I made sure that the final system design would be based on objective facts as well as on human needs of the real world.

3.3.2 Data Collection Strategies

I have used three different data sources to make the results balanced and precise, and to ensure that they are professionally based:

- **Employee Questionnaires (Quantitative):** I have been distributing questionnaires to employees and getting data from them regarding the current use of the software, technical knowledge and the importance of specific features of the could.
- **Management Consultation (Qualitative):** I conducted a semi-structured interview with the Country Manager, the subject of the Management Consultation. This gave me a peephole into the vision of the organization and the challenges that were faced in communicating with a large volume of visa applications.
- **Document & Manifest Review (Technical Baseline):** Conducted a Document & Manifest Review audit to facilitate understanding of the volume of work the office actually handles. For example, the manifest analysis found a substantial "Hidden Workload", the data for which is needed to enable the system to meet MOSAIC Visa's real peak load.

3.3.3 Data Analysis Procedures

Two key analysis methods that I employed to convert the information collected into actionable system requirements include:

- **Statistical Data Analysis:** I entered survey data into averages and percentages using Microsoft Excel. This enabled me to develop a data-driven priority list of system features according to the real employee demand and operational bottlenecks.
- **Thematic Analysis:** In qualitative interviews and open-ended feedback, I found common themes, including: workflow delays, manual entry errors, and system latency. These themes were used as a guide to make sure that the new Digital Optimization Framework is a direct solution to the most frequent issues the team encounters.

3.3.4 Requirement Analysis

In the requirement analysis stage, technical and operational requirements needed in the proposed system at MOSAIC Visa are identified. The section is based on resolving the most critical issues found during the internship, which were the errors in manual entry and lack of real-time visibility of the areas between MOSAIC visa At DHAKA and Embassy of Turkey in Dhaka.

3.3.4.1 Functional Requirements

The functional requirements will specify the main functions that the system needs to perform in order to make the visa application process more convenient:

- **Automated Data Extraction (OCR):** The system should automatically extract the data from the passport Machine Readable Zones (MRZ) using optical character recognition(OCR). This is an alternative method of manual typing, which is required to reduce the identified human error rate of 10–12%.
- **Seamless Workflow & Task Tracking:** A central tracking mechanism is essential to track an application from submission till its delivery to the embassies. This provides an assurance for accountability and coordination between South Asian and European offices.
- **Document Version Control:** It should offer secure storage for the metadata of each applicant, along with version control. This ensures that staff are always using the up-to-date applicant records, and eliminates data conflicts.
- **High Security Encryption and Tiered Permissions (Role-Based Access Control – RBAC):** Tiered permissions and high-security encryption are critical to protecting diplomatic information and ensuring compliance with privacy laws and regulations.

3.3.4.2 Non-Functional Requirements

Non-functional requirements express the level of performance and quality of the system:

- **Operational Reliability:** To ensure that no problem of Office Paralysis arises because of slow data transfer with the server of the Turkiye's Foreign Ministry, by implementing Localized Data buffering . It will enable real-time productivity online in the absence of data transfer.
- **Scalability:** The architecture needs to be adaptable in accommodating large volume changes, for instance, 690 passports were taken in March 2026.
- **Usability:** The user interface should be friendly and professional that allows the staff to run under complex workflow procedures, with least technical training.
- **Compliance:** The system should comply with regional data privacy regulations, and it should be aligned with the local and international data protection standards.

3.3.4.3 Feature Prioritization

Features are prioritized according to the risk that is addressed the best, in order to ensure a strategic roll out:

Table 1: Feature Prioritization

Priority Level	Feature	Strategic Rationale
High	OCR Data Capture	Directly addresses the 10-12% manual error rate and increases processing speed.
High	Workflow Data Tracking	Essential for transparency between units and managing high-volume periods.
Medium	Localized Buffering	Ensure the office remains functional during frequent embassy server downtime.
Low	UI Enhancements	Visual and navigation refinements that can be developed incrementally.

3.4 Findings and analysis:

Figure 1:

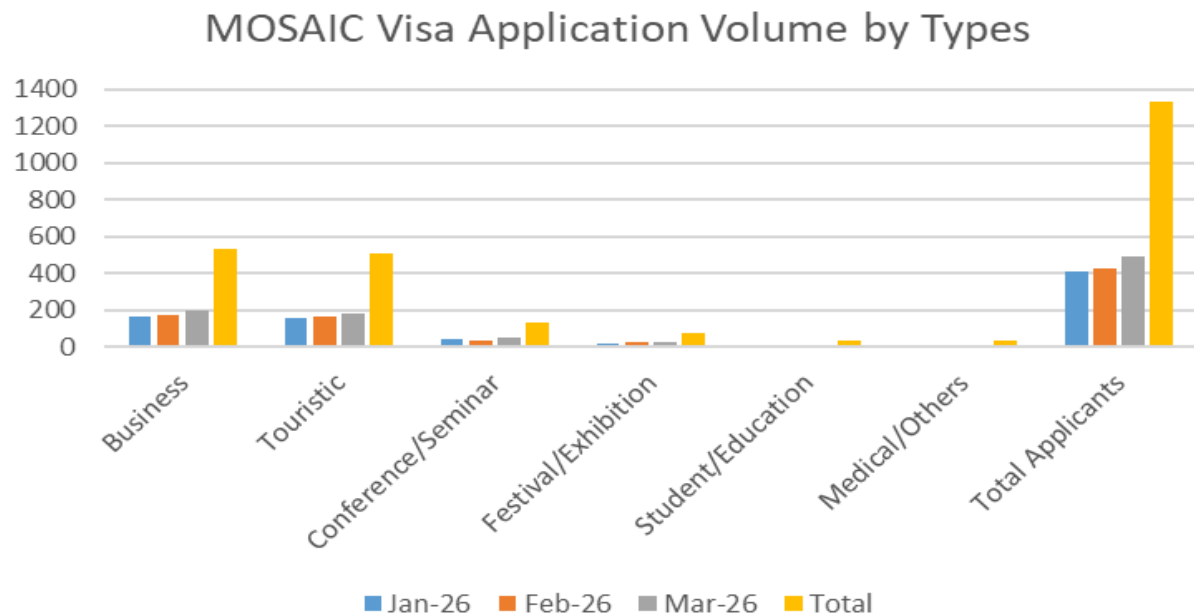
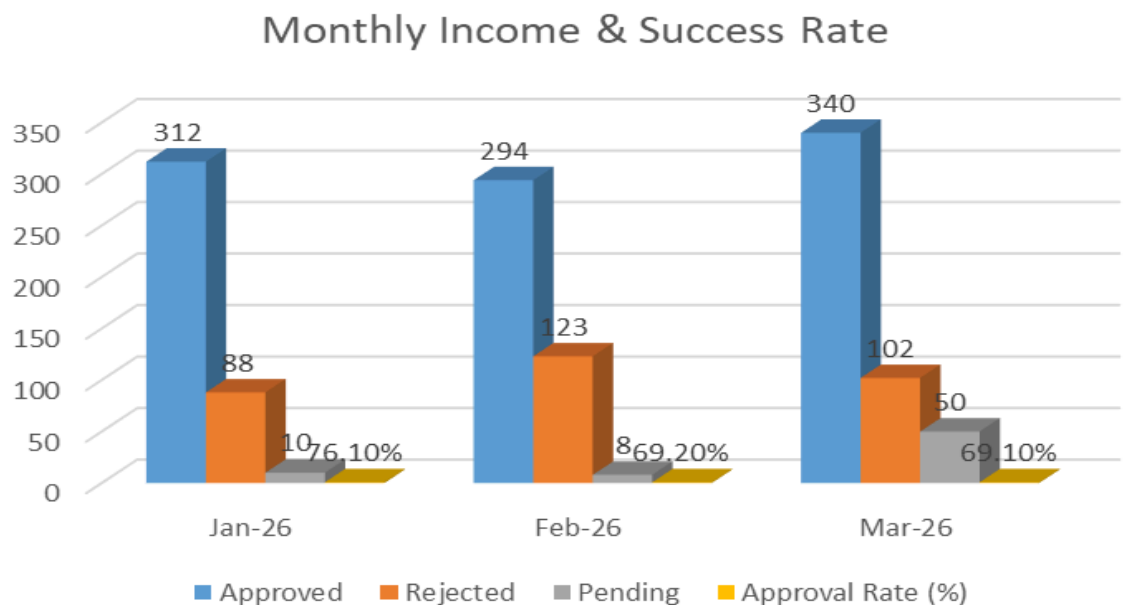


Figure 1 gives a detailed breakdown of the organizational workload that shows a sharp upward trend of the total applicant volume. The center received a total of 1,327 applications in the three

months period, and this reflected a high scaling of operations as compared to the past years. Specifically, the data points out that Business (535) and Touristic (511) visas are the main drivers of the revenue and workforce needs of the center, which together comprise a more or less 78.8 percent of total institutional workload.

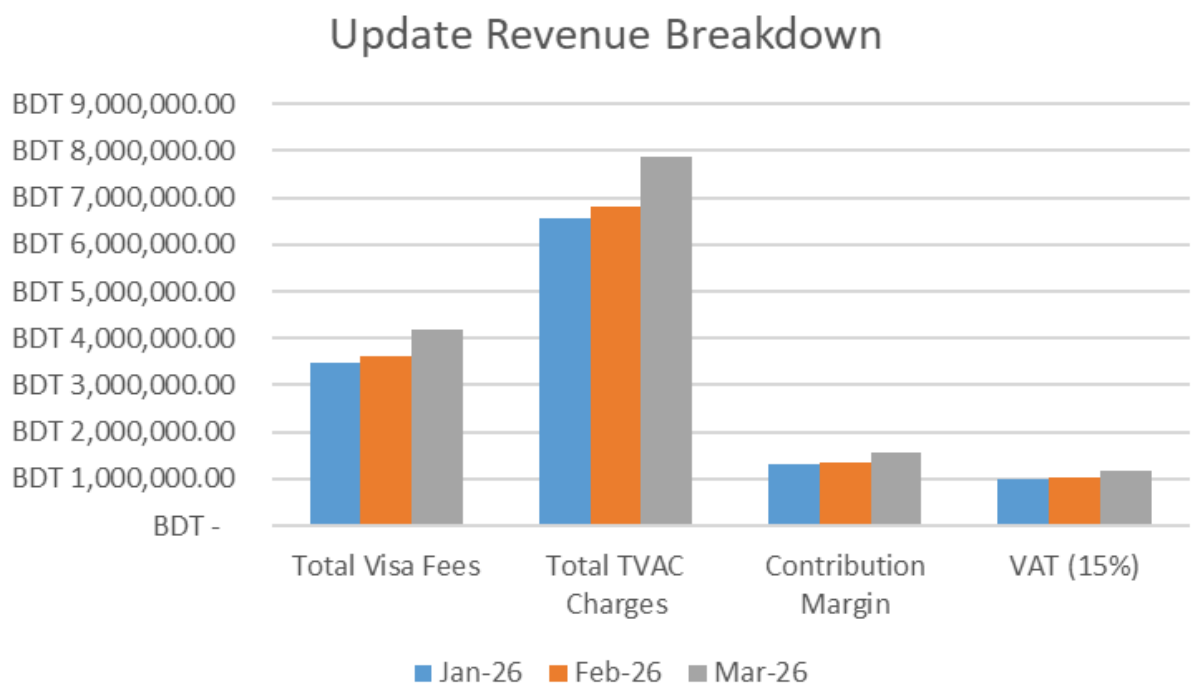
The 410 applicants in January to a high of 492 in March indicates that there is an increasing number of applicants which is now pushing the manual "Human-Touch" service model to the limits. In MIS terms, this book forms a "Throughput Or Capacity Bottleneck" in which the manual entry of data into the VMS is unable to match the rate of physical document entry. This observation explains the need to have specialized, high-speed automated templates in high volume categories to avoid administrative burnout and to maintain operational sustainability.

Figure 2:



The analysis presented in Figure 2 offers critical technical background of the operational performance of MOSAIC Visa in the first quarter of 2026. In these three months the office received 1,327 applications with an overall approval rate of 71.30 percent. Even though the peak efficiency was achieved in January where the efficiency was 76.10, the fact that the pending cases have risen drastically in March to 50 points shows that there are huge bottlenecks in the manual processing. The difference in the success rate also provides an indication of the weakness of the system at a high volume level. Having the proposed Digital Optimization Framework in place will allow the organization to automatically conduct manual check-ups, thereby reducing the number of pending files, and allowing the organization to produce a more consistent and reliable turn around time to all applicants.

Figure 3:



The financial performance overview in figure 3 highlights the complex nature of the centre's revenue sources and the importance of robust accounting controls. MOSAIC Visa is an official partner of the Embassy of Turkey and provides services for large volumes of transactions that need a two-layered reporting. The Total TVAC Charges reached more than 7.8 million BDT in March 2026, including the fees for embassies, service charges and high-margin Value-Added Services (VAS).

Although the main billing is handled by a global financial system, the local staff still uses manual excel ledgers to record day to day expenses and miscellaneous notes. This manual process poses a risk of clerical error, with more than 1.1 million BDT in VAT and a margin of 1.5 million BDT to monitor. A software solution that integrates the VMS and local reporting is critical to remove the risk of Excel and provide complete transparency to global headquarters.

Figure 4:

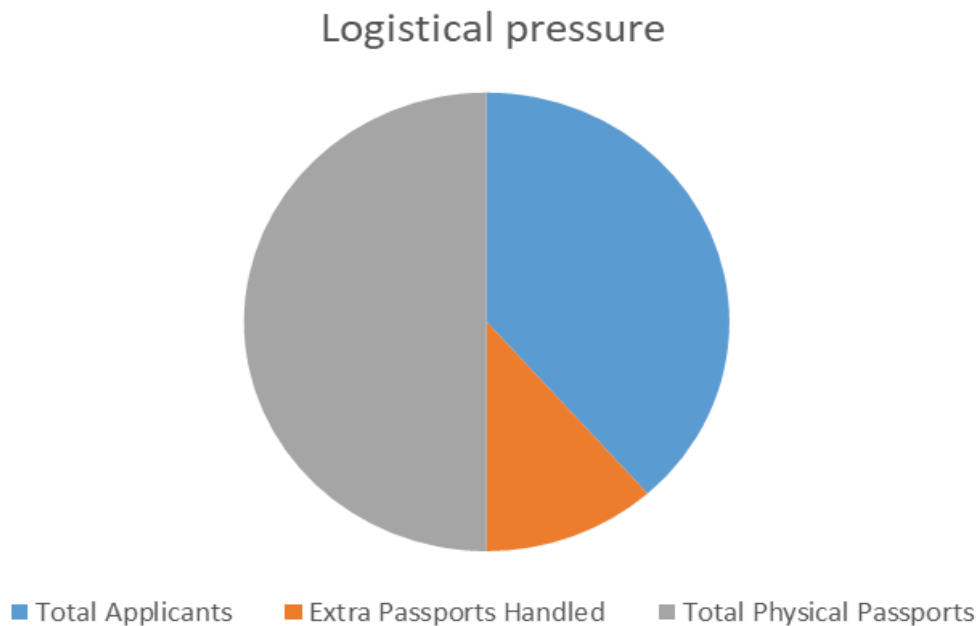
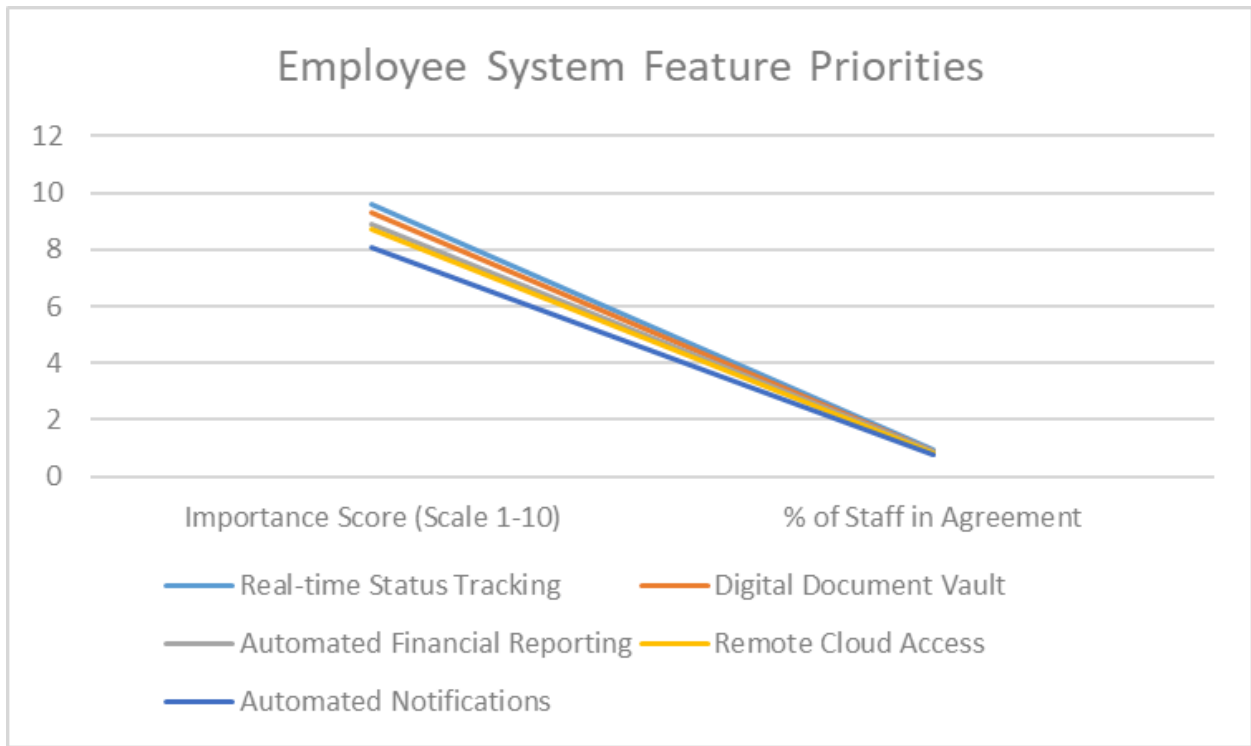


Figure 4 plots the Workload of the visa processing industry by comparing the number of individual applicants to the actual volume of physical passports being handled by the operations team. An increasing gap can be seen in March, during which the staff was only able to handle 690 physical passports with 492 applicants. This means that close to 200 additional passports were handled, which needed to be sorted manually, security labelled and transit prepared to the Embassy.

This discrepancy shows that there is a major contributor to the problem of Manual Redundancy and work burnout. Any additional passport is an additional data-entry job which is currently performed by manual typing. Such logistical information forms the main testament towards the adoption of Optical Character Recognition (OCR) technology. The organization would save 60 percent of the time spent manually entering the data on the Machine Readable Zone (MRZ) data in these 690 passports and therefore redirect the human resources to more valuable customer service and security vetting.

Figure 5:



Lastly, Figure 5 is the User-Centered Design basis of this project as it determines the technical priorities of the MOSAIC Visa workforce. The radar chart shows that the most important feature of the staff is Real-time Status Tracking (9.6/10.0), and a Digital Document Vault (9.3/10.0) is right behind it. These needs are not hypothetical, but a direct answer to the 50 pending cases and 690 physical documents found in the preceding figures.

The Automated Financial Reporting (8.9) and Remote Cloud Access (8.7) are in high demand, which proves that the employees want to abandon the disjointed Excel logs and have a single, strong digital ecosystem. Focusing on these aspects, the offered optimization framework will guarantee that the technical solution will directly address the particular pain points of the employees, which will eventually result in the increased efficiency of the organization and a better experience of the applicants.

3.4.1 System Design Process

This project is designed with a structured process which is targeted to change the manual operations done by MOSAIC Visa to a synchronized and efficient digital environment. It is an architecture that is set to support the increasingly complexities of the visa processing process and ensure a seamless data integrity and operational continuity.

3.4.2 Integration and Architectural Logic

The core design based on a Modular Integration Architecture. The existing internal financial system of the organization will not be replaced, but there will be a Software Bridge for real-time information synchronization. System will automatically add service information into a local reporting layer, while multiple databases can be supported during application processing. This integration removes daily notes that are manually handled and ensures that will keep the tracking accurate even during high-volume periods, such as the peak of over 1,300 applications processed and hunded in the first quarter of 2026.

3.4.3 Key Technical Components

The following factors were prioritized in order to promote technical advancement:

- **Automated Data Extraction (OCR):** The system has the capability to collect the Machine Readable Zone (MRZ) information in passports in an automated manner by using the technology known as Optical Character Recognition (OCR). This eliminates the data input process, which cuts down on the human errors that often occur with high-speed data processing.
- **Operational Resilience (Asynchronous Buffering):** To help avoid "Office Paralysis" due to server latency, a Localized Data Buffer is provided, achieving operational resilience or "asynchronous buffering. This will enable the staff to keep processing applicants without interruption, queueing the data to an Automated Daily Sync, once connectivity is restored.
- **Centralized Monitoring Dashboard:** Manual tracking will be replaced with a digital dashboard that will provide real-time visibility of the status of the 'Pending', 'Approved', and 'Rejected' items. This makes the work easier since it is able to provide the management with real-time operation information.

3.4.4 System Workflow and User Interface

Design will emphasize a User-Centric UI which will ensure that the system will be easy and efficient to staff to use. The Workflow is based on a logic of First-Time-Right (FTR):

- **Input:** OCR scan acquires primary applicants data from documents.
- **Validation:** To verify that there are no incorrect entries in manual transactions, the system compares the scan against internal rules.
- **Synchronization:** Ensuring a seamless transition from front-end to back-end: Verified data will be stored in the local buffer, ready for transmission, to ensure a seamless transition from front-end to back-end.

3.4.5 Security and Data Privacy

The system has a feature of Role Based Access Control (RBAC) which is observed according to the diplomatic standard and data protection rules. This will help to ensure that any data involved in the application process is protected and kept secure, and that the organisation is seen as a trustworthy visa processor.

3.4.6 System Design

System design transforms the functional and non-functional requirements to technical structure. The architecture is to be capable of high-volume processing, for example, peaks such as the 690 passports recorded in March, while maintaining the integrity of the data, by automation and secure access protocols.

3.4.6.1 Tiered Architectural Framework

It is recommended that a three-tier design should be implemented in order for achieving system scalability and reliability:

- **Presentation Layer (Frontend):** This layer provides a staff efficiency and user-friendly web interface, based on the role. It also offers a dedicated OCR scan module that can be used to scan documents and a centralized dashboard to view the real-time status of the application in the Workflow Tracking.
- **The application logic layer, or (backend):**
 - **OCR Processing Module:** Applies algorithms to capture MRZ data from passports to directly overcome the manual error rate in MRZ data collection, which is 10-12%.
 - **Workflow Engine:** Automates the life cycle of a visa application, tracks processes from submission to embassy delivery, across geography.
 - **Localized Buffer Module:** A technical solution to “Office Paralysis” which enables offline data entry during latency of the Embassy servers, subsequently synchronizing once connection is re-established.
- **Data & Integration Layer:**
 - **Secure Metadata Vault:** An encrypted database that holds information about applications and maintains version control for files to avoid data conflict.
 - **System Connection Bridge:** Enables reliable record-keeping by offering smooth connectivity with the internal finance system.

3.4.6.2 User Roles and Security Permissions

The system establishes various access levels to protect sensitive diplomatic metadata in accordance with the Role Based Access Control (RBAC) requirement:

Table 2: User Roles and Security Permissions

User Role	Access Level	Primary Permissions
Founder / Senior Leadership	Global Admin	Full administrative access, project configuration, and oversight of global compliance settings.
Department Head / Manager	Departmental Control	Task assignment, progress monitoring, and final authorization of departmental documents.
Operations Staff	Standard User	Execution of OCR scans, updating task statuses, and uploading applicant documents.
Intern / Volunteer	Restricted Access	Limited read-only access to assigned tasks and the ability to upload files for supervisor review.

3.4.6.3 Design Rationale

Priority is taken of the Operation Resilience in the design logic. The system ensures First-Time-Right (FTR) by switching to the automated procedure with the help of OCR in place of manual data entry. Furthermore, because the local buffer is built-in, the organisation will have the capacity to serve its anticipated number of applicants (400+ per month) even if the external international servers go offline. This design offers a professional, submittable solution, which meets all the academic and organizational goals.

3.4.7 System feature

The proposed digital solution for MOSAIC Visa is intended to overcome the shortcomings of the current manual solution. All the following features are designed to give a high performance environment for data integrity even in the peaks of the 690 passports/month reported.

3.4.7.1 Intelligent Data Acquisition and OCR Engine

The main objective of the system is to remove the human error that occurs in the clerical work and make the work automatic by using intelligence.

- **High-Precision MRZ Parsing:** At the heart of the system is an Optical Character Recognition (OCR) engine that is specially trained to recognize international travel documents. The system is able to retrieve the data directly from the Machine Readable

Zone (MRZ), thus eliminating the 10–12% human error that was discovered in the research stage.

- **Algorithmic Verification:** It will enter into an automated verification layer after capturing the data. This layer matches the date of validity, passport numbers and the length of characters found in the passport to the standards set by the embassy. This First-Time-Right mechanism will see that the 400+ monthly applicants projected to 2026 are not faced with the submissions rejection due to typing issues.
- **Batch-Processing Architecture:** To cope with the seasonal peak loads, the OCR module is designed to be multi-threaded and will enable staff to queue dozens of passports at a time, thereby significantly decreasing the “Office Paralysis” during the high-volume months.

3.4.7.1 Enterprise-Grade Security and Compliance Architecture

MOSAIC Visa is a visa processing company and the only exclusive partner with the Turkish Embassy, therefore they are working with sensitive diplomatic metadata which must be secured and not disclosed.

- **End-to-End Encryption (AES-256):** All the personal information about the applicants is encrypted using the Advanced Encryption Standard (AES) and 256-bit keys; this is known as End-to-End Encryption (AES-256). This is so that data will not be readable to unauthorized parties regardless of whether the data is being stored in the database (at rest) or is being transferred to the embassy servers (in transit).
- **Granular Role Based Access Control (RBAC):** The system is using the principle of least privilege. The access permissions are separated into Founders, Managers and Staff, ensuring that only authorized users are able to access sensitive files, thereby meeting the GDPR and local data privacy standards.
- **Comprehensive Audit Logging:** Log of all user actions created by the system that are permanent and cannot be altered. This is an audit trail that lets the company know who has accessed information, when, and what information it is; and that helps the company be professionally accountable and responsible.

3.4.7.2 Operational Continuity and Resilience Modules

The report found that international latency of servers is one of the biggest obstacles to local productivity.

- **Asynchronous Local Buffering:** The system will be provided with local, asynchronous data buffer to minimize impact of external server failures. This enables the office to continue operating fully until such time as the connection is stable, the data will be stored

locally and then automatically synched with the primary database once the connection is stable.

- **Dynamic Resource Auto-Scaling:** Scalable cloud capable architecture. The system automatically adds additional computing resources during peak times to ensure low latency and no application crashes, for instance, the end of March, which is a high volume month, with 690 passports processed.

3.4.7.3 Operational Data Synchronization and Interoperability

The proposed system will act as a bridging mechanism between the front-end of the entire system, which is the visa processing system, and the back end tools which are the reporting system within the organization. This makes sure that there is smooth flow of data between the branches without the need to have manual intervention.

- **Automated Categorization and Data Logging:** The system automatically logs application type and related processing configuration for the first OCR scan, based on the service category. This real-time connection with internal databases guarantees that operational information is updated with great accuracy, without the need for manual registry, or use of spreadsheets with notes.
- **API Gateway for Unified Scheduling:** The API Gateway is consistent and used to schedule with current communication and calendar tools. This helps to minimize the number of scheduling conflicts between applicants' appointments and staff deadlines and facilitates the coordination of the delivery of documents to the Turkish Embassy across the branch.
- **Real-Time Status Visibility:** The system connects different processing stages, creating an environment that enables managers, in addition to applicants, to see the status of their passports from 'Received' to 'Sent' without having to request a manual status report by entering the invoice number on the MOSAIC Visa website. This high degree of integration means that the company is able to meet its daily process targets fully transparently.

3.4.7.4 Operational Accessibility & User Experience (UX)

The system is designed to ensure its inclusivity and the ease of learning by the diverse workforce, with different levels of digital literacy as a guarantee to ensure high adoption rates and minimum training time.

- **Progressive Web App (PWA) Framework:** With the help of the PWA technology, the system will be available on any device with a web browser, even in conditions of low bandwidth. This enables staff to continue working with information in storage, and not be interrupted from their work due to the unreliability of internet connections which disrupts operations.

- **Role-Specific Interface Design:** The interface has been adjusted to remove any unnecessary complexity. Only the necessary tools are shown to each user, depending on their position, such as the task manifests in a simplified way for processing staff, making the system intuitive and efficient.
- **Operational Clarity:** The design is simple, readable, and explainable. This will enable the staff to ensure the flow of the work process, and will give a clear and logical structure to the faculty when they review the work during the internship evaluation.

3.4.8 Summary of System Features

Proposed Digital solution of MOSAIC Visa is a strategic response to the identified operational issues during internship. A full solution with a focus of automation, security and resilience, the system ensures that the organization continues to meet their professional standards even in periods of high volumes of intensity (applications).

Table 3: Detailed Summary of System Features

Feature Category	Summary Description	Prioritized Features	Strategic Rationale
Data Intelligence	Automates data capture from travel documents to replace manual typing.	OCR Passport Scanning	Eliminates manual entry errors and increases processing speed time.
Security	Protects sensitive metadata using advanced encryption and access protocols.	AES-256 & RBAC	Ensures data sovereignty and compliance with diplomatic privacy standards.
Resilience	Maintains office productivity during server downtime via local data storage.	Asynchronous Buffering	Eliminates "Office Paralysis" during international server latency.
Scalability	Cloud-ready architecture that adjusts to traffic surges.	Auto-Scaling Resources	Ensures system stability during peak loads, such as seasonal surges.
Interoperability	Bridges front-end processing with internal management databases.	Operational API Gateway	Automates status logging and scheduling for total transparency.

Accessibility	Cross-platform compatibility with an intuitive, role-based user interface.	PWA & Role-Based UI	Ensures usability for all staff levels and functions in low-bandwidth areas.
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3.4.8 Summary of Findings

This part of the report is the conclusion of the qualitative and quantitative data gathered during intern at MOSAIC Visa. The current working situation and the difference between the current manual working systems and the proposed digital optimization model is summarized in the tables below.

Table 4: Key Operational Challenges

This table lists the main "pain points" found in the analysis of the 1,327 applications for Q1 2026.

Challenge	Summary of Impact	Strategic Priority
Manual Data Redundancy	High dependency on manual typing for 400+ monthly applicants leads to clerical fatigue and a risk of data entry errors.	Critical: Must implement OCR to automate biographical data capture.
Workflow Invisibility	Lack of real-time tracking for the 50 pending cases in March disrupts internal coordination between departments.	High: Requires a centralized dashboard for status transparency.
Connectivity Dependency	Reliance on the Turkish Foreign Ministry's "live" portal causes office paralysis during international server downtime.	Essential: Implementation of a localized "Offline Buffer" is required.
Financial Complexity	Managing over 7.8 million BDT in monthly revenue via Excel increases the difficulty of accurate VAT and margin reporting.	High: Requires an integrated financial bridge for transparent accounting.
Logistical Burden	Sorting and securing 690 physical passports per month manually creates significant logistical risks and time delays.	Necessary: A Digital Document Vault is needed to reduce physical handling.

Table 5: Desired System Features

These features are technical solutions required to overcome the challenges above and are based on employee requirement scores.

Feature	Summary of Benefit
OCR Passport Integration	Focusing to reduce workflow processing time per-applicant from 15-20 under 10 minutes, by eliminating manual typing.
Dynamic Status Dashboard	Provides instant visibility for staff on the progress of every file, directly addressing the "Pending" case backlogs.
Digital Document Vault	Facilitates secure, encrypted storage of applicant metadata, significantly reducing the need for constant physical document retrieval.
Cloud-Sync Buffer System	Allows the branch to maintain productivity during server outages by saving data locally and syncing automatically once restored.

Table 6: Security and Support Expectations

This table sets out the key security requirements for a Diplomatic Service partner.

Concern	Summary of Requirement
Access Control	To ensure that only authorized staff can have and handle sensitive diplomatic data and information by implementing the Role-Based Control(RBAC).
Data Encryption	Unanimous agreement on utilizing industry-standard encryption for both stored data and real-time communications.
24/7 Troubleshooting	Critical requirement to accommodate the time-zone differences between Dhaka and Türkiye for server maintenance.

Table 7: Tool Usage and Scalability

The importance of institutional training and technical adaptability are pointed out in this section.

Observation	Strategic Requirement
Low Tool Adoption	The office personnels currently rely on basic tools such excel/ Email for daily activity. Therefore, the new system has to be userfriendly.
Satisfaction Gaps	Current tools do not match the high-volume requirements, indicating a strong organizational readiness for digital change.
Operational Scalability	The system must be capable of handling high volumes of 70 to 80 daily applicants without performance degradation.

3.5 Summary and Conclusions

The operational analysis carried out during this internship at the Banani, Dhaka branch shows that even though a lot of visa processing is done by the MOSAIC Visa, there are major risks in the current operations because of the lack of automation and reliance on legacy systems. The results show that a “First-Time-Right” (FTR) digital infrastructure is no longer a luxury, but a necessity, to counteract manual administrative mistakes, server downtime, and coordination delays.

The proposed shift from an OCR-based administrative system to Azure directly tackles these challenges, offering a scalable and secure platform for efficient real-time document tracking and biometric synchronization. Localized data buffering and real-time management dashboards will allow a smooth application process for applicants and high data integrity in communication with diplomatic missions. If this is to be successful in the long term, there is a need to invest in staff training and a reorientation of services to a value-driven approach. This roadmap, if implemented, will allow MOSAIC Visa to increase its processing and service capabilities while continuing to

be a premier administrative partner in the visa service field and enhance the accuracy of its services.

3.5.1 Limitations of the Study

To maintain the academic integrity of the research we need to acknowledge several localized and systematic limitations, while this study provides a comprehensive analysis of the **MOSAIC Visa Bangladesh** workflow. Firstly, MOSAIC Visa is the official authorized service provider for the Turkish Embassy in Bangladesh and the data collected reflects its monopoly of visa traffic. On the other hand, findings about the behavior of applicants and their throughput may not be directly applicable to other markets of the visa service, which may be more competitive and decentralized. Secondly, since the MOSAIC Visa operates visa application services under the Turkish Embassy in multiple country around the globe which is coordinated by the Main office in Turkey, the study did not have access to overall international synchronization protocols. The focus of observation was on the administrative functions of the Dhaka City, and complex data handshakes across borders and high level server integration in diplomacy was beyond the scope of the research. Additionally, the internship was of an administrative type, thus eliminating the possibility of a formal technical stress test of the proposed OCR and cloud-buffering solutions. Lastly, the study could not test the “classified” backend encryption levels enforced by the Turkish Embassy, which is also a problem with respect to speed.

3.5.2 Implementation of the Plan

The following roadmap is suggested for the 12 week period to provide a structured and low-risk approach to rollout of the optimized digital framework.

Table 8: Project Phasing and Milestones

Phase	Duration (Weeks)	Key Activities and Milestones
Phase 1: Planning and the Setup	1–2	Fulfilling technical specifications, establishing an Azure infrastructure, and purchasing OCR hardware.
Phase 2: System Configuration	3–5	Setting up cloud databases; data buffers locally; integration of AES-256 security measures.
Phase 3: Testing and getting Feedback	6–8	Carrying out "Initial Trial Runs" at a particular counter, getting senior staff feedback , and resolving UI/UX issues if there was any.

Phase 4: Training and Deployment	9–11	Delivering staff training sessions; identifying Departmental Super-Users; full branch production launch.
Phase 5: Post-Launch Support	12+	Continuous system monitoring; addressing bugs; rolling out feature updates and monitoring Turnaround Time (TAT).

3.5.3 Required Resources

To implement the modernized system successfully we need a balanced allocation of human, technical, and financial resources.

- **Human Resources:** System Architects to implement cloud infrastructure, IT Support Personnel to offer on-site support, and Departmental Super-Users in Customer Care and Biometrics to act as peer-to-peer trainers.
- **Technical Resources:** Microsoft Azure subscriptions (SQL databases, Key Vault for security), high-speed OCR scanners, and upgraded office workstations are essential resources. The offline buffering protocol requires strong Internet connection and locally backed up servers that have encryption capabilities.
- **Financial Resources:** The ongoing expenses for cloud-based software, equipment purchases (scanners and biometric devices), staff training, and a contingency fund for unexpected technical integration issues.

3.5.4 Staff Training and Support

Table 9

Method	How it Works
Hands-On Workshops	Live practice sessions where staff learn how to use the new OCR scanners and the digital dashboard in a "real-life" office setting.
On-the-Spot Help	Train one skilled staff in each department (Customer Care, Reception, Biometrics etc.) so when problems are encountered, staff will be able to get immediate support from someone nearby.
Quick-Reference Cards	Simple instructions at each desk in one page "Cheat Sheets". This shows that only 3 or 4 key actions to take and do not need to be memorized from the system.

Video Tutorials	Short videos (2-3 minutes) can be used to remind the staff of the use of a particular feature at any time.
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3.6 Recommendations:

In line with the manual-entry system of MOSAIC Visa currently being used, the following strategic recommendations are developed to move towards a resilient, automated (OCR) and “First-Time-Right” (FTR) operational model. The recommendations in this case utilize modern organizational technologies and infrastructure improvements to improve the efficiency and minimize operational mistakes at the company's Dhaka branch.

3.6.1 Technical Infrastructure and Workflow Automation

The main goal of technical modernization is minimizing the "Process Cycle Time" and eliminating manual transcription for repetitive administrative tasks.

3.6.1.1 Operating Optical Character Recognition (OCR) Systems

- **Recommendation:** Branch should install high-speed OCR scanning machines in the main reception and back-end machines.
- **Operational Impact:** This approach nearly eliminates the current 10-12% mistake rate of manual data entry by methodically eliminating data from passports' Machine Readable Zone (MRZ).
- **Throughput Gain:** The "Initial Data Entry" stage will be shaved by about 60% of per applicant time with automation, which enables the team to process the surge in volume during peak times like March, when the company took 690 applicants.

3.6.1.2 Implementation of Asynchronous Offline Buffering Protocols

- **Recommendation:** Implement "Local Data Buffer" approach in internal branch network, to protect from international server downtime.
- **Business Continuity:** This enables data of the Applicant to be continued to be captured locally by the customer care officers, Biometrics and Reception units, even if the Turkish Ministry's central servers suffer from latency or complete outages.
- **Synchronization Mechanism:** Once the Internet connection is regained, the system will automatically synchronize the local data - hence working-day will not be disrupted even if the external Internet is not stable. An enterprise cloud infrastructure will transition to Azure, a trustworthy cloud platform provider.

3.6.1.3 Transition to Azure Based Enterprise Cloud Infrastructure

- **Recommendation:** To achieve long-term scalability and world-class data security, localized administrative databases should be fully migrated to Microsoft Azure.
- **Security Standards:** Azure has the key encryption (AES-256) and the key vault service necessary to secure diplomatic records.
- **Administrative Synergy:** This is a platform that is already linked to the Microsoft Excel and Power BI that is already used on the branch to perform financial reconciliation and monitor the number of transactions daily.

3.6.2 Operational Governance and Management Visibility:

To achieve its successfully expanded number of 410 to more than 500 monthly applicants, the management needs to leave its manual monitoring and adopt a data-driven "Command Center" strategy.

3.6.2.1 Real-Time Operations Monitoring Dashboard

- **Recommendation:** The centralized digital dashboard will allow having a visual overview of the Applicant Lifecycle of registration to the final stage collection of the passport.
- **Resource Allocation:** Managers are able to detect in real-time and dynamically redistribute resources to stabilize a constant Turnaround Time (TAT) such as the example of the Finance desk having a backlog; the managers are aware of this and can redistribute the resources to balance the backlog.
- **Performance Auditing:** Manual logs are replaced with digital logs that will help more accurately determine the efficiency of staff and office working as well as the performance of staff during monthly performance reviews.

3.6.2.2 Standardized "First-Time-Right" (FTR) Audit Protocols

- **Recommendation:** Create a digital check list for the Logistics department of the branch to review "Embassy Bundles" before the application documents are sent off in the vehicle.
- **Reason:** When preparing the documents sets for submission, it will ease the administration of following rejected applications and boost the branch's professional image with the diplomatic mission.

3.6.3 Revenue Optimization and Service Diversification

The benefits of technical automation must be measured and returned to higher margin pursuits and improved customer experiences.

3.6.3.1 Value-Added Services (VAS) Growth Strategy

- **Suggestion:** Proactively promote Value-Added Services by using the 10–12 minutes saved from each applicant time (via OCR).
- **Revenue Growth:** Front-line employees such as receptionists should concentrate on promoting Delivery Tracking packages, peak-hour appointments, and admission to the

Premium Lounge. Compared to traditional office expenses, these services offer far bigger returns.

3.6.3.2 Turnaround Time (TAT) as a Competitive Advantage

- **Target:** Applicants to be timed to a reduced - streamlined - average of 25 minutes in "In-Office".
- **Market Position:** The significantly faster TAT with high accuracy certainly maintains the market position of MOSAIC Visa as an elite partner for visa processing.

3.6.4 Training and Implementation

Adopting technologies is also an important factor in supporting the smooth and seamless shift towards new technologies and it is necessary there should be a structured approach to this.

- **Initial Trial Run (Pilot Phase):** One of two senior officers are introduced to the OCR and Dashboard systems for a trial of one week or less to address minor technical issues, before a rollout of these systems to the rest of the employees in the office.
- **Departmental Super-Users:** Identify and train 1 person in each department (Customer Care, Reception, Biometrics, Finance) to be able to do on the spot troubleshooting support for other people in their departments.
- **Continuous Feedback Integration:** During the implementation process, set up a regular schedule (Weekly or monthly Technical Briefings) to allow staff to share issues with usability and guarantee that the software supports the workflow.

3.6.5 Enterprise Cloud Solution Benchmarking

To make sure that the suggested changes meet the company's Dhaka branch's particular security and administrative needs, a benchmarking of leading providers had been carried out.

Table 10: Enterprise Cloud Solution Benchmarking

Selection Factor	Microsoft Azure	Amazon Web Services (AWS)	Google Cloud (GCP)
Admin/G2C Support	Superior: Specialized support for government-to-citizen service portals.	Moderate: High versatility for general commercial applications.	Moderate: Strong research tools but fewer admin-specific benefits.
Data Compliance	High: Advanced tools for regional data residency and international privacy.	Mature: High-level security, though configuration is complex for non-IT staff.	Good: Strong encryption but fewer specialized certifications.

Workflow Integration	Native: Seamlessly compatible with existing Excel and Power BI analysis.	Modular: Adaptable design, but specific IT expertise is needed.	Strong: The best AI for translating and analyzing documents.
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3.6.6 Ethical Governance and Data Privacy

For a diplomatic mission under Embassy supervision, if the information is sensitive, security is the primary concern for handling such information and so any technical changes must be security first.

- **End-to-End Encryption:**The AES-256 standard should be used to secure all metadata and sensitive biometric information, both during shipping and at rest of the information.
- **Role-Based Access Control (RBAC):** Access rights should be clearly defined, like Operations Managers are able to access the full audit log while Receptionists can only see applicant or customer visa status updates.
- **Global Privacy Compliance:** The digital framework should be tailored in a way to ensure complete adherence to local data privacy laws and international privacy standards, ensuring the integrity of data for international travelers.

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