Monitoring BIR and DTI Tax Obligation Management System

Regien Mae D. Colot[1], Arcven Lee O. Manlegro[2], Michael John T. Caga-anan[3],
Jonel E. Ebol[4], Dr.Philipcris C. Encarnacion[5]
[1]Saint Columban College, Philippines, regienmae.colot@sccpag.edu.ph
[2]Saint Columban College, Philippines, arcvenlee.manlegro@sccpag.edu.ph
[3]Saint Columban College, Philippines, michaeljohn.caga-anan@sccpag.edu.ph
[4]Saint Columban College, Philippines, jonel.ebol@sccpag.edu.ph
[5]Saint Columban College, Philippines, philipcrisen.ccs@sccpag.edu.ph

ABSTRACT

Business owners often struggle to keep up with tax payments, manual paperwork slows everything down, allowing documents to get misplaced or lost without notice. Important deadlines are missed, important information is hard to track down because of the delays, unexpected penalties arise, and there is increased work for the bookkeeper.Using a digital setup called the Monitoring BIR and DTI Tax Obligation Management System, this tool helps bookkeepers in keeping track of taxes. With its features, bookkeepers can securely store documents while keeping a close eye on due dates. Alerts appear automatically to ensure that no deadlines are missed. Every piece of information is updated in real time, providing distinct perspectives on the demands of the present.This system is built to help bookkeepers follow the rules and make fewer mistakes. Its clear design makes tax responsibilities easier to understand. Everything works in the background so bookkeepers and business owners don't get confused.

Key words : Tax Obligation Management System, Bureau of Internal Revenue (BIR), Department of Trade and Industry (DTI), Tax Compliance, Document Management, Web-based System, Automated Notifications

1. INTRODUCTION

In the Philippines getting taxes right matters when you run a business, rules must be followed, money goes where it should. The BIR and DTI expects every company to register properly, stick to guidelines, keep their status active. Still, plenty of firms rely on old-school paper trails, which messes up tracking dates, sorting files, knowing what changed. When everything's written by hand or kept loose, papers vanish, due dates slip, things pile up later because fines show up out of nowhere (Tuazon, 2022)[1].Government work shifts online.

When paperwork turns into pixels, companies must track taxes differently. Efficiency often follows new tools. Better precision shows up when old ways fade. Access opens wider without paper stacks. Mistakes shrink but never vanish completely. Systems adapt because they have to, even with progress in digital tools, keeping tax documents neat and on schedule remains tough for lots of tiny or midsize businesses across the country (Philippine Statistics Authority, 2023)[2]. Old-school paperwork habits linger behind the scenes, slowing things down more than expected (Serrano & Reyes, 2021)[3].To tackle such problems is through the Monitoring BIR and DTI Tax Obligation Management System it is a tool built so bookkeepers can follow, keep, and handle tax duties all within one protected space. Instead of guessing when something is due, alerts happen automatically, records stay organized, while live changes reflect current status. Accessing tasks on the go becomes possible because a phone app lets users check responsibilities or add files at any moment. Security stays tight, functionality remains clear, effort drops noticeably behind the scenes.

This capstone project looks into ways a digital tracking tool might assist companies in meeting tax rules, cutting down on paperwork mistakes, while making dealings with officials smoother. With clear layout and ease of use, it works toward giving local entrepreneurs better control over their tax duties. Development followed the Waterfall Model, creating a clear path through each stage with strict order. How good the system is shows up in how people use it, whether tasks work smoothly, if errors stay low, and data stays protected - standards tied to ISO/IEC 25010 [5], [4].
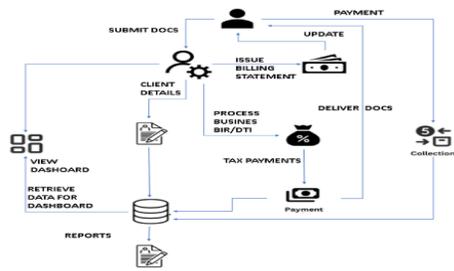
1.2 Figures

Figure 1: Product Perspective Diagram

Figure 1 shows how the Monitoring BIR and DTI Tax Obligation Management System works from a product standpoint, focusing on how the bookkeeper uses it. Starting from the dashboard, the bookkeeper checks due dates, unpaid taxes, current alerts, plus tracks what needs attention each week. Instead of jumping between tools, everything ties together: entering client data happens here, along with uploading paperwork tied to filings. Through one space, handling submissions for both BIR and DTI tasks becomes part of the daily flow. Billing slips pop up automatically, money movement gets logged right away, collections build over time - all kept in a single storage hub. As payments go through, changes show instantly so nothing lags behind or misses sync. One way it helps? By pulling up documents plus creating reports so tracking taxes stays smooth. Built-in links between tools mean everything runs in order without hiccups. No clutter, no guesswork - just clear steps that cut down busywork. Mistakes drop off when tasks follow a steady pattern. Staying on schedule becomes easier when the setup works quietly behind the scenes. Order shows up where chaos once lived. Time saved adds up fast when each move feels natural. Everything lines up right when pieces connect without force.
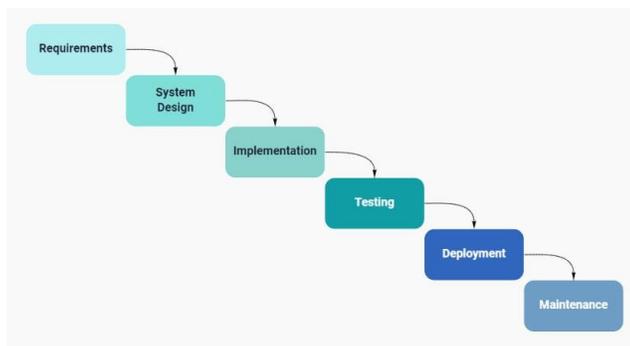
1.3 Research Design

Figure 2: Process Model

Figure 2 shows the **System Development Life Cycle (SDLC)**. It explains the steps we followed to develop and maintain the system. Each step is done in order to make sure the system works properly. First is the **Requirements** stage, where we identify the needs of the users and set the goals of the system. Next is **System Design**, where we plan how the system will look and how it will work. After that,

Implementation is done, where we build the system based on the design. Then comes **Testing**, where we check the system to find and fix any errors. Once the system is working properly, it moves to **Deployment**, where it is released for users to use. Lastly, **Maintenance** is done to update the system and fix problems so it continues to run smoothly. Overall, it shows how the system is developed step by step, starting from planning to maintenance. It highlights how each stage is important and connected, ensuring that the system is properly built. By following this process, the system can meet user needs, reduce errors, and remain effective and reliable over time.

1.2 Functional Suitability: The system's ability to support tax monitoring, document management, deadline tracking, and payment recording for BIR and DTI requirements;

1.3 Performance Efficiency: The responsiveness and efficient use of system resources during data processing;

1.4 Compatibility: The system's capability to operate across different browsers, devices, and network environments;

1.5 Usability: The ease of use and clarity of the interface for bookkeepers in managing tax records;

1.6 Reliability: The system's stability, data accuracy, and error-handling capability;

1.7 Security: The protection of sensitive tax information through secure access and data management;

1.8 Maintainability: The ease of updating and enhancing the system to adapt to changes in tax regulations.

1.4 Technical Specifications

The system was built using modern web technologies to ensure scalability, security, and user-friendliness:

- Frontend: HTML5, JavaScript, CSS
- Backend: PHP
- Database: MySQL
- Hosting: Infinity Free App
- Users: Bookkeeper

2. RESULTS

Starting off, the Monitoring BIR and DTI Tax Obligation Management System took shape through the waterfall approach. This path followed IEEE guidelines closely, step by step. Development moved forward in phases - each built on what came before it. First came planning, then design shaped the structure. After that, coding turned plans into working parts. Testing checked everything piece by piece. Finally, deployment put the system into real use

2.1 Review
Right off, folks pulled details straight from talking with bookkeepers. To pin down what the system needed to do, they used surveys - then followed up with talks. Once everything came together, building started only when time plans matched money limits.

2.2 Planning

Right from the start, clear goals shaped how the Monitoring BIR and DTI Tax Obligation Management System took form defining what it should do, where it would apply, and what results to expect. With roles assigned according to skill and time, each person stepped into duties that matched their strengths. Budgets sketched out early, timelines drawn, staffing mapped - every piece of support laid down in order. Because steps followed one after another without gaps, progress stayed steady, spending stayed under control. Order in planning led to cleaner execution, building something reliable, straightforward, secure, built for real use when tracking or filing taxes.

2.3 Design

Crucial moments shaped how the **Monitoring BIR and DTI Tax Obligation Management System** would take form during early planning. Where things stood mattered - turning needs into clear architectural plans became the main goal in location-focused building approaches.

2.3.1 Technical Specification

One way it helps bookkeepers? By bringing everything into a single online space. Instead of juggling multiple tools, users find business registrations, deadlines, and filings in one spot. Sometimes details slip through cracks - this aims to stop that. Picture logging in each morning to see what needs attention today. Updates happen live, so stale data fades out. Think less paperwork, more clear checklists. Over time, staying current becomes routine rather than rushed. Each task links directly to either BIR or DTI rules without extra steps. What stands out? It cuts back on guesswork during busy months. Not magic - just better flow.

From time to time, bookkeepers handle document uploads while checking what's needed. Deadlines pop up on their radar thanks to alerts they get ahead of time. Reviewing paperwork goes hand in hand with tracking if rules are being followed. Accuracy in taxes comes through steady oversight, not luck. Missed dates become rare when updates keep flowing. Clarity grows because each step leaves a trace. Responsibility sticks around when progress is visible.

From the start, one main database runs everything - keeping information safe through tight access controls. Updates flow smoothly across devices because records stay in sync automatically. This setup builds trust by working quickly without errors piling up over time. Efficiency grows when handling tax tasks for BIR and DTI under one roof. Compliance becomes easier since deadlines are met with less effort. Records line up neatly, always ready when needed.

The following components serve as the foundation of the platform:**Visual Studio Code** – for system development and interface implementation

Firebase – for secure data storage, authentication, and real-time synchronization
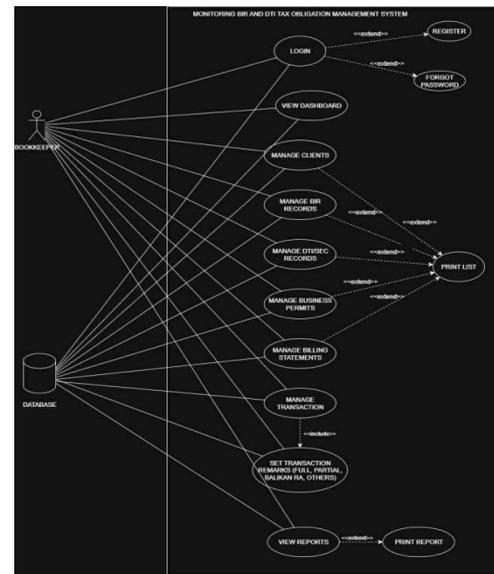**MySQL PhpMyAdmin**
C#
Java Script

Figure 3: Use Case Diagram

Figure 3 shows the Use Case Diagram of the Monitoring BIR and DTI Tax Obligation Management System. The main user of the system is the bookkeeper, who interacts with various functions to manage tax-related tasks. The bookkeeper can log in or register to access the system and view and manage a dashboard that provides an overview of important information. They can manage clients, BIR records, DTI/SEC records, business permits, billing statements, and financial transactions. The system also allows setting transaction deadlines to help avoid missing tax payments or filings. Additionally, the user can view reports that give insights into tax obligations and transactions. Throughout these activities, the system stores all information in a central database and offers options to print lists and reports for documentation and review. Overall, the diagram illustrates how the system supports the business owner in organizing and handling their tax responsibilities efficiently.

3. INTERFACE DESIGN

Interface design is the way we bring real-world scenarios into a digital system. It takes the tasks and ideas that bookkeepers deal with every day and represents them visually through screens, buttons, menus, and other controls. This helps bookkeepers understand what the system does and how to use it easily. Interface design acts like a bridge between the real world and the digital world, making the system feel familiar, simple, and intuitive. A well-designed interface clearly reflects the user's needs and goals, so interacting with the system becomes natural and efficient. By turning complex tasks into easy-to-use visuals, interface design guides users

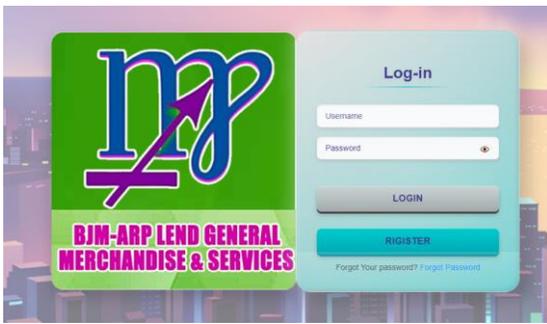step by step, making their experience smoother, faster, and more effective.

Figure 4: System Sign-in

Figure 4 shows the Monitoring BIR and DTI Tax Obligation Management System Sign In. Here, a user enters their username and password to access the system. Once the details are submitted, the system immediately checks them. If the information is correct, the user is granted access and taken directly to the main screen. If there is an error in typing, a notification appears right away, informing the user that the entered information does not match the records. This ensures secure and efficient access to the system.
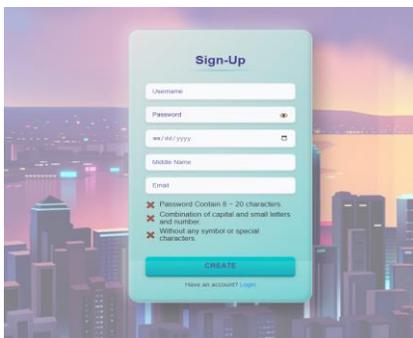
Figure 5: System Sign-up

Figure 5 shows the Monitoring BIR and DTI Tax Obligation Management System Sign Up process. New users can create an account by entering their personal information, such as their username, email, and strong password. Once the information is submitted, the system verifies the details and securely stores them in the database. After a successful registration, the user can log in and access the main features of the system. This process ensures that only authorized users can use the system while keeping their information safe.
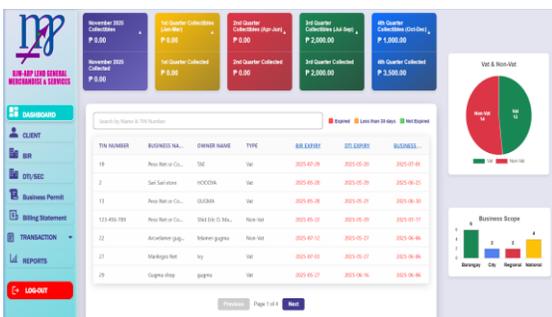

Figure 6: System Dashboard

Figure 6 shows the dashboard of the Monitoring BIR and DTI Tax Obligation Management System, designed to give bookkeepers a clear and organized overview of key tax-related information. On the left, there is a navigation menu that allows users to easily access different sections such as clients, BIR records, business permits, transactions, and reports. At the top, is a snapshot of tax amounts collected for various quarters. The center of the dashboard features a detailed table listing taxpayer information, including TIN numbers, names, tax types, statuses, and upcoming payment deadlines, helping users keep track of important dates. On the right, visual charts display the breakdown of taxpayers by VAT and Non-VAT categories as well as the scope of business operations at local and national levels. Overall, the dashboard brings together vital data in one place, making it easier for bookkeepers and business owners to monitor tax obligations and stay organized.
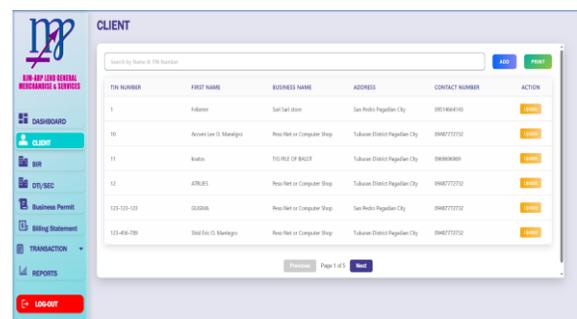

Figure 7: Client Page

Figure 7 shows the Client Page of the Monitoring BIR and DTI Tax Obligation Management System, which serves as a centralized platform for managing and monitoring registered clients. The page displays a well-organized table containing essential client information such as TIN number, first name, business name, address, and contact number, allowing users to easily identify and verify client records. A search bar is provided to quickly locate specific clients, while the Add and Print buttons support efficient record management and documentation. The Action column includes options to view and edit client details, ensuring that information remains accurate and up to date. Overall, this page improves data organization, accessibility, and efficiency, helping streamline the monitoring of tax obligations and reduce issues caused by manual record handling.
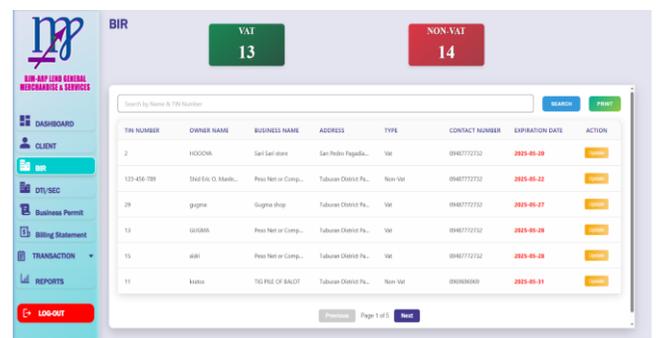

Figure 8: BIR Page

Figure 8 shows the BIR Page of the Monitoring BIR and DTI Tax Obligation Management System, which focuses on monitoring clients' compliance with Bureau of Internal Revenue requirements. The page displays a structured list of clients with key details such as TIN number, owner's name, business name, address, contact number, and BIR expiration date, making it easier to assess registration status. Summary indicators showing Valid and Non-Valid records provide a quick overview of compliance. The search function allows users to locate specific entries efficiently, while the action options enable viewing and updating of records. Overall, this page supports effective tracking of BIR obligations, helping prevent missed renewals and improve compliance management.
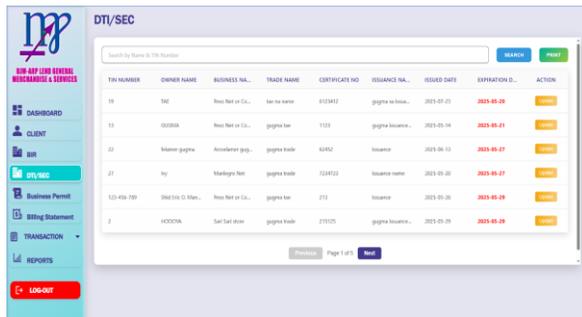

Figure 9: DTI/ SEC Page

Figure 9 presents the DTI/SEC Page of the Monitoring BIR and DTI Tax Obligation Management System, which is designed to track and manage business registrations with the Department of Trade and Industry and the Securities and Exchange Commission. The page displays a well-organized table containing important details such as TIN number, owner's name, business name, trade name, certificate number, issued date, and expiration date, allowing users to easily monitor the validity of registrations. A search feature enables quick access to specific records, while action options allow users to view and update registration information as needed. Overall, this page supports efficient monitoring of DTI and SEC compliance, helping ensure that business registrations remain valid and up to date.
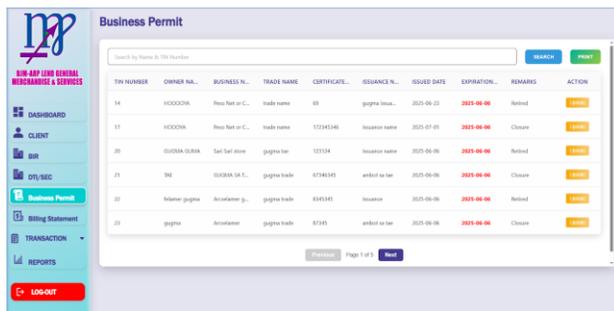

Figure 10: Business Permit Page

Figure 10 shows the Business Permit Page of the Monitoring BIR and DTI Tax Obligation Management System, which is used to track and manage the status of clients' business

permits. This page presents a structured list of businesses with relevant details such as TIN number, owner's name, business name, permit number, issued date, and expiration date, making it easy to monitor permit validity. A search function allows users to quickly locate specific records, while action buttons enable viewing and updating of permit information. Overall, the Business Permit Page supports effective monitoring of business permit compliance, helps prevent expired permits, and ensures that business operations remain legally compliant.
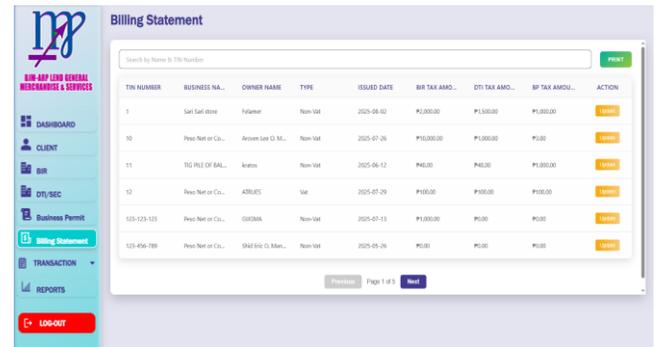

Figure 11: Billing Statement Page

Figure 11 shows the Billing Statement Page of the Monitoring BIR and DTI Tax Obligation Management System, which is designed to manage and monitor clients' billing records related to their tax obligations. This page displays a detailed list of billing statements with relevant information such as client details, billing period, amount due, due date, and payment status, allowing users to easily track outstanding and settled accounts. The organized table format and search feature help users quickly locate and update specific billing records. Overall, the Billing Statement Page supports accurate financial tracking, promotes timely payments, and helps reduce delays and penalties associated with unpaid obligations.
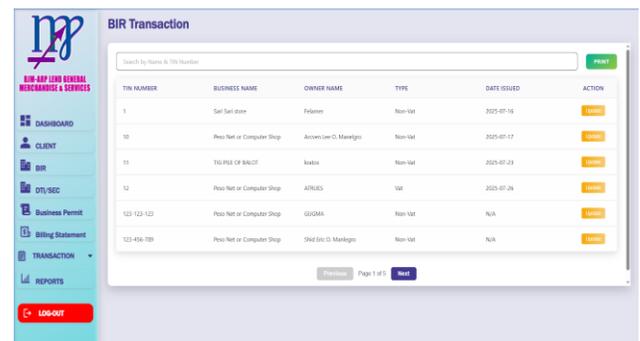

Figure 12: Transaction Page

Figure 12 shows the Transaction Page of the Monitoring BIR and DTI Tax Obligation Management System, which is used to record and monitor all financial transactions related to clients' tax obligations. This page provides a clear and organized list of transactions, including details such as transaction ID, client information, transaction date, amount, and payment status. The table format allows users to easily

review transaction histories, while the search function helps locate specific records quickly. Action options are available for viewing transaction details and updating records when necessary. Overall, the Transaction Page ensures accurate record-keeping, improves transparency, and supports efficient monitoring of payments and tax-related transactions.

Figure 13: Report Page

Figure 13 shows the Report Page of the Monitoring BIR and DTI Tax Obligation Management System, which is used to generate and review summarized records of clients' financial transactions. This page presents organized table containing details such as account number, client name, month and year, and remarks. The search function allows users to find specific records, while the export options enable reports to be saved in PDF or Excel format for documentation and reporting purposes. Overall, the Report Page supports accurate record management, improves data accessibility, assists in efficient monitoring and reporting of clients' tax-related transactions.

2.1 Abbreviations and Acronyms

App – Application
BIR – Bureau of Internal Revenue
DTI – Department of Trade and Industry
Excel – Microsoft Excel (Spreadsheet Application)
IEC – International Electrotechnical Commission
ISO – International Organization for Standardization
ISO/IEC 25010 – Systems and Software Quality Requirements and Evaluation (SQuaRE) Model
Non-VAT – Non-Value-Added Tax
PDF – Portable Document Format
PSA – Philippine Statistics Authority
SDLC – System Development Life Cycle
SEC – Securities and Exchange Commission
TIN – Taxpayer Identification Number
UI – User Interface
VAT – Value-Added Tax

2.2 Other Recommendations

Future improvements to the Monitoring BIR and DTI Tax Obligation Management System may involve integration with official BIR and DTI online platforms to enhance data accuracy and minimize manual data entry. The development of mobile application support is also recommended to provide

users with convenient access to records, alerts, and document uploads. Moreover, implementing additional security measures such as two-factor authentication and encrypted data storage can further safeguard sensitive information. Finally, extending the system to include automated tax computation and scalability for larger enterprises may enhance its overall efficiency and effectiveness.

3. SOME COMMON MISTAKES

1. Absence of regular record updates, which results in outdated client, billing, and transaction information.
2. Billing records not updated on time, leading to confusion regarding payment status and outstanding balances.
3. Client information errors, such as incorrect or incomplete TIN numbers, business names, or contact details.
4. Delayed transaction recording, causing inaccurate financial and payment records.
5. Expired registrations and permits, including BIR, DTI/SEC, and business permits due to missed renewals.
6. Failure to monitor expiration dates, increasing the risk of penalties and non-compliance.
7. Gaps in follow-up and verification, allowing unresolved obligations to remain unnoticed.
8. Human errors due to manual checking, which increase the likelihood of mistakes and missed deadlines.
9. Inconsistent use of system features, such as search tools and status indicators, reducing efficiency.

5. CONCLUSION

Bookkeepers faced difficulties in tracking tax obligations due to manual, paper-based processes. The implementation of the system solved this problem by replacing paper records with a digital platform for business registration and tax monitoring. Deadlines are now tracked automatically, reducing errors caused by manual checking. All records are stored in one place, making it easier to see completed and pending tasks. Updates are reflected immediately, and alerts notify users before due dates, helping ensure timely compliance. Every action is properly recorded, making tracking and verification easier. System testing also showed that the software is functional, user-friendly, and secure. Since its implementation, the business has been using the system daily, saving time and simplifying compliance with BIR and DTI requirements.

Lastly, we are very thankful to Regien Mae D. Colot, Arcven Lee O. Manlegro, and Michael John T. Caga-anan for their hard work, teamwork, and dedication. Their effort made it possible to complete the Monitoring BIR and DTI Tax Obligation Management System. With everyone's help, this project became a fully working system.

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