Business Case – Company Quality Items Part II

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Envisioning

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Migrating the local SQL database to the Azure SQL Database will enhance Quality Item's system scalability while improving its security and information recovery capacity. Additionally, it will streamline task management, improve collaboration between teams from different departments and provide support to make informed decisions with real-time information. This will improve its operational efficiency and ensure customer satisfaction. It is expected that this project will help the company to expand its customer base, generating greater income and market share. Furthermore, by achieving greater scalability, the company will be able to adapt to emerging technological changes, market trends and customer needs.

Product Vision Board

The following table explains the product vision board to provide a clear picture of the final project product.

Table 1

Product Vision Board

Target Group	Needs	Product	Business Goals
Who will the product benefit? Internal teams by having a more efficient workflow. Managers or executives who will have reports with real-time data to make informed decisions.	**What problems are being addressed?** The current inefficiencies and manual tasks need to be reduced through the optimization of processes. Additionally, access to data in real-time is required to facilitate decision-making.	**What are the key features of the product?** Control panel with KPIs that allow you to analyze in real-time to make decisions. Generation of automated reports, including trends that allow prioritizing	**What are the high-priority business goals?** 30% reduction in manual tasks and 20% increase in task completion. A score of 90% or more in customer satisfaction. 2-week sprint cycles to reduce sales time for new

Who are the customers and users? Customers interacting with an improved customer service platform. Employees who will use a new and efficient software application. Investors or stakeholders seeking a return on investment.	**What benefits will be provided?** Automation and optimization of workflows. Informed decision-making. Competitive advantage that allows the company to position itself in the market.	tasks through team communication and collaboration.	products. 100% compliance with GDPR and HIPAA regulations.

Note. Self-made by the group.

Product Road Map

To develop the product roadmap, it has been necessary to count on the participation of the stakeholders during the meetings. Considering them as coworkers and cocreators will strengthen relationships with them and ensure a successful migration. As observed in Table 2, the desired sequence of the feature delivery will help the company to have an overview of the project's goals and significant deliverables during the project's lifetime.

By the end of the third quarter of 2024, the team aims to understand the scope and complexity of the current IT landscape. Therefore, a kickoff meeting will set the business requirements in an Agile charter (Appendix A).

During the fourth quarter, the catalog will be developed, and it consists of identifying the IT resources such as servers, storage, systems, applications, databases, and network configurations. Then, the team will categorize the items by importance, complexity, suitability, compatibility, and strategic value. After that, they will identify the most appropriate destination for each workload to ensure all the data fits in the Azure cloud. Likewise, the development team will work on the identification of risks and set a contingency plan. By achieving those deliverables, downtime and performance impact will be minimized, making the migration easy.

During the first quarter of 2025, the main deliverable will be migration using Azure Data Migration Service. By the beginning of this period, the team will set up the data warehouse and data lake, followed by data cleaning to identify and correct inconsistencies. Setting the links between the two databases during the data mapping will ensure a successful data migration. Finally, the migration will be validated through tests and security validations, and the conclusion will be user acceptance. While the migration occurs, support teams should train new users and help them adapt to the new system. This procedure should be documented in guides and FAQs to assist during the transition. Additionally, the performance optimization should be documented and periodically informed to the SCRUM Master and sponsor.

During the second quarter of 2025, a monitoring and maintenance plan will be executed, and the company will work on more features to deploy artificial intelligence to manage its database in the cloud.

Table 2

Product Road Map

Roadmap Track	**FY 2024**		**FY 2025**	
Quarter	Quarter 3	Quarter 4	Quarter 1	Quarter 2
Quality Items Migration to Azure	• Business requirements definition • Agile Charter	• Catalog of resources, dependencies and metrics • Current Environment Assessment (Categorization of workloads, Evaluation of workload, Identified	• Azure registration • Data Warehouse and Data Lake • Data cleaning • Data Mapping • Backups • Data Synchronization • Successful Tests • Security Validation	• Monitoring and Maintenance Plan • Artificial Intelligence

		destination for each workload) • Risk Register and Contingency plan	• User acceptance • User Training • Documentation • Performance Optimization	
Confidence	Committed		Planned	Visionary

Note. Self-made.

Agile Project Charter

As mentioned before, after the kickoff meeting, the Agile project charter (See Appendix A) will be documented, providing clarity, alignment, and direction for the project while still allowing for flexibility and adaptability in case there are any change requests from the customer.

Agile Team Structure. The SCRUM team responsible for the migration is shown in Figure 1. Here, we describe the functions of each team member.

a. Project Sponsor:

- Provide financing and expect a return on investment (ROI).
- Receive periodic reports on progress, risks, and mitigation strategies, ensuring that objectives are met.
- Actively participates in reviews and compliance with key milestones by participating in decision-making.

b. Product Owner/Manager

- Responsible for anticipating the needs of potential customers of the product you will offer.
- A clear understanding of user requirements and market demands is needed.
- Work collaboratively with the development team to review features and functionality.

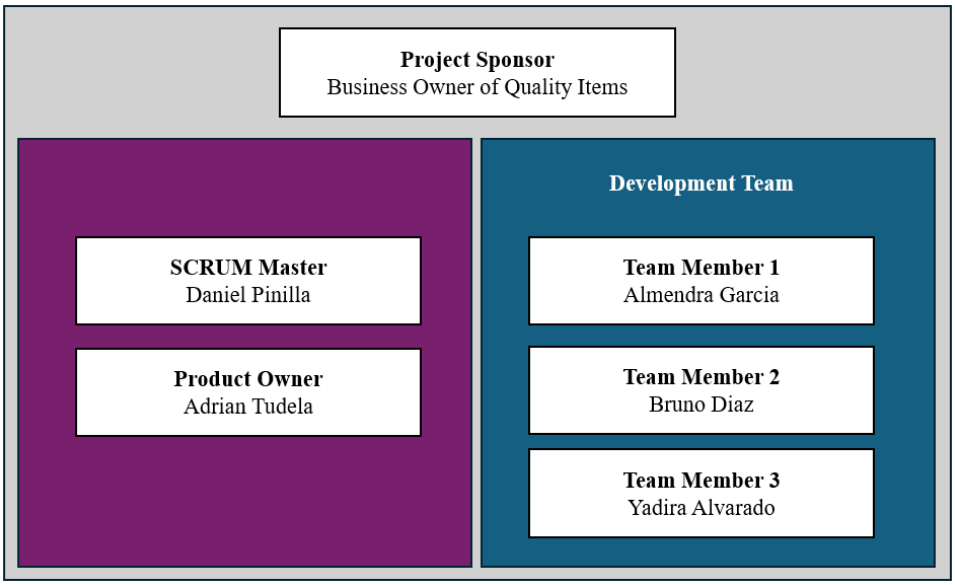
- Weekly meetings to prioritize features and review progress.

c. Software Development Team

- It is responsible for evaluating, planning and developing the migration to the cloud.
- Clear and detailed requirements are needed with feedback from the team.
- Daily stand-ups, sprints and meeting planning to improve collaboration and productivity
- Access to user stories and periodic feedback acceptance criteria with interested parties.

Figure 1

Project Governance



Note. Self-made by the group.

Project Vision. The migration of Quality Item's local SQL database to Azure SQL Database aims to significantly enhance the system's scalability, security, and data recovery

capabilities. This initiative boosts operational efficiency, ensures customer satisfaction, and supports the company's expansion efforts.

Mission. What are the deliverables that will be done in the project? The mission is to successfully migrate the current IT infrastructure to Azure SQL Database by leveraging the expertise and collaboration of the team and stakeholders as integral co-creators in the process through an Agile approach, where they will carefully assess the IT landscape until user acceptance. We strive to support the company's growth and strategic objectives through this mission.

Success Criteria. The expected results are enhancing scalability and data performance, strengthening data protection, increasing operation efficiency, and improving business flexibility. These are described in detail in the Agile Charter (Appendix A).

Stakeholder Analysis

d. Customers

- They are people who are offered products or services.
- The use of an intuitive and easy interface is very useful for frequent and potential customers.
- Customers expect their personal data to be protected.
- Provide support in use and answer frequently asked questions through continuous assistance.

e. Sales and Marketing Team

- They are in charge of promoting and selling, attracting new potential clients.
- Requires a comprehensive understanding of the needs to benefit the target audience.

- Biweekly meetings to provide feedback on strategies and identify risks.

f. Customer service

- Provide assistance to customers before or after purchasing a product or service.
- Offer product suggestions, resolve complaints, or answer general questions.
- Receive training on the functionalities, features, and troubleshooting techniques of cloud migration.
- Periodic updates of changes, corrections or errors.

g. Investors

- They provide financial support in exchange for return on investment
- Know the progress, risks and performance of the project.
- Updates must be periodic and informative where performance projections are shown.

h. Third-Party Partners

- Provide tools or services that help improve functionality
- Clear communication of the requirements and deadlines needed.
- Joint planning sessions, integration workshops and periodic synchronization meetings.

High-Level Requirements

Features. The following key features will ensure the new system meets the needs of the users and stakeholders (e.g. investors).

a. Task Management:

- Establish task priority dates, updates, and compliance due dates.
- Synchronization of tasks, workgroup meetings, and progress of key milestones.

b. Control Panel:

- Task change update notifications and alerts.
- Reports with graphs or tables that allow quick monitoring.

c. **Permission Management**:

- Role-based access control (RBAC), differentiating user permissions for investors, project managers or team members.
- User authentication and registration through corporate email.

d. Offline Mode:

- Ability to access and edit tasks offline, with automatic syncing once the user is back online.

e. Scalability:

- Migration to the cloud must support an increasing number of users and data volume.
- Data recovery options in case of system failure.

f. Security:

- End-to-end encryption for data protection,
- Compliance with relevant data protection regulations (e.g. GDPR, CCPA).

g. Integration Capabilities:

- API for integration with third-party tools (e.g. Slack, Trello, Microsoft Teams).
- Webhooks and plugins for custom integrations.

h. Support and Maintenance:

- Help center with FAQs, support tickets and real-time chat.
- Regular updates and maintenance to fix bugs, security patches and new features.

Constraints. When planning, the project team will address the limitations that could impact the project's success. Here we list some of the ones that were identified:

a. **Budget:**
    - Budget limitation that does not allow the development of migration to the cloud.
    - Inadequate cost optimization affecting final delivery.
b. **Time limitation:**
    - Unrealistic schedule where the time to complete the tasks is less than the average time necessary.
    - Undefined key milestones that impair development, testing, and deployment.
c. **Regulatory restrictions:**
    - Change of international data protection laws.
    - Failure to comply with industry standards and regulations.
d. **Technical limitations:**
    - Incompatibility between local SQL Server and Azure SQL Database.
    - Limited infrastructure or resources to maintain high-performance servers.

Product Backlog

To have a high performance in this project, it is important to engage with the principal stakeholders and the IT team regularly to ensure that the settled deliverables meet the client's expectations and needs in transitioning from a local SQL database to an Azure SQL cloud service. The project will have several stages, which will be identified as Epics, starting from assessing the current local service system, preparing the recipient environment, data migration from severs, post-migration support and documentation for future changes if required. The product backlog will have the following epics and user stories.

1. **Assess Current System**

   As a project manager, I need to evaluate the current local SQL server and integrate the system environment to identify the principal challenges and assess the possible risks associated with the migration, quality assurance process and testing.

2. **Prepare Target Environment**

   As a data engineer, I need to configure the Azure SQL Database environment to ensure it is ready to receive the migrated data and all the integrations within the system.

3. **Migrate Data**

   As a data engineer, I need to migrate the existing data from the local SQL Server to the Azure SQL cloud Database while ensuring data integrity and minimal downtime.

4. **Testing and Validate**

   As a Quality Assurance engineer, I need to ensure that the migrated data is accurate, complete, functional in the new environment, and compatible with the other systems used in the current processes.

5. **Optimize and Go-Live**

   As a project manager, I need to optimize the Azure SQL Database environment to ensure it meets the company's growing expectations, performance and security requirements before going live.

6. **Post-Migration Support**

   As a support engineer, I need to provide ongoing support and maintenance for the migrated database to ensure continuous operation with all the components of the system in each department

7. **Documentation and Reporting**

As a project manager, I need to document all aspects of the migration process to ensure knowledge transfer and project transparency, writing a detailed report with all the steps performed and the procedure so future analysts and developers can modify the server.

Table 3

Product Backlog

ID	Title	User Story	Tasks	Acceptance Criteria
KAN-1	Assess Current System	As a project manager, I need to evaluate the current local SQL server and integrate the system environment to identify the principal challenges of the migration	Conduct a full inventory of the existing SQL Server database	A comprehensive inventory report of the current SQL local server environment is completed and approved by stakeholders
			Identify performance bottlenecks and security vulnerabilities.	A list of identified risks and bottlenecks is documented and reviewed.
			Assess the current data schema and compatibility with Azure Cloud SQL Database.	The migration readiness report includes a clear assessment of compatibility and potential issues.
			Document findings and create a migration readiness report	
KAN-2	Prepare Target Environment	As a data engineer, I need to configure the Azure SQL cloud Database environment to ensure it is ready to receive the migrated data.	Set up Azure SQL Database instances with appropriate scaling options	Azure SQL Database instances are configured with verified scaling options
			configure security settings, including encryption and access controls	Security settings, including encryption, meet "Quality Items" expectations and compliance standards
			Implement backup and disaster recovery configurations in Azure	Backup and disaster recovery plans are tested and validated
			Test the Azure environment to ensure readiness for data migration	The environment passes all readiness tests, including performance and security checks
KAN-3	Database Migration	As a database analyst, I want to migrate the on-	Assess the current SQL Server database.	The database is successfully migrated to Azure Cloud SQL with no data loss.

		premises local SQL server database to Azure Cloud SQL to enhance scalability and data performance.	Plan the migration process, including scheduling and resource allocation	All SQL queries run correctly in the new environment
			Configure the destination environment in Azure.	Migration is completed within the planned timeline.
			Perform data migration from SQL Server to Azure Cloud SQL.	Database performance post-migration is equal to or better than on-premises setup.
			Test and validate the migration to ensure data integrity	Automated backups are configured and verified
KAN-4	Data Protection and Security	As a data engineer, I want to implement encryption and backup solutions to ensure data protection and compliance with industry standards.	Configure encryption protocols for data in transit and at the test	Encryption protocols are applied to all sensitive data
			Set up automated backups and disaster recovery plans	Automated backup schedules are set up and tested, with successful recovery simulations
			Test data recovery to ensure no data loss during failures	The system meets all relevant compliance standards
KAN-5	Test and Validation	As a Quality Assurance engineer, I need to ensure that the migrated data is accurate, complete, and functional in the new environment.	Develop test cases to validate the migrated data	All test cases are executed, and results are documented
			Execute functional, integration and performance tests on the new environment.	Functional, integration, and performance tests meet predefined criteria for success.
			Compare pre- and post-migration data for consistency	No major discrepancies are found between pre- and post-migration data
			Document any defects or issues and prioritize them for resolution	All critical defects are resolved, and the system is signed off for go-live
KAN-6	Performance Optimization	As a system administrator, I want to monitor and optimize the performance of the cloud-based database to ensure it meets the company's growing needs	Set up performance monitoring dashboards	Performance dashboards provide real-time monitoring of key metrics
			Optimize database queries and indexing	Database queries are optimized for faster execution by 50%
			Automate routine maintenance tasks	Maintenance tasks are automated and run without manual intervention.
			Perform stress testing to validate scalability.	Stress testing confirms that the system can handle projected load increases.

KAN-7	System Documentation	As a system administrator, I want comprehensive documentation of the new Azure cloud setup to ensure ongoing maintenance and troubleshooting.	Document the cloud architecture and configuration	All system components are fully documented, including architecture diagrams and configuration details
			Create a maintenance and troubleshooting guide.	The troubleshooting guide includes common issues and step-by-step resolutions.
			Update documentation as the system evolves	Documentation is accessible to all relevant team members.
KAN-8	Post-Migration Support	As a project manager, I want to optimize database queries post-migration to ensure efficient performance.	Analyze query performance and identify bottlenecks	Database queries are optimized, reducing average query execution time by at least 40%
			Implement indexing and query optimization.	Indexing improvements are implemented with no negative impact on other operations.
			Re-test system performance after optimizations	Performance testing shows a significant improvement in database responsiveness.

Note. Self-made by the group.

Additional Considerations

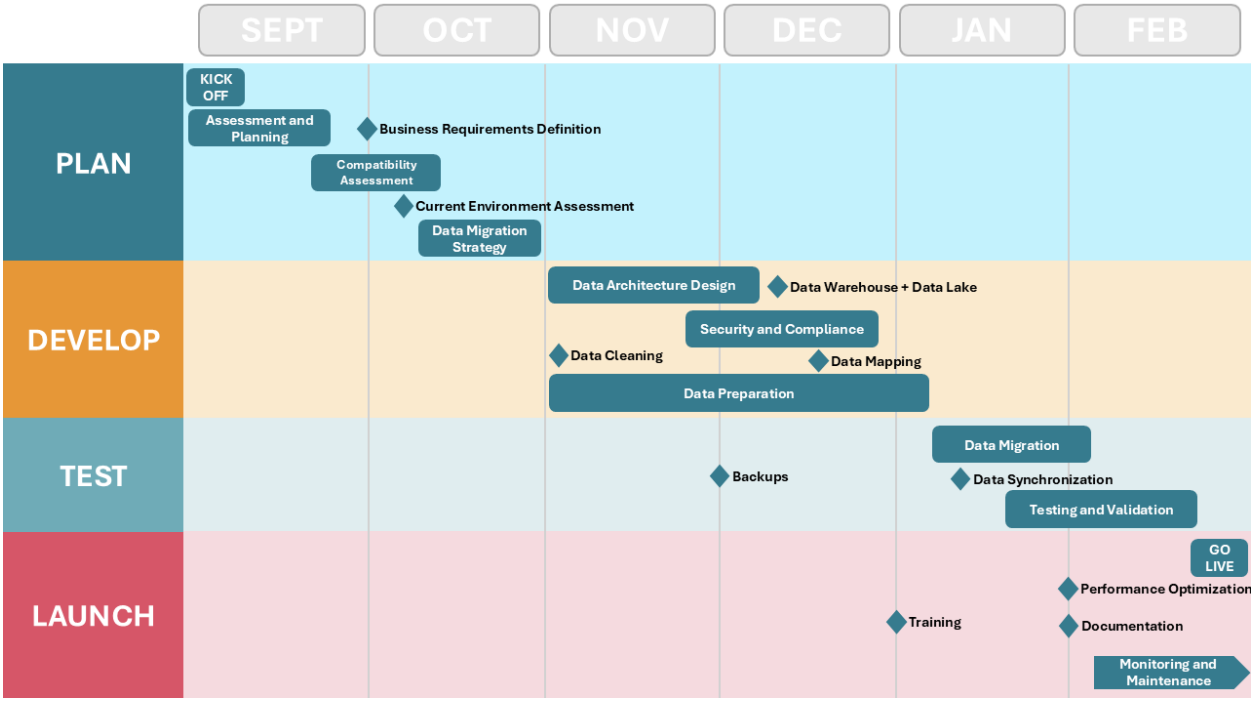
- **Dependencies:** Identify tasks dependent on the completion of other tasks (e.g., testing cannot begin until data migration is complete).
- **Risk Mitigation**: Include tasks focusing on mitigating identified risks, such as data backups and validation checks.

By organizing your backlog with these suggestions, you'll ensure that your cloud migration project is well-structured, with clear priorities and tasks that drive the project toward successful completion.

Release Plan

Figure 2

Project Roadmap



Note. Self-made by the group.

Given the nature of the project that is currently being developed, the release plan is a mandatory component throughout the development of the project and its lifecycle, as it ensures that the development processes and practices are strictly related to the operational capacity and overall business goals. In fact, this tool allows transparency and clear communication with stakeholders to manage their changing needs along the project life cycle by fostering ongoing feedback that enables teams to make adjustments to the current offer based on the information gathered to provide a more accurate solution. Hence, the release plan assists in managing an effective resource allocation while reducing risks by allowing the

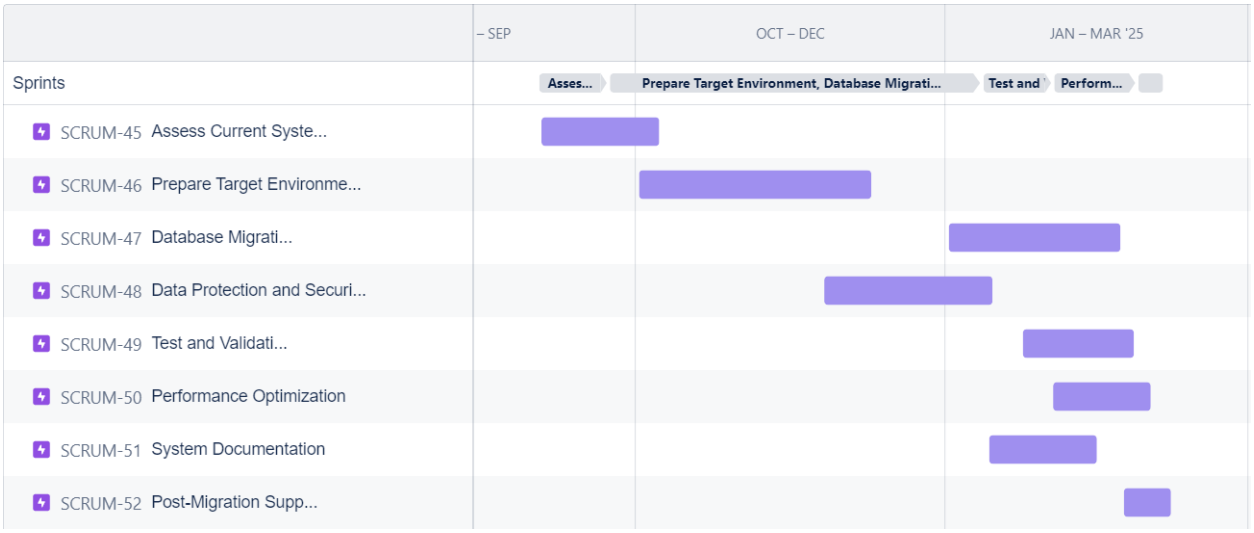
team to improve the product in the early stages based on the feedback gathered in each release cycle.

Regarding the project roadmap presented above, to ensure a proper data transfer, it is imperative to work along the relevant planning, developing, testing, and launching phases exposed through sprints cycles based on the developed user stories in order to make adjustments while being aware of important steps throughout the project lifecycle, such as business requirements definition and current environment assessment in the planning phase; data warehouse and data lake, data cleaning and data mapping in the developing stage; backups and data synchronization in the testing phase; and, in the last stage, training, performance optimization and documentation within the range time of two quarters, and considering the dependences between the milestones and phases mentioned above, respectively. The idea is to gather feedback throughout and after each stage to be aware of any procedure that needs to be refined and adjust the incoming milestones, the roadmap and the release plan to address the needs of stakeholders. It is important to monitor the progress from each step, especially against the milestones, to update the project roadmap and release plan to keep the project goals aligned.

Furthermore, considering the scope of the project, it is important to categorize and prioritize the user stories to ensure a smooth transition and execution of the project for a proper data migration. Hence, based on the previous roadmap and the phases highlighted above, it will be possible to define sprint cycles and the features that the team is going to work on throughout each of these stages to meet the expected outcome in the data migration procedure, according to the user stories that are presented in the next section.

Figure 3

Release Plan



Note. Self-made by the group. For further details, refer to the appendix.

Conclusions and Recommendations

It is recommended to estimate and optimize migration costs by utilizing Azure's Pricing Tools, such as the Azure pricing calculator and the Total Cost of Ownership (TCO) calculator, for precise cost estimates. It is also necessary to forecast cost variations to anticipate any changes while using patterns and Azure service costs over time. Additionally, the team should utilize Azure Cost Management and reservations to optimize spending and enhance ROI post-migration.

In terms of monitoring, the team should continuously manage and optimize the system by using Azure Monitor, Log Analytics, Application Insights, and Azure Security Center for a comprehensive oversight of the digital estate. Establishing a monitoring strategy will help the company to be aligned with the evolving workloads and business needs.

Finally, there is no doubt that the migration to Azure is a continuous journey of improvement and adaptation. Therefore, we highly recommend staying updated with Azure updates or other emerging cloud technologies to help get cost-saving opportunities and ensure Quality Items' digital estate remains cutting-edge.

Appendix A

Agile Project Charter

Project Name: Cloud Migration through rehosting for Quality Items			
SCRUM Master and Leader	**Product Owner**	**Team Members**	
Daniel Pinilla	Adrian Tudela	Almendra Garcia Bruno Diaz Yadira Alvarado	
Expected Start Date	**Expected End Date**	**Date of Document**	**Amount**
08/11/2024	10/10/2024		21170 CAD per project
			1030 CAD per month[1]

Project Details

Success Metrics	**Description**
Enhance scalability and data performance	• Improve processing speed. • Reduce the delay time of real-time reports. • Improve user satisfaction score with the use of the new system.
Strengthen data protection	• Comply with standard encryption protocols (customers, suppliers and employees). • Do not record any data breach incidents. • Reduce data recovery time, 100% data recovered.
Increase operating efficiency	• Increase task automation rate. • Savings on operating costs. • CRM integration efficiency.
Improve business flexibility	• Ensure that all users are trained in the use of the new system. • Improve scalability response time. • Obtain maximum score in flexibility and ease of use of the new system.

Risks

Category	**Description**
Technical and Operational	• Prolonged migration stage times • Changes in organizational priorities that reallocate resources • Failed migration technical hurdles • Multitude of corrections due to lack of planning. • Service interruptions during the migration that can disrupt business operations
Economic	• Resource cost overrun • Unexpected budgetary changes • Lack of visibility into on-going costs
Legal	• Non-compliance with timing commitments • Changes in regulations of in data sovereignty and privacy
Market	• Data privacy concerns among stakeholders

Note. Updated from Agile Charter from Phase I.