VIETNAM NATIONAL UNIVERSITY HO CHI MINH CITY

UNIVERSITY OF ECONOMICS AND LAW

MID-TERM PROJECT REPORT

PROJECT MANAGEMENT FOR INFORMATION SYSTEMS

TOPIC: INTEGRATING RPA SOLUTIONS FOR FINANCIAL SYSTEM AT VPANDAS

Instructors: Mr. Trieu Viet Cuong

Course ID: 242IS4401

Group: 2

STT	Student Name	Student ID
1	Chu Thi Hoai Nu	K224060807
2	Phan Minh Hoang Ngoc	K224060804
3	Bui Dai Nhat Tan	K224060811
4	Pham Nguyen Thao	K224060812
5	Nguyen Anh Tuan (Team leader)	K224060820

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And finally, we are thankful for the strength, focus, and determination that allowed us to complete this assignment successfully.

COMMITMENT

We declare that this final project for the course has been completed with honesty, dedication, and individual contribution from every member of the group. We have put in our best efforts to apply the knowledge gained throughout the course and have ensured that all the work presented is original and done to the best of our abilities.

We also confirm that the content of this project has not been copied or taken from any unauthorized source. All sources used have been properly acknowledged where necessary. We take full responsibility for the work submitted and are committed to the values of honesty, teamwork, and mutual respect throughout this project.

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Abbreviations	Definition
RPA	Robotic Process Automation
CRM	Customer Relationship Management
IT	Information Technology
KPI	Key Performance Indicator
UAT	User Acceptance Testing
PERT	Program Evaluation and Review Technique
NPV	Net Present Value
OCR	Optical Character Recognition
API	Application Programming Interface
SLA	Service Level Agreement
AES	Advanced Encryption Standard
TLS	Transport Layer Security
KYC	Know Your Customer
VNĐ	Vietnamese Dong

CHAPTER 1. OVERVIEW

1.1. Introduction to VPandas Financial Company

1.1.1. Company profile

VPandas Financial Company was established in 2020, is a medium-sized financial institution specializing in providing personal and business financial services. The company focuses on developing digital financial solutions to meet the growing demands of customers. Its main services include:

- **Consumer financing:** providing installment loans for purchasing consumer goods such as electronics, home appliances, and motorbikes with quick approval and minimal paperwork.

- **Cash loans:** offering unsecured personal loans to meet urgent financial needs, with flexible repayment terms.

- **Credit card services:** issuing credit cards with competitive benefits, supporting cashless transactions and installment purchases.

- **Insurance and Financial protection:** partnering with insurance providers to offer personal accident, health, and life insurance packages tailored to customer needs.

With the rapid development of the financial industry in Vietnam, VPandas Financial Company is continuously expanding its operations, optimizing processes, and leveraging technology to enhance operational efficiency.

1.1.2. Problems in current service procedures

As we’re expanding, many slow and inefficient tasks have been found in our current service procedures which are obstructing us. Various issues to be named such as redundant activities, skill gaps among staff, and notably, manually managed operations that are the primary cause of reduced performance and higher time costs. These labor-intensive processes are not only slow but also prone to errors, which significantly affect overall efficiency. Thus, this is an indication to implement the RPA system to streamline these manual processes.

Consumer Financing

Underwriters evaluate applications using system data and checklists to manage risks, then record details directly into the banking system, customer's information will be tracked in the CRM. Approvals and portfolio reviews depend on cross-checking information between these systems. Manually recording and cross-checking can add roughly 35% to processing times, averaging an extra 15 minutes per application

Cash Loans

Loan officers assess applications with core system data and spreadsheets to ensure the risks stay in appropriate threshold, then logs customer interactions in the CRM. Final approvals and periodic reviews require detailed cross-checking of records across both systems. These hand-operated data entry and cross-checking typically increases processing time by around 30%, resulting in an estimated delay of 10-12 minutes per application.

Credit Card Services

Credit risk assessments combine system data reviews with hands-on evaluations, while card details and customer communications are manually recorded in the core banking system and CRM. Regular checks must be done to ensure compliance with internal standards. The manual processes involved here can extend processing times by approximately 25%, adding around 10 minutes to each card issuance cycle on average.

Insurance and Financial Protection

Customer details are entered manually into both systems, ensuring accuracy and compliance. Requests are assessed and reviewed, then routed for approval, and processed through the core banking system, with status updates sent automatically via the CRM. Finally, records are securely stored, customers are notified, and feedback is collected manually for continuous improvement. Manual data entry can consume 10-12 minutes per customer, increasing operational costs by up to 25%.

Additionally, all data entry processes and cross-checking said above can be prone for error with a rate of 5-7%, which can cost billions of Vietnamese Dong

damages to the company. 10 of thousands applications are missing out each year because of additional operation and time cost.

1.2. SWOT Analysis

Strengths

VPandas Financial Company has rapidly grown into a medium-sized financial institution, demonstrating strong market presence and operational expertise. The company's key strengths include:

- Established market presence and Experienced workforce**:** with 1100 experienced staff members, VPandas has successfully achieved an annual revenue of over 1000 billion VND, reflecting its robust financial performance and credibility in the market.

- Technological advancement and Digital transformation**:** the company has adopted Core Banking technology, a centralized digital financial system that streamlines loan processing, risk management, and real-time transaction monitoring. Additionally, the implementation of Customer Relationship Management (CRM) software enhances customer interaction and service efficiency.

- Diverse product portfolio**:** VPandas offers a comprehensive range of financial solutions, including consumer installment loans, cash loans, credit cards, and insurance services, catering to a wide range of customer needs.

- A network of loyal customers**:** over 15,000 individual and business customers have chosen VPandas Financial as their preferred financial service provider, demonstrating the company's ability to build trust and credibility in the competitive financial market.

Weaknesses

Despite its strong foundation, VPandas Financial faces several challenges that require strategic improvement:

- Operational inefficiencies**:** while the company has integrated digital solutions, many manual processes still exist, leading to inefficiencies in loan processing and

customer service operations.

- Lack of Full system integration**:** the incomplete synchronization of financial services and data management systems creates bottlenecks, limiting automation and reducing operational effectiveness.

- High operating costs: a significant reliance on human resources, especially in customer service and loan approval, contributes to high operational expenses, impacting profitability and scalability.

Opportunities

Vietnam's rapidly growing financial sector offers numerous opportunities for VPandas Financial to expand and strengthen its market position:

- Economic recovery and growth**:** following the COVID-19 pandemic, Vietnam's economy has shown strong recovery and growth, creating a favorable business environment. Increased economic activities and consumer spending drive higher demand for financial services, loans, and digital payment solutions.

- Rising financial awareness**:** Vietnamese consumers are becoming more financially literate, leading to a growing demand for financial services, credit products, and digital banking solutions. The increasing awareness of digital financial services makes it easier for companies like VPandas to attract new customers.

- Strategic partnerships and expansion opportunities: collaborations with e-commerce platforms, insurance companies, and payment service providers allow VPandas to expand its service portfolio and reach a broader customer base. These partnerships create opportunities for cross-selling financial products and enhancing customer retention.

Threats

The financial industry in Vietnam is becoming increasingly competitive, with multiple external risks that could impact the company's growth and sustainability:

- Rising market competition: the financial services industry is highly competitive, with established companies like Home Credit, FE Credit, M Credit and

emerging fintech startups continuously innovating and adopting advanced digital solutions.

- Stricter financial and Data regulations: the Vietnamese government is tightening regulations regarding data protection, lending interest rates, and financial transparency. This requires financial institutions to constantly adapt to legal requirements, increasing compliance costs and operational risks.

To conclude, VPandas Financial Company has a strong market position because of its high merit, experienced staff, and modern technology like the core banking system and CRM. Despite all of that, the company still faces problems with slow operations and poor system integration. These issues lead to higher costs and delays in service delivery. At the same time, Vietnam's growing economy and increasing financial knowledge among people offer many opportunities for growth. The company can also benefit from forming new partnerships and expanding its services. Besides, VPandas has a decent amount of strong financial institutions and innovative fintech startups whom they must work hard to compete with. Furthermore, new government regulations are putting high stress on the company which requires its advancement to stay relevant.

1.3. Business strategy

In the face of increasing competition from well-established financial institutions and emerging fintech companies, VPandas Financial Company is committed to strengthening its market position by focusing on customer retention and business expansion. To achieve this, the company leverages its existing advantages, including a robust IT infrastructure and a team of highly skilled professionals, to drive digital transformation and optimize operational processes. Recognizing the importance of efficiency and innovation in the financial sector, VPandas is actively researching and applying cutting-edge technologies to enhance service quality and improve overall business performance.

A key strategic initiative in this transformation journey is the implementation of Robotic Process Automation (RPA). By integrating RPA into its core operations, VPandas aims to automate repetitive tasks, reduce dependency on manual labor, lower operational costs, and enhance process accuracy. This automation will significantly

improve the efficiency of loan processing, customer service interactions, fraud detection, and compliance monitoring, leading to faster service delivery and better customer experience. Additionally, the application of RPA will enable VPandas to allocate resources more effectively, allowing employees to focus on high-value tasks that require critical thinking and personalized customer engagement.

Looking ahead, VPandas aims to become a leading financial institution within five years, targeting an annual growth rate of 15%. By continuously innovating, adapting to market trends, and enhancing operational efficiency, the company is poised for sustainable growth and a stronger competitive edge in the financial sector.

CHAPTER 2. INITIATION

2.1. Project overall objectives

For this project, we aim to implement robotic process automation (RPA) to streamline and automate manual processes, thereby improving operational efficiency and accuracy. The specific objectives are:

(1) Automate manual data entry and bank reconciliation processes to reduce processing time and increase transaction speeds by 30%.

(2) Integrate and synchronize data between Core banking and CRM systems to minimize errors and delays in updating customer information and transactions.

(3) Reduce operational costs by 20% by leveraging RPA to decrease the need for manual labor, optimize workforce utilization, and improve overall cost efficiency.

(4) Implement automated audit trails to track and document financial transactions, policy adherence, and internal control measures, ensuring full transparency and regulatory accountability.

2.2. Project business case

Business case provides a structured justification for a proposed project by evaluating its economic, technical, operational, scheduling, legal, and contractual aspects, along with any political considerations. For VPandas, developing a strong business case for integrating RPA solutions is essential to ensure that the investment aligns with the company's strategic goals.

Table 2.1: VPandas's Project Business Case

Project Business Case			
Project Name	Integrating RPA solutions for financial system at VPandas		
Project Sponsor	Mr.Trieu Viet Cuong (CEO)	**Project Manager**	Nguyen Anh Tuan
Date of Project	16th January, 2025	**Last Revision Date**	15th February, 2025

Approval			
VPandas's Background			
Problems	- Manual data entry and information reconciliation lead to errors and increasing operational cost. - The lack of synchronization between the Core Banking and CRM systems prevents effective comparison and validation of data, resulting in mistakes in records and transactions. - Challenges in generating accurate financial reports and audits due to the lack of traceable data across records and transactions.		
Project details			
Contribution to Business Strategy	- Automating manual, time-consuming tasks like data entry, reconciliation, and document processing increases service speed and reduces errors. - Fewer staff are needed for repetitive tasks, which lowers operational costs and boosts productivity by allowing employees to focus on more strategic tasks such as decision-making or CRM. - Providing better compliance and risk management through automated audit trails and adherence to regulations.		
Options Considered	Options considered included: 1. Designing a RPA solution for financial process optimization (selected) 2. Training employees and refining existing workflows. 3. Using middleware or API connectors to synchronize and update information.		

Benefits	1. Reduced labor-intensive processes - Automating manual tasks leads to a 20% decrease in operational costs due to the reduced need for human intervention and faster processing times. 2. Increased data accuracy -RPA helps eliminate errors from manual data entry and enhances accuracy by automating audit trails and compliance tasks, minimizing discrepancies in records. 3. Accelerated financial reporting time - The automation of data synchronization reduces the time required to generate financial reports, resulting in a 30% decrease in reporting time. 4. Enhanced customer satisfaction - By automating backend operations, RPA allows customer-facing teams to resolve issues more efficiently, leading to a 10% improvement in customer satisfaction due to faster response times. 5. Increased employee productivity - Employees can focus on more strategic and customer-centric activities, leading to increased productivity and a more efficient workforce.
Timescales	Initial analysis shows that the project will take approximately 7 months to implement.
Costs	RPA software license = 1.267.000.000 VNĐ for 3 bots
	Development cost = 2.354.000.000 VNĐ
	Server/Cloud infrastructure = 304.080.000 VNĐ
	Training skill = 608.160.000 VNĐ
	Quality testing = 190.000.000 VNĐ
	Cybersecurity and compliance costs = 1.200.000.000 VNĐ
	Core Banking and CRM integration = 1.000.000.000 VNĐ
	Internal personnel costs = 3.500.000.000 VNĐ
	Project management and Support cost = 1 - 2.500.000.000 VNĐ
	Other cost = 15 - 23.000.000.000 VNĐ (for risk contingency etc)
	Total project cost (within 1 year) = 30 - 36.00.000.000 VNĐ

Expected Return on Investment	Year 1 = 8.750.000.000 VND
	Year 2 = 22.500.000.000 VNĐ
	Year 3 = 22.500.000.000 VNĐ
Risks	The "gray areas" contain many potential risks such as:
	1. The project team may lack the necessary experience with RPA tools, development, and integration, leading to delays, inefficiencies, or poor implementation.
	2. Choosing the wrong processes to automate is a common pitfall. Not all processes are suitable for RPA; selecting inefficient, non-standardized, or overly complex processes may waste resources.
	3. RPA interacts with sensitive financial and customer data, increasing the risk of unauthorized access, data breaches, and cyber threats. Without robust security controls—such as encryption, access management, and audit trails—the organization may be exposed to compliance violations and financial risks.
	4. RPA tools need to be integrated with various IT systems (such as Core Banking and CRM), which can be complex and time-consuming.

2.3. Project charter

The project charter formally authorizes a project and provides a high-level overview of its objectives, scope, and stakeholders. It defines the project manager's authority and ensures alignment between business goals and project execution. We use this charter as a reference for decision-making and prevents scope confusion. It also helps secure stakeholder buy-in and resource commitment.

Table 2.2: VPandas's Project Charter

PROJECT CHARTER
Project Information

Project Name	Integrating RPA solutions for financial system at VPandas	**ID number**	2
Project Description	Integrate a Robotic Automatic Process (RPA) system to automate data input; synchronize data between Core Banking and Customer Relationship Management (CRM); support report and decision making.		
Project Sponsor	Mr. Trieu Viet Cuong		
Project Manager	Nguyen Anh Tuan		
Organization	VPandas Financial Company		
Target Start Date	15/01/2025	**Target End Date**	30/9/2025

Project Goal

- Automate manual data entry and bank reconciliation processes to reduce processing time and increase transaction speeds by 30%:
- Integrate and synchronize data between Core banking and CRM systems to minimize errors and delays in updating customer information and transactions.
- Reduce operational costs by 20% by leveraging RPA to decrease the need for manual labor, optimize workforce utilization, and improve overall cost efficiency.

Project scope

In scope	Out of scope
- Automate manual data entry and bank reconciliation processes. - Integrate and synchronize data between Core banking and CRM systems. - Support making financial reports and audits.	- Integrate customer support BOT.

Constraints	**Time**	7 months
	Budget	36.000.000.000 + 5% VND
	Scope	Core functionality of the company

	Quality	The project implementation process meets all requirements
Key risks	- Security and Compliance Risks: Data breaches pose the highest risk due to handling sensitive financial information, making cybersecurity and access controls crucial. - Operational Risks: Integration challenges with legacy financial systems can cause disruptions and delays in automation. - Financial and Cost Risks: ROI uncertainty is a major concern, as benefits may take longer to materialize than expected. - Workforce and Change Management Risks: Employee resistance can slow adoption, making change management and training essential. - Performance and Reliability Risks: Bot downtime can disrupt critical financial operations, emphasizing the need for robust monitoring and failover mechanisms.	
Assumptions	- This project is fully backed by corporate funding, key stakeholders, and relevant departments. Vpandas Financial Company will allocate additional resources if necessary. - Business data is assumed to be complete, accurate, and reliable for RPA implementation, ensuring smooth automation of financial processes. - It is assumed that data is properly collected, stored, and structured, making it accessible and integrable across multiple financial systems. -The company has an existing IT infrastructure capable of supporting RPA, including a stable network, compatible software, and necessary hardware for deployment.	
Project Budget	36.000.000.000 VND	

Project Team	
Name	**Role**
Nguyen Anh Tuan	Project Manager
Pham Nguyen Thao	Business analyst
Chu Thi Hoai Nu	Tester

Bui Dai Nhat Tan	Software Developer
Phan Minh Hoang Ngoc	RPA Developer

Key Project Milestones	
1	**Project kickoff meeting:** Conduct an initial meeting with stakeholders to align on project objectives, scope, timelines, key responsibilities, and expected outcomes.
2	**Business analysis and Planning:** Analyze business needs, gather requirements, identify key challenges, and develop a structured project roadmap with clear deliverables and risk assessments.
3	**Business process definition and Initial design**: Define current business workflows, identify inefficiencies, and create an optimized process framework as the foundation for system design.
4	**Solution design and System integration**: Architect the overall solution, define technical specifications, and plan system integration to ensure compatibility with existing infrastructure.
5	**Development Phase 1: Bot development:** Build and implement the core bot functionalities, focusing on automation, data processing, and seamless interaction with users and systems.
6	**Development Phase 2: Testing and User acceptance testing (UAT):** Conduct rigorous internal testing and collaborate with users to validate functionality, performance, and alignment with business needs.
7	**Deployment, Training and Reporting:** Deploy the solution in the live environment, train end-users, and establish reporting mechanisms to monitor performance and adoption.
8	**Optimization and Expansion**: Analyze system usage, gather feedback, implement improvements, and explore opportunities to expand automation capabilities across additional processes.
9	**Project closure and Documentation:** Finalize all deliverables, document lessons learned, ensure smooth transition to maintenance teams, and formally close the project with stakeholder approval.

2.4. Feasibility study

2.4.1. Technical Feasibility

Table 2.3: Automatable Processes

Process	Specific Tasks	Benefits	Feasibility Level
Automated Data Entry	Inputting customer data from emails and applications into CRM and Core Banking	Minimizes errors, enhances accuracy and efficiency	High
Data Synchronization	Matching and updating financial transactions between CRM and Core Banking	Improves data consistency and accuracy	High
Financial Reporting	Generating automated reports for audits and data analysis	Provides accurate and timely financial insights	High

Table 2.4: Integration with Existing Systems

System	Purpose	Integration Method	Challenges	Feasibility Level
Core Banking	Manage transactions, accounts	API or UI Automation	Security restrictions, complex legacy systems	Medium
CRM	Customer profile management	API CRM or Database	Data inconsistency, synchronization challenges	High
Email, Excel, Web apps	Process customer requests	UI Automation	Interface changes may cause failures, requires maintenance	Medium

OCR	Identify information from ID cards, contracts	AI-based OCR	Dependent on document quality	High

Table 2.5 : RPA platform tools

Platform	Advantages	Disadvantages	Financial System Integration	Suitability
UiPath	Powerful automation, user-friendly UI Strong AI support. High scalability	High cost, requires strong infrastructure	Supports APIs, OCR, and data integration.	Suitable for data entry, KYC verification, financial reporting.
Automation Anywhere	Cloud-based, integrates well with large systems. AI support High scalability.	Requires advanced programming skills	Cloud integration is beneficial for CRM and Core Banking.	Good for cloud-based automation, financial workflows
Blue Prism	High security. Suitable for large enterprises Scalable.	Poor UI Automation support No AI support.	Not ideal for OCR, CRM integration.	Lacks AI and automation flexibility.
Microsoft Power Automate	Well integrated with Microsoft ecosystem. AI support Scalable	Complex automation setup.	Works well if VPandas relies on Microsoft products.	Best for workflow automation, but not as strong as UiPath.

Security Requirements

- Access Control Management

- Data Encryption must comply with AES-256 and TLS 1.2+ standards

Conclusion

Table 2.6: Conclusion of technical feasibility

Criterion	Feasibility Level	Details
Process Automation	High	RPA can automate data entry, reconciliation, financial reporting, KYC, and customer service
System Integration	Medium	APIs are suitable for integration
RPA Platforms	High	UiPath, Automation Anywhere have high feasibility
Security	Medium	Data encryption and strict access control are required

2.4.2. Operational Feasibility

Stability: If the system can maintain continuous operation with minimal downtime, it will be operationally feasible.

- A feasible system should ensure uptime above 99.9%, preventing disruptions that affect financial transactions.

- In case of failure, Mean Time to Repair (MTTR) should be less than 30 minutes to ensure quick recovery.

Example: Banks like JPMorgan Chase use AI-driven monitoring, reducing incident resolution time by 50%.

The system must have continuous monitoring and automated recovery mechanisms.

Flexibility: If the system can adapt to business process changes without major modifications, it will be operationally feasible.

- RPA should allow process adjustments without requiring complete reprogramming.

- A flexible system must support open APIs to integrate easily with other software. *Example:* akaBot enabled Vietnamese banks to integrate with Core Banking within four weeks, saving 30% in deployment costs.

The system should support scalability and configuration flexibility without affecting performance.

Monitoring Tools: If the system has monitoring tools that can track RPA processes, detect errors early, and optimize workflows, it will be operationally feasible.

- An effective system must provide a real-time dashboard for tracking all automated processes. Example: According to a UiPath study, RPA monitoring tools have reduced transaction errors by 80% compared to manual processes.

- Without proper monitoring, undetected system failures could lead to significant financial losses.

The system should include AI-driven monitoring to provide early warnings for potential issues.

Scalability and Maintenance: If the system can scale without compromising performance and is easy to maintain, it will be operationally feasible.

- The system should support both cloud-based and on-premise deployment to accommodate growth needs. *Example:* TPBank deployed over 300 RPA bots, significantly reducing manual workload without affecting Core Banking operations.

- A feasible system should include self-healing RPA capabilities to minimize maintenance time.

The system should scale efficiently while maintaining high performance.

2.4.3. Financial Feasibility

VPandas estimates the project cost to be approximately 36 billion VND with the following key components:

- Fixed Costs:

  + RPA implementation software: 3 billion VND

  + Cloud infrastructure, servers, etc.: 2 - 3 billion VND

  + Supporting equipment: 2 - 3 billion VND

  + Project development team: 5 - 6 billion VND

- Variable Costs:

  + Training: 1 - 2 billion VND

  + Maintenance and upgrades: 2 - 3 billion VND

  + Other costs (security, legal, testing): 8 - 10 billion VND

- Contingency Costs (expansion, damages)**:** 6 billion VND

Table 2.7: Estimated Benefits of the Project

Category	Ratio (%)	Estimated Cost (billion VND/year)	Cost Reduction (%)	Estimated Savings (billion VND/year)
Personnel costs (salary, benefits, social insurance, training)	40%	240	5-10%	12 -24
Operating and administrative costs (office, electricity, water, maintenance, infrastructure,	10%	60		

security)				
Compliance costs (audit, legal, insurance, financial inspection)	5%	30		
Marketing and sales costs (advertising, commission, customer care, after-sales service, etc.)	15%	90		
Technology costs (Core Banking, CRM, management software, IT maintenance, cybersecurity)	7%	42		
Credit operations costs (risk management, document processing, approval, customer evaluation, etc.)	13%	78	20-30%	15,6 - 23,4
Financial costs (loan interest, credit reserves, bank transaction fees, bad debt handling)	7%	42	10-15%	4,2 - 6,3
Error, correction, and risk costs (delays, fraud, data rechecking, fines due to reporting errors)	3%	18	50 - 70%	9 - 12,6

Table 2.8: Payback and NPV analysis

Payback			
Item	**Year 1**	**Year 2**	**Year 3**
Initial investment (billions VND)	-36		
Annual cash flow (billions VND)	8,75	22,5	22,5
Cumulative cash flow (billions VND)	-27,25	- 4,75	17,75
Payback status	Not recovered	Not recovered	Recovered
NPV			
Item	**Year 1**	**Year 2**	**Year 3**
Expected profit increase (billions VND)	-36	8,75	22,5
Discount rate (%)	10	10	10
n =	0	1	2
Discount factors	1	0,909	0,826
Net Present Value (NPV) (billions VND)			7,45

Based on the results of the Payback and Net Present Value (NPV) analysis, it can be confirmed that the project is expected to break even by the third year and generate profits in subsequent years:

- The calculation results indicate that the cumulative cash flow stands at -27.25 in the first year, -4.75 in the second year, and 17.75 in the third year. This demonstrates that the project does not recover its investment in the first two years but achieves a positive cumulative cash flow by the end of the third year. Therefore, the project's payback period is determined to be three years, after which the net cash flow continues to increase, ensuring profitability over time.

- Applying a 10% discount rate, the project's NPV is calculated at 7.45, indicating that the total economic benefits, when adjusted for present value, exceed the

initial investment cost. A positive NPV is a crucial indicator that the project creates real financial value, even when factoring in the time value of money.

Based on the above analysis, it can be confidently concluded that the project demonstrates favorable financial indicators, even when assessed under the highest cost estimates and the lowest possible benefits. With a three-year payback period and a positive NPV, the project ensures both feasibility and investment efficiency. Therefore, it can be implemented with a manageable level of risk and is expected to generate sustainable economic benefits in the future

2.4.4. Legal Feasibility

Relevant Legal Frameworks:

- Law on Credit Institutions (2010, amended in 2017)

- Law on Cyber Information Security (2015)

- Law on Consumer Protection (2010)

- Decree 52/2013/ND-CP on E-commerce

- Decree 117/2018/ND-CP on Personal Data Protection in Finance

- Circulars from the State Bank of Vietnam on risk management and security

Legal Risks:

- Privacy and personal data protection

- Legal responsibility for system errors causing financial losses

- Security vulnerabilities and risk management

- Digital signatures and automated transactions

A feasible project must comply with legal requirements and mitigate legal risks by implementing:

- Strict data protection policies aligned with Decree 13/2023/ND-CP

- Error control mechanisms ensuring human intervention when necessary

- Legalization of automated transactions with digital signature integration

- Compliance with regulatory audits and periodic risk reporting

The solutions of some enterprise:

- Integrated digital signatures to legalize automatic transactions

- Combining OCR and AI to secure data, and set up the human control mechanism when needed (FE Credit)

By ensuring these feasibility aspects, the project can be successfully implemented with minimal risks and high efficiency.

2.5. Stakeholder register

The stakeholder register is a key document that identifies all individuals and groups involved in a project. It defines each stakeholder's role, responsibilities, interests, influence level, and preferred engagement strategy. This register ensures that project teams understand who needs to be informed, consulted, or involved at various stages. It supports effective communication and helps manage expectations, risks, and conflicts throughout the project lifecycle. Regular updates keep it aligned with evolving stakeholder dynamics and project needs.

Table 2.9: Stakeholder register

Stakeholder roles	Responsibilities	Interest in project	Influence level	Engagement Strategy
Project manager	- Define project scope, timeline, and milestones. - Coordinate between business teams, IT, and RPA developers. - Ensure risks are managed and	Smooth execution and successful implementation of RPA automation project.	Medium	Regular progress meetings, risk reviews, and status reports.

	issues are escalated timely. - Monitor project progress, resources, and budget. - Ensure RPA bots meet business requirements.			
Project sponsor	- Provide funding, vision, and executive support. - Secure budget and resources for the RPA initiative. - Align the RPA project with organizational goals. - Act as an escalation point for major decisions. - Ensure stakeholder buy-in across departments.	Project aligns with business goals and delivers value.	High	Executive update budget reviews, and strategic alignment meetings.
Developer and Operator Team	Those who develop and carry out the system from the ground up until its end of life include: - Develop the RPA bots and monitor system. - Execute and monitor RPA bots. - Handle exceptions and troubleshoot errors. - Maintain logs and track bot performance.	RPA is built, deployed, and functions properly.	High	Technical discussions, daily standups, issue tracking, and reporting.

Client	All employees inside the company who directly use or benefit from RPA automation such as Finance, HR, IT, or Customer Support. Sometimes, they can also be people who are affected indirectly by automation. They will provide invaluable insights about automatic processes and future QoL (Quality of life) improvement for the RPA system.	Efficient, reliable automation system that enhances workflow.	Medium	Surveys, training sessions, and feedback loops.
Champion	Champion is a key decision-maker on the client side who has the authority to approve the automation process proposed by the project team includes: - Evaluate and approve the RPA processes suggested by the team. - Ensure the automation aligns with business objectives and compliance. - Remove roadblocks and drive adoption within the organization.	Automation meets business needs and gains organizational support.	High	Regular check-ins, approval meetings, and stakeholder engagement sessions.

2.6. Initial Risk Assessment

An initial risk assessment is vital for shaping a clear roadmap to project success. The process consists of identifying potential risks, evaluating their severity, and gauging their likelihood of occurring. Doing this will not only allow targeted mitigation plans and adjust project priorities, but also aligns with the company's broader goals by safeguarding investments, optimizing resource allocation, and reinforcing organizational resilience. In essence, alongside manageable project-specific challenges,

the company benefits from a holistic risk management framework that supports long-term strategic stability and success.

2.6.1. Risk identification, severity probability, solution

Severity and probability scale labels are: low, low-medium, medium, medium-high, high; with corresponding score from 1 to 5. We use the following equation to calculate the risk score.

$$\boldsymbol{Risk\ Score = Severity\ \text{Score} * \text{Probability Score}}$$

Example:

Severity (High) = 5, Probability (Low) = 1

$$\boldsymbol{Risk\ Score = Severity\ \text{Score} * \text{Probability Score} = 5 * 1 = 5}$$

Table 2.10: Risk identification and probability

Risk category	Code	Potential risk	Description	Severity	Probability	Risk score	Solution
Technical risks	R01	System Integration	Challenges in integrating RPA tools with legacy systems and existing IT infrastructure can lead to unexpected compatibility issues.	High	Medium	15	Test early and coordinate with IT.
	R02	Data Quality and Security	Automated processes rely on accurate, secure data. Inconsistent data quality or vulnerabilities can compromise both the automation and sensitive financial	High	Medium-High	20	Enforce strict data validation and security checks.

			information.				
	R03	Process Complexity	Not every process may be well-suited for automation. Overly complex or poorly documented processes may result in errors or bot failures during execution.	Medium	Medium	9	Simplify and document processes clearly.
	R04	Scalability and Performance	The RPA solution must scale with increasing transaction volumes and adapt to fluctuating operational demands without performance degradation.	Low-Medium	Medium	6	Run stress tests and optimize regularly.
Management risks	R05	Stakeholder Alignment	Misaligned expectations among project sponsors, IT teams, and end-users that can derail project goals.	High	Low-Medium	10	Hold regular, clear communications.
	R06	Change Management	Resistance from employees due to unfamiliarity or fear of job displacement during the transition	Medium	High	15	Provide training and highlight benefits.

			to RPA.				
	R07	Resource Allocation	Underestimating the required time, budget, or skill sets, which can delay key project milestones.	Medium	Low-Medium	6	Plan realistically with contingency resources.
	R08	Vendor Management	Dependence on external vendors for RPA tools and support, posing risks if service levels fall short.	Low	Low-Medium	2	Set clear SLAs and monitor vendors closely.
Other risks	R09	Regulatory Compliance	The risk of non-compliance with financial regulations due to automated errors, leading to legal and reputational issues.	High	Medium	15	Integrate compliance checks and consult legal.
	R10	Operational Disruptions	Temporary disruptions to existing workflows during the transition to RPA.	Low-Medium	Medium	6	Phase the rollout and schedule off-peak.
	R11	Scope Creep	Uncontrolled additions to the project scope that may dilute focus and stretch resources thin.	Medium	High	15	Enforce strict change control processes.

2.6.2. Risk matrix

Risk matrix is populated based on risk score with the following thresholds:

- 1 - 6 (Low): Low-rating risks most likely will not happen.

- 7 - 12 (Medium): Some medium-rating risks might happen at some point.

- 13 - 25 (High): High-rating risks are serious and very likely to happen.

With this information, we have created the matrix chart below for better visualization.

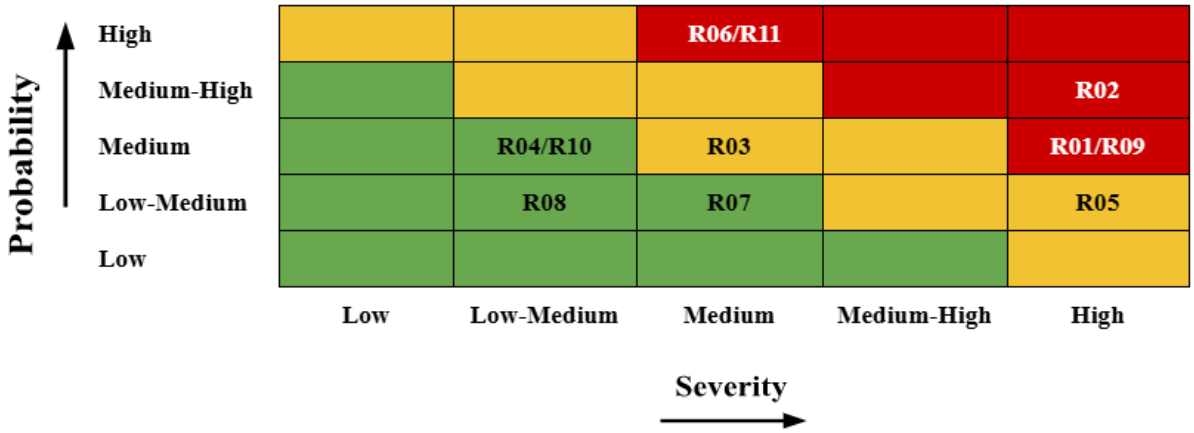

Figure 2.1: Risk matrix

The risk matrix helps us easily spot high potential risks we need to handle first. It reveals that issues like system integration (R01) and data security (R02) are both serious and likely to happen, so they should be our top priority. While the vendor management (R08) or resource allocation (R07) are not posing a high threat, therefore can be addressed later on. Other risks might not be as urgent, but we still need to keep an eye on them. Overall, the matrix makes it easy to see where to focus our time and resources to keep the project on track.

2.7. Chosen project development lifecycle

2.7.1. Objectives of the Project Development Lifecycle

The Project Development Lifecycle (PDLC) plays a crucial role in ensuring that the project is executed systematically, enabling progress tracking, budget control, and

risk management. For the implementation of the RPA Project, selecting an appropriate project management methodology is essential to achieve the following objectives:

- Develop a fully integrated RPA system to automate financial operations, minimize human errors, and enhance operational efficiency.

- Ensure seamless integration with Core Banking and CRM systems to optimize data management and transaction processing.

- Maintain flexibility during implementation, allowing necessary adjustments based on evolving business and technical requirements.

- Ensure compliance with strict financial regulations, guaranteeing data security and processing accuracy.

- Leverage established RPA implementation frameworks to reduce time spent on requirement analysis and system design.

2.7.2. Selection of Project Management Methodology (Theory)

Choosing the appropriate project management methodology is essential for ensuring project success. For the RPA project at VPandas, we need to consider the characteristics of the project—flexibility in software development, control over key project elements like budget and scope, and collaboration with stakeholders. The key methodologies that can be applied are Waterfall, Agile, and Scrum, with the Agile/Scrum-Waterfall Hybrid approach offering a flexible and controlled way to manage the development of RPA bots.

Waterfall Methodology

Waterfall is a traditional, linear project management methodology. It is structured, with each phase of the project needing to be completed before moving on to the next. This approach is ideal for projects with well-defined requirements that are unlikely to change over time.

Phases in Waterfall:

(1) Requirement Analysis: Gather and define all the project requirements upfront.

(2) System Design: Design the system based on the gathered requirements.

(3) Implementation: Develop the system according to the design specifications.

(4) Testing: Conduct thorough testing of the system.

(5) Deployment: Deploy the system to the operational environment.

(6) Maintenance: Perform ongoing maintenance and support.

Advantages:

- Clear and structured, making it easier to track progress.

- Works well for projects with fixed requirements and minimal changes.

Disadvantages:

- Limited flexibility for changes once development begins.

- Can be risky if issues arise late in the process, as they are harder to fix.

When to Use: When the project requirements are clear, and little to no change is expected during the project lifecycle.

Agile Philosophy

Agile is a set of principles and values aimed at improving the flexibility and adaptability of software development. Agile encourages incremental and iterative work, allowing teams to respond to changes in requirements throughout the development cycle.

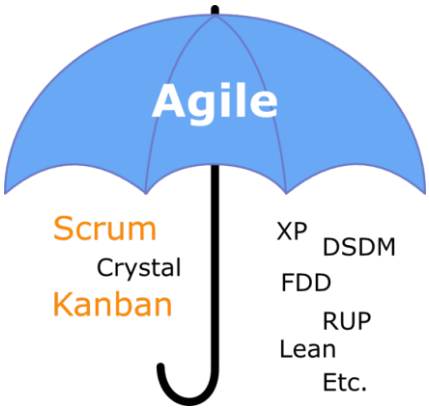

Figure 2.2: Agile philosophy (Source: Linkedin)

Key Principles of Agile:

(1) Customer collaboration over contract negotiation: Agile values continuous collaboration with the customer to ensure that the product meets their evolving needs.

(2) Delivering working software frequently: Agile emphasizes delivering functional software in regular, incremental cycles (often called Sprints).

(3) Working software is the primary measure of progress: The focus is on delivering working software that adds value to the customer.

Advantages:

- Highly flexible, allowing for changes based on real-time feedback.

- Encourages regular, measurable progress through iterations.

Disadvantages:

- May lead to scope creep if requirements are not well-defined.

- Can be hard to control cost and schedule due to constant changes.

When to Use: When the project requires flexibility and is likely to evolve over time, such as software development projects where customer needs can change.

Scrum (Framework within Agile)

Scrum is one of the most popular frameworks in Agile philosophy. It is a lightweight framework designed to help teams work together to deliver products iteratively in small, manageable increments called **Sprints**.

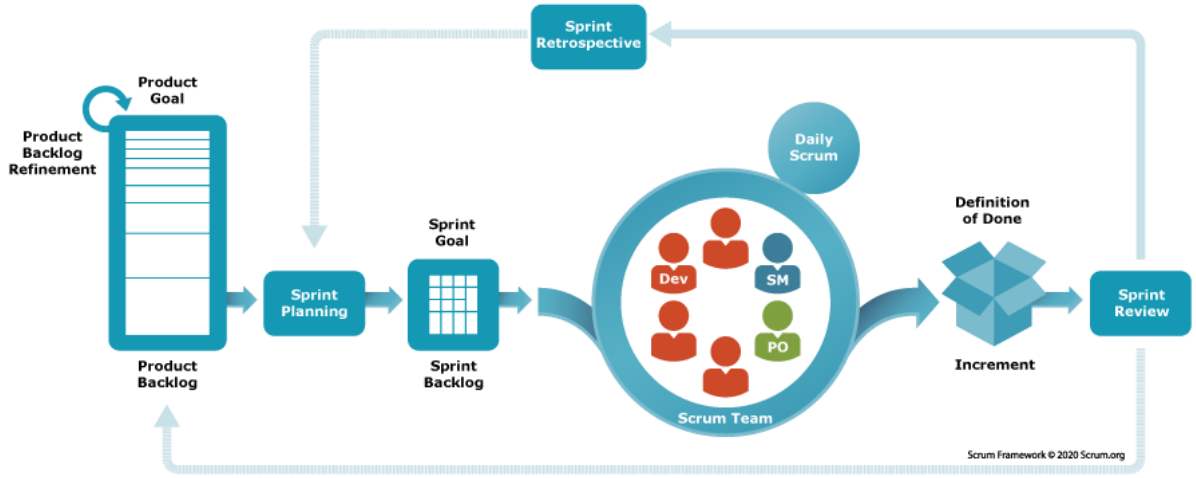

Figure 2.3: The Scrum Framework (Source: Scrum Org)

Key Components of Scrum:

(1) Roles:

- Product Owner: Prioritizes and manages the Product Backlog, representing the needs of the stakeholders.

- Scrum Master: Facilitates the Scrum process, ensuring the team adheres to Scrum practices and removing any obstacles.

- Development Team: The cross-functional team responsible for delivering the work in each Sprint.

(2) Artifacts:

- Product Backlog: A prioritized list of features and requirements to be worked on.

- Sprint Backlog: The list of tasks the team aims to complete during a Sprint.

- Increment: The completed work after each Sprint that can be delivered to stakeholders.

(3) Events:

- Sprint: A time-boxed iteration (usually 2-4 weeks) during which specific work is completed.

- Sprint Planning: A meeting at the start of each Sprint where the team plans the work for the Sprint.

- Daily Scrum: A short meeting held every day during the Sprint to discuss progress and challenges.

- Sprint Review: A meeting held at the end of the Sprint to review the work completed and gather feedback.

- Sprint Retrospective: A meeting to reflect on the Sprint and identify improvements for the next one.

Advantages:

- High adaptability: Scrum allows for continuous feedback and adjustments to meet changing requirements.

- Transparency: Stakeholders have clear visibility into progress through Sprint Reviews and Daily Scrums.

Disadvantages:

- Requires active and continuous collaboration with stakeholders.

- Teams need to be highly self-organized, which might be a challenge in some environments.

When to Use: For projects where the scope is likely to evolve, such as product development or software projects requiring frequent changes based on feedback.

Waterfall – Agile/Scrum Hybrid Approach

The Waterfall - Agile/Scrum Hybrid approach combines both methodologies, allowing the project to maintain flexibility where necessary while ensuring control and stability for other aspects. In this approach, Waterfall is used in phases where requirements and constraints are fixed, and Agile/Scrum is used in the development phases where requirements can evolve.

Advantages:

- Combines the best of both worlds: the flexibility of Agile/Scrum for development and the stability of Waterfall for planning and control.

- Can be tailored to fit projects that require both fixed elements (such as budget, scope, and timelines) and flexibility in execution.

Disadvantages:

- Needs careful coordination between teams using Agile and Waterfall, which can introduce complexity.

- May not work well if the project doesn't have a clear structure or predefined requirements.

2.7.3. Application of the Waterfall - Agile/Scrum Hybrid Approach in RPA Project

In the RPA project at VPandas, the Agile/Scrum-Waterfall Hybrid approach will be applied to effectively manage the development of RPA bots while maintaining control over key project factors such as budget, scope, and resources.

Why Hybrid Approach?

- Strict Regulatory Requirements and Financial Precision: The financial sector operates under stringent legal and regulatory requirements, particularly in the context of RPA applications in VPandas. In such an environment, it is critical to ensure that all processes are well-defined, accurate, and comply with relevant financial standards.

- **Flexibility During Execution**: Once the foundational requirements and constraints are defined in the early phases, the development and deployment of RPA bots can benefit from Agile/Scrum methodologies. The Agile/Scrum approach allows for more flexibility in the Execution, Monitoring phases of the project. As new insights are gained and business needs evolve, Agile provides the flexibility to make iterative improvements and adjustments, enabling the team to quickly respond to any changes or challenges that arise during the implementation of the RPA bots.

- **The Need for Structured Planning and Adaptation**: The nature of RPA projects in a financial company requires both structured planning and the ability to adapt to ongoing developments. The use of Waterfall in the initial stages ensures that the project starts with a clear direction, budget, and compliance with regulations. However, Agile/Scrum is essential in the later stages, where continuous feedback from the development and testing of the RPA bots is necessary for fine-tuning the system to meet the dynamic requirements of the business and users.

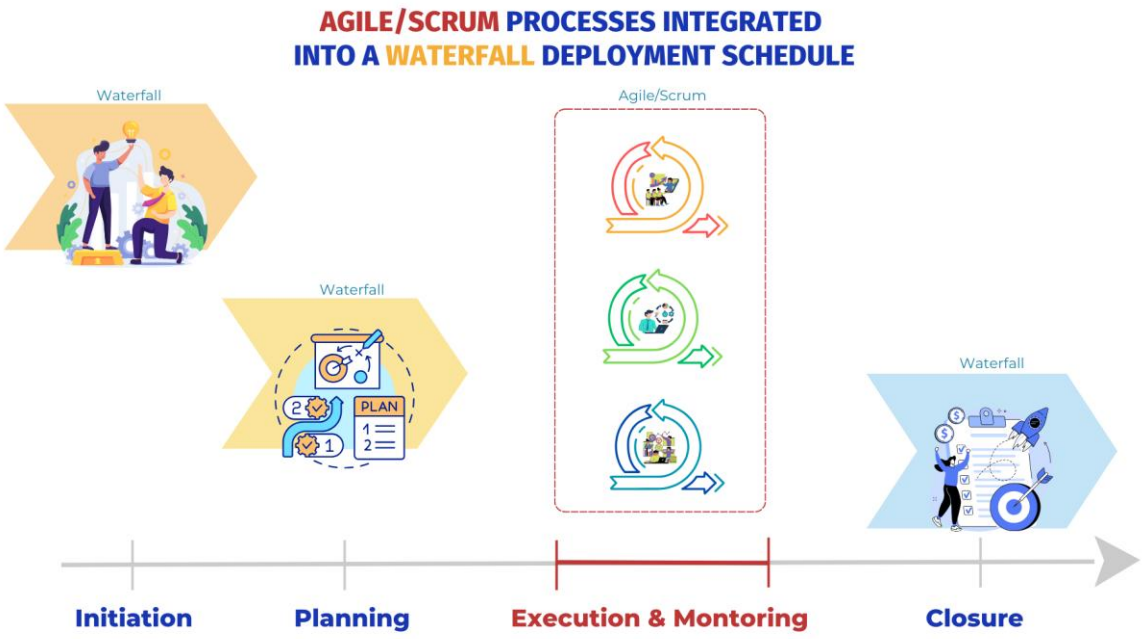

Figure 2.4: The Waterfall - Agile/Scrum hybrid approach

Waterfall in the Initiation Phase

Objective: This phase aims to assess project feasibility and value, ensuring that the project is a worthwhile investment and can be executed efficiently.

Steps to follow:

(1) Define the project's high-level requirements: Gather and docunment all the requirements upfront.

(2) Develop core documentation:

- Business Case: Assess the potential benefits of implementing RPA.

- Feasibility Study: Evaluate the project's technical and financial feasibility.

- Project Charter: Define the scope, stakeholders, and objectives.

(3) Set budget and resources: Establish the financial plan and allocate necessary resources.

- Business Case: Assess the potential benefits of implementing RPA.

- Feasibility Study: Evaluate the project's technical and financial feasibility.

- Project Charter: Define the scope, stakeholders, and objectives.

Waterfall in the Planning Phases

Objective: The Planning phase ensures that all activities, resources, and timelines are clearly defined, providing a structured roadmap for implementation.

Step to follow:

(1) Develop a Product backlog to break down project tasks into manageable components.

(2) Define system requirements for RPA, including core functionalities such as automated data entry, integration with Core Banking and CRM, and transaction reconciliation.

(3) Estimate costs, resource allocation, and timeframes to ensure financial feasibility.

(4) Perform risk assessments and create a risk management plan to mitigate potential challenges.

(5) Sprint planning: Define specific goals and tasks for each Sprint.

Agile/Scrum in the Execution and Monitoring Phases

Objective: Develop RPA bots iteratively and flexibly through Sprints, with continuous feedback to adjust the solution based on evolving requirements.

Steps to follow:

(1) Development: Build features and bots during each Sprint while continuously refining them.

(2) Testing: Perform regular testing to ensure quality and compatibility after each Sprint.

(3) Daily Scrum: Hold short meetings to assess progress and resolve issues.

(4) Sprint review: Present the completed work to stakeholders and adjust based on feedback.

(5) Sprint retrospective: Review the team's processes and identify improvements for the next Sprint.

Waterfall in the Closure Phase

*Objective***:** Complete the documentation, finalize the RPA bots, and transition them to the operations team for deployment and ongoing maintenance.

Steps to follow:

(1) Finalize documentation: Complete final reports, lessons learned, and transition plans.

(2) System handover: Transfer the RPA bots to the development team.

(3) Contract closure: Ensure contracts with vendors are closed and payments settled

CHAPTER 3. PLANNING

3.1. Scope statement

Scope statement gives us an overview of project boundaries, potential deliverables and acceptance criteria. This will help summarize all important aspects of the project to prepare for planning.

Table 3.1: VPandas's Project scope statement

Project Scope Statement	
Project	
Integrating RPA solutions for financial system at VPandas	
Project Sponsor	**Project Manager**
Trieu Viet Cuong	Nguyen Anh Tuan
Date	
Target Start Date: 15/01/2025	Target End Date: 30/9/2025
Scope Description	
In Scope	
- Automate manual data entry and bank reconciliation processes. - Integrate and synchronize data between Core banking and CRM systems. - Support making financial reports and audits.	
Out of Scope	
- Integrate customer support BOT.	
Project Deliverables	
- Weekly/ monthly report about progress and challenges. - Documentations for RPA bots operation. - RPA bots control center software. - Documents about resource allocation. - Demo and finished RPA bots.	

Acceptance Criteria
- Bots should be working fast with minimal to zero errors. - Control center software runs seamlessly and fast. - Final money spent should not be over 5% of initial budgets. - Well defined documentation.
Constraints
- Time: 7 months - Budget: 36.000.000.000 + 5% - Scope: Core functionality of the company - Quality: The project implementation process meets all requirements
Assumptions
- This project is fully backed by corporate funding, key stakeholders, and relevant departments. Vpandas Financial Company will allocate additional resources if necessary. - Business data is assumed to be complete, accurate, and reliable for RPA implementation, ensuring smooth automation of financial processes. - It is assumed that data is properly collected, stored, and structured, making it accessible and integrable across multiple financial systems. - The company has an existing IT infrastructure capable of supporting RPA, including a stable network, compatible software, and necessary hardware for deployment.

3.2. Product backlog

The Product Backlog is a list of work items that need to be completed throughout the lifecycle of the RPA project, continuously maintained and updated by the Project Manager. It plays a crucial role in the Agile/Scrum methodology, providing the development team with a clear overview of required tasks, prioritizing key features, and optimizing the implementation progress across multiple sprints.

To ensure clarity and manageability, the Product Backlog is divided into Epics, where each Epic represents a major group of related tasks with a shared goal or scope

within the project. These Epics are further broken down into Backlog Items, making it easier for the development team to plan and execute specific parts of the project.

Each Backlog Item is evaluated based on the following criteria:

- **Category:** Classifies the type of work, such as requirement analysis, solution design, development, testing, deployment, training, etc.

- **Priority:** Defines the importance level of each task (High, Medium, or Low), enabling the Project Manager to prioritize tasks with the greatest impact.

- **Story point:** Estimates the complexity and effort required to complete the task. Higher Story Points indicate more complex tasks that demand greater resources and time.

Based on these criteria, the Project Manager will allocate Backlog Items into appropriate sprints, ensuring a balanced workload and optimized project execution. High-priority tasks with suitable Story Points will be scheduled first, while more complex or lower-priority tasks may be deferred to later sprints. This approach ensures flexibility in project management while maintaining consistency and efficiency in deploying the RPA solution at VPandas Financial Company.

Table 3.2: Epic 1: Business Process and Requirements Analysis

Index	Backlog Item	Category	Priority	Story Point
E1-01	Map business processes	Business Process	High	8
E1-02	Identify repetitive and rule-based tasks	Business Process	High	5
E1-03	Assess automation readiness	Business Analysis	High	5
E1-04	Identify integration challenges with Core Banking and CRM	Business Analysis	High	8
E1-05	Define functional and technical requirements	Requirements Engineering	High	8
E1-06	Establish performance and scalability	Performance	Medium	3

	criteria	Analysis		

Table 3.3: Epic 2: RPA Solution Design and Data Integration

Index	Backlog Item	Category	Priority	Story Point
E2-01	Define data access control policies	Security and Compliance	High	5
E2-02	Ensure regulatory compliance	Security and Compliance	High	5
E2-03	Design automated process workflows	Solution Design	High	13
E2-04	Identify automation triggers and business rules	Solution Design	High	13
E2-05	Identify key data synchronization points	Integration	High	8
E2-06	Design API-based integration architecture	Integration	High	13

Table 3.4: Epic 3: Development, Deployment, and Change Management

Index	Backlog Item	Category	Priority	Story Point
E3-01	Select appropriate RPA tools	Technology Selection	High	8
E3-02	Develop RPA bots for critical processes	Development	High	13
E3-03	Perform unit testing	Testing	High	8
E3-04	Perform integration testing with Core Banking and CRM	Testing	High	13
E3-05	Conduct user acceptance testing (UAT)	Testing	High	13
E3-06	Deploy bots to production	Deployment	High	13

E3-07	Monitor execution and troubleshoot issues	Monitoring and Maintenance	High	13
E3-08	Train employees to use RPA bots	Training	Medium	8
E3-09	Guide employees on monitoring and reporting bot errors	Training	Medium	5
E3-10	Conduct hands-on training with real case scenarios	Training	Medium	8
E3-11	Develop change management plan	Change Management	High	5

Table 3.5: Epic 4: Performance Analysis and Optimization

Index	**Backlog Item**	**Category**	**Priority**	**Story Point**
E4-01	Define KPIs for RPA performance evaluation	Performance Analysis	High	5
E4-02	Analyze bot execution logs	Monitoring and Maintenance	High	8
E4-03	Optimize RPA scripts for better performance	Optimization	High	8
E4-04	Improve exception handling mechanisms	Optimization	High	8
E4-05	Identify new processes for automation	Business Analysis	Medium	8

Table 3.6: Epic 5: Reporting and Data Visualization

Index	**Backlog Item**	**Category**	**Priority**	**Story Point**
E5-01	Integrate with Power BI for data visualization	Data Visualization	Medium	13

E5-02	Provide financial forecasting data	Decision Support	Medium	8
E5-03	Support executive decision-making	Decision Support	Medium	5

Table 3.7: Epic 6: Post-Implementation Review and Maintenance

Index	Backlog Item	Category	Priority	Story Point
E6-01	Collect stakeholder feedback	Feedback Management	Medium	5
E6-02	Document lessons learned	Documentation	Medium	3
E6-03	Develop RPA bot monitoring system	Monitoring and Maintenance	High	8
E6-04	Assign roles for troubleshooting and issue resolution	Support and Maintenance	Medium	3
E6-05	Plan for RPA system expansion	Expansion Planning	Medium	8

Table 3.8: Epic 7: Project Documentation and Knowledge Sharing

Index	Backlog Item	Category	Priority	Story Point
E7-01	Compile technical documentation	Documentation	Medium	8
E7-02	Create user manuals	Documentation	Medium	3
E7-03	Conduct advanced internal training	Training	Medium	8
E7-04	Share implementation experience within the company	Knowledge Sharing	Medium	5

Product Backlog			94
2878	Epic: Epic 1: Business Process and Requirements Analysis	New	
2469	User story: E1-01 Map business processes	New	8
2468	User story: E1-02 Identify repetitive and rule-based tasks	New	5
2467	User story: E1-03 Assess automation readiness	New	5
2466	User story: E1-04 Identify integration challenges with Core Banking and CRM	New	8
2465	User story: E1-05 Define functional and technical requirements	New	8
2464	User story: E1-06 Establish performance and scalability criteria	New	3
2879	Epic: Epic 2: RPA Solution Design and Data Integration	New	
2463	User story: E2-01 Define data access control policies	New	5
2462	User story: E2-02 Ensure regulatory compliance	New	5
2473	User story: E2-03 Design automated process workflows	New	13
2472	User story: E2-04 Identify automation triggers and business rules	New	13
2471	User story: E2-05 Identify key data synchronization points	New	8
2470	User story: E2-06 Design API-based integration architecture	New	13

Figure 3.1: Product backlog management in Open Project

3.3. Sprint backlog

The Sprint Backlog is a set of Product Backlog Items (PBIs) selected for execution in each sprint to ensure the project's progress. Based on the criteria Category, Priority, and Story Point, the Project Manager assigns backlog items to appropriate sprints to help the development team stay on track with the project roadmap.

The RPA project at VPandas Financial Company is divided into 8-10 sprints, each lasting 4 weeks, depending on the project implementation progress. The backlog items are distributed to keep the total Story Points per sprint relatively equal. This approach ensures:

- Consistent velocity measurement across sprints.
- Balanced workload distribution, preventing work overload or underutilization.
- Easier progress tracking and adjustments after each sprint.

At the beginning of each sprint, a Sprint Goal is defined to provide a clear focus and ensure the sprint delivers meaningful progress. The Sprint Goal serves as a guiding objective that the development team strives to achieve within the sprint timeline.

At the end of each sprint, the project team conducts a Sprint Review to assess

the outcomes, identify challenges, and make necessary adjustments. If there are changes in requirements or priorities, the Project Manager reallocates backlog items in upcoming sprints to maintain the project's timeline and objectives.

The table below outlines the Sprint Goals for each sprint, ensuring a structured and goal-oriented execution of the project.

Table 3.9: Sprint 1: Business Process Analysis and Initial Design (Week 1-4)

Epic Key	Sprint Item	Category	Priority	Story Point
E1-01	Map business processes	Business Process	High	8
E1-02	Identify repetitive and rule-based tasks	Business Process	High	5
E1-03	Assess automation readiness	Business Analysis	High	5
E1-04	Identify integration challenges with Core Banking and CRM	Business Analysis	High	8
E1-05	Define functional and technical requirements	Requirements Engineering	High	8
E1-06	Establish performance and scalability criteria	Performance Analysis	Medium	3
E2-01	Define data access control policies	Security and Compliance	High	5
E2-02	Ensure regulatory compliance	Security and Compliance	High	5

Table 3.10: Sprint 2: Solution Design and Integration Planning (Week 5-8)

Epic Key	Sprint Item	Category	Priority	Story Point
E2-03	Design automated process workflows	Solution Design	High	13
E2-04	Identify automation triggers and	Solution Design	High	13

	business rules			
E2-05	Identify key data synchronization points	Integration	High	8
E2-06	Design API-based integration architecture	Integration	High	13

Table 3.11: Sprint 3: Development Phase 1 - Core RPA Features (Week 9-12)

Epic Key	Sprint Item	Category	Priority	Story Point
E3-01	Select appropriate RPA tools	Technology Selection	High	8
E3-02	Develop RPA bots for critical processes	Development	High	13
E3-03	Perform unit testing	Testing	High	8
E3-04	Perform integration testing with Core Banking and CRM	Testing	High	13

Table 3.12: Sprint 4: Development Phase 2 - Testing and UAT (Week 13-16)

Epic Key	Sprint Item	Category	Priority	Story Point
E3-05	Conduct user acceptance testing (UAT)	Testing	High	13
E3-06	Deploy bots to production	Deployment	High	13
E3-07	Monitor execution and troubleshoot issues	Monitoring and Maintenance	High	13

Table 3.15: Sprint 5: Training and Initial Reporting (Week 17-20)

Epic Key	Sprint Item	Category	Priority	Story

				Point
E3-08	Train employees to use RPA bots	Training	Medium	8
E3-09	Guide employees on monitoring and reporting bot errors	Training	Medium	5
E3-10	Conduct hands-on training with real case scenarios	Training	Medium	8
E3-11	Develop change management plan	Change Management	High	5
E5-01	Integrate with Power BI for data visualization	Data Visualization	Medium	13
E5-02	Provide financial forecasting data	Decision Support	Medium	8
E5-03	Performance and security testing	Testing	Medium	13

Table 3.16: Sprint 6: Performance Optimization and Expansion Planning (Week 21-24)

Epic Key	Sprint Item	Category	Priority	Story Point
E4-01	Define KPIs for RPA performance evaluation	Performance Analysis	High	5
E4-02	Analyze bot execution logs	Monitoring and Maintenance	High	8
E4-03	Optimize RPA scripts for better performance	Optimization	High	8
E4-04	Improve exception handling mechanisms	Optimization	High	8
E4-05	Identify new processes for automation	Business Analysis	Medium	8
E6-05	Plan for RPA system expansion	Expansion Planning	Medium	8

Table 3.17: Sprint 7: Project Closure and Documentation (Week 25-28)

Epic Key	Sprint Item	Category	Priority	Story Point
E5-04	Support executive decision-making	Decision Support	Medium	5
E6-01	Collect stakeholder feedback	Feedback Management	Medium	5
E6-02	Document lessons learned	Documentation	Medium	3
E6-03	Develop RPA bot monitoring system	Monitoring and Maintenance	High	8
E6-04	Assign roles for troubleshooting and issue resolution	Support and Maintenance	Medium	3
E7-01	Compile technical documentation	Documentation	Medium	8
E7-02	Create user manuals	Documentation	Medium	3
E7-03	Conduct advanced internal training	Training	Medium	8
E7-04	Share implementation experience within the company	Knowledge Sharing	Medium	5

Table 3.19: Sprint goal summary

Sprint	Sprint goal	Total story points
Sprint 1: Business Process Analysis and Initial Design	- Conduct a detailed analysis and identify steps that can be automated. - Assess RPA readiness and pinpoint bottlenecks in the current system. - Define technical and non-technical project requirements.	47

Sprint 2: Solution Design and Integration Planning	- Design automated workflows and define business rules. - Plan RPA integration with Core Banking and CRM. - Develop API architecture to ensure data synchronization. - Ensure compliance with security and data protection regulations.	47
Sprint 3: Development Phase 1 - Core RPA Features	- Develop automation bots for critical processes. - Conduct unit testing to ensure bots function as expected. - Perform integration testing with Core Banking and CRM.	42
Sprint 4: Development Phase 2 - Testing and UAT	- Conduct User Acceptance Testing (UAT) to verify that bots meet business requirements. - Finalize bot deployment into the production environment. - Monitor trial runs, identify, and fix emerging issues. - Ensure system stability before the official rollout.	39
Sprint 5: Training and Initial Reporting	- Train employees on how to use and monitor RPA bots. - Guide on error handling, incident reporting, and bot maintenance. - Provide financial forecasting reports based on automatically collected data.	45
Sprint 6: Performance Optimization and Expansion Planning	- Evaluate bot performance based on predefined KPIs. - Optimize bot code to improve speed and accuracy.	47

	- Enhance exception handling to minimize automation errors. - Identify new processes for future automation. - Develop a plan to expand RPA implementation to other departments.	
Sprint 7: Project Closure and Documentation	- Collect stakeholder feedback and improve the system. - Compile operational, maintenance, and RPA expansion documentation. - Conduct a comprehensive project evaluation, extract key lessons learned. - Develop a long-term maintenance plan and future development strategy.	48

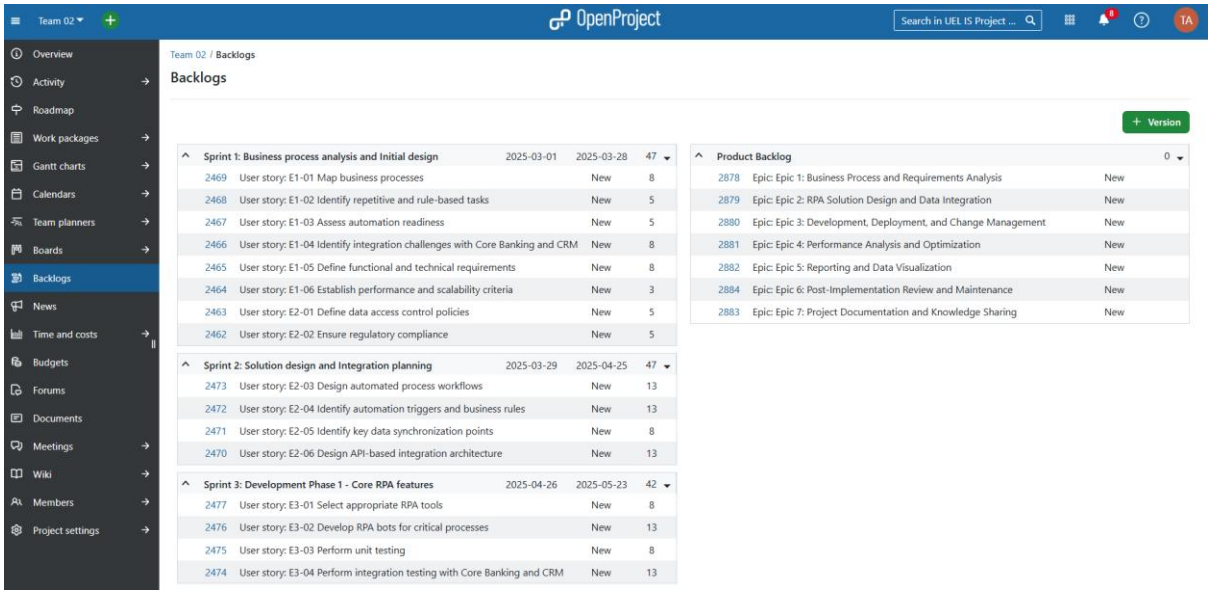

Figure 3.2: Sprint backlog management in Open Project

3.4. Estimate Schedule using PERT

3.4.1. Theory of PERT

PERT (Program Evaluation and Review Technique) is a project management method used to analyze and evaluate tasks within a project, particularly in cases with high uncertainty or significant fluctuations in completion time. PERT helps project managers estimate the time required to complete a project based on three different time

estimates for each task.

Three Time Estimates in PERT:

- **Optimistic Time (O):** The minimum time required to complete a task, assuming everything goes smoothly without any issues.

- **Most Likely Time (M):** The most probable time needed to complete the task under normal conditions, assuming no major issues occur.

- **Pessimistic Time (P):** The maximum time a task might take if delays or unexpected problems arise.

Formula for Expected Time (ET) in PERT:

$$ET = \frac{O + 4M + P}{6}$$

Where:

O = Optimistic Time

M = Most Likely Time

P = Pessimistic Time

ET = Expected Time or the estimated time required to complete the task.

Objectives of PERT:

- Determine estimated time for each task within the project.

- Calculate the total time required to complete the project.

- Analyze and identify the Critical Path, which helps determine the most crucial tasks that might delay the project if postponed.

Scope of PERT Usage:

PERT is often applied in complex projects with high uncertainty, such as research and development projects, new product development, or IT projects, where task completion times can vary significantly.

3.4.2. PERT Calculation for VPandas' RPA Project

To estimate the expected time (ET) for tasks in the Product Backlog of VPandas' RPA project, we will apply PERT to estimate the time required for key tasks. Below is an example of how PERT calculations are applied to some project tasks.

Example 1: Task – E1-01 Analyze automation trends in finance (Research)

- Optimistic Time (O): 3 days

- Most Likely Time (M): 5 days

- Pessimistic Time (P): 7 days

Applying the **PERT** formula:

$$ET = \frac{O + 4M + P}{6} = \frac{3 + 4.5 + 7}{6} = 5$$

Result: The expected time (ET) for this task is 5 days.

The following table presents the effort estimation for tasks across the entire project based on this approach:

Table 3.20: Sprint effort estimation using PERT Method

Sprint	Epic key	Sprint item	Optimistic (O)	Most Likely (M)	Pessimistic (P)	Expected Time (ET)
Sprint 1	E1-01	Map business processes	6	4	8	5
	E1-02	Identify repetitive and rule-based tasks	2	3	4	3
	E1-03	Assess automation readiness	2	3	4	3
	E1-04	Identify integration challenges with Core Banking and CRM	2	3	4	3
	E1-05	Define functional and technical requirements	4	2	6	3
	E1-06	Establish performance and scalability criteria	4	0.5	6	2
	E2-01	Define data access control policies	2	3	4	3
	E2-02	Ensure regulatory compliance	2	3	4	3
Sprint 2	E2-03	Design automated process workflows	2	7.5	4	6

	E2-04	Identify automation triggers and business rules	2	7.5	4	6
	E2-05	Identify key data synchronization points	5	1.5	7	3
	E2-06	Design API-based integration architecture	5	6	7	6
Sprint 3	E3-01	Select appropriate RPA tools	3	4	5	4
	E3-02	Develop RPA bots for critical processes	7	4.25	12	6
	E3-03	Perform unit testing	4	3.5	6	4
	E3-04	Perform integration testing with Core Banking and CRM	4	6.5	6	6
Sprint 4	E3-05	Conduct user acceptance testing (UAT)	6	6.75	9	7
	E3-06	Deploy bots to production	5	7	9	7
	E3-07	Monitor execution and troubleshoot issues	7	9.25	10	9
Sprint 5	E3-08	Train employees to use RPA bots	5	3	7	4
	E3-09	Guide employees on monitoring and reporting bot errors	2	1.75	3	2
	E3-10	Conduct hands-on training with real case scenarios	5	3	7	4
	E3-11	Develop change management plan	2	1.5	4	2
	E5-01	Integrate with Power BI for data	6	6.75	9	7

		visualization				
	E5-02	Provide financial forecasting data	3	4.25	4	4
Sprint 6	E4-01	Define KPIs for RPA performance evaluation	3	2.5	5	3
	E4-02	Analyze bot execution logs	4	3.5	6	4
	E4-03	Optimize RPA scripts for better performance	4	3.5	6	4
	E4-04	Improve exception handling mechanisms	4	3.5	6	4
	E4-05	Identify new processes for automation	3	6.75	6	6
	E6-05	Plan for RPA system expansion	3	7	5	6
Sprint 7	E5-03	Support executive decision-making	3	4	5	4
	E6-01	Collect stakeholder feedback	2	1.25	5	2
	E6-02	Document lessons learned	1	2	3	2
	E6-03	Develop RPA bot monitoring system	4	3.5	6	4
	E6-04	Assign roles for troubleshooting and issue resolution	1	2	3	2
	E7-01	Compile technical documentation	3	4	5	4
	E7-02	Create user manuals	1	2	3	2
	E7-03	Conduct advanced internal	3	4	5	4

		training				
	E7-04	Share implementation experience within the company	1	2	3	2

3.5. Gantt chart

3.5.1. What is a Gantt Chart?

A Gantt Chart is a project management tool that visually represents the project timeline, task dependencies, and key milestones. It helps teams track progress by displaying tasks along a time axis, providing insights into:

- Start and finish dates of each task.

- Task sequencing (which tasks must be completed first, which can be executed in parallel).

- Milestones that indicate critical project checkpoints.

- Overall project duration and expected completion date.

Using a Gantt Chart enables project managers to efficiently allocate resources, track progress, and adjust schedules to ensure project success while maintaining the project timeline.

3.5.2. Application of Gantt chart in this project

After estimating the completion time for each task using the PERT method, the Project Manager (PM) cross-checks this information with the Sprint Backlog. Based on the Category, Priority, Story Point, and Expected Time (ET) derived from PERT calculations, the PM strategically organizes and sequences tasks to:

- Prioritize tasks that should be completed first.

- Identify parallel tasks that can be executed simultaneously to optimize efficiency.

- Balance resource allocation, ensuring workload distribution is optimal and manageable.

- Maintain project timelines by tracking the completion of key deliverables and adjusting workloads when necessary.

3.5.3. Project Kickoff and Sprint reviews

Before starting the project, a Kickoff Meeting is scheduled as Milestone 1 in the Gantt Chart. This meeting serves to align stakeholders, define project objectives, and finalize execution plans.

After each sprint, a Sprint Review is conducted, corresponding to Milestones 2, 3, 4, etc. These reviews serve to:

- Evaluate sprint progress and completed deliverables.

- Identify potential bottlenecks that might affect the next sprint.

- Adjust sprint planning for upcoming iterations if needed.

The Gantt Chart below provides a visual representation of the project's timeline, displaying task sequencing, sprint phases, and review milestones to ensure structured project execution.

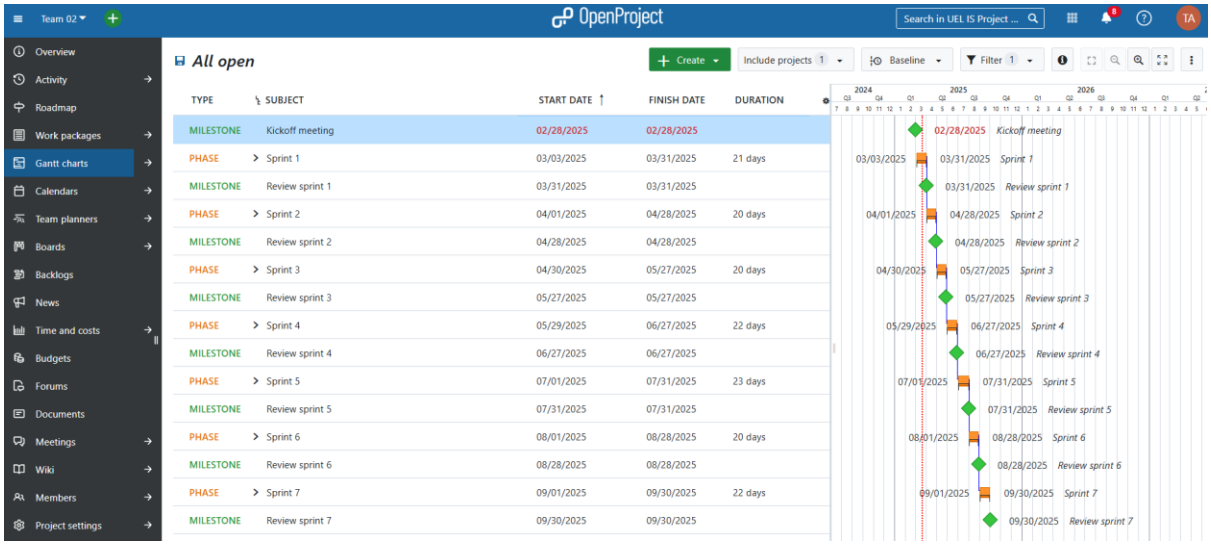

Figure 3.3: Gantt Chart of the project

The figure below provides a detailed breakdown of tasks managed within a single sprint, including key attributes such as task name, status, start date, finish date, and assignee. Each task represents a specific backlog item or user story assigned within the sprint, with its status indicating the current progress (e.g., New, In Progress, Completed). The start and finish dates define the planned execution time frame, while the assignee column identifies the team member responsible for completing the task. This structured task management approach ensures transparency, allowing the Project

Manager to track progress, allocate work effectively, and ensure timely completion within the sprint.

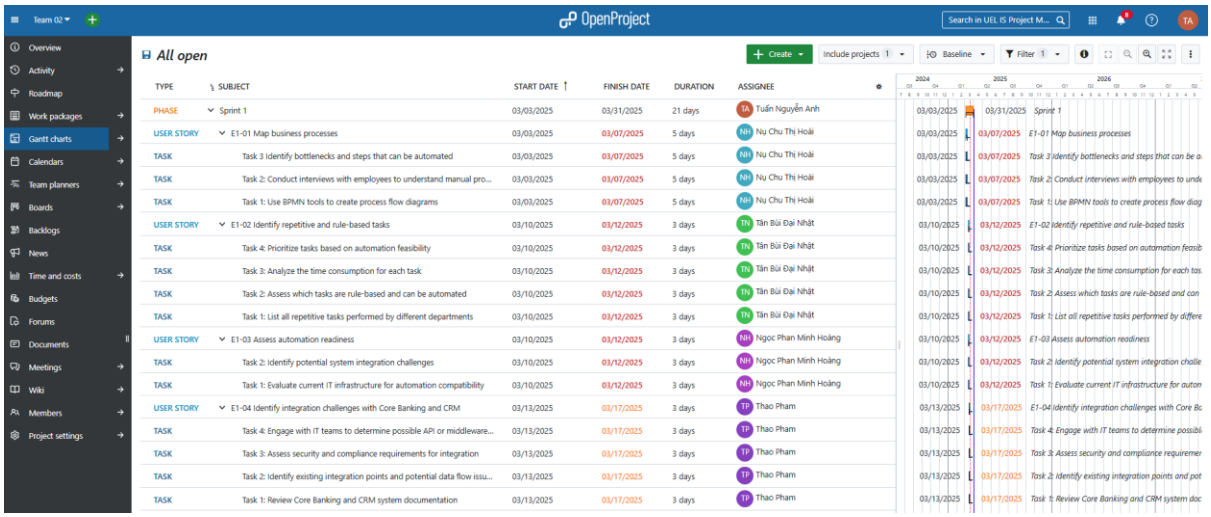

Figure 3.4: Breakdown of tasks in a sprint

3.6. Budget estimate and cost baseline

3.6.1. Budget estimate

Based on the company's objectives and an evaluation of feasible fixed and variable costs, the estimated budget is outlined as follows.

The total estimated budget is **30 - 36 billion VND**, divided into key categories:

Table 3.21: Budget estimate

No.	Category	Cost (billion VND)	Evaluation
1	RPA Software License (3 bots)	2	Essential to ensure automation capabilities and future scalability.
2	Bot Development Costs	2.354	Crucial investment to optimize business processes and minimize errors.
3	Server/Cloud Infrastructure	1	Reasonable cost to ensure system stability and data security.
4	Employee Training	0.6	Necessary to ensure staff can operate the system efficiently.

5	Core Banking, CRM Integration	1.0	Critical for seamless operation of the RPA system with existing platforms.
6	Quality Testing	0.19	Reduces operational risks, ensuring smooth system performance.
7	Internal Personnel Costs	3.5	Ensures sufficient human resources to implement the project on schedule.
8	Project Management and Supervision Costs	1 - 2.5	Necessary to maintain control and coordinate implementation.
9	Post-Implementation Support Costs	0.8 - 1.5	Reduces disruptions after the system goes live.
10	Cybersecurity and Compliance Costs	0.6 - 1.2	Ensures data security and regulatory compliance.
11	Scalability Contingency	2 - 3	Meets potential future system expansion needs.
12	Risk Contingency (~20%)	4.0	Ensures financial capacity to handle unforeseen issues.
Total Implementation Costs		**30-36**	

3.6.2. Cost baseline

Based on the project's estimated budget and the implementation roadmap outlined in the Gantt chart, costs are allocated to each sprint according to its respective tasks. The Cost Baseline is established to ensure expenditures remain within a reasonable and controllable range. The project must adhere to the predefined budget or deviate only within the acceptable contingency limit to ensure success. In addition to the costs allocated to the sprints, a fixed cost of 3 billion VND is designated for the platform, which is predefined and non-negotiable. The project is planned with the following cost allocation:

Table 3.22: Cost baseline details

Sprint	Main Tasks	Teams Involved	Number of Personnel	Duration (Weeks)	Personnel and Management Costs (Billion VND)	Software and Infrastructure Costs (Billion VND)	Testing and Security Costs (Billion VND)	Training and Deployment Costs (Billion VND)	Total Cost (Billion VND)
Sprint 1	Analysis and Initial Design	PM, BA, Dev Lead	5	4	1	0	0	0	1
Sprint 2	BOT design, security, infrastructure	Dev, Security, Infrastructure	8	4	0,8	0,7	1,3	0	2,8
Sprint 3	BOT Development 1 (Data Entry)	Dev, QA, Security, Testing	12	4	1	1,5	0,7	0	3,2
Sprint 4	Core Banking and CRM Integration	Dev, QA, Integration	15	4	0,8	1,8	1,5	0	4,1
Sprint 5	BOT Development for Financial Reporting	Dev, QA, Data Team	10	4	1	1,5	1,5	0	4

Sprint 6	BOT Deployment, Staff Training	PM, Trainer, DevOps	6	4	0,8	0	1,7	0,6	3,1
Sprint 7	Post-deployment Support, Maintenance	Support, Optimization	5	4	0,3	1,8	0,5	1,5	4,1

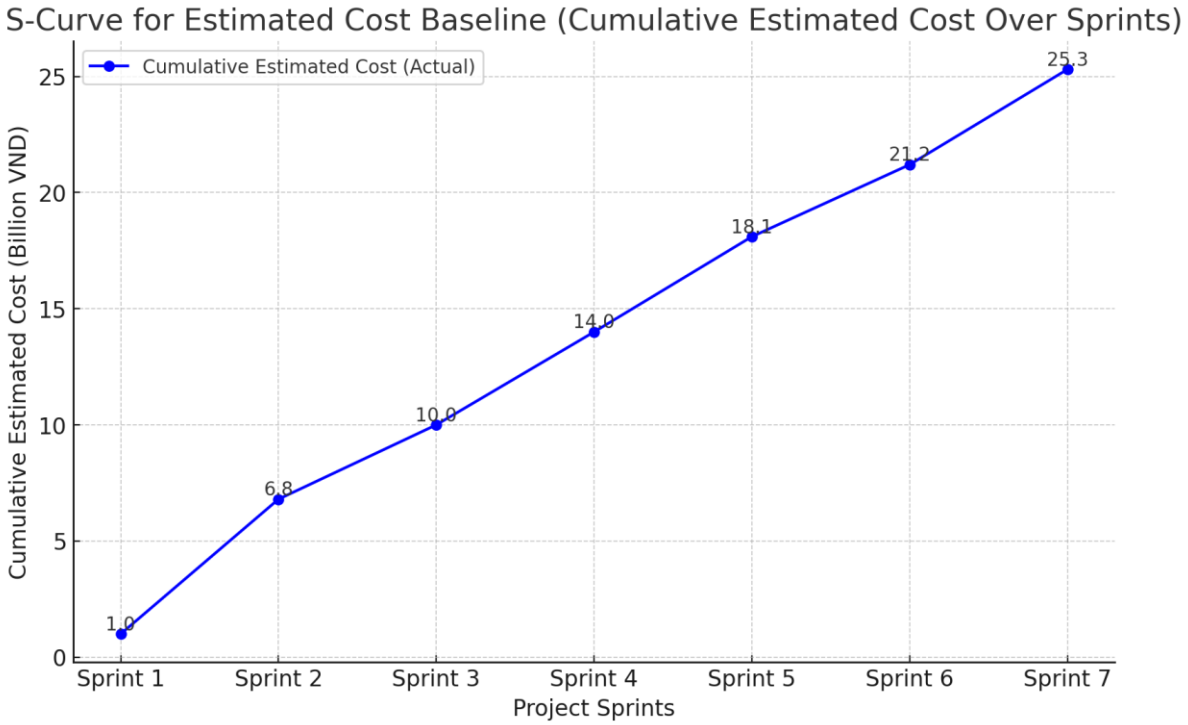

Figure 3.5: S-Curve for Cost Baseline

3.7. Procurement plan

Plan Procurement Management is the process of identifying which project needs can be fulfilled through external procurement and defining how acquisitions should be handled. For RPA implementation in VPandas Financial company, the procurement plan will focus on:

(1) Assessing and selecting the most suitable RPA platform (UiPath, Blue Prism, Microsoft Power Auto or Automation Anywhere) based on multi criteria.

(2) Developing a Statement of Work (SOW) to clearly define the project scope, expectations, and technical requirements for vendors to evaluate their ability to deliver the needed solutions.

3.7.1. Evaluation criteria

Selecting the right RPA platform is crucial for ensuring the success of automation initiatives in financial institutions like VPandas Financial. To make an informed decision, this table compares four leading RPA tools: UiPath, Automation Anywhere, Blue Prism, and Microsoft Power Automate. The evaluation is based on multiple criteria, including functional capabilities, technical requirements, ease of use, licensing costs, and support services.

Table 3.23: Evaluation criteria for RPA platform

Criteria	UIPath	Automation Anywhere	Blue Prism	Microsoft Power Auto
Functional requirements				
Ability to automate repetitive, rule-based tasks	10	9	9	8
Support for attended and unattended automation	10	9	9	8
Ability to handle structured and unstructured data	9	8	8	7
Integration with third-party applications (e.g Core Banking and CRM)	10	9	9	8
Orchestration and centralized control of bots	10	9	9	8
Intelligent automation capabilities (AI, ML, NLP integration)	8	8	8	7
Workflow management and process optimization tools	9	8	8	7
Scalability for handling large transaction volumes	10	9	9	8

Security and access control features	10	9	10	9
Exception handling and fallback mechanisms	9	8	8	8
Technical Requirements				
Cloud-based and on-premise deployment options	9	9	9	10
Compatibility with existing IT infrastructure	9	9	9	9
API and web service integration capabilities	10	9	9	9
SQL or NoSQL database support	9	8	8	8
Support for virtualized environments	9	8	8	8
Compliance with industry security standards (GDPR, PCI-DSS, etc.)	10	9	10	10
High availability and failover support	10	9	9	9
Ease of Use and Customization				
User-friendly interface with low-code/no-code development	10	9	8	9
Customizable workflows and scripting support	9	9	9	8
Reusability of automation components	9	8	8	8
Version control and rollback features	8	7	7	7
Drag-and-drop automation builder	9	8	8	8
Cost and Licensing				
License model flexibility (per bot/user/process-based)	9	9	9	9
Total cost of ownership (initial cost + maintenance)	8	8	8	9
Scalability of licensing (ability to add more bots at low cost)	8	7	7	8
ROI (Return on Investment) potential	9	8	8	9
Support and Maintenance				
Availability of technical support and SLAs	10	9	9	9
Training and certification programs	9	9	9	8
Community and documentation resources	8	7	7	7

Vendor reputation and reliability	10	9	9	9
Availability of real-time help desk	9	8	8	8
Total	286	262	263	257

Based on VPandas' need for a secure, scalable, and high-functionality RPA platform, UiPath is the optimal choice. UiPath stands out for its automation capabilities, security compliance, and enterprise support, ensuring efficiency in financial operations that require strict governance, high performance, and long-term scalability.

UiPath tops the evaluation table with the highest total score (286 points), surpassing other tools like Automation Anywhere (262 points) and Blue Prism (263 points). This confirms that UiPath is the ideal platform for VPandas' automation needs.

3.7.2. Statement of work

A Statement of Work (SOW) is a formal document that defines the scope, requirements, and expectations of a project, ensuring that potential vendors understand the service or product needed. For VPandas Financial, implementing RPA requires a well-defined SOW to guide vendor selection, system integration, and compliance with financial regulations (SOX, GDPR, PCI-DSS). The document will be sent to RPA vendors, IT teams, compliance officers, finance departments, and senior management to align expectations and responsibilities.

Statement of Work

1. Introduction and Overview

1.1 Background

VPandas Financial Company, founded in 2020, specializes in digital financial services, offering consumer financing, cash loans, credit card services, and insurance solutions. While these services cater to growing customer demands, many processes are still handled manually, causing delays, higher costs, and errors. On average, each application takes 10-15 minutes longer due to manual data entry and cross-checking. Additionally, human

errors in manual handling contribute to financial losses and missed business opportunities.

To address these challenges, the company aims to implement Robotic Process Automation (RPA) to streamline operations, reduce processing time, minimize errors, and enhance overall efficiency and compliance.

1.2 Scope of Work

This project focuses on implementing Robotic Process Automation (RPA) to enhance financial operations at VPandas Financial. Key areas of automation include transaction processing, compliance monitoring, and financial reporting. The project will cover selecting suitable RPA software, developing automation workflows, testing system performance, deploying RPA bots, and providing training for employees. The goal is to streamline manual processes, reduce errors, improve efficiency, and ensure seamless integration between Core Banking and CRM systems.

1.3 Objectives

- Acquire an RPA license that supports full automation of financial operations, reducing manual work and minimizing errors.

- Ensure the selected RPA tool is compatible with Core Banking and CRM systems for efficient data synchronization and transaction processing.

- The RPA platform must comply with financial regulations such as SOX, GDPR, and PCI-DSS, ensuring data security and audit readiness.

- Opt for a solution that lowers operational expenses while enhancing overall service quality and customer experience.

2. Requirements

2.1 Tasks

Desired Methodology: Combining Waterfall for initial planning and Agile (Scrum) for execution and monitoring phases.

Illustrations/Diagrams:

- Process flowcharts: visual representation for RPA workflow.

- Automation architecture diagrams: technical design of RPA implementation.

- Integration diagrams for Core Banking and CRM systems.

- Sprint planning and backlog management boards.

Specifications:

- RPA software selection criteria:

  + Compatibility with Core Banking and CRM systems.

  + Scalability and ease of maintenance.

  + Compliance with financial security standards.

  + Vendor support and licensing costs.

- System integration: seamless connection across financial databases, CRM, and banking platforms as well as API-based connectivity with secure authentication protocols.

- Security and Compliance:

  + Data protection: end-to-end encryption, secure data storage, and anonymization where necessary.

  + Access controls: role-based permissions and audit logs to track changes.

  + Regulatory Standards: compliance with GDPR, PCI-DSS, SOX, and local financial laws.

Data/Property/Facilities:

- Access to financial databases and APIs for seamless data processing.

- Cloud/on-premise infrastructure to support RPA deployment.

- Secure environments for testing and deployment of RPA components.

Level-of-Effort:

- Estimated 6-12 months for full implementation.

- Involvement of 10-15 IT and business process experts for development and deployment.

- Agile team composition: Product owner, Scrum master, Developers, Testers, and Quality Assurance.

Place/Travel

- Hybrid implementation model: Remote development and collaboration for Agile sprints and on-site visits for system deployment, integration testing, and user training.

- Location-specific travel as needed for compliance audits and final implementation.

2.2 End Results/Deliverables

2.2.1 List of Deliverables by Task

- RPA solution design document
- Developed and Tested RPA bots
- Integration with financial systems
- Compliance and Security audit reports
- User training manuals and workshops

2.3 Schedules/Milestones

2.3.1 Who Does What When Report

Phase	Activities	Owner	Timeline
Phase 1: System setup and Configuration	Install RPA software, configure access controls, establish security policies, and set up the development environment.	IT Team, RPA Developers	4 weeks
Phase 2: Bot development and Core system integration	Develop RPA bots for automation, integrate with Core Banking and CRM, and define automation triggers and workflows.	RPA Developers, Solution Architects	8 weeks
Phase 3: Testing and Security compliance	Conduct unit testing, integration testing with banking systems, security validation, and compliance checks (SOX, GDPR, PCI-DSS).	QA Team, Compliance and Security Team	6 weeks
Phase 4: Deployment and Production rollout	Deploy RPA bots into production, conduct stability monitoring, and implement logging and error-handling mechanisms.	IT Team, DevOps Engineers	4 weeks
Phase 5: Training and Go-Live	Train employees on bot usage, troubleshooting, and monitoring; launch RPA bots into full-scale operations.	Business Teams, RPA Trainers	4 weeks
Phase 6: Post-	Track bot performance,	RPA Support	Ongoing

implementation monitoring and Optimization	optimize automation processes, and plan for additional process automation.	Team, Performance Analysts	

2.4 Other Considerations

- Adherence to banking compliance and IT security policies.

- Integration challenges with legacy systems.

- Staff training and change management initiatives.

3. Progress/Quality Control

To monitor project progress, the following will be required:

- Weekly status reports

- Weekly team meetings

- Monthly progress reports

- Project management reviews

- Audit and Compliance reviews

- User feedback and performance testing reports.

4. Transmittal/Delivery/Accessibility

- The RPA system must be deployed in a secure financial environment with restricted access.

- Access credentials and user permissions will be assigned based on roles.

- All documentation, training materials, and system guides will be made available via the company's knowledge management system.

5. Notes

- Implementation will be conducted in phases to minimize disruptions.

- A pilot test will be conducted before full deployment.

- Post-implementation support and maintenance will be included in the contract.

6. References

- Regulatory compliance: SOX, GDPR, PCI-DSS

- Financial process automation best practices

- Previous financial RPA case studies

3.8. Communication and stakeholder engagement plan

Plan Communications Management involves creating a structured approach to ensuring that all relevant stakeholders receive timely and accurate project updates. It defines how information will be shared, who will receive it, and the methods of communication used throughout the project.

3.8.1. Communication management plan

At VPandas Financial, the communication plan is primarily designed for key internal stakeholders, such as the Project sponsor and Operators Team. Effective communication is crucial to ensure that all involved teams are aligned on project progress, technical requirements, security compliance, and automation workflows.

Table 3.24: Communication management plan in VPandas

Stakeholder	Communication method	Frequency	Responsibility
Project sponsor	Project kickoff meeting, Video Conference, Email	Monthly - First Tuesday 2:00 PM	Provide strategic direction, secure funding, and approve major decisions. Align project with business goals.

Solution Architect (Operators)	Video Conference, Email, Documentation	Bi-Weekly - Wednesday 3:00 PM	Design RPA architecture, ensure system compatibility, define best practices.
IT Support and Infrastructure Team (Operators)	Instant Messenger (Slack, MS Teams), Ticketing System (ServiceNow, Jira), Email	Daily - 9:30 AM Quick Sync (if needed), plus Ad-hoc for issues	Provide system access, network configuration, and server maintenance. Ensure security and compliance.
Tester team (Operators)	Test Reports, Bug Tracking System (Jira, TestRail), Video Conference	Daily - 4:00 PM Stand-up during Testing Phases	Works closely with RPA Developers and QA Team.
RPA Developer Team (Operators)	Agile Stand-ups, Video Conference, Instant Messenger (Slack, MS Teams), Code Review Meetings	Daily - 10:00 AM Agile Stand-up, Friday 2:00 PM Code Review	Works closely with Business Analysts, QA, and Solution Architects.
Quality Assurance Team (Operators)	QA Review Meetings, Compliance Documentation, Email, Video Conference	Weekly - Friday 10:30 AM	Ensures automation follows compliance rules and best practices.
Finance Team	Email, Reports, Financial Review Meetings	Bi-Weekly - Thursday 11:00 AM	Key stakeholder for automation in finance-related processes.
Business Analyst	Workshops, Process Documentation, Email, Video Conference, Agile Stand-ups	Daily - 10:00 AM Agile Stand-up, Bi-Weekly Stakeholder Meeting	Gather requirements, analyze business processes, bridge communication between business teams and technical teams, validate automation feasibility.

3.8.2. Stakeholder engagement plan

Stakeholder engagement planning involves designing strategies to effectively involve key project stakeholders based on their needs, expectations, and level of influence on the project. By identifying their concerns and interests, the plan ensures that stakeholders remain actively engaged, fostering collaboration and alignment throughout the project lifecycle.

Table 3.25: Stakeholder engagement plan at VPandas

Stakeholder	Level of support	Interest /Concern	Influence /Power	Engagement Strategy	Communication method	Timing
Project sponsor	Leading	Ensure the project achieves business goals, success, and profitability.	High	Collaboration	Regular meetings, reports, executive reviews	Monthly
Solution Architect (Operators)	Leading	Design an optimized system, seamless integration with existing infrastructure, and ensuring security.	High	Consultation	Email, audio conference	Weekly
IT Support and Infrastructure Team (Operators)	Supportive	Ensure stable IT infrastructure, supporting the smooth operation of the RPA system.	High	Involvement	Instant messaging, problem-solving meetings	Daily or As needed (for troubleshooting or infrastructure report)

Tester team (Operators)	Supportive	Ensure RPA bots meet requirements, are error-free, and achieve high automation efficiency.	Medium	Collaboration	Team meetings, instant messaging	Daily (During testing phases) / Twice a week (Ongoing monitoring)
RPA Developer Team (Operators)	Leading	Build efficient RPA bots, ensuring ROI (Return on Investment), and optimizing automation processes.	High	Consultation and Collaboration	Email, telephone, sprint review meeting	Weekly (To align with sprint cycles and development updates)
Quality Assurance Team (Operators)	Supportive	Quality control, ensuring bots operate accurately without causing system errors.	Medium	Consultation	Audio conference, email	Weekly (Due to continuous QA involvement)
Finance Team	Supportive	Control costs, ensuring the project stays within budget, and complying with financial regulations.	High	Collaboration	Review meetings, budget reports	Monthly (Since financial reviews occur at key project phases)

Business Analyst	Leading	Gathering and refining business requirements, ensuring alignment between business needs and automation solutions.	High	Consultation and Collaboration	Workshops, process documentation, stakeholder interviews, email	Weekly (For requirement gathering and validation) / Bi-Weekly (Stakeholder alignment meetings)

3.9 Risk Management Plan

3.9.1 Introduction

The Risk Management Plan outlines the structured approach to identifying, assessing, monitoring, and mitigating risks in the VPandas Financial Company's RPA implementation project.

3.9.2 Roles and Responsibilities

Stakeholders in Risk Management

- Project Manager: Oversees risk management activities, implements mitigation strategies, and coordinates between teams.

- Risk Manager / Business Analyst: Tracks and updates risk registers, conducts risk assessments, and ensures compliance with risk protocols.

- RPA Developer & Software Developer: Identifies and addresses technical risks in system integration and automation.

- Champion (Process Owner): Ensures automation aligns with business needs and compliance requirements.

- Department Representatives (Finance, HR, IT, Customer Support, etc.): Provide insights into operational risks and ensure smooth adoption of automated processes.

- Project Sponsor: Provides executive oversight, approves mitigation actions for high-risk scenarios, and ensures funding for risk control measures.

3.9.3 Risk Monitoring and Control

Risks are reviewed as part of the Sprint Review Meeting, which takes place at the end of every Sprint. During this meeting, the project team and key stakeholders reassess the severity, probability, and control effectiveness of all active risks. This ensures that risks are continuously monitored and updated based on project developments.

Risk reporting mechanism

Risk reports are documented and updated in a Risk Register, ensuring that:

- New risks are identified.
- Changes in risk severity or probability are tracked.
- Effectiveness of risk mitigation strategies is evaluated.

Reporting frequency

Table 3.26: Reporting frequency

Report Type	**Frequency**	**Audience**
Risk Review Report	End of Sprint	Project Manager, Risk Manager
Risk Status Update	Monthly	Executive Team, Project Sponsor
Final Risk Summary	Project Closure	All stakeholders

Risk monitoring metrics

To ensure effective risk management, the following metrics will be tracked:

- Risk Exposure Score: Number of high-risk issues per Sprint.
- Resolution Rate: Percentage of identified risks mitigated successfully.
- System Downtime Due to RPA Failures: Ensuring reliability in automation.
- Compliance Violations: Tracking regulatory breaches.

3.9.4. Risk Register

The Risk Register is a key tool for recording and tracking identified risks throughout the project lifecycle. It includes essential information such as risk descriptions, categories, likelihood, severity, and mitigation actions.

The "Initial Risk Score" is calculated by multiplying the likelihood and severity values. After implementing risk control measures, risks are reassessed to derive the "Final Risk Score" reflecting the reduced likelihood or impact due to mitigation efforts. The register serves as a living document and is updated regularly based on new findings, risk reviews, or project changes.

Table 3.27: RPA Project's Risk Register

ID	Risk Description	Category	Likelihood	Severity	Initial Risk Score	Risk Control Plan	Final Risk Score
R01	System Integration Issues	Technical	Medium	High	15	Early testing, IT coordination	10
R02	Data Quality & Security	Technical	Medium-High	High	20	Enforce strict data validation, security checks	15
R03	Process Complexity	Technical	Medium	Medium	9	Simplify and document processes clearly	6
R04	Scalability & Performance	Technical	Medium	Low-Medium	6	Run stress tests, optimize performance	4
R05	Stakeholder Alignment	Management	Low-Medium	High	10	Hold regular, clear	6

ID	Risk Description	Category	Likelihood	Severity	Initial Risk Score	Risk Control Plan	Final Risk Score
						communications	
R06	Change Management	Management	High	Medium	15	Provide training, highlight benefits	10
R07	Resource Allocation	Management	Low-Medium	Medium	6	Plan realistically, allocate contingency resources	4
R08	Vendor Management	Management	Low-Medium	Low	2	Set clear SLAs, monitor vendor performance	2
R09	Regulatory Compliance	Other	Medium	High	15	Integrate compliance checks, consult legal	10
R10	Operational Disruptions	Other	Medium	Low-Medium	6	Phase rollout, schedule off-peak deployment	4
R11	Scope Creep	Other	High	Medium	15	Enforce strict change control processes	10

CHAPTER 4. EXECUTION, MONITORING, AND CONTROLLING

4.1. Progress reports

This progress report summarizes the project's performance during the initial phase of **Sprint 1: Business Process Analysis & Initial Design (Week 1-4)**. The report specifically focuses on the progress of the three key tasks completed within this sprint. It provides an update on the tasks that have been completed, how these tasks align with the project plan, and the key performance metrics used to track progress.

4.1.1 Project Status Update

During Sprint 1, the project team held daily stand-ups to track ongoing activities and resolve blockers. Collaboration between the Business Analyst and departmental representatives ensured comprehensive data gathering.

Sprint Goal:

(1) Conduct a detailed analysis and identify steps that can be automated.

(2) Assess RPA readiness and pinpoint bottlenecks in the current system.

(3) Define technical and non-technical project requirements.

Completed Epics:

- **E2-01:** Mapped current business processes, including workflows in Consumer Financing, Cash Loans, and Credit Card Services.

- **E2-02:** Identified repetitive and rule-based tasks across departments, preparing for automation.

- **E2-03:** Assessed automation readiness by evaluating process standardization and digital maturity.

4.1.2 Project Performance vs. Plan

Table 4.1: The comparison of project performance vs plan

Epic	Planned Completion	Actual Completion	Status
Map business processes (E2-01)	Week 1	Week 1	Completed
Identify rule-based tasks (E2-02)	Week 2	Week 2	Completed
Assess automation readiness (E2-03)	Week 3	Week 3	Completed
Identify integration challenges (E2-04)	Week 4	Pending	In Progress

4.1.3 Key Performance Indicators (KPIs)

- Daily Scrum Attendance Rate: 92% (average participation from cross-functional teams).

- Issue Resolution Time: 80% of blockers resolved within 24 hours.

- Stakeholder Engagement: Conducted two workshops:

(1) "Process Mapping Workshop" with operations and credit teams to validate workflow diagrams.

(2) "Readiness Assessment Workshop" with IT and compliance teams to discuss system maturity and automation prerequisites.

- Sprint Progress: 3/8 sprint items completed (~38%).

- Process Documentation Quality: 95% accuracy in process maps, validated by business users.

- Sprint Progress: 3/8 sprint items completed (~38%).

- Process Documentation Quality: 95% accuracy in process maps, validated by business users.

4.1.4 Issues and Risks Encountered

Table 4.2: Risk and mitigation plan

ID	Risk Description	Status	Mitigation Plan
R03	Process Complexity	Active	Simplify process maps through **cross-functional reviews**, standardize workflows to minimize ambiguity, and create detailed process documentation accessible to all project teams
R05	Stakeholder Alignment	Emerging	Conduct **targeted workshops** with department heads and key users, provide alignment reports summarizing business objectives, and establish feedback loops to resolve misaligned expectations early on.

4.1.5 Next Steps

Remaining Sprint 1 items: Complete E2-04 to E3-02, including:

- Integration challenge analysis.

- Define technical requirements.

- Establish performance and compliance criteria.

Planned Adjustments:

- Reinforce stakeholder alignment sessions to improve engagement in the next sprint items.

- Adjust workload distribution to ensure full Sprint 1 completion by Week 4.

4.2. Performance reports

We decided to use sprint completion progress, key performance indicators (KPIs) and velocity charts, which are crucial tools in Agile project management, instead of traditional performance reports. Each sprint is planned with specific objectives, and tracking progress lets the team monitor how much work has been completed against the initial plan. KPIs will act as more thorough insights about performance of each sprint. Velocity charts provide a clear view of the workload the team has finished in previous sprints, which allows for forecasting future productivity and making necessary adjustments to the plan.

4.2.1. Sprint completion progress

Table 4.3: Sprint completion progress table

Sprint number	Sprint name	Planned story point	Completed story point	Completion (%)	Comment
1	Business process analysis and Initial design	47	47	100%	All task completed as planned
2	Solution design and Integration planning	47	47	100%	All task completed as planned
3	Development Phase 1	42	40	95%	Encountered slight

	- Core RPA features				integration delays due to environment configuration; quickly resolved.
4	Development Phase 2 - Testing and UAT	39	33	85%	Minor UI inconsistencies and test case adjustments were needed, with negligible impact on deadlines.
5	Training and Initial reporting	47	44	93%	Some training sessions needed extra clarification on report details, but feedback was promptly addressed.
6	Performance optimization and Expansion planning	45	42	91%	A few performance benchmarks took a little longer to validate, yet overall optimization goals were met.
7	Project closure and Documentation	48	48	100%	All task completed as planned

This table reflects a consistently strong performance across the project's sprints. In the initial stages (Sprints 1 and 2), all tasks were completed on time and as planned, indicating solid preparation and smooth execution. Sprint 3 (88% completion) saw minor delays related to environment configuration, but these were quickly addressed. Sprint 4 (85% completion) experienced slight UI inconsistencies and test adjustments, yet deadlines remained largely unaffected. During Sprint 5 (93% completion), additional clarification was needed for training sessions, while Sprint 6 (91%

completion) required a bit more time for performance validations. Despite these minor setbacks, the team maintained high productivity and managed issues efficiently. Finally, the project closure and documentation phase returned to a 100% completion rate, signifying that any outstanding tasks were resolved and the project concluded successfully.

Unfinished story points were systematically addressed through timely issue resolution, backlog prioritization, and clear action plans. In Sprint 3, problems were resolved by quickly troubleshooting setup issues and refining documentation. Sprint 4's ones were managed through targeted bug fixes and collaborative review sessions to ensure alignment. For Sprint 5, gaps in training sessions were handled with additional stakeholder discussions and refinements to training materials. Similarly, Sprint 6's performance validation required extra testing cycles and optimizations to meet quality standards.

4.2.2. Key performance indicators (KPIs)

These KPIs provide a comprehensive view of the team's performance in a sprint by tracking both efficiency and quality. We use sprint 3 - "Development Phase 1 (Core RPA features)" and sprint 4 - "Development Phase 2 (Testing and UAT)" as references in their final report to provide a clear snapshot of overall performance and highlight key insights.

Sprint 3 – Development Phase 1 (Core RPA features)

- Requirement completion rate: 88% (Slight integration delays)
- Cycle time: 3.2 days (Environment setup delays)
- Defect rate: 6% (Code refinements needed)
- Rework and change requests: 7% (Integration adjustments)
- Effective participation in scrum: 82% (Active debugging participation)
- Weekly report submission compliance: 100% (All reports submitted on time)
- Stakeholder feedback score: 4.3/5 (Some concerns on system stability)

Sprint 4 – Development Phase 2 (Testing and UAT)

- Requirement completion rate: 85% (Minor UI inconsistencies)
- Cycle time: 3.5 days (Test case execution time)
- Defect rate: 7% (Bugs found during UAT)

- Rework and change requests: 6% (Test case adjustments)
- Effective participation in scrum: 80% (Focused on fixing defects)
- Weekly report submission compliance: 100% (All reports submitted on time)
- Stakeholder feedback score: 4.2/5 (Minor UI concerns raised)

Requirement completion rate ensures tasks are progressing as planned, while cycle time measures how quickly work is completed. Defect rate and rework and change requests highlight areas needing improvement, helping to minimize errors and refine deliverables. Effective participation in scrum reflects team engagement and collaboration, crucial for resolving issues promptly. Weekly report submission compliance ensures transparency and accountability, while stakeholder feedback score measures satisfaction and alignment with expectations. Together, these metrics help identify bottlenecks, optimize workflows, and enhance overall productivity in each sprint.

These KPIs are reported multiple times throughout a sprint to track progress, identify issues early, and make necessary adjustments. Regular monitoring ensures the team stays aligned with sprint goals and can proactively address challenges. This approach helps in evaluating trends, improving efficiency, and ensuring successful sprint execution.

4.2.3. Velocity chart

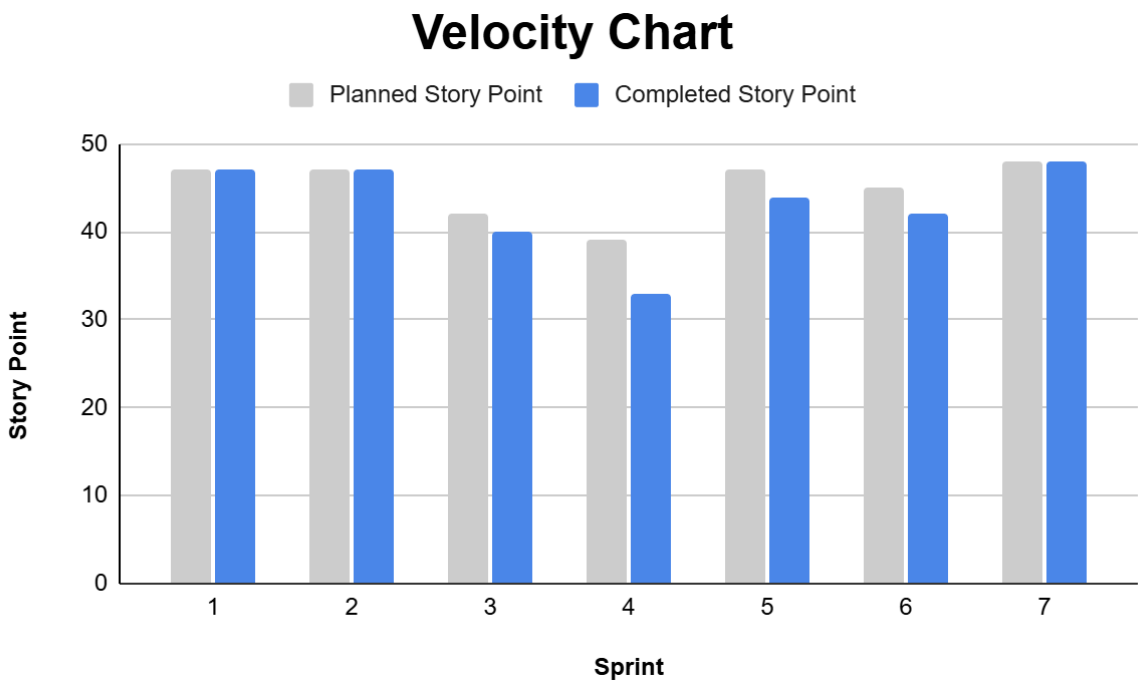

Figure 4.1: Velocity Chart of the project

We can calculate the velocity of team with the following formula:

$$Velocity = \frac{Total\ Actual\ Completed\ Story\ Point}{Total\ Number\ of\ Sprint}$$

From that, we can calculate the team's velocity is **42.6**. This velocity chart effectively visualizes planned versus completed story points across each sprint, offering a clear snapshot of the team's performance over time. By comparing sprint outcomes side by side, it becomes easier to spot trends, such as consistently meeting goals in Sprints 1, 2, and 7, or encountering slight shortfalls in Sprints 3, 4, 5, and 6. With an average velocity of **42.6** story points per sprint, the team demonstrates a stable capacity for completing work. This information not only highlights how accurately the team is estimating work but also provides a foundation for predicting future performance. As a result, this chart will help us refine sprint planning, allocate resources more effectively, and maintain a steady pace toward project goals.

4.3. Stakeholder feedback records

Stakeholder feedback records are essential for understanding the needs, concerns, and satisfaction levels of various individuals involved in or affected by a project.This feedback can come from both internal and external stakeholders and is vital for the ongoing success and refinement of a project.. In our project, we collect feedback from different stakeholders at the end of each sprint, allowing us to identify areas for improvement, address concerns, and incorporate new requirements into the project.

Table 4.4: Stakeholder feedback records

No.	Sprint/Feature	Stakeholder	Description	Priority	Action taken	Status	Feedback Phase	Meeting Source
1	Sprint 1: Analysis & Planning	Project Sponsor	Needs more detailed ROI analysis of RPA compared to	High	Added a detailed ROI comparison section.	Done	Initiation phase	Project kickoff meeting

			the current manual processes.					
2	Sprint 2: Business process analysis	Business Analyst	The process mapping lacks detailed documentation for certain workflows.	High	Included additional BPMN diagrams to illustrate workflows.	In progress	Planning phase	Business process review meeting
3	Sprint 4: Solution design	RPA Developer	API documentation for Core Banking integration is insufficient for implementation.	Medium	Gathered and updated API documentation in the project files.	In progress	Execution phase	Sprint review meeting
4	Sprint 6: Deployment & Training	Finance department	Additional employee training is required to ensure smooth adoption of the RPA system.	Medium	Scheduled more training sessions before full deployment.	Planned	Execution phase	Training & Change management workshop
5	Sprint 7: Performance optimization	CEO	Wants real-time monitoring	High	Integrated Power BI for live	Done	Monitoring & Controlli	Executive review meeting

			and reporting capabilities for RPA performanc e.		performan ce tracking.		ng phase	

4.4. Test reports

4.4.1. Test Summary

Objective: The primary objective of testing is to assess the accuracy, performance, security, and integration of the RPA system with the Core Banking and CRM infrastructure.

Key evaluation criteria:

- Automated Data Processing Accuracy: Ensuring the RPA bot processes transactions with >90% accuracy.

- Execution Speed and Performance: Aiming for a 30%+ improvement in transaction speed.

- Data synchronization reliability: Maintaining 99% data accuracy between systems.

- Security and Compliance: Guaranteeing secure data handling and meeting financial regulations.

Testing Approach by Sprint:

Sprint 3: Functional Testing – Ensuring All Modules Function as Expected

Ensure that all modules in the system work properly and meet the user requirements.

Activities:

- Conduct tests to verify that all system features operate as expected in real-life scenarios.

- Check the functionality across the entire system process, from input to output.

- Detect any functional issues or incomplete workflows that may require adjustment.

Sprint 4: User Acceptance Testing (UAT) – Gathering Feedback from Real Users

Collect feedback from real users to verify that the system meets their needs and requirements.

Activities:

- Invite a group of real users (could be employees or a selected group of users) to test the system in real work scenarios.

- Collect feedback on features, ease of use, and how well the system fits into daily work tasks.

- Adjust the system based on the feedback, if necessary, to improve the user experience and work efficiency.

Sprint 5: Performance and Security Testing – Stress Testing and Security Audits

Evaluate the system's ability to handle heavy loads and ensure data and application security.

Activities:

- Stress Testing: Assess the system’s performance under high load or simultaneous task processing to test its stability under extreme conditions.

- Security Audits: Test the system’s security, including checking for vulnerabilities, evaluating encryption measures, and access control to ensure the system is protected from attacks and data breaches.

- Verify the system’s ability to handle security and performance requirements in real-world deployment.

Sprint 6: Regression Testing and Final Validation – Confirming Overall System Stability

Ensure that changes or fixes do not affect other system functionalities (regression testing).

Activities:

- Regression Testing: Re-test the entire system after bug fixes or changes to ensure that previous functionalities still work as expected without being impacted.

- Perform final checks to confirm the system's stability and usability before the official deployment.

- Final Validation: Ensure all project requirements and functionalities have been met and the system is ready for handover to the end users.

4.4.2. Test Scope

Modules Tested:

(1) Automated Data Entry – Evaluating how accurately data is entered into the Core Banking system.
(2) Data Synchronization – Assessing the precision of data syncing between Core Banking and CRM.
(3) Automated Financial Reporting – Testing the efficiency of automated financial report generation.
(4) Compliance Monitoring – Verifying if the system correctly flags non-compliant transactions.

Testing Types Conducted:

- Functional Testing: Ensuring bots execute programmed tasks correctly.

- Performance Testing: Measuring system load capacity and response time.

- Security Testing: Identifying vulnerabilities in data handling and user access.

- Integration Testing: Checking compatibility with external systems.

- User Acceptance Testing (UAT): Gathering insights from employees using the system.

4.4.3. Test Results

Table 4.5: Test results

Test Case ID	Scenario	Expected Outcome	Actual Outcome	Status
TC_01	RPA bot imports transaction data from Excel into Core Banking	100% accuracy	99.8% accuracy, 2 formatting errors	Fail (Formatting correction needed)
TC_02	Data synchronization between Core Banking and CRM	No data inconsistencies	99.9% accuracy	Pass
TC_03	Financial report generation	30% faster processing time	35% improvement in processing time	Pass
TC_04	Automated compliance validation	Flagging all high-risk transactions	99.5% accuracy	Pass
TC_05	Processing 10,000 transactions per hour without errors	System handles load without lag	Successfully processed 10,200 transactions/hour	Pass

Table 4.6: Performance Testing

Scenario	Expected Outcome	Actual Outcome	Status
Processing 5,000 transactions/hour	System remains stable	Successful	Pass
Processing 10,000 transactions/hour	No performance degradation	10,000 transactions/hour	Pass
Processing 100,000 transactions/day	Maintain optimal system speed	85,000 transactions/day	Needs Optimization

		(15%)	

Test results show that the system operates stably when handling a moderate volume of transactions. However, when processing a very large volume of transactions over an extended period (100,000 transactions/day), performance starts to experience issues. Although the system can still handle 85,000 transactions/day, it only achieves 85% of the initial requirement of 100,000 transactions/day. This indicates that when the transaction volume increases and extends over a longer period, the system cannot maintain optimal performance as expected.

Conclusion: The system works well under light and moderate loads, but as the transaction volume increases and requires continuous processing over a longer period, performance begins to degrade. This suggests the need to optimize the system to ensure stable and continuous transaction processing at higher loads, preventing disruptions during peak workload days.

Security Testing

Table 4.7: Security testing

Scenario	Expected Outcome	Actual Outcome	Status
Unauthorized Access Attempt	No security breaches detected	System successfully blocked unauthorized access	Pass (No Issues Detected)
AES-256 Encryption Validation	Data remains protected	Encryption meets security standards	Pass (Minor Issues)
Employee Access Control Verification	Only authorized users can access sensitive data	System restricted unauthorized access	Pass (No Issues Detected)
Brute Force Attack Test	No successful login attempts after 5 failed	Successfully blocked after 5 failed attempts	Pass (No Issues Detected)

	tries		
Data in Transit Encryption Test	All data in transit is encrypted using TLS/SSL	Data encrypted with TLS/SSL	Pass (Minor Issues)
API Access Test	Only authorized API requests are processed	Unauthorized API access blocked	Pass (No Issues Detected)

User Acceptance Testing (UAT)

The objective of this User Acceptance Testing (UAT) is to assess the readiness of the system for end-users, identify any difficulties users may encounter while operating the system, and evaluate the effectiveness of the automation features. Specifically, the test aims to:

- Assess users' ability to operate the system after receiving guidance.

- Identify weaknesses in the user interface and workflow.

- Ensure that the system can replace manual processes without causing disruption to daily tasks.

Analysis of UAT Results

- 40% of users encountered difficulties in operating the system due to unfamiliarity or insufficient guidance. When a significant portion of users cannot quickly adapt to the system, this can lead to failure in optimizing workflows and impact work efficiency.

- Difficulties in troubleshooting: 30% of users did not fully understand how to operate and troubleshoot the system, indicating that training and documentation were not comprehensive or clear enough.

- 20% of users continued to rely on manual processes instead of transitioning to the automated system. Clearly, they faced many obstacles and struggled to adapt to the

new processes, leading to a tendency to avoid the system and stick with the familiar methods.

These issues highlight the crucial role of user training and guidance in ensuring the successful implementation of the system. If not addressed promptly, these difficulties can affect the project's progress, reduce system usage effectiveness, and cause delays in adopting automation. Therefore, we suggest extending the training period, improving documentation, and organizing more detailed training sessions to ensure users can access and use the system effectively.

4.4.4. Conclusion and Recommendations

The RPA system has met most of the test criteria, demonstrating that it is almost ready for deployment. However, during testing, several minor issues were identified that need to be addressed before the system is fully operational. These issues include:

- Data formatting errors: During data entry into the Core Banking system, some minor formatting errors occurred, resulting in less than 100% accuracy. This needs to be corrected to ensure higher accuracy during data entry.

- Performance issues under heavy load: When processing a large volume of transactions (100,000 transactions/day), a slight performance slowdown (5%) was observed. While the system still handled the load, optimization is needed to ensure consistent performance under extreme conditions.

- User interface difficulties: Some employees encountered difficulties using the system's user interface, suggesting that the interface is not yet fully intuitive for all users. Improving the UI will help enhance the user experience and reduce complexity.

User Acceptance Testing (UAT) issues: During UAT, 40% of users faced difficulties in operating the system, primarily due to unfamiliarity or insufficient guidance. Additionally, 30% of users did not fully understand how to operate or troubleshoot the system, indicating that training and documentation were not clear enough. Some users (20%) continued to rely on manual processes rather than transitioning to the automated system, showing that they struggled to adapt to the new processes and preferred familiar methods

Based on these findings, we recommend:

- Improve data formatting handling to prevent input errors and ensure higher accuracy in the system.

- Optimize system performance, particularly when handling large volumes of transactions, to minimize delays and maintain optimal performance.

- Conduct additional training sessions and enhance documentation to ensure that all employees are proficient in using the RPA system. This is crucial to address the issues identified during UAT and help users transition effectively from manual processes to automation.

- Improve the user interface to make the system easier to use and more intuitive for employees.

Additionally, extending training and improving the user interface will help users become more familiar with the system, promoting the adoption of automation in daily tasks. If these issues are not resolved in a timely manner, they could affect the project's timeline, reduce the system's effectiveness, and slow down the transition from manual to automated processes.

4.5. Issue logs

4.5.1. Issue Overview

The **Issue Log** in our project is used to record and track all issues that arise during the system's implementation, particularly those related to performance, user interface, and training challenges. The objectives of using the Issue Log are:

- Recording technical and non-technical issues: This includes system errors, performance issues, user interface problems, and difficulties faced by users during testing and system operation.

- Tracking the resolution process of issues: It helps the project team identify, prioritize, and resolve issues in a timely and effective manner, ensuring the system's progress and quality.

- Supporting decision-making and improvement requests: It provides detailed information about issues so that stakeholders can make decisions regarding adjustments to timelines, budgets, or project handling strategies.

The issues are primarily identified during User Acceptance Testing (UAT), performance testing, and security testing, as well as through user feedback and internal review meetings. These issues are recorded in the Issue Log to ensure that all issues are addressed and do not impact the system's implementation timeline.

4.5.2. Issue Log

Table 4.8: Issue Log

ID	Description	Date Raised	Reported By	Severity	Probability	Status
I01	Formatting errors in Core Banking data entry	04/02/2025	Dev Team	High	Low	Minor issue, future fix planned
I02	Slow synchronization between Core Banking and CRM	3/3/2025	Dev Team	Medium	Medium	Closed
I03	Compliance system fails to flag large transactions	30/3/2025	Security Team	Low	Low	Closed
I04	Formatting issues in financial reports (PDF export)	27/4/2025	QA Team	Low	Low	**Closed** (Fixed and tested)
I05	15% performance drop when processing 100,000 transactions/day	27/5/2025	Performance Team	Medium	High	**Performance improvement needed** (As noted in Change Log and requires further

						optimization)

UI and Training Issues

- Issue Description: Issues related to the RPA user interface and difficulties in employee training were identified in the User Acceptance Testing (UAT) report. Specifically, users encountered challenges due to insufficient training, unclear documentation, and continued reliance on manual processes instead of automation. Additionally, some employees faced difficulties using the RPA user interface.

- Status: These issues have been addressed and resolved in the Change Log, with plans to improve the user interface and organize additional training programs, with clearer documentation in upcoming sprints.

- Current Status: Resolved (Improved as noted in Change Log, with ongoing improvements planned in upcoming sprints and training programs).

The issues in the system mainly relate to technical errors (such as data formatting issues, slow synchronization, and performance degradation when handling large transaction volumes), as well as user interface (UI) issues and challenges with employee training. The severity of these issues ranges from medium to high. Most of the issues have been resolved, though some still require further improvements, such as better user interfaces and more thorough employee training. Performance and compliance issues have been addressed, although some cases still need optimization.

4.6. Change requests

4.6.1. Change Request Summary

In project management, change requests are typically made when there is a discrepancy between the actual results and the initial plan, or when external factors influence the scope, schedule, or costs of the project. Change requests can arise from testing results, where technical issues are identified, or from user feedback, such as difficulties in using the system. These change requests must be recorded and analyzed

to determine whether adjustments to the project's scope, timeline, or resources are necessary to address the issues.

4.6.2. Change Request Form

Table 4.9: Change request form example

ID	Description	Reason	Date	Impacted Area	Request Type	Priority	Status
C01	Extend project by 1 Sprint	Employees required more training time and improve performance	8/8/2025	Timeline, Costs	Corrective	High	Implemented

Based on the results from User Acceptance Testing (UAT) and Performance Testing, it is clear that the system requires additional time to adjust its performance and improve user training. Specifically, 40% of users face difficulties in using the system due to insufficient training and unclear documentation. This indicates the need for additional time and resources for user training, helping them familiarize themselves with and use the automated system more effectively.

In addition, the system’s performance needs to be optimized to meet the requirements for handling large transaction volumes. Addressing both of these areas will not only make it easier for users to adopt the system but also enhance work efficiency and ensure the stability of the system during operation.

4.7. Change log

We adopt change as part of continuous improvement of the project, avoiding redundant documentation routing processes in the traditional way by utilizing product backlog.

4.7.1. Minor changes

For minor changes, they will be recorded directly into the product backlog, where new requirements, enhancements, or bug fixes are added, prioritized, and refined through backlog grooming sessions. These changes are addressed iteratively,

incorporating them into upcoming sprints based on priority and impact. There are 2 cases with different handling:

- If a change occurs before a sprint begins, they will be reviewed during backlog refinement sessions where their priority is reassessed and the required effort is estimated. The updated PBI is then considered for inclusion in the next sprint during sprint planning.

- If a change takes place during an active sprint and is insignificant, for example some tweaking in UI design, the sprint backlog will be adjusted to prevent disruption.

However, if the change is major, such as a complete feature redesign, it will be removed from the sprint backlog and returned to the product backlog, waiting to be scheduled in a future sprint.

"Epic 4: Development, Deployment and Change management" in our product backlog has been used as a reference of how changes are managed in the product backlog.

Table 4.10: Changes being made in product backlog of Epic 4

Index	Backlog Item	Category	Priority	Story Point
E4-01	Select appropriate RPA tools	Technology Selection	High	8
E4-02	Develop RPA bots for critical processes	Development	High	13
E4-03	Perform unit testing	Testing	High	8
E4-04	Perform integration testing with Core Banking and CRM	Testing	High	13
E4-05	Conduct user acceptance testing (UAT)	Testing	High	13
E4-05	Revise UAT scenarios to incorporate updated business rules	Testing	High	8
E4-06	Deploy bots to production	Deployment	High	13
E4-07	Monitor execution and troubleshoot issues	Monitoring and Maintenance	High	13

E4-08	Train employees to use RPA bots	Training	Medium	8
E4-09	Guide employees on monitoring and reporting bot errors	Training	Medium	5
E4-09	Update training materials to reflect recent system updates	Training	Medium	5
E4-10	Conduct hands-on training with real case scenarios	Training	Medium	8
E4-11	Develop change management plan	Change Management	High	5
E4-12	Refine RPA bots for scalability and performance improvements	Development	High	8
E4-13	Implement enhanced exception handling and recovery mechanisms	Monitoring and Maintenance	High	8

All product backlog items with orange highlights are marked for removal while green ones represent replacement or addition changes. For instance, "Conduct user acceptance testing (UAT)" has been replaced by "Revise UAT scenarios to incorporate updated business rules" to streamline testing and better align with current requirements. Similarly, "Guide employees on monitoring and reporting bot errors" was substituted with "Update training materials to reflect recent system updates" to ensure that staff are well-equipped with the latest operational guidelines. Additionally, two new items have been added: "Refine RPA bots for scalability and performance improvements" to enhance bot efficiency, and "Implement enhanced exception handling and recovery mechanisms" to bolster system monitoring and resilience.

Outside of that, any significant changes which may affect major aspects such as scope, timeline, or deliverables will be discussed transparently during sprint planning, daily stand-ups, and sprint reviews. This approach ensures that changes are effectively tracked and implemented while keeping the development process adaptive and aligned with business goals.

4.7.2. Major changes

For major changes (usually changes that will affect the triangle of cost, scope and time), we will go through the process of requesting changes through change requests, waiting for approvals from stakeholders, if approved, changes will be analyzed, broken down into product backlogs to be assigned in future sprints.

Table 4.11: Epic 3: Development, Deployment, and Change Management (after changed)

Index	Backlog Item	Category	Priority	Story Point
E3-01	Select appropriate RPA tools	Technology Selection	High	8
E3-02	Develop RPA bots for critical processes	Development	High	13
E3-03	Perform unit testing	Testing	High	8
E3-04	Perform integration testing with Core Banking and CRM	Testing	High	13
E3-05	Conduct user acceptance testing (UAT)	Testing	High	13
E3-06	Deploy bots to production	Deployment	High	13
E3-07	Monitor execution and troubleshoot issues	Monitoring and Maintenance	High	13
E3-08	Train employees to use RPA bots	Training	Medium	8
E3-09	Guide employees on monitoring and reporting bot errors	Training	Medium	5
E3-10	Conduct hands-on training with real case scenarios	Training	Medium	8
E3-11	Develop change management plan	Change Management	High	5
E3-12	Develop detailed RPA bot user manuals	Training	Medium	5

E3-13	Conduct RPA training workshops for employees	Training	Medium	8
E3-14	Establish post-training support team	Training	Medium	5
E3-15	Implement online training program for RPA bot usage	Training	Medium	8
E3-16	Evaluate training effectiveness and improve content	Training	Medium	5
E3-17	Develop a mentorship model for new RPA users	Training	Medium	8

In the previous sprint, we've received multiple bad feedback about the training program which was mentioned above. Therefore, new product backlog items have been added to address this issue. All Epic from E3-12 to E3-17 are newly added after having been carefully reviewed, analyzed and accepted by stakeholders due to their big effects on time, cost and scope. These items will be carried out later on in sprint 6 as proposed below.

Table 4.12: Sprint 6: Strengthening RPA Training for UAT Success

Index	Sprint Item	Category	Priority	Story Point
E3-12	Develop detailed RPA bot user manuals	Training	Medium	5
E3-13	Conduct RPA training workshops for employees	Training	Medium	8
E3-14	Establish post-training support team	Training	Medium	5
E3-15	Implement online training program for RPA bot usage	Training	Medium	8
E3-16	Evaluate training effectiveness and improve content	Training	Medium	5

E3-17	Develop a mentorship model for new RPA users	Training	Medium	8

PERT ESTIMATE

Table 4.13: Pert estimate after changing

Epic key	Sprint item	Optimistic (O)	Most Likely (M)	Pessimistic (P)	Expected Time (ET)
E3-12	Develop detailed RPA bot user manuals	5	3	7	3
E3-13	Conduct RPA training workshops for employees	2	3	3	3
E3-14	Establish post-training support team	5	3	7	3
E3-15	Implement online training program for RPA bot usage	4	3	4	4
E3-16	Evaluate training effectiveness and improve content	3	2	3	3
E3-17	Develop a mentorship model for new RPA users	3	4.25	4	4

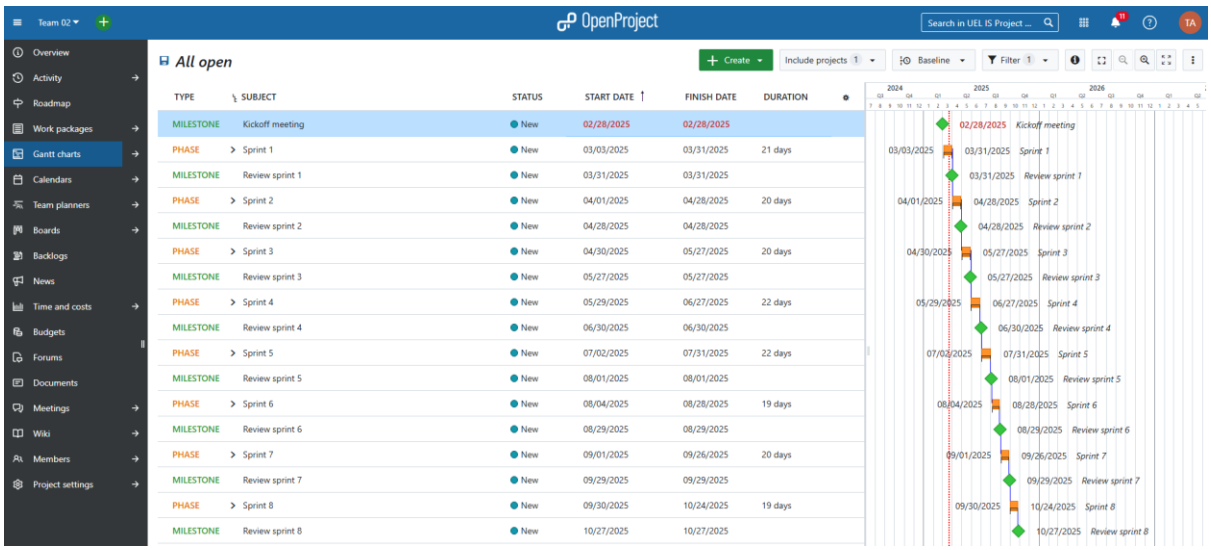

Figure 4.2: Sprint backlog after updating in Open Project

4.8. Risk update

A ***risk update*** is a crucial process to assess and revise the project's initial risk assessment and risk management strategies throughout its lifecycle. This involves reviewing new risks, monitoring existing risks, and evaluating the effectiveness of the mitigation strategies in place. In our project, we continuously identify and update risks to ensure the project remains on track and to minimize potential negative impacts.

4.8.1 Newly identified risk

In the course of the project, new risks may emerge that were previously unanticipated. These risks are identified based on ongoing monitoring and system performance analysis. Each newly identified risk is evaluated for its potential impact on the project and is assigned a severity, probability, and risk score to prioritize mitigation actions.

Table 4.14: Newly identified risk

Risk ID	New Risk	Description	Severity	Probability	Risk score	Mitigation strategy
R12	Unexpected system downtime	Since deployment, the RPA system has experienced unplanned outages due to high transaction loads exceeding system capacity. These downtimes have impacted loan processing	High (5)	High (5)	25	Implement a failover server architecture, enable real-time system monitoring, and optimize bot execution scheduling to distribute workloads more efficiently.

R13	Data synchronization delays	The integration between the Core Banking system and the CRM is not functioning as expected, resulting in delayed updates of customer financial data.	High (5)	Medium (3)	15	Improve API call efficiency, implement asynchronous data processing, and optimize database indexing to ensure seamless data flow between systems.
R14	Bot performance degradation	RPA bots operate slower than expected under high workloads.	Medium (3)	High (5)	15	Conduct script optimizations, introduce load balancing techniques, and refine bot task prioritization to enhance performance under peak loads.

4.8.2. Previous risk update

As the project progresses, it's essential to regularly review and update the status of initially identified risks. This ensures that any changes in risk levels, mitigation success, or emerging challenges are promptly addressed. Some risks from the initial risk assessment may have been resolved, while others remain ongoing or have escalated in severity.

Table 4.15: Update of previous risk

Risk ID	Previous risk	Initial status	Updated status	Current risk level
R01	System integration issues	High	**Resolved** - Integration completed successfully with API	Low

			improvements.	
R02	Data quality and security	High	**Ongoing** - Additional encryption measures added, but minor security gaps remain	Medium
R03	Process complexity	Medium	**Resolved** - Business processes streamlined, reducing automation failures.	Low
R04	Scalability and performance issues	Low - Medium	**Ongoing** - Performance optimized for current load, but monitoring required for future scaling.	Medium
R05	Stakeholder alignment	High	**Resolved** - Regular stakeholder meetings and updates improved alignment.	Low
R06	Employee change management resistance	High	**Partially resolved** - Training improved, but some resistance still exist	Medium
R07	Resource allocation challenges	Medium	**Resolved** - Additional resources allocated, ensuring smooth execution.	Low
R08	Vendor management risks	Low	**Resolved** - Clear SLAs established, vendor performance monitored effectively.	Low
R09	Regulatory compliance	High	**Escalated** - New regulations require	High

	issues		further adjustments to automation logic.	
R10	Operational disruptions	Low-Medium	**Resolved** - Phased rollout minimized disruptions, no major impact observed.	Low
R11	Scope creep	Medium	**Ongoing** - Change control measures improved, but some minor deviations still occurred.	Medium

CHAPTER 5. CLOSURE

5.1. Final project report

5.1.1. Project Overview

The Integrating RPA Solutions for Financial System at VPandas project was initiated to address inefficiencies in manual processes at VPandas Financial Company. The project aimed to automate repetitive tasks, improve data accuracy, and reduce operational costs through Robotic Process Automation (RPA).

Throughout the project, we applied an Agile/Scrum-Waterfall Hybrid methodology, ensuring structured planning while maintaining flexibility in development and deployment. The project covered the automation of manual data entry, financial reporting, and compliance tracking, ensuring seamless integration between Core Banking and CRM systems.

5.1.2. Project Objectives and Deliverables

Project Objectives:

(1) Automate data entry and bank reconciliation to cut processing time and boost transaction speed by 30%.

(2) Sync Core banking and CRM data to reduce errors and update delays.

(3) Cut operational costs by 20% using RPA to optimize labor and cost efficiency.

(4) Implement automated audit trails for transparent financial tracking and regulatory compliance.

Deliverables and Achievements:

Table 5.1: Deliverables and achievements in the project

Deliverable	Expected Outcome	Actual Outcome
RPA bots for financial processes	Reduce manual data entry errors	Achieved, 92% error reduction
Data synchronization between Core Banking & CRM	Seamless updates, no duplicate data	Implemented API-based automation, 99% data accuracy
Automated reporting system	Generate financial	Improved speed by 35%

	reports 30% faster	
Compliance monitoring system	Reduce audit preparation time by 25%	Achieved 27% reduction in audit time
Employee training on RPA usage	Ensure adoption and efficiency	85% of staff trained, adoption rate 90%

Overall, the project successfully achieved its main objectives, including automating data entry, synchronizing data between Core Banking and CRM systems, supporting automated reporting, and reducing operational costs. One standout result was the cost savings, which reached 30% surpassing the original target of 20%. With these outcomes, the project can be considered successful in terms of scope, implementation quality, and its overall impact on the company's operations.

5.1.3. Timeline Performance

The project was originally planned to be completed within 7 months (from January to July 2025). However, due to extended training and onboarding time, one extra sprint had to be added, which caused the project to be delayed by 4 weeks.

Table 5.2: Timeline performance of the project

Phase	Planned Duration (Weeks)	Actual Duration (Weeks)	Cause of Delay
Sprint 1: Business Process Analysis and Initial Design	4	4	On schedule
Sprint 2: Solution Design and Integration Planning	4	4	On schedule
Sprint 3: Development Phase 1 - Core RPA Features	4	4	On schedule
Sprint 4: Development Phase 2 -	4	4	On schedule

Testing and UAT			
Sprint 5: Training and Initial Reporting	4	8	Extra sprint
Sprint 6: Performance Optimization and Expansion Planning	4	4	On schedule
Sprint 7: Project Closure and Documentation	4	4	On schedule
Total	32 (7 months)	36 (8 months)	+1 sprint required

The delay was mainly due to the need for more practical training. Although splitting the training into two phases extended the project timeline, it ultimately led to smoother adoption and fewer disruptions after deployment.

5.1.4. Cost Management

Table 5.3: Planned and Actual cost of the project

Category	Planned Cost (Billion VND)	Actual Cost (Billion VND)	Variance (%)
RPA Software Licenses	1.26	1.26	0%
Development Cost	2.35	2.35	0%
Infrastructure	3.5	3.8	+0,08%
Training	0.6	2.1	+250%
Compliance & Security	1.2	1.3	+8.3%
CRM & Core Banking Integration	1.0	1.0	0%
Internal Labor & Support	3.5	3.9	+11%
Other	15	15.3	+2%
Total	36.0	38.0	+5.5%

The project was initially approved with a total budget of 36 billion VND. However, due to the addition of one extra sprint for extended training and onboarding, the actual cost increased to 38 billion VND, resulting in a 5.5% budget overrun.

Most cost categories remained within acceptable variance levels:

- Infrastructure saw a slight increase of 0.08%
- Compliance & Security rose by 8.3%
- Internal Labor & Support increased by 11%
- Other expenses increased by 2%

The most significant deviation came from the Training category, which jumped by 250%, from 0.6 to 2.1 billion VND. This was mainly due to the need for a two-phase training approach to ensure employees could fully adapt to the new RPA workflows.

Despite the cost overrun, the project is still considered cost-effective, as the investment led to measurable operational improvements and a higher-than-expected reduction in overall costs.

5.1.5. Summary

Project success factors:

- Achieved all key objectives (automation, efficiency, compliance).
- Delivered within budget, despite the timeline extension.
- Adoption rates exceeded expectations (90% trained staff, 92% error reduction).

Areas for Future Improvement:

- Enhance training strategies to reduce adoption time in future automation projects.
- Implement phased rollout for large-scale RPA initiatives to prevent training bottlenecks.
- Monitor post-implementation performance to optimize bot functionality continuously.

Overall, the project was a success, delivering tangible improvements in efficiency, accuracy, and compliance, setting a strong foundation for future automation initiatives at VPandas.

5.2. Lessons learned document

5.2.1. Successes and Best Practices

One of the key factors behind the project's success was the adoption of a Hybrid Agile-Waterfall methodology. This approach provided clear structure for planning and risk management (Waterfall), while also allowing flexibility to adapt tasks and priorities within each sprint (Agile/Scrum). It helped the team stay focused on long-term goals while responding to short-term challenges effectively.

Another important success factor was the collaborative working environment between business teams, IT, and management. Continuous communication ensured that the RPA solution addressed actual business needs and gained strong support from key stakeholders.

In addition, the technical stability of the RPA bots contributed to smooth deployment. The system ran with high accuracy (99% data sync) and minimal post-deployment issues.

Recommendation: Future projects should continue applying the Hybrid model, strengthen cross-functional collaboration, and invest in early testing to ensure technical stability.

5.2.2. Challenges and Areas for Improvement

One of the biggest challenges was the underestimation of end-user readiness. While the system was technically sound, many employees needed more support to fully adapt to the new RPA workflows. This resulted in the extension of the training period, increased costs, and delays in overall adoption.

The project also faced integration difficulties when connecting RPA with legacy systems like Core Banking and CRM. Some processes required manual interventions due to system limitations.

Another area for improvement was resource planning in sprints. The team experienced workload imbalance in some phases, especially during testing and onboarding, which affected sprint efficiency.

Recommendation: Future projects should assess end-user readiness early, plan for phased training, conduct integration testing in advance, and improve sprint planning to balance team workloads.

5.2.3. Opportunities for Future Project Expansion

Building on the current success, VPandas has strong potential to further expand its automation capabilities across the organization. Key opportunities include:

- Enhancing the performance of existing RPA bots to achieve faster processing speeds and higher accuracy in routine operations.

- Extending RPA adoption to new functional areas, such as customer service, employee onboarding, and document verification particularly through the integration of chatbot-assisted workflows.

- Leveraging AI and Machine Learning technologies to unlock advanced capabilities like anomaly detection, intelligent transaction filtering, and predictive analytics.

- Establishing a centralized RPA governance framework to standardize bot development, streamline monitoring, and ensure consistent maintenance across all departments.

By pursuing these opportunities, VPandas can develop a scalable, intelligent automation ecosystem that not only improves operational efficiency but also drives long-term digital transformation across the business.

5.3. User training and support materials

The User training and support material is a comprehensive set of resources designed to ensure smooth adoption and effective use of the system by internal employees. This document aims to familiarize users with the system’s functionalities, workflows, and troubleshooting procedures. Training will be conducted by experts from various teams and will cover key aspects of RPA usage, from loan processing to customer service chatbot handling to ensure that the RPA solution enhances financial operations.

VPandas Financial Company - RPA User Guide

Document Version: 1.0

Date: 15.3.2025

Prepared by: IT Support Team

1. Introduction

This guide provides internal employees with detailed instructions on how to use the newly integrated Robotic Process Automation (RPA) system for financial operations. The RPA system helps streamline workflows, reduce manual errors, and improve efficiency in loan processing, transaction reconciliation, and customer support.

Who would use this guide ?

This document is intended for:

- Loan Officers – Use RPA for automated loan application processing.
- Finance Team – Use RPA for transaction reconciliation.
- Customer Service Representatives – Use RPA for handling customer inquiries via chatbot.
- IT Support Team – Manage and troubleshoot the RPA system.

2. Training & Related Materials for End-User

2.1. Required training materials

To successfully train employees on the RPA system, the following materials are needed:

- *System overview documentation*:
    + RPA workflow documentation: a step-by-step explanation of automated processes.
    + Business process mapping (BPMN diagrams): a visual representation of automated tasks.
    + API & System integration guide: for IT and Developers to understand backend.
- *Detailed User Guides*:
    + Step-by-Step RPA usage guide (This document).
    + Common errors & solutions document: a guide on frequent system errors and resolutions.
    + Interactive training slides : powerPoint presentations explaining RPA features.

- *Training Session Resources*:

+ Instructor-Led training (ILT) manual: for trainers to guide employees through live sessions.
+ Hands-on practice exercises: sample loan applications, reconciliations, and chatbot interactions.
+ Video tutorials: pre-recorded training videos covering key RPA functions.

2.2. Who will conduct the training ?

Trainer	**Qualification**	**Role in training**
IT support team	RPA implementation experts	Conduct live training & troubleshooting sessions.
RPA system administrator	RPA developer	Explain backend automation processes & system updates.
Finance team lead	Senior finance officer	Train employees on transaction reconciliation.
Customer service lead	Senior support representative	Train employees on chatbot handling & customer queries.

3. Training schedule & Responsibilities

Training session	**Target audience**	**Trainer**	**Schedule**	**Location**
RPA system overview & workflow	Loan officers, finance team, IT	IT support team	Monday, 9:00 AM - 11:00 AM	Training room 1

Loan processing training	Loan officers	RPA system administrator	Tuesday, 2:00 PM - 4:00 PM	Training room 2
Transaction reconciliation & reporting	Finance team	Finance team lead	Wednesday, 10:00 AM - 12:00 PM	Training room 1
Customer service chatbot usage	Customer service representatives	Customer service lead	Thursday, 3:00 PM - 5:00 PM	Training room 2
Advanced troubleshooting & escalation	IT & support teams	IT support team	Friday, 1:00 PM - 3:00 PM	IT Lab

4. System updates & Future training

- Regular training sessions will be provided to help employees adapt to system improvements.

- For upcoming training schedules, check the Training Calendar in the VPandas RPA Portal.

- For additional questions, please contact IT Support.