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CROWN BANK OF CANADA

FINAL PROJECT REPORT

04-14-2024

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## 1.0 EXECUTIVE SUMMARY

In order to restore its functions and support its position in the dynamic financial services sector the Bank of Canada has embarked upon an extreme journey. The Bank sets out to redefine its role in the Canadian market landscape with a clear focus on efficiency risk mitigation and customer centricity. Key areas that are ripe for enhancement, including payment solutions, credit profiling, workforce optimization and digital innovation have been identified through a rigorous analysis and strategic planning.

The development of payment solutions to provide exceptional convenience and comfort for customers is a key element in the Banks vision. The implementation of cutting edge payment gateway infrastructure and the exploration of new technologies to meet diverse payment preferences are part of this. Furthermore steps are under way to improve customer credit profiling through advanced analytics that will optimize financial products according to individual needs and minimize exposure to risks.

The Bank seeks to build a highly skilled workforce capable of handling the changing industrial environment by means of flexible team restructuring and targeted activity initiatives. In addition to promote customer loyalty and sustain sustained growth as well as strengthen the banks position in the market, competition interest rates are taken into account. The initiatives focus will be on digitization, underpinning efforts to modernize banking practices and strengthening cybersecurity measures. One of the strategies used to improve operational efficiency and increase customer confidence in electronic channels is by adopting Digital Signatures enhancing internet banking interfaces or protecting transactions from fraud.

Essentially the initiative of the Crown Bank of Canada is a strategic leap forward driven by an unwavering commitment to innovation and customer focus. The bank seeks to create a unique identity in the Financial Market which is characterized with dynamism, resilience and unwavering customer satisfaction through addressing critical challenges head on and adopting Digital Disruption.

## 2.0 PROBLEM STATEMENT

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Description automatically generatedA yellow paper with black text

Description automatically generated**Loss of Revenue due to increasing defaults**

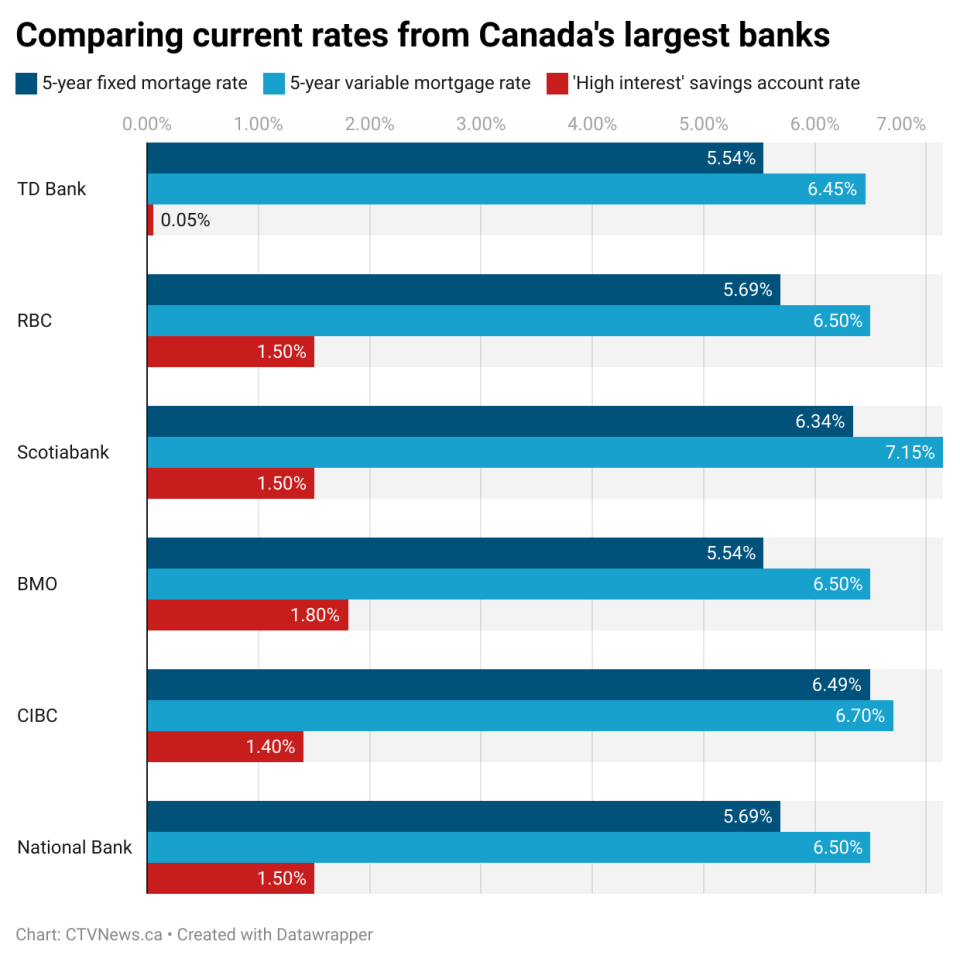
**A screenshot of a graph

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A black screen with white text

Description automatically generated**A black and purple rectangle with text

Description automatically generatedLoss of Revenue due to operational cost**

**Loss of Revenue due to market competition**

**Rise of FinTech Companies**

A comparatively slight but noteworthy decrease occurred in CBC's Canadian retail banking market share, which went from 37.1% in October 2022 to 36.4% in October 2023. This directly affects the bank's customer base and prospective revenue stream, amounting to a loss of about 54,000 potential consumers.

**Customer Acquisitions**

CBC is currently up against fierce competition from its counterparts, offering its products at more alluring costs. Due to high operating costs, CBC cannot provide the same prices on all products, and its profit margin is impacted by products priced cheaper than those of its rivals.

**Competitive Pricing!**

FinTech companies such as Wealth simple and EQ Bank are expanding quickly, drawing in younger customers with personalized offerings, competitive interest rates, and easy-to-use mobile apps. This reduces CBC's revenue share and further erodes its market share.

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## 3.0 BUSINESS ANALYSIS APPROACH

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Description automatically generated3.1METHODOLOGY  
We are choosing the **Hybrid approach** for the implementation that best addresses the problem. Unforeseen challenges or market shifts can occur during the analysis. The hybrid approach provides a risk management buffer by allowing adjustments to the scope, focus, or even chosen solutions based on ongoing data and feedback.

**Overview**

### 3.2 DOCUMENTATION FORMALITY

In addressing CBC's revenue losses, our hybrid documentation app factors influencing loan delinquency rates, a breakdown of operational costs, and an analysis of CBC's market share in the surge in loan delinquency rates, escalating operational costs, and the impact of market competition on CBC's revenue. This narrative summary will set the stage for stakeholders to understand the core issues succinctly.

Detailed reports will follow, offering textual insights into the factors influencing loan delinquency rates, a breakdown of operational costs, and an analysis of CBC's market share in the context of increasing competition. Visual aids, including graphs and charts, will accompany financial models to vividly illustrate the projected revenue scenarios based on proposed solutions.

The risk assessment documentation will present narratives outlining the severity of risks associated with each problem, accompanied by visual representations for enhanced clarity. Action plans will be presented in a hybrid format, combining detailed narratives with visual timelines, responsibilities, and resource allocations. The process flow diagram will visually represent the sequential steps in the business analysis, creating a comprehensive and accessible roadmap for stakeholders.

This hybrid documentation strategy aims to precisely align with the intricacies of CBC's challenges, ensuring stakeholders can grasp the complexities through narrative and visual means.

### A diagram of a business process Description automatically generated3.3 THE PROCESS TO FOLLOW

## 4.0 PROJECT OVERVIEW

### 4.1 PROJECT GOALS

Through thorough research and strategic initiatives, the project's main objective is to address the operational issues and income losses that the Crown Bank of Canada (CBC) is facing. The project's specific goals are to raise CBC's competitiveness in the market, operational effectiveness, and financial standing.

### 4.2 FINANCING OR PROJECT FUNDING

The $177,500 project funding will cover a range of costs, including labor, consulting fees, software and technology, data analytics tools, training programs, and market research.

|  |  |  |
| --- | --- | --- |
| Cost Category | Description | Estimated Cost ($) |
| Labor Costs | Salaries for project team members | $37,500 |
| Consultancy Fees | Fees for external consultants and subject matter experts | $30,000 |
| Technology and Software Costs | Costs associated with purchasing or licensing technology solutions and software | $50,000 |
| Data Analytics Tools | Costs for using data analytics services or tools | $20,000 |
| Training Programs | Costs for training programs for project team members | $10,000 |
| Market Research Expenses | Costs for conducting market research | $15,000 |
| Total Project Cost |  | **$177,500** |

## 5.0 HIGH-LEVEL BUSINESS REQUIREMENTS

The high-level business requirements for managing CBC's difficulties include conserving revenue, improving customer satisfaction, guaranteeing compliance, and encouraging innovation. This includes developing methods to reduce revenue loss due to defaults and operational costs, increasing client experiences through personalized services and data transparency, adhering to regulations, and deploying scalable technology solutions. These standards are guiding CBC in meeting its objectives and maintaining its competitive advantage in the market.

## 6.0 CURRENT PROCESS FLOW

**Overview:**

In our loan processing system at Crown Bank of Canada, we've identified revenue loss as a significant challenge. This flowchart offers a detailed look into how revenue loss occurs across different phases of loan processing, from application to potential collection.

**Revenue Loss Analysis**

Our primary concern is revenue loss, which demands a closer examination to understand its underlying causes.

**Loan Initiation Phase**

During the initial phase, managed by the Sales Department, we collect documents and kickstart the application process. However, any delays or inaccuracies here could lead to revenue loss downstream.

**Credit Approval Phase**

The Credit Department's role in evaluating creditworthiness is pivotal. If we approve high-risk loans with adequate measures, such as adjusting interest rates or tightening repayment terms, we avoid facing increased defaults and revenue loss.

**Account Setup Phase**

As the Operations Department sets up accounts and disburses funds, errors in this phase, like misallocating funds or setting up incorrect repayment structures, can contribute to revenue loss. It's crucial to assess risks accurately during this stage to prevent unforeseen losses.

**Collection Phase**

Efficiency in the Collection Phase is crucial for mitigating revenue loss. Delays or inefficiencies in follow-up services can prolong recovery or lead to write-offs, amplifying revenue loss.

**Addressing Revenue Loss**

To address revenue loss effectively, we must optimize processes across all loan lifecycle stages. This could involve tightening documentation requirements, enhancing risk assessment protocols, improving account setup procedures, and streamlining collection processes.

**Conclusion**

While revenue loss poses a significant challenge, a systematic approach to process optimization and risk management can help mitigate this issue. By identifying and addressing potential sources of revenue loss, we can enhance our financial performance and ensure sustainable growth.

## 7.0 PROPOSED PROCESS FLOW

**Overview:**

Our vision for enhancing Crown Bank of Canada's loan processing system focuses on streamlining operations and improving the customer experience. Our proposed changes introduce automation and personalized services across the four main phases: Loan Initiation, Credit Approval, Account Setup, and Collection.

**Loan Initiation Phase**

We're introducing semi-automated sales using bots to speed up customer interactions and document collection, ensuring a smoother start to the loan application process.

**Credit Approval Phase**

Automation is critical in this phase, where we aim for quicker credit decisions. Our personalized Credit Profiling will offer tailored borrowing costs based on thorough market analysis, promising more competitive interest rates and potentially increasing our market share.

**Accounts Setup Phase**

We're streamlining operations by semi-automating account setup, reducing manual workload, and enabling faster processing. Direct disbursement into user accounts will make the process more user-friendly and efficient.

**Collection Phase**

Flexibility is the name of the game here. We're introducing flexible payment terms to accommodate varying customer repayment abilities, which will reduce default rates. Automation will also significantly improve follow-up services and payment recording, providing advance notifications on EMIs to enhance customer service and streamline collections.

**Reducing Revenue Loss**

Our future state plan incorporates advanced automation and personalized services across the loan processing system, aimed at reducing revenue loss by enhancing operational efficiency, mitigating default risks, and improving customer engagement.

**Purpose and Presentation**

Designed for executive review, our strategic shift towards a more automated and customer-focused loan processing system aims to secure administrative support for our proposed changes. By showcasing anticipated improvements in operational efficiency, risk management, and customer service, this roadmap guides the technological upgrades and process re-engineering initiatives we plan to undertake.

## 8.0 RACI MATRIX

We have added a RACI (Responsible, Accountable, Consulted, and Informed) matrix to provide clarity on roles and responsibilities.

A table of numbers and letters

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## 9.0 IMPORTANCE OF SOLUTION REQUIREMENTS FOR CBC

Solution requirements are crucial for the Crown Bank of Canada's success and longevity. As a proactive and innovative financial institution, CBC always strives to enhance its services, boost operational efficiency, and stay ahead of market changes and customer needs. By clearly outlining and prioritizing functional (business) and non-functional requirements, CBC can ensure that its technology investments and strategic plans align with its overall business objectives.

## 10.0 FUNCTIONAL AND NON-FUNCTIONAL REQUIREMENTS (FR)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Section** | **Requirement Identifying Number** | **Requirement Description** | **Requirement prioritization (H, M, L)** | **Traceability**  **(Business Requirement)** | **Requirement Notes** |
| **Interface** | FR-001 | Implement payment solutions for the user. | High | BR-001 | Must provide multiple payment options to the user and make it easy to pay the dues. |
| **Reporting** | FR-002 | Customer credit profiling and screening. | High | BR-002 | Analyzing customers’ credit profiles to mitigate risk. |
| **Human Resource** | FR-003 | Reduction in sales, operations, and collection team workforce. | High | BR-003 | Reducing the number of staff working across the departments. |
| **Reliability** | FR-004 | Provide better interest rates for customers. | High | BR-004 | Must compare the market and provide competitive rates to reduce churn rates. |
| **Interface** | FR-005 | Providing digital Signing. | High | BR-005 | Must provide digital signing features for the workers |
| **Compliance** | FR-006 | Update all the finances in a database. | Medium | BR-006 | Must record all the transactions and payments securely in a database |
| **Reporting** | FR-007 | Implement advance notification of dues and confirmation. | High | BR-007 | Must give prior notification to the customer on payment date to avoid defaults |
| **Security** | FR-008 | Facilitate seamless, secure transactions of customer deposits, withdrawals, and transfers. | High | BR-008 | We will make sure customer data is securely processed. |
| **Interface** | FR-009 | Deliver online banking platform for the customers. | High | BR-009 | The online banking platform must support account management and fund transfer. |
| **Service** | FR-010 | Widespread ATM network coverage. | Medium | BR-010 | Must be able to pay dues through the ATM. |

### 10.1 NON-FUNCTIONAL REQUIREMENTS (NFR)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Section** | **Requirement Identifying Number** | **Requirement Description** | **Requirement prioritization (H, M, L)** | **Traceability**  **(Business Requirement)** | **Requirement Notes** |
| **Security** | NFR-001 | Secure Payment. | High | BR-001 | We will make the payment very secure. |
| **Performance** | NFR-002 | Personalized and automated profiling. | Medium | BR-002 | Must implement AI-enabled personalized credit analysis based on Age, Sex, and location to boost/improve application processing time. |
| **Finance** | NFR-003 | Implementing AI to fill the workforce gap. | High | BR-003 | Will automate the process flow either fully or partially to reduce operational costs. |
| **Supportability** | NFR-004 | Flexible terms on payments. | Medium | BR-001 | It will give users more options regarding the terms they want to pay. |
| **Insurance** | NFR-005 | Provide Legal Action. | High | BR-001 | The company will take legal action against the borrowers and file for insolvency as insurance. |
| **Maintainability** | NFR-006 | Update Transaction records frequently. | Medium | BR-006 | The company must update all the transactions every 30 minutes. |
| **Testability** | NFR-007 | Maintain Data Integrity. | High | BR-008 | Data validation and verification must always be in place to maintain data integrity. |
| **Scalability** | NFR-008 | Accommodate increased loads of Customer intake. | Medium | BR-004 | The system must be able to scale horizontally and vertically. |

## A graph of a number of months Description automatically generated11.0 SOLUTION 1: FLEXIBLE LOAN REPAYMENT OPTIONS

### 11.1 HIGH-LEVEL DESIGN

We propose custom development using various hardware and software components for high level designs. We will create a custom loan management system for the Crown Bank of Canada based on its needs. This way borrowers can be given various flexible repayment options to control their finances more effectively. The new system guarantees a smooth process and data consistency by merging with the Crown Bank of Canada's existing infrastructure and databases.

### 11.2 LOW-LEVEL DESIGN

This method is based on developing a user friendly interface, facilitating the credit reimbursement process for borrowers. This interface will include interactive tools such as **reimbursement** **calculators** to help borrowers in making their decisions. To improve the usefulness of our framework on the back end, we shall use a variety of hardware and **A calculator with numbers and symbols

Description automatically generated**software components. Modern calculations will create effective reimbursement plans based on borrower choices and budgetary data. Using APIs and middleware, real time transitions and information exactness will be assured. To ensure borrower information and organizational compliance, some security measures, such as encryption and two factor authentication, will be integrated. To confirm that the framework capacities are reliable, each level of evolution will be tested.

### A diagram of a multicolored circle with numbers Description automatically generated11.3 IMPACT ANALYSIS

Both the Crown Bank of Canada and its borrowers are to benefit from using flexible loan repayment arrangements. Crown Bank of Canada can reduce default rates and improve customer satisfaction by allowing borrowers to select repayment plans that are appropriate to their financial situation. In turn, it can help CBC to maintain its market position and increase client loyalty. Yet, the development and implementation of the new system and the opposition of borrowers or internal stakeholders to new repayment options may be before problems. To handle these challenges and ensure the solution's successful implementation, mitigation methods will need to be developed.

### 11.4 OUT OF SCOPE

Our solution offers flexible loan repayment options. Yet, it only handles some of the Crown Bank of Canada’s operations. For instance, it only handles credit risk review and regulatory submission. To actually manage and yield with CRAs, exact measures and strategies need to be implemented. Our solution aims to improve borrower satisfaction and decrease default rates. Yet, it cannot destroy default risk or certain compliance with CRAs. CBC must implement additional methods and controls to address broader problems.

### 11.5 RISK AND MITIGATION

Technical difficulties in the evolution and integration phase that may direct delays or cost overruns are one of the probable risks associated with this solution. We will recruit experienced developers, execute thorough feasibility studies, and use innovative development **agile approaches** to react to changing requirements to reduce this risk. Another risk is that borrowers or internal stakeholders will not accept adopting new repayment options. This risk will be managed by a thorough change management plan involving stakeholders, communication strategies, and training programs to ensure an orderly transition.

## 12.0 SOLUTION 2: TECHNOLOGY ENHANCEMENTS AND BUSINESS OPERATIONAL EFFICIENCIES

### 12.1HIGH-LEVEL DESIGN

The given aim to lower operational cost and improve overall performance of CBC’s services with use of strategic technology infrastructure. We will invest time, money and work force in technology and improve user end service. The initiative will totally focus on cutting edge technology to enhance product offerings and customer experience.

A person standing next to a phone

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### 12.2 LOW-LEVEL DESIGN

A blue and yellow poster with text and images

Description automatically generatedAt low level CBC will ensure their core banking system will support faster processing time , better security and effective with other financial services.

Robotic process automation can be used to handle repetition tasks like data entry, customer inquiries and transaction related processes.

AI for predictive analysis in customer service, fraud detection, risk management and personalized banking services, offering customer products that best suit their need.

CBC will develop and enhance digital platforms like mobile apps and online banking to offer more services and options , which will result in customers reducing their need for branch visits.

Existing operational processes can be used to eliminate unnecessary and streamline workflows for better technological enhancements.

### 12.3 IMPACT ANALYSIS

We are looking to invest more in technology so that it gets upgraded and along with that we will also enhance our Operational Efficiency.

By improving technology CBC would require less human force and labor, due to which human errors will not happen and it will result in process improvement. Furthermore, by increasing technology CBC would be able to improve customer service because digital banking services would be provided. Also, the product would be delivered fast to the customer without any lag, which will bring customer satisfaction. In terms of competition, CBC would be way ahead by acquiring more market share in comparison of other banks which use traditional methods for their operations and functioning.

### 12.4 OUT OF SCOPE

Apart from technological enhancement CBC would plan to develop more infrastructure of their banks within the company. This will be the process of adding more resources to the company so that customers can easily get more access to the bank. Also, any other costs other than technological advancement and resource allocation should be reduced within the bank. Appropriate measures would be taken to reduce the costs.

### 12.5 RISK AND MITIGATION

Risk

* There is a chance of disruption of services for some time while we do technological advancement.
* Also, there will be a significant amount of money that will be used in technological advancement.
* There is a chance that not all the employees know about the new technology that the bank is going to upgrade.

Mitigation:

* To make sure that there is no disruption while upgrading technology CBC will do technology upgradation in few phases. So that it can be done safely.
* To make sure that the costs are not too high for upgradation of technology we will make sure that a thorough financial analysis is made so that we can get a positive ROI.
* To make sure every employee in the company aligns with the new technology, we will make sure to run training programs across the company so that every employee knows about the technology.

## 13.0 POSSIBLE SOLUTION #3: DO NOTHING METHOD

### 13.1 HIGH-LEVEL DESIGN

This approach entails keeping things as they are and carrying on with the current loan repayment method that CBC bank is using right now without making notable adjustments or enhancements in the process.

### 13.2 LOW-LEVEL DESIGN

Nothing has changed about the existing systems, workflows, or practices.

### 13.3 IMPACT ANALYSIS

Maintaining the current line of action might lead to ongoing inefficiency, higher loan defaults, more pressure on the higher-level management of the bank and worsening financial balance sheet of the company. However, it accomplishes so without the risks and challenges of coming up with new ideas to battle the current situation.

### 13.4 OUT OF SCOPE

Any enhancements or changes to the existing process are out of scope due to the do-nothing methodology being followed.

### 13.5 RISK AND MITIGATION

**Risk:** A further rise in the loan repayment defaults adding to the ones that the bank is currently battling with.

**Mitigation:** To encourage collaboration with upcoming fin-tech companies and improving customer knowledge and service.

## 14.0 EVALUATION CRITERIA

|  |  |  |
| --- | --- | --- |
| **Criteria** | **Priority** | **Weighted Percentage** |
| Impact on Loan Default % | High | 35% |
| Feasibility | High | 30% |
| Cost | Medium | 20% |
| Alignment with core values | Low | 15% |

* Impact on Loan Default Percentage: This is the major concern for the bank right now. It indicates the percentage of people defaulting on their loans taken from the bank. It needs to be solved as a high priority.
* Feasibility: This indicates how easy/difficult it is to implement the 3 solutions in the daily operations of the bank. This criterion is also a high priority.
* Cost: It indicates the overall expenditure required to implement the 3 solutions. The priority is comparatively lower than the other two criteria.

Alignment with core values: This indicates the long-term objectives and values of the bank. It’s not an important priority right now.

## 15.0 DATABASE DESIGN



Visio link: [Crown Bank of Canada database design](https://stuconestogacon-my.sharepoint.com/:u:/g/personal/rkrishnasamy5844_conestogac_on_ca/EUW0xJqI4sBLt6kDcMMXdvoBL6xjXox36m6p4SHfjoOjzA?e=RHvbfS)

We have developed several vital relationships between tables to allow efficient data management and retrieval as part of our **database** development for the **Crown Bank of Canada.**

First, the **Customer ID** field is a foreign key in the **Loan table** that references the customer ID field. This means that we can link each loan with its customer in order to keep track of and manage loans accurately.

Likewise, a **customer ID** area in the **Accounts table** is used as an external key that links all account entries to their corresponding customer record in the Customer list. This relationship enables account management methods to be simplified and enables the alignment of customer accounts with each other.

In addition, a **foreign key** is fitted by the **Branch ID** field in the **Accounts table** and refers to the branch Foreign Key fields. This link enables the management and reporting of branch accounts, permitting us to identify each account associated branches.

The **loan ID** area is used as an FK in the **Payment table** and that is referenced. This relationship helps to link each payment dealing to its related loan form based on the loan ID to ensure proper payment search and reconciliation.

To ensure the consistency and reliability of data in the Crown Bank of Canada database, these external key relationships recreate important role in supporting data integrity and enforcing interoperability restrictions between related tables.

## 16.0 RETURN ON INVESTMENT

Our team analyzed each of the suggested solution possibilities for **Crown Bank of Canada** in alignment with assessment criteria to identify the best path of action. Impact on customer happiness, potential for revenue development, cost-effectiveness, long-term strategic objectives.  After giving time, we have decided that the best course of action is to develop Flexible Loan Repayment Options.

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### 16.1 INITIAL INVESTMENT

* It is calculated that the cost of developing and executing a new repayment system including software development, customization and integration with existing banking infrastructure will amount to $20 million.
* Training programs aimed at educating staff and customers on the new repayment options are allocated $10 million. In order to ensure the proper implementation and use of this new system, such training initiatives are essential.
* In order to promote the availability and benefits of flexible repayment plans to the banks customer base a budget of $5 million is allocated for marketing and communication. Advertising, promotional materials and customer outreach initiatives are included in this.

**Total Initial Investment: $35 million.**

**A screenshot of a calculator

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### 16.2 ONGOING COSTS (PER YEAR)

* To keep the functionality and dependability of the loan repayment system around 1 million dollars are invested each year for maintenance. Regular updates, bug fixes, and technical support services are also part of this.
* In order to cover the cost of executing new features, addressing bugs and providing observation with regulatory requirements, an annual budget of $500,000 is set aside for software updates.
* Monitoring activities, including real time performance monitoring and analysis to identify and address any issues promptly, shall be funded annually at $750,000.

**Total Ongoing Costs (Per Year): $2.25 million.**

### 16.3 BENEFITS (PER YEAR)

* A higher retention rate and loyalty for the bank could result from enhancing client satisfaction through flexible loan repayment options. It could make it easier for borrowers to manage their money and reduce the risk of default and the banks subsequent losses by giving them an alternative repayment period.
* By providing novel credit products and customer centric services which distinguish it from competitors, Crown Bank is able to increase its market share and gain new customers.
* These numbers provide an in-depth analysis of the upfront costs, recurring expenses and expected returns related to the adoption of flexible loan repayment options by Bank Crown Canada.

**Initial Investment**

|  |  |
| --- | --- |
| Development and Implementation | $20 million |
| Training initiatives | $10 million |
| Marketing and communications | $5 million |
| The total initial investment | $35 million |

**Ongoing Costs (Per Year)**

|  |  |
| --- | --- |
| Upkeep | $1 million |
| Software updates | $500,000 |
| Monitoring activities | $750,000 |

### 16.4 YEARLY ROI CALCULATION

We will deduct all ongoing expenditures from all benefits to determine the annual return on investment. Then, we will divide the figure by the initial investment.

**Yearly ROI = ((Total Benefits - Total Ongoing Costs) / Total Initial Investment) \* 100**

**Substituting the values**

Yearly ROI = (($30 million - $2.25 million) / $35 million) \* 100

Yearly ROI ≈ (27.75 / 35) \* 100

**Yearly ROI ≈ 79.29%**

### 16.5ROI OVER 3 YEARS

We will first multiply the annually net benefit by 3 to get the overall net benefit distributed over 3 years which will be operated to calculate the ROI over a 3-year period. The ROI % over a three-year period will then be calculated by dividing the entire net benefit by the initial investment.

Total Net Benefit (3 Years) = Yearly Net Benefit \* 3

**Substituting the values**

Total Net Benefit (3 Years) = $27.75 million \* 3

**Total Net Benefit (3 Years) = $83.25 million**

ROI over 3 Years = ((Total Net Benefit (3 Years) - Total Initial Investment) / Total Initial Investment) \* 100

ROI over 3 Years = (($83.25 million - $35 million) / $35 million) \* 100

**ROI over 3 Years ≈ (137.86%)**

### 16.6 ROI OVER 5 YEARS

Total Net Benefit (5 Years) = Yearly Net Benefit \* 5

**Substituting the values**

Total Net Benefit (5 Years) = $27.75 million \* 5

Total Net Benefit (5 Years) = $138.75 million

ROI over 5 Years = ((Total Net Benefit (5 Years) - Total Initial Investment) / Total Initial Investment) \* 100

ROI over 5 Years = (($138.75 million - $35 million) / $35 million) \* 100

**ROI over 5 Years ≈ (295.71%)**

Thus, the return on investment for Crown Bank of Canadas implementation of flexible loan repayment options is around 79.29% each year, 137.86% over three years, and 295.71% over five years.

In fact, the estimated return on investment for the use of flexible loan repayment options is a key factor in supporting our choice of solution and assessing its efficacy considering predetermined assessment standards.

By using this solution Crown Bank of Canada may expect a remarkable annual return on investment as seen by the high yearly **ROI of around 79.29%.** The three-year ROI of around 137.86% demonstrates the solutions continued value and profitability. Additionally the ROI of about 295.71% over a five year period emphasizes the chosen strategies long-term durability and financial benefits.

This strong return on investment illustrates the observable advantages of the flexible loan repayment options such as higher customer satisfaction, fewer defaults, and a competitive edge. We can successfully illustrate the value proposition of the solution and its compatibility with the bank’s strategic objectives by measuring its financial impact.

## 17.0 IMPLEMENTATION STRATEGY

### 17.1 JUSTIFICATION

Here the known signatories plan goes first as the heart of activity of the bank should be very important when virtualization of a bank is considered. At such a scenario, indicators plan should be properly melded. These approaches satisfy the prerequisites for the technology to leave faster, but they still leave room for the problem to be solved later as they work on feedback loops. However, open market license type of license suits the client’s caprice and surely it is wise to stay ahead and satisfy his progressing demand.

### 17.2 PHASED MIGRATION

The design of splitting making process of fixed rolling-out into several samples that are realized in different parts will increase the probability of success. In this regard, various financing could lead to highly significant differences depending on the type of loan, the borrower’s circumstances, and what the parties wish to achieve. Management is capable of monitoring and checking how each patch of the plan goes. This can be achieved when it is split into units which the mind will digest comfortably. It made a goal transparent to all the employees, and its vehicle was to make right decisions promptly, even in case the probability of peril is minimal.

### 17.3 BACKOUT STRATEGY

The choice is either to return back to the original condition in the state at time 0 or to select the system to be provided, and it is based upon the information level allowing the generation of the metric in the time horizons. Therefore, another assignment will be security plans for fail event or leading phase delay, and relieving phase won’t be possible anytime. This in a way makes the process easy to run as a factor of its fluidity in that unseen challenges that might cause a problem in the running of the process never even arise or arise freely at all to make the process flow continuously and freely. Reversion activities that occur on the site of return and in a worst-case on the deterrent site, which could be an aircraft, should be defined and detailed for the back out strategy.

### 17.4 RISK MITIGATION

* Spare a few minutes for the smoothing of the algorithm by running the trial first and incorporating it fully afterward.
* Job descriptions should be designed for the implementation team to strengthen the staff movement in crown bank and its project team.
* Change management strategies need to be embraced and among them, important tools like stakeholder engagement and rewards should be used.

**Steps in Implementation**

* Assistance with Release Management
* Please decide on who would be primary duty holders for deployments and versions rollouts.
* Create a mechanism for dialogue and a way to specify a procedure of negotiation and the escalation route to ensure coordination.
* Planning for Release
* Checking proper operation of the programs and fixes to release is the function of validation.
* The procedure of releasing data needs to be available as well and its focus and information should be predefined. Furthermore, the regulations concerning the signing should be strictly supervised involving the subject of the release.
* Craft a timeline of how the staged advancement will transpire. It does not have to be a bullet-point list; it could be a storyline.
* Build for Release
* Put requests for selling elements and brands that need to be signed for license to disclose information.
* Have work on features and alter such element of production and understand whether the components work or not or are sufficient and correct for product.
* Release Implementation
* Be transported into a timelined phase-out of current finding into the existent workplace.
* Making available the relevant documents as well as the personnel responsible for the production is as significant as end usage and actual machine operation.

One of the likely reasons to get a tech glitch during the deployment is the poor sitting position and it is wise to pay attention carefully and rectify the problem promptly.

**Early Life Support**

* Run auto-dem of the release steps after deployment. Additionally, we suggest the application of a special game controller to address residual issues and adjust the game plan on the go.
* Customer support aim to solve issues immediately and give the quick reply in collaboration with issue management team.

**Release Closure**

* Close-up the stages of deployment after the latest release.
* Explore the users' activity logs and take down notes for the and the CMS additions.

## 18.0 TESTING STRATEGY

### 18.1 TEST STRATEGY OVERVIEW

It is the duty to provide that testing is carried out and that the suggested fixes are properly applied for the Crown Bank of Canada. Quality control, signoff and many testing steps ensure that the solutions are well designed and effective.

Based on the criteria detailed in the solution documentation the testing plan will cover a wide range of subjects including functionality, usability, performance, security, and compliance.

A diagram of data processing

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### 18.2 STAGES OF TESTING

**Unit Testing**

To verify that certain parts or modules process as intended developers will precisely use unit testing. The test subjects that have been set will cover all possible outcomes and edge points.

**Integration Testing**

To ensure that all modules and components are performing as intended integrity testing will be carried out. The primary subjects of the test cases will be data flows APIs and intersystem interfaces.

**System Testing**

To make sure everything is going according to plan, system testing will be carried out. Test cases will cover every business process and user workflow that is described in the solution documentation.

**User Acceptance Testing**

To make sure the solutions live up to end users expectations and requirements UAT will involve end users as well as CBC stakeholders. The test cases will be built upon user stories and real-world events.

**Performance Testing**

Routine testing will verify that the solutions meet the required performance standards for both average and peak load scenarios. Three distinct types of testing scalability, load and stress will be conducted.

**Security Testing**

To find and address any possible weaknesses in the system is the aim of security testing. The tests will include viability scanning, penetration testing, and compliance checks.

**Regression Testing**

Regression testing is done after every update or change to ensure that the functionality that is currently in place is unaffected. There will be a faster creation of automated regression suites.

### 18.3 DEFECT MANAGEMENT

* Defects about testing will be noted in a defect tracking platform such as Jira or Bugzilla. Based on the effect each issue has on the system and business processes a severity rating and priority will be assigned to each one.
* The sequence in which problems are resolved will depend on the results of the triage sessions. Before the developer made fixes are closed the testing team will retest them.

**Signoffs Required**

* When unit testing is successfully finished developers will provide their blessing.
* After an integration test is successfully finished developers and testers collaborate to provide signoff.
* After system testing is successfully finished the testing team will submit a signoff.

Crown Bank stakeholders and end users will provide their permission following the completion of user acceptability testing. The testing team will obtain approval from the relevant stakeholders upon completion of the security and performance tests which have been approved.

## A white rectangular box with text Description automatically generated with medium confidenceA white sheet with black text Description automatically generated19.0 RISK LOG

## 20.0 ROLES AND RESPONSIBILITIES

|  |  |  |
| --- | --- | --- |
| **Team** | **Roles** | **Responsibilities** |
| Ramya Krishnasamy | Project Manager | Develop and manage the project plan, considering deadlines, goals, and resource allocation, Give stakeholders frequent reporting and status updates. |
| Shubham Thanki | Data Analyst | Gather, examine, and evaluate data to help guide business choices.  Work together with stakeholders and business analysts to comprehend data needs. |
| Kunj Shah | Business Analyst | Collect and record business needs using meetings, surveys, interviews.  Examine, record, and suggest changes to the existing business procedures. |
| Shourya Sahni | Quality Analyst | Create and carry out test cases and strategies to guarantee work.  During the testing procedure, find, identify, and monitor errors and problems. |
| Shravani Kodam | Documentation expert | Produce and manage project documentation, such as user guides, technical specifications, and business requirements papers.  Make sure all pertinent stakeholders can easily access and understand the documents. |
| Neha Lingampally | Financial Representative | help with the project's financial planning and budgeting.  Keep tabs on project costs, examine deviations, and update stakeholders on financial situation. |

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