UNIVERSITÀ DEGLI STUDI DI MILANO

process of issuing debit cards online for premium users

Course Assessment Project for Business Process Engineering

Prof. Gabriele Gianini

Reporter Negar Akhgar

Matriculation :11242A

Milan, 2023

Abstract

This research delves into the intricacies of automating the issuance of debit cards for premium users, a vital facet of modern banking. The study outlines the essential components of this multifaceted process, with a strong focus on security compliance according to the Payment Card Industry Data Security Standard (PCI DSS). Additionally, it investigates the seamless integration of openWay's WAY4 platform and the "Colvir" Banking System to enhance efficiency and customer experience. This project not only elucidates the critical steps involved in online debit card issuance but also underscores the importance of security and integrated technologies in the realm of premium user services. The findings and recommendations presented here offer valuable insights for financial institutions seeking to enhance their premium user offerings and streamline card issuance.

Content

Introduction

The landscape of financial technology, or fintech, is evolving at an unprecedented pace, offering innovative solutions and services that are redefining the way we interact with our finances. Central to this transformation is the seamless, efficient, and secure management of financial processes, ranging from card issuance and currency management to transaction history and compliance with governmental regulations.

In this context, the "Online Fintech Business Process" is a comprehensive framework designed to address the dynamic needs of modern consumers and businesses. This framework encompasses a range of pivotal processes that play a pivotal role in delivering an exceptional banking experience to premium users. Key elements of this online fintech business process include:

Issuing Physical Debit Cards Online: This process not only encompasses the online issuance of physical debit cards but also integrates with government databases for tax verification, fine checks, and the identification of suspicious individuals.

Issuing Virtual Debit Cards Online: In a world increasingly favoring virtual transactions, this process ensures the swift issuance of virtual debit cards. Similarly, it integrates with government databases for compliance and security.

Adding Multiple Currencies to Debit Cards: As businesses and individuals engage in global transactions, the ability to add multiple currencies to debit cards (such as USD, EUR, AED, and more) is paramount.

Reissuing Debit Cards: Managing debit cards isn't limited to issuance. This process covers various scenarios, including card expiration, loss, or damage to physical cards.

Viewing Transaction History: Transparency and accessibility are at the core of this process, which not only facilitates the viewing of transaction histories but also involves integration with Colvir for seamless access to these records.

Generating Statements and Certificates: Statements and certificates are essential for record-keeping and compliance. This process involves integration with Colvir to streamline their generation.
Paying with Third-Party Cards: This subprocess empowers users to make payments with third-party cards, extending the range of payment options and flexibility.
Paying Annual Commissions: To maintain premium services, this process facilitates the hassle-free payment of annual commissions associated with the use of premium debit cards.
The "Online Fintech Business Process" is a testament to the convergence of finance and technology, showcasing how fintech companies are driving innovation in the financial sector. As we delve deeper into the specifics of each process, we will uncover the transformative potential of these functions in shaping the future of online banking and financial services.

2. process

2.1 Issuing of debit cards for premium users:

This process revolves around providing premium users of a banking system with the means to access and manage their finances through physical or virtual debit cards. Premium users typically enjoy exclusive benefits, and the issuance of these cards is a crucial step in ensuring they can fully leverage the services and perks offered by the bank. The process involves various stages, including eligibility verification, selection of card type, background checks, credit verification, integration with government databases for compliance, card personalization, activation, documentation generation, and customer education. In essence, it is a comprehensive procedure designed to offer premium users a secure and personalized financial tool that aligns with their premium status.

2.1.1 Issuing physical debit cards for new customers of a banking system:

This specific subprocess falls under the broader process of issuing debit cards for premium users. It is dedicated to welcoming new customers into the banking system by providing them with physical debit cards. The process commences with customer registration, where new customers submit their personal and financial information. Eligibility checks are then conducted, and customers select their preferred card type. Data collection, background checks, and credit verification are performed to ensure the customer's suitability. Furthermore, the integration with government databases ensures compliance with taxation and legal requirements. The physical debit card is personalized, activated by the customer, and comes with accompanying documentation. Education on card usage and available services is provided to facilitate a smooth onboarding experience, officially integrating the customer into the banking system.

2.1.2. Issuing virtual debit cards for new customers of a banking system:

This process involves providing new customers with virtual debit cards, enabling them to conduct online and remote transactions. It begins with customer registration, eligibility verification, and card selection. Background checks and credit verification are carried out, while integration with government databases ensures compliance. Customers receive and activate their virtual cards securely, typically using a Personal Identification Number (PIN). Necessary

documentation is generated, outlining terms and conditions. The banking system educates customers on card usage and security. Once activated, customers are officially onboarded into the banking system, granting them access to online services and account management. This process caters to modern banking preferences, offering a convenient, secure way to engage in digital financial transactions.

2.1.3 Issuing physical debit cards for existing customers of a banking system

This process focuses on providing replacement physical debit cards to current customers of a banking system. It comes into play when customers require new cards due to reasons like card expiration, loss, or damage to their existing cards. The primary objective is to ensure that existing customers can maintain smooth access to their accounts and financial services.
Customers typically initiate this process by requesting a replacement card, after which the banking system verifies their eligibility and the reason for reissuance. The necessary customer information is verified and updated as required. The new physical debit card is personalized with the customer's details and sent to them. Once received, customers activate the new card and set up a Personal Identification Number (PIN). Relevant documentation is provided, including any updated terms and conditions, and customers are educated on how to use the new card and security best practices.
This process ensures a seamless transition from the old card to the new one, allowing customers to continue using their banking services without interruption. It reflects a customer-centric approach, providing convenience and security for existing customers within the banking system.

2.1.4. Issuing virtual debit cards for existing customers of a banking system:

This process involves providing virtual debit cards to current customers of a banking system, typically as replacements for their existing cards. It's a customer-centric approach designed to offer existing customers a seamless transition to virtual card usage, whether it's due to the expiration of their physical cards or other reasons. Customers may request replacement cards, and the banking system ensures the issuance of virtual cards tailored to their needs. The process includes eligibility verification, reason identification, data verification, virtual card customization, activation, documentation provision, and user education. It ensures that existing customers can continue to access their accounts and financial services while aligning with their evolving preferences and technological advancements.

2.1.5. The subprocess of paying with third party card for commission:

This subprocess involves the process of allowing individuals or entities to pay their owed commissions using credit or debit cards issued by external financial institutions. Its primary aim is to facilitate the convenient payment of commissions while giving payers the option to use their preferred third-party cards for the transaction. This process typically includes steps such as payment request, card information submission, authorization, transaction processing, notifications, and record-keeping. By offering this payment method, it enhances flexibility for payers and ensures timely receipt of owed commissions for the organization.

2.2. Maintaining an existing card for premium users:

This process is centered around the ongoing management and support of existing debit cards for premium users within a banking system. It is designed to ensure that premium cardholders receive uninterrupted access to their financial services and the associated benefits. This process includes services such as card renewals, monitoring for potential fraud or suspicious activities, addressing cardholder inquiries or issues, and implementing any necessary updates or changes to the premium card features and privileges. Essentially, it is a continuous effort to uphold and enhance the customer experience

for premium users, ensuring that their cards remain valid, secure, and aligned with their evolving needs and preferences.

2.2.1. Adding currencies to debit cards:

This process involves the expansion of currency options associated with debit cards, enabling cardholders to conduct transactions in various currencies beyond their default or local currency. The primary goal is to enhance the flexibility and utility of debit cards for users engaged in international or cross-border transactions.
Through this process, new currencies can be added to debit cards, allowing cardholders to carry out purchases or withdrawals in multiple denominations. This feature is particularly valuable for frequent travelers, international businesses, or individuals who manage finances in multiple currencies.
The process typically includes currency selection, exchange rate calculation, authorization, and updating card information. It enables cardholders to access and manage their funds efficiently in diverse global contexts, minimizing the need for multiple bank accounts or currency conversions. By broadening the range of available currencies, this process promotes convenience and cost-effectiveness for cardholders and caters to the demands of an increasingly globalized financial landscape.

2.2.2. Obtaining history of transactions and operations:

This process involves providing account holders with access to a detailed record of their past financial transactions and operations conducted using their debit cards or within their accounts. Its primary purpose is to offer transparency and empower users to review and track their financial activities.
Through this process, account holders can retrieve information related to purchases, withdrawals, deposits, transfers, and other financial transactions. This transaction history serves as a valuable tool for budget management, expense tracking, and verifying the accuracy of account statements.

Typically, account holders can access their transaction history through the banking system's online or mobile platforms. They can choose specific time frames or categories to view, enabling them to make informed financial decisions, detect unauthorized activities, and maintain an organized record of their financial history. This process also plays a crucial role in dispute resolution and customer support, as it provides a comprehensive account of past transactions and operations.

2.2.3. Obtaining statements and certificates of current accounts:

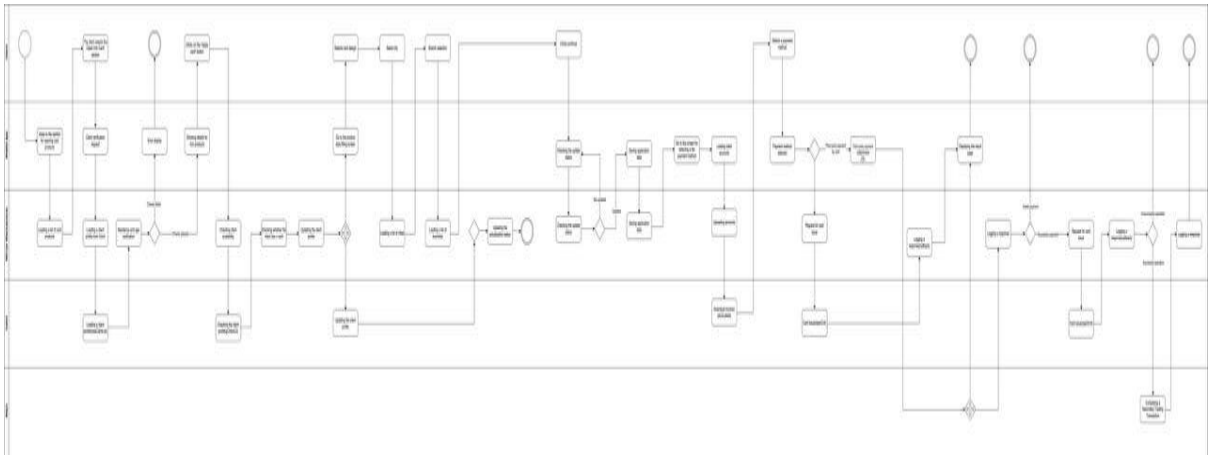
This process is focused on providing account holders with official statements and certificates that confirm the current status and history of their accounts. It serves as a means of documentation and verification for various financial and non-financial purposes.
Through this process, account holders can request and obtain account statements that detail their recent transactions, balances, and other relevant account information. These statements are valuable for personal finance management, tax reporting, and various administrative and legal requirements.
Additionally, account holders can request certificates that certify specific aspects of their current accounts, such as balance verification, account ownership, or transaction history. These certificates are often used for official documentation purposes, including visa applications, loan approvals, or legal proceedings.
Typically, account holders can request these documents through their banking system's online or branch services, with the bank generating and providing the required statements and certificates as needed. This process offers a crucial layer of transparency, verification, and compliance in various financial and non-financial contexts, supporting account holders in meeting their documentation and reporting requirements.

2.3. Reissuing debit cards:

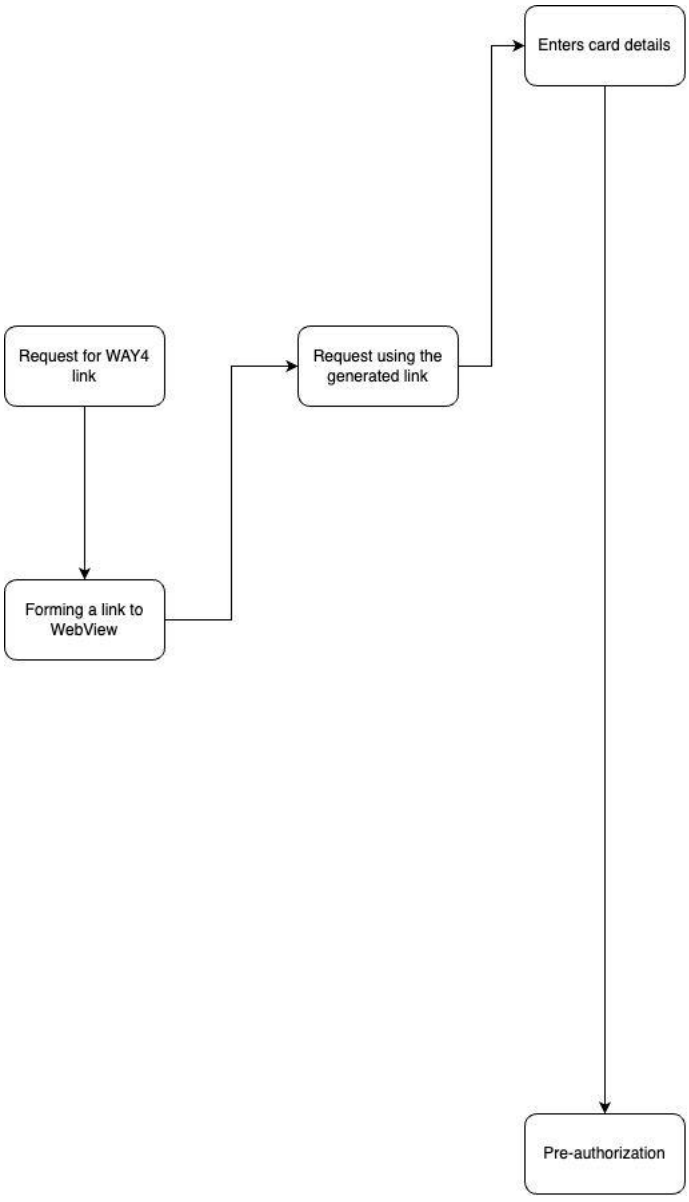
This process involves the issuance of replacement debit cards to account holders, typically due to various reasons such as card expiration, loss, theft, or damage. The primary objective is to ensure that account holders maintain access to their accounts and associated financial services without interruption.
Through this process, account holders can request new debit cards to replace their existing ones. The banking system initiates a series of steps, including eligibility checks, reason identification, data verification, card personalization, activation, and documentation issuance, to ensure that the new card is secure and aligned with the account holder's needs.

3. Business Processes Flow

3.1 BPMN diagram



3.2 Sub-processes
Third party payment



4.Value model

4.1Actors

1) The client:

The Client" actively interacts with the project to access and benefit from a wide range of financial services, contributing to the success and effectiveness of the "Online Fintech Business Process." Their needs, preferences, and satisfaction are central considerations, and the system is designed to cater to their evolving requirements in the dynamic landscape of fintech and online banking.

2) Mobile app:

The "Mobile App" serves as a pivotal tool and interface through which clients and users interact with and access the services and processes within the "Online Fintech Business Process." It plays a critical role in enhancing user experience, accessibility, and convenience.

3) Banking system:

The "Banking System" is at the core of the "Online Fintech Business Process," and it plays a pivotal role in delivering financial services and experiences to clients. It acts as the backbone that supports and enables the various functions and ensures the reliability, security, and efficiency of the financial processes and services offered within the project.

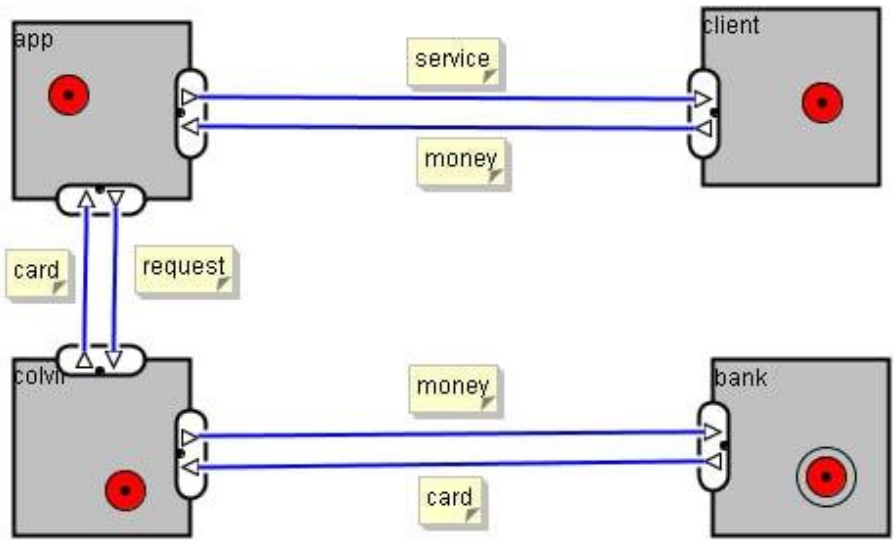
4) Colvir:

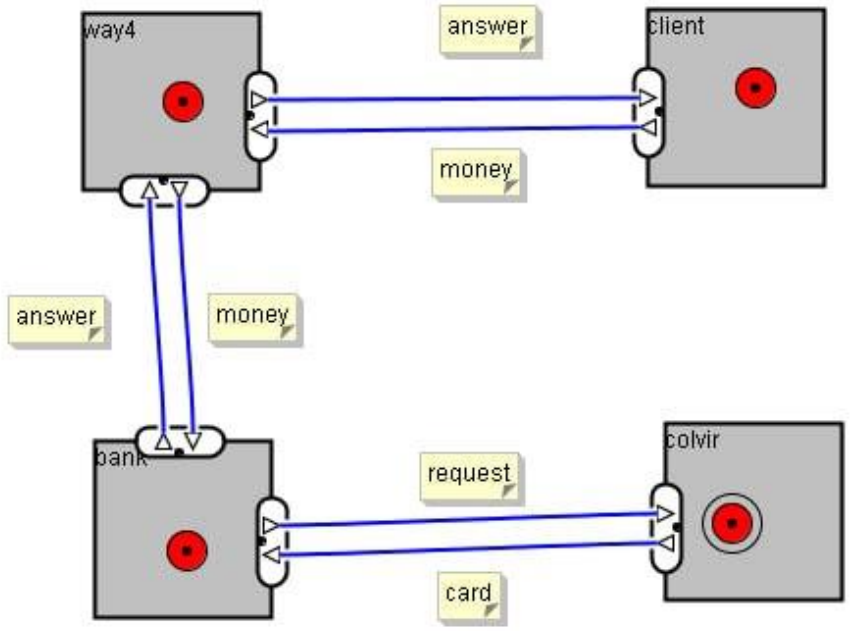
In summary, "Colvir" serves as a critical integration within the "Online Fintech Business Process," enhancing data exchange, record-keeping, compliance, and overall efficiency. It contributes to a streamlined and secure user experience, ensuring that clients can

access and manage their financial documentation and records with ease. Its role is pivotal in supporting the project's mission of delivering exceptional online banking and financial services.

5) WAY4

In summary, "WAY4" is a fundamental system in your project, serving as a robust platform for various financial processes, including card issuance, integration with government databases, transaction processing, and client onboarding. Its contribution is essential in achieving the project's mission of delivering efficient, secure, and client-centric online banking and financial services.





5 Business Evaluation

5.1 Critical Successor Factors (CSF)

n the context of the described "Online Fintech Business Process," the critical successor factors in business process engineering can be defined as follows:

1.Integration Agility: The ability to seamlessly integrate with government databases and other components of the financial ecosystem is critical for the success of these processes. Being able to adapt to evolving data sources and systems is essential.

2.Security and Compliance: Ensuring that the processes align with governmental regulations, security standards (such as PCI DSS), and

data protection is vital. Any lapses in compliance can lead to legal and reputational risks.

3.User Experience: Providing an exceptional user experience is central to the success of the "Online Fintech Business Process." User-friendly interfaces, convenience, and transparency are key factors that drive customer satisfaction and retention.

4.Currency Management Tools: The capability to efficiently manage and add multiple currencies to debit cards is a critical success factor, particularly as global transactions become more commonplace. The availability of real-time exchange rates and low conversion fees is essential.

5.Efficiency and Reliability: These processes must be executed efficiently and reliably. Downtime, system errors, or transaction failures can lead to customer frustration and financial losses.

6.Data Accessibility: Clients should be able to access their transaction history, statements, and certificates easily. Any disruptions in data availability can hinder client financial planning and compliance.

7.Payment Flexibility: Enabling clients to pay with third-party cards and offering various payment options increases flexibility and convenience. Failure to provide these options may result in lost business.

8.Customer Support: A responsive and knowledgeable customer support system is necessary to address client inquiries, resolve issues, and maintain client satisfaction. Poor customer support can lead to client attrition.

9.Adaptability and Scalability: These processes should be adaptable to changing market conditions and scalable to accommodate growing client volumes. Failure to adapt or scale can limit the reach and effectiveness of the financial services.

10.Innovation and Technology Adoption: Staying updated with innovative financial technology and technological advancements is a critical success factor in an ever-evolving fintech landscape.

11.Reliability of Integration Partners: The effectiveness of "Colvir" and "WAY4" integrations is crucial. Any disruptions or issues in these integrations can impact the seamless execution of these processes.

12.Regulatory Environment Monitoring: Continuous monitoring of changes in governmental regulations and compliance requirements is vital to ensure that the processes remain in alignment with the law.

5.2 Key performance indicators (KPI)

Key Performance Indicators (KPIs) are specific metrics used to assess the performance and effectiveness of various aspects of a business or project. In the context of the described "Online Fintech Business Process," here are potential Key Performance Indicators for different aspects of the project:

KPI for User Satisfaction:

Customer Satisfaction Index (CSI): Measure user satisfaction through a standardized index or survey. The KPI could be maintaining a CSI score of 90 or higher.

KPI for Security and Compliance:

Compliance Violations: Monitor the number of compliance violations or breaches. The KPI might involve ensuring zero compliance violations.

KPI for User Experience:

App Responsiveness: Measure the response time of the mobile app and online platform. The KPI could be maintaining a median response time of 2 seconds or less for typical user interactions.

KPI for Currency Management:

Percentage of Multi-Currency Card Usage: Track the percentage of clients who use multi-currency debit cards. The KPI might involve increasing the percentage from 10% to 20% over a specific timeframe.

KPI for Data Accessibility:

Data Retrieval Speed: Measure the speed of data retrieval for clients. The KPI could be ensuring that data retrieval takes no longer than 10 seconds.

KPI for Fraud Prevention:

Fraud Detection Rate: Monitor the percentage of fraudulent activities detected and prevented. The KPI might involve achieving a fraud detection rate of 95% or higher.

KPI for Payment Flexibility:

Percentage of Payments with Third-Party Cards: Track the percentage of transactions made with third-party cards. The KPI could involve increasing this percentage from 15% to 25%.

KPI for Customer Support:

Average Response Time: Measure the average response time for customer support inquiries. The KPI could be maintaining an average response time of less than 24 hours.

KPI for Adaptability and Scalability:

Client Growth Rate: Track the rate at which new clients are onboarded. The KPI might involve achieving a client growth rate of 15% per quarter.

KPI for Innovation and Technology Adoption:

Technology Update Frequency: Measure how frequently technology updates are implemented. The KPI could involve ensuring that major technology updates occur at least once every quarter.

KPI for Reliability of Integrations:

Integration Uptime: Monitor the uptime of "Colvir" and "WAY4" integrations. The KPI could involve ensuring that integrations are available 99.9% of the time.

KPI for Regulatory Compliance:

Regulatory Change Response Time: Measure the time it takes to adapt to new regulatory changes. The KPI could be ensuring that the project adapts within one week of a new regulatory requirement.

5.3 Key goal indicator (KGI)

Key Goal Indicators (KGI) are measurable indicators that directly reflect the achievement of specific goals within a business or project. In the context of the described "Online Fintech Business Process," here are potential Key Goal Indicators for different aspects of the project:

KGI for User Satisfaction:

User Feedback Rating: Measure user satisfaction through ratings and feedback provided by clients regarding their experience with the online fintech services. The KGI could be achieving and maintaining a high average user rating (e.g., 4.5 out of 5).

KGI for Security and Compliance:

Compliance Audit Results: Monitor the results of regular compliance audits to ensure adherence to regulatory standards. The KGI might be achieving a compliance audit success rate of 95% or higher.

KGI for User Experience:

Response Time: Measure the response time of the mobile app and online platform. The KGI could be maintaining a median response time of 2 seconds or less for typical user interactions.
KGI for Currency Management:

Percentage of Multi-Currency Card Users: Track the percentage of clients who use multi-currency debit cards. The KGI might involve increasing the percentage from 10% to 20% over a specific timeframe.

KGI for Data Accessibility:
Data Retrieval Time: Measure the time it takes for clients to retrieve their transaction history, statements, or certificates. The KGI could be ensuring that data retrieval takes no longer than 10 seconds.

KGI for Fraud Prevention:
Number of Detected Suspicious Activities: Monitor the number of suspicious activities detected and successfully prevented by the fraud prevention system. The KGI might involve reducing the number of successful fraudulent transactions by 20% over a year.

6 Conclusion

Using BPMN (Business Process Model and Notation) and e3value in business offers several benefits. BPMN provides a standardized graphical notation that allows businesses to model, analyze, and optimize their processes, leading to increased efficiency, reduced costs, and improved decision-making. It helps in identifying bottlenecks and inefficiencies, streamlining workflows, and enhancing overall productivity. On the other hand, e3value enables businesses to model and analyze the value exchanges in their ecosystems, helping to understand the value propositions, revenue streams, and cost structures, which aids in identifying new revenue opportunities and optimizing business models. Integrating BPMN and e3value provides a comprehensive approach to understanding and optimizing both the process flows and value propositions, fostering a more agile and competitive business environment.