



Digitization of Financial Institutions: Due Diligence Guidance for Investors

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Speakers



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Background

2020-2021: CGAP researched over 125 banks and MFIs to understand how they are building *measurable* business and customer value with investments in digital products and channels; summarizes learnings in *5 principles*.

2021-2023: CGAP tested the 5 principles with 5 MFIs to implement an automated loan decisioning platform with a new loan renewal product, and 22 MFIs in an exercise to build a business intelligence practice.

5 principles:

1. Deploy agile product development teams
2. Define and measure the value you aspire to create
3. Prioritize product or channel features that create value
4. Prototype and test solutions with simple technology, and
5. Design for a good user experience for staff as well as customers.

Agenda

Introduction

Guidance overview
A focus on product development

Who is this tool for?

Established FIs vs fintechs
New vs existing digital products
Startup vs mature institution

Guidance for due diligence

Strategy for creating value with digital
Business Intelligence practice
Product Development practice

Viable implementation plan

Automated decisioning model for loan renewals
Reflections from DFC

Overview

This is a specialized and essential piece of due diligence, specifically for companies launching new digital products.

Digitization Guidance for Investors

An approach for assessing a proposal to launch a new digital financial product or channel focused on product development

What kind of institutions merit this assessment?

- Established FIs that aspire to build a new digital product or channel
- Fintechs that aspire to build a new product or service for FIs



Guidance for due diligence

Nicolas Réméné, 2020 C4D

What does this mean for due diligence?

The due diligence exercise needs to assess these components of the implementation plan.

We organize this assessment into 3 high level questions:

1. **Is there a well-defined strategy for creating value?**
2. **Is the business intelligence practice good enough to generate insights on customer behavior?**
3. **Is the company prepared to deliver this product?**
 - a. Product Road Map
 - b. Technology solution
 - c. Metrics for measuring success
 - d. Product team

A photograph of two men looking at a smartphone. The man on the right is wearing a dark polo shirt with 'FIAT' on it and a large orange delivery bag on his back. The man on the left is wearing a dark jacket. The background is a plain wall. The image is overlaid with a dark teal gradient and white text.

Viabile Implementation Plan Example

Automated Decisioning Model for Loan Renewals

Nicolas Réminé, 2020 C4D

Due Diligence Questions: Strategy

Is there a well-defined strategy for creating value?

- What is the customer and business value you aspire to create with this product?
- What are your hypotheses about the product features that will generate that value?
- What is your evidence for these hypotheses?
- What is your business case?

Our Product Objective: Automated Loan Renewals

Affordable: product will give clients a path to productive credit that is less than 2.5%/mo, and this will work for \$500 loans.

Flexible: product features align with a wide range of customer cash flows.

Impactful: product creates tangible customer value, and this is evidenced by customer satisfaction.

Scalable: product has universal appeal across customer segments and can support a portfolio of \$100 million.

Replicable: product infrastructure and processes are readily deployable by any FI in any market, and that we own and are able to monetize the IP / infrastructure that enables replication of the product.

Provable: product team can produce measurable results in 12 months that the product can achieve these objectives.



Our Product Hypotheses

Automating loan renewals is the most immediate opportunity for achieving business objectives.

The following product features will drive this performance:

- Loyalty program features
- Operational stream-lining
- Incentive-based pricing
- Graduation from group to individual loans
- Re-engineered portfolio management procedures
- Transparent incentives and recurring communication with clients

This product will perform in three dimensions:

- The loan renewal rate will increase
- The portfolio/staff ratio will increase and the OPEX ratio will decrease significantly
- PAR will remain in an acceptable range

Evidence to Support our Hypotheses

- Productive credit is our core business. Improvements in this business line will make the largest contribution to viability at scale.
- The opportunities for automation and efficiency are more obvious, and tested, in **loan renewals** than in first time loan origination. The predictive performance of the decisioning model is proven.
- The success of nano loans in African markets is due to **customer demand for convenient and quick loans**, even at extraordinary high cost for nano, short term loans.
- MFIs have failed to increase the loan renewal rates or improve their OPEX ratios **because of risk aversion and lack of focus on the features that improve customer value and business value.**
- Clients have been asking for these things for years.

Business Case

	TRADITIONAL	AUTOMATION
MONTHLY LOAN DISBURSEMENTS		
First loans	5	5
Follow loans	10	5
Automated follow up loans	0	25
TOTAL	15	35
STEADY STATE PORTFOLIO		
Active Loans	165	405
Portfolio	\$247,500	\$643,500
FINANCIALS		
Portfolio Growth		160%
Staff expense/Income ratio:	20%	8%

Summary

We can increase the portfolio/staff ratio, reducing our expense/income ratio and allowing us to reduce the interest rate to clients.

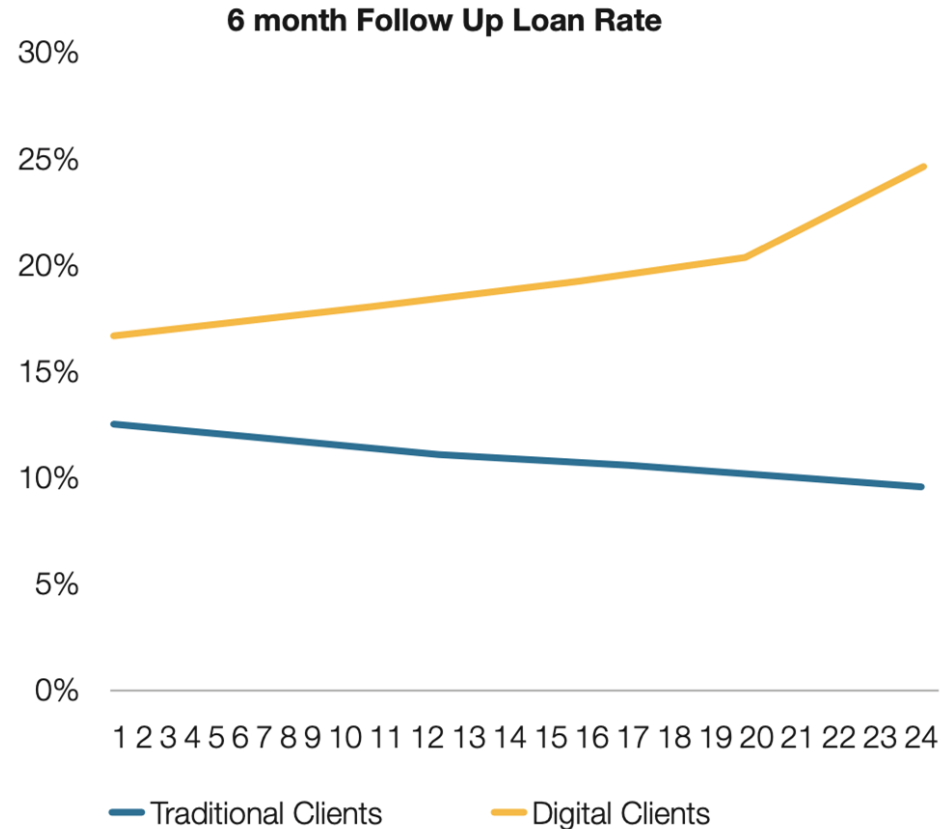
Tony Karumba, 2020 C4D

Due Diligence Questions: Business Intelligence

Is the business intelligence practice good enough to generate insights on customer behavior?

- Are your product teams responsible for generating business insights with data analytics?
- What insights do you have on existing customer behavior that informs your product hypothesis?
- What metrics will you use to track the customer behavior that will make this product succeed?
- Do you have a data warehouse on a separate reporting server that your product teams access for data analytics?
- What data is in that warehouse?
- What analytics tools do your teams use?

6-month follow-up Dashboard



Key Results

- The percent of digital loan customers renewing their loans has been increasing steadily and is now 25%
- The rate for traditional loan clients has declined to around 10%

- The FI is experiencing a steady decline in loan renewals with traditional underwriting process and product features.

- In other subsidiaries, the FI is seeing early-stage improvement in the loan renewal rate with a similar automated loan renewal product.

Requirements for our Business Intelligence Practice

Business Intelligence Objectives

The objective of the BI practice is to provide the product development team with near real time insights on customer behavior and portfolio performance.

Practice Implementation

- The BI practice, including the data analyst, shall be embedded in the product team, and the product team lead will be ultimately responsible for creating the workflows of the BI practice.
- Core assumptions about customer behavior will be supported by data analysis and visualization.
- The dashboard library shall be updated on a regular schedule and made available to all relevant stakeholders.
- A DWH populated with data extracted from the CBS (and other sources) and updated/validated on a regular basis. The DWH must be accessible remotely by anyone designated by the product team lead.

Due Diligence Questions: Ready to Deliver

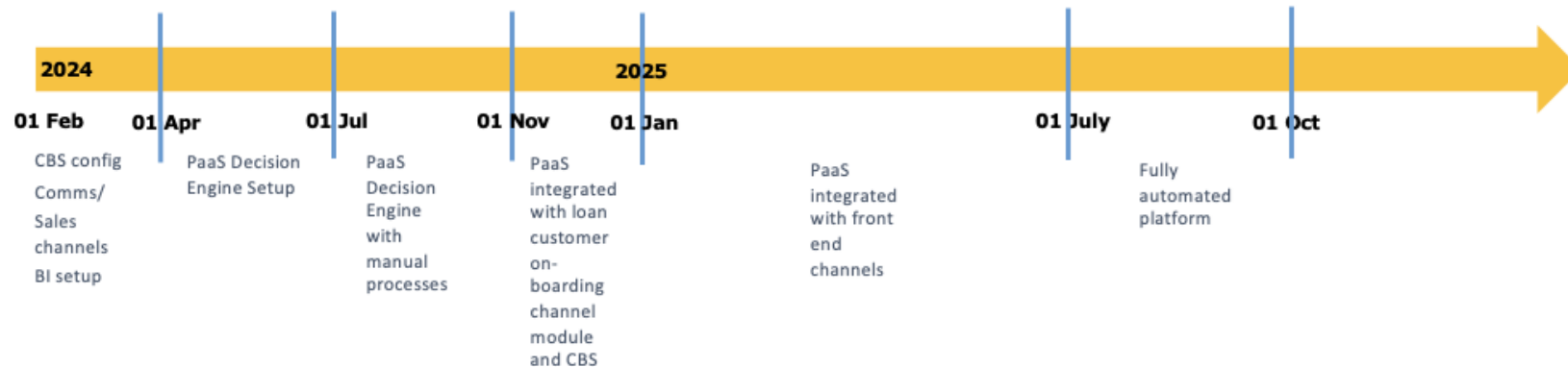
Is the company prepared to deliver this product?

- Is there a product roadmap with a timeline for the key product features that will create customer and business value?
- Are their supporting sprint or "release" plans that schedule the testing and development of the product features?
- Are there clear definitions and of success, and metrics for measuring it, for the product features?
- Is the tech rollout aligned with the product roadmap to deliver MVP versions early
- Does the product team have decision making authority to test product features without approval from other sections of the company?
- Does the product team have the skill set to test and build the product features?

Product Roadmap

Product Features

	Sprint 1	Sprint 2	Sprint 3	Sprint 4	Sprint 5	Scale up
Team launch and prototype buildout	Product feature prototyping and OPS streamlining	Finalize MVP PoC and demonstrate productivity increase of new OPS flows	Loan processing automation	Front end Customer On-boarding channel integration	Final integrated system test	



Product Technology

The Sprint Plans (1 of 2)

Sprint	Objective	Timeline	Description	Min. Requirements for Next Sprint
Team Launch & Prototype buildout	<ul style="list-style-type: none"> Develop team understanding of Product Development Process, existing products and problems to solve Develop and buildout of 1st Prototype 	2 Months	<p>Team orientation/training on:</p> <ul style="list-style-type: none"> Agile product development process Existing Product Features & Eligibility Customer Journey Mapping for existing lending products Portfolio & Product Data Analysis CBS Workflow Product P&L/ Business Case Competition Product & Pricing Product Concept <p>Develop Product Prototype for Sprint 1</p>	<ul style="list-style-type: none"> MVP scorecard used for loan decisioning with streamlined disbursement procedures. New Product scheme in CBS Set-up basic BI dashboards to monitor and test Sprint 1 hypotheses. Set-up Customer Channels: Call center, SMS.
Sprint 1: Prototype Testing and PaaS provider set up	<ul style="list-style-type: none"> Develop and test product features/incentives that customers like and improve uptake or customer behavior. Set up PaaS provider operations. 	3 months	<p>Operational streamlining:</p> <ul style="list-style-type: none"> Eliminate cashflow and verification visit Relax customer & collateral reverification requirements <p>Enhance Terms:</p> <ul style="list-style-type: none"> Incentive-based pricing Longer Tenure & greater ticket size progression <p>Graduation:</p> <ul style="list-style-type: none"> Progression from group to individual loans <p>PaaS Provider Set up</p>	I. PaaS is set up with automated data uploads, daily decisioning decisions, and procedures for loan offer-to-disbursement flows.
Sprint 2: MVP Buildout with manual PaaS ops, & Sales efficiency	<ul style="list-style-type: none"> Finalize MVP and demonstrate productivity increase for scale-up. 	3 months	<p>I. Finalize manual processes for loan origination/disbursement with PaaS decision engine</p> <p>II. Credit officer productivity increase</p> <p>III. Build & Test Product MVP</p> <p>IV. Expand MVP to other locations</p>	<p>I. Business requirements for automated loan origination/disbursement</p> <p>II. Portfolio management procedures documented</p> <p>III. Business case validation with proven staff productivity performance</p> <p>IV. Validation of PaaS decisioning model performance</p>

The Sprint Plans (2 of 2)

Sprint	Objective	Timeline	Description	Min. Requirements for Next Sprint
Sprint 3: Loan processing automation & decisioning engine integration with CBS	<ul style="list-style-type: none"> Integrate the PaaS decisioning engine to CBS for automated loan origination and disbursement 	2 Months	<ol style="list-style-type: none"> Source loan processing software (from CBS, PaaS or <u>other</u> vendor) Integrate with PaaS platform Test automated procedures to PoC 	<ol style="list-style-type: none"> Full automation from decision to disbursement Hardware for Fields Staff: Tablets, internet and biometric devices etc.
Sprint 4: Integration of front-end channels	<ul style="list-style-type: none"> Develop and integration front end channels for assisted customer onboarding and customer-initiated loan application 	6 months	<ol style="list-style-type: none"> Test MVP front end channels for user acceptance and local tech preferences Select vendor for software solution for channels Develop and integrate front end channels 	<ol style="list-style-type: none"> Front end channels fully integrated to CBS and PaaS decisioning engine stack
Sprint 5: Final test of fully automated platform	<ul style="list-style-type: none"> Test fully functional platform 	3 months	<ol style="list-style-type: none"> Test fully automated and integrated system Increase loan volume Validate staff productivity and loan and customer satisfaction increases Validate business model and pricing at scale 	<ol style="list-style-type: none"> Platform performs at volume Staff productivity and customer satisfaction increases validated Business model and pricing validated
Scale up	<ul style="list-style-type: none"> Expansion to all branches 	9 months	<ul style="list-style-type: none"> Full scale commercial role out 	<ul style="list-style-type: none"> The loan renewal rate will increase from 20% in 2023 to 50% The loan/credit officer ratio will increase from 15 to 25 PAR30 will remain below 5%

The Definition of Success

The following KPIs shall be used to measure the Implementation Plan success

- The loan renewal rate will increase from 20% in 2023 to 50%
- The loan/credit officer ratio will increase from 15 to 25, with an equivalent increase in the portfolio/credit officer ratio
- PAR30 will remain below 5%

Notes on Assessing the Tech Solution

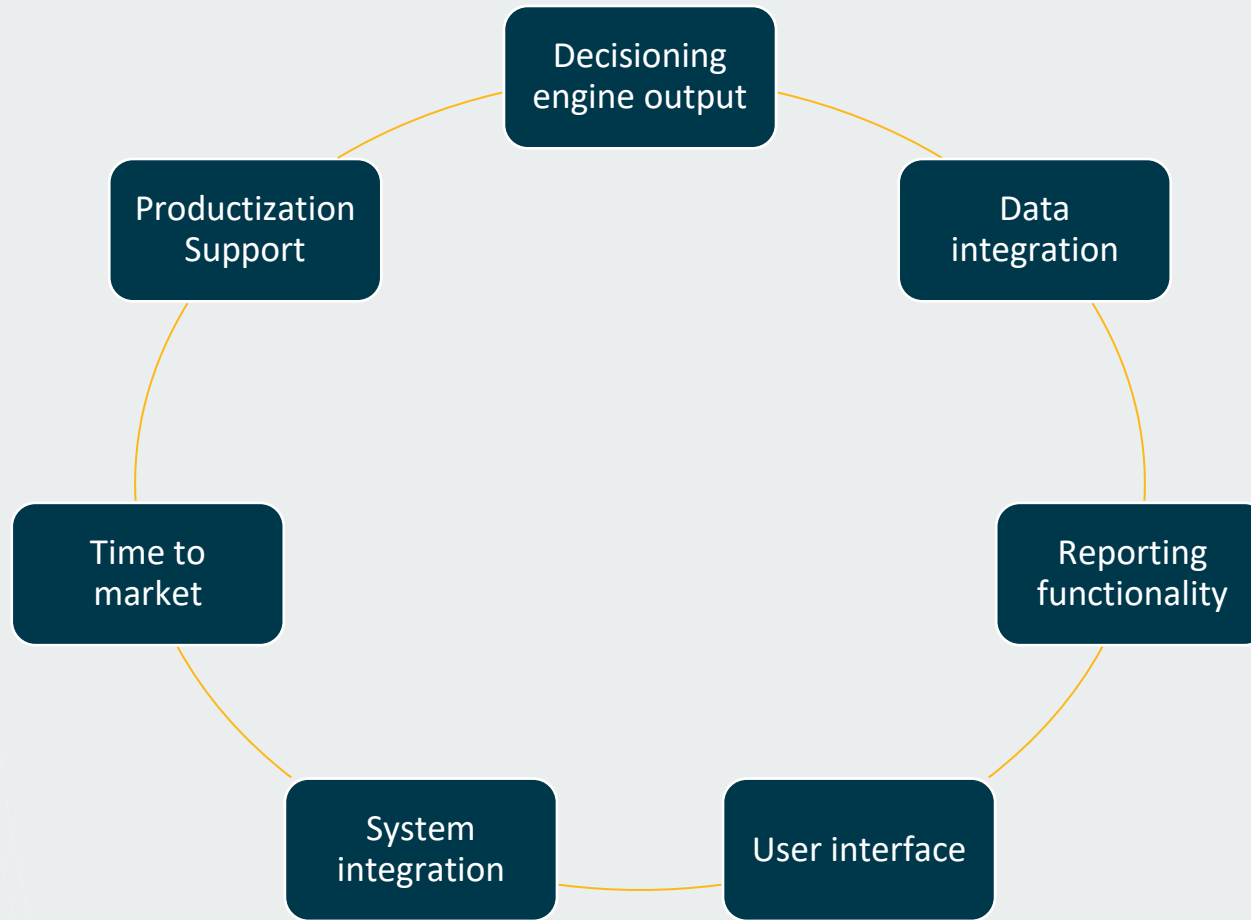
Assessment of **In-house software and platform development** capacity

- This will require the attention of an analyst with extensive experience with software development and platform build out.
- The software development practice itself requires special attention.
- The working relationship between the product team and the development team must be structured, with skills on both teams for the interaction.
- The proposed solution architecture must chart a clear path that includes an initial minimum viable product.

Assessment of **vendor-sourced tech solutions**

- The greatest risk of third-party solutions is that they impose features on the product development process. The assessment should focus on whether the FI has clear business requirements for an MVP version of the third-party solution. In general, system integration should be kept to a minimum to give the product team flexibility to design product features and back-office procedures.

Business Requirements for our Tech Solution



Our Product Team

Decision Authority

- Product Roadmap and sprint schedules
- Product features
- Daily team management
- Team performance reviews
- Design and implementation of product tests
- OPS
- Customer engagement
- PAR management
- Tech specs and supervision of buildout
- Marketing/sales

Resources

- Office space
- Use of tech platform (email, phone, productivity software, etc.)
- Logistic/transport support
- Call center support
- Booking of loan activity in CBS/accounting system
- Contracting of Product Team staff
- Client loan contracting
- Use of the brand
- Branch access for product team members and clients
- product team client access to all digital channels
- Product team access to clients for testing and pilots
- Budget

Reflections from DFC



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RESOURCES

The Business Intelligence Module for Investors

The **Business Intelligence Module for Investors** complements investors advisory tools for financial institutions and allows investors and financial institutions to identify the keys to building value with digital implementations, based on an evidence-based examination of current practice. The module helps investors identify financial institutions' business intelligence needs and support them to develop and analyze a set of key performance dashboards tracking customer behavior. [You can download the entire module here.](#)

The module is broken down into three components:

1. **Business Intelligence capabilities screening** that allows clustering financial institutions according to their level of readiness.
2. **Data Bootcamp training** that helps investors assess and strengthen Business Intelligence practices at the level of headquarters and their portfolio companies.
3. **Complementary activities to strengthen investor business intelligence** that help support strong business intelligence practices.

Note: The documents included in the module package are based on the CGAP's microfinance digitization work but have not been subject to the publication review process.



VIDEO OCTOBER 2023

Experience from Pilots: Journey to Digitization

CGAP partnered with seven microfinance providers from around



PUBLICATION NOVEMBER 2023

Building Value in Microfinance Through Digitization: A Role for Funders

This note highlights the importance



PUBLICATION NOVEMBER 2023

Building Value in Microfinance Through Digitization: Lessons from Loan Automation Pilots

Digitization has brought both hope

For more information

www.cgap.org/microfinance

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