Consumer Financing

Micro and Nano financing

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Industry overview

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The objective of this document is to provide a high-level overview on the consumer micro and nano financing industry and how technically a financing system should behave and how customer life cycle is managed and controlled.
The report provides a sneak peak on the technical flows and how such systems behave in addition to a quick overview on islamic microfinance guidance.

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Consumer financing

Thinking that cross-border remittance is one of the main obstacles in the payment world is a fact one can not deny, however applying and getting loans approved from traditional banks is much more difficult. Financing organizations along with the raising fintech companies are working on this specific growing customer need.

Microfinance

Modern economic principles emphasise that a vibrant small and medium business sector is vital for a country's economy. While big companies take advantage of their plentiful resources to secure loans from big banks, the financing needs of small and medium enterprises remain largely unmet.

Small and medium enterprises lack the skills to prepare a strong case for getting their loans approved from big banks. Their collaterals may or may not qualify the minimum requirements of the big banks.

The collateral for Microfinance loans is tailored to meet the scale of the business of small and medium enterprises. The interesting thing is that the percentage of the Microfinance loan default is lower than that of a regular loan.

Banking and telecoms

The alliance of banking and telecommunication companies (mobile phone carriers) shaped up in the previous decade. In the current decade, their partnership strengthened. The purpose of this alliance was to bring banking to the "unbanked".

The banks in partnership with telecoms introduced mobile wallets. Cash deposits and cash withdrawals can be made at local stores. The funds transfer from one user to another user can be done just by mobile.

Nano-Finance

The “unbanked” regions of the world benefited from mobile banking. Money became easily accessible to individuals. Interestingly, it also created a demand for individual “low value” loans.

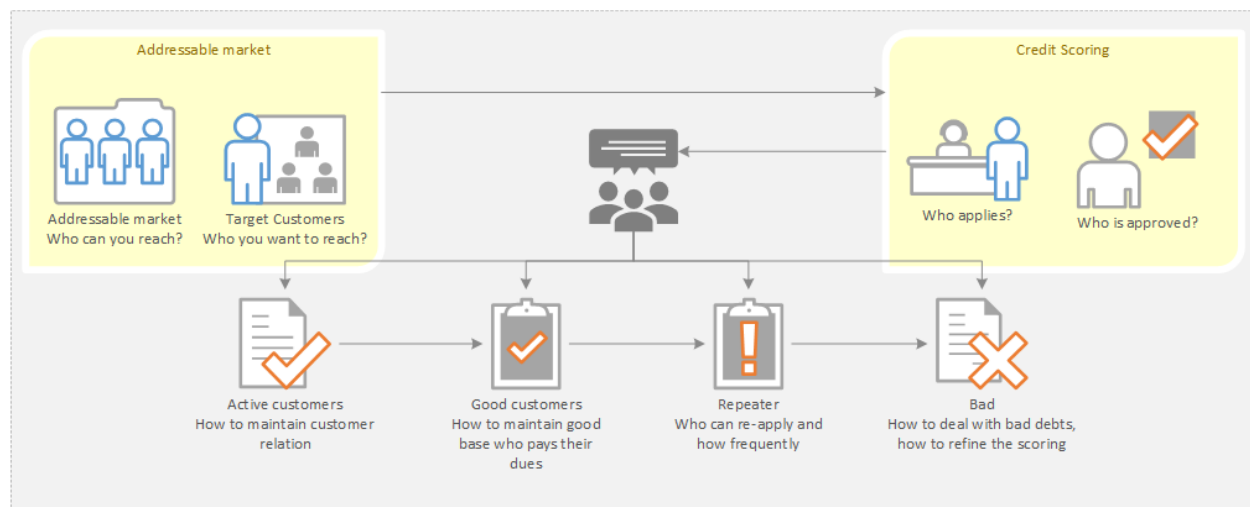
How does Nano-Financing work?

The Fintech companies have designed Apps for mobile devices. These Apps analyse device and behavioural data (social connections, texts and calls, merchant transactions, app usage, and personal identifiers or more based on the Nano-Finance company policies and own algorithms) of the applicant by executing complicated algorithms (which require frequent revisions). Based on that data, the App “churns out” questions which the applicants are required to answer. Finally, the algorithms make “real time” credit decisions.

Nano-Finance carries a high risk of default. To mitigate the risk, Nano-Finance companies offer loans at higher rates. These companies need to maintain a NET positive cash flow to operate.

Consumer Lifecycle

A typical financing company needs to define its market approach based on the financial capabilities and the industries they are willing to fund, such vital decisions should be the entry gate for establishing the company and set their road-map towards this business.



Addressable market
After setting the road map, the addressable market study should follow. According to the consumer segment the addressable market is set, as a quick example if you are planning to offer educational related loans the addressable market should be the students communities, the university and libraries surrounding and the online education social networks and groups where you are expecting to find your potential customers.
Target customers
With addressable markets analyzed and detected, your strategy should focus on which segment you want to reach, are you looking for children who were raised in poor locations? Or you are targeting academics and researchers for your loan offering.

With a good fit marketing plan you will receive the applicant requests and now your own trade secret should take place to filter and approve customers who meet the scoring minimum limits according to the company policies.

Credit scoring

Credit scoring is the risk management tool that measures the credit worthiness of potential customers and his probability to default based on historical data.
Subjective or statistical scoring is usually presented in a numeric value to illustrate the customer risk factor, the scoring shapes the final formula used to calculate the customer credit limits or the maximum loan or financing value.
Subjective scoring:
A loan expert input, an experienced loan officer with a field investigation report in addition to the organization policies and rules set subjective customer credit scoring values.
Statistical scoring:
An analytical algorithm output, the algorithm is feeded with customer historical data including monthly income, current commitments, bill payment history and other possible data streams to analyze and set a customer credit scoring value.

Statistical scoring is usually used in nano and minor loans in a complete automated cycle where customer onboarding, scoring and loan or finance decision is taken on the fly

without manual interference, where subjective scoring is mainly used in higher loan values due to the increased risk.
As they are not contradicting and based on the organization procedures, product nature and vision both subjective and statistical techniques could be used to deliver a combined customer scoring.

An application scoring model focuses on selecting the borrowers to approve from the applicant pool. Using an automated application credit scoring solution has several benefits, including:

- Operational efficiency gains
  - Reduce cost and time from manual risk assessment
  - Reduce customer turnaround with fewer in-person interactions
  - Lower administrative costs per unit
  - Lower the number of in-person interactions with prospective borrowers
- Improved accuracy of credit decisions (targeted lending based on default probability)
  - Minimize rejection of creditworthy applicants
  - Maximize rejection of high-risk applicants
- Establishment of an objective and standardized data-driven decision-making culture
  - Apply base objective and consistent decision making on empirical evidence
  - Standardize criteria for decision making
  - Minimize room for human error or bias
- Loan uptake effectiveness
  - Target loan products to increase conversion rate
- Customer satisfaction improvement (faster, more targeted loans)
  - Reduce customer turnaround
  - Pre-approve specific products, upgrades, and cross-sells

Credit scores can also enhance the relationship with customers at the different stages in their lifecycle

- Assign credit limits based on risk level
- Offer applicants additional savings products as collateral to become eligible
- Price loan products based on risk level
- Adjust terms and shorten repayment schedules

- Offer additional products and upgrades
- Offer automated renewals for specific products
- Prequalify customers for new products or cross-sell products
- Redirect delinquent accounts to collection companies

Data modeling

Data selection

Based on the company strategy and target segment the data that should be used in the scoring algorithm needs to be set, agreed and approved by the risk management team, loan experts need to work together to identify the customer characteristics they believe are associated with default. Examples of discriminants include the following:

- Age
- Residence (own, rent) - Number of years at residence
- Occupation - years in current job
- Previous job - years in previous job
- Mobile plan
- Income
- Number of dependants
- Own car - Car model year
- Credit history- if applicable
- Banking account ownership
- Credit outstanding
- Outstanding debts
- Purpose of loan
- Type of loan

And for digital loan option data could include additional elements like,

- Mobile device type and model
- Installed applications
- Call logs and messaging history
- Contact list
- Social media accounts

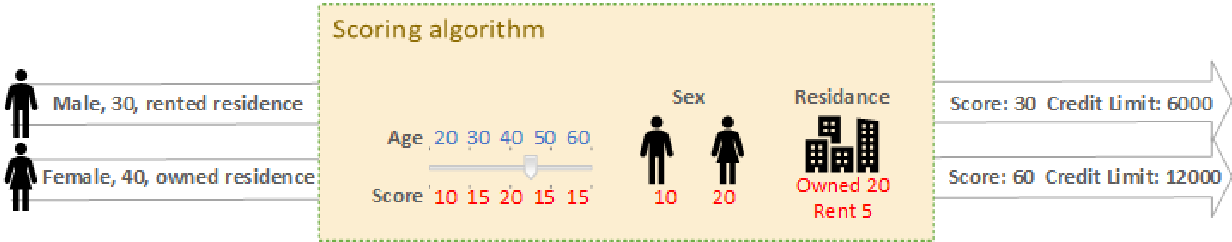
Worth mentioning that there is no fixed standard of processing Finance loans or data selection. Each Finance company has its own set of policies, procedures and algorithms to decide which data needs to be collected and how it should affect the final customer scoring.

Data sources

Next in a row the data sources needs to be defined after validating the possible data sources to measure the received data accuracy and quality, the data sources might include,

- Field investigations
- Online investigation
- Mobile app data collection
- Official or Unified credit bureau scoring
- Referrals

With data sources defined and selected data filtered the data elements should be weighted with a specific score to each element where the assigned score to be used in final credit scoring algorithm to set the customer credit limit.

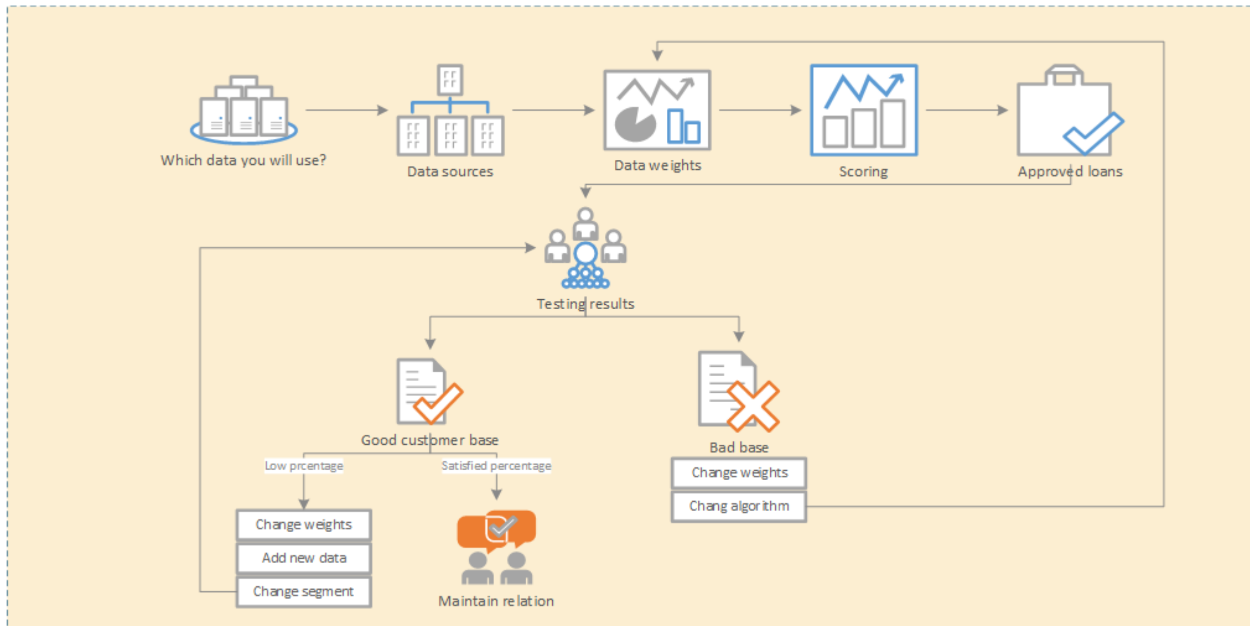


Iterations and model training

At this stage the company should start the model training and results testing, with sample data feeds with known credit risk the model should start and data elements weights should be customized to reach the expected scoring rate. This is an experimental tuning prior to the real data pilot test.

A pilot phase with real customer samples is now added to the model with real data and the model output is being validated with loan experts to judge the model results.

Followed by a real loan cycle the company will monitor the real pilot results and at what percentage the model expectation for creditworthiness and credit limits meets the customer repay behaviour.



Islamic microfinance and Sharia Compliance

Islamic microfinance has become a rapidly growing market, offering millions of disadvantaged people in Muslim countries and beyond access to financial services that are premised on providing for the welfare of the population. Islamic microfinance refrains from practices that are not compliant with Islamic law – the sharia – such as providing or receiving any fixed, predetermined rate of return on financial transactions. Profits and returns are based on tangible assets or discrete, identifiable services opposed to the value of money. The approach is asset-based, rather than debt-based like conventional finance. In comparison,the terms and conditions of Islamic microfinance are more favourable and accessible for the most vulnerable and disadvantaged populations. They are based on risk- and profit-sharing,fixed prepayment rates, and transparency aiming to safeguard social welfare and justice.

The most common Islamic microfinance modalities

- The murabaha (المرابحة) sale is the most widely offered sharia-compliant contract used to finance goods needed as working capital. Upon request of a specific product by the client, the financier procures it directly from the market and resells it to the customer after adding a fixed margin for the service provided.
- Profit- and loss-sharing contracts most encouraged by sharia scholars are musharaka and mudaraba(مشاركة ومضاربة). Musharaka describes equity participation

in a business venture. Parties share the profits or losses according to a predetermined proportion. This type of financing can be used for assets or working capital. Mudaraba constitutes a trustee financing instrument where one party acts as financier while the other provides managerial expertise in the project's execution.

- A contract of exchange between a vendor and a buyer for the sale of an asset is called istisna`a(استثناء). Salespersons can either manufacture the products themselves or purchase them from a third party. End clients can pay the sale price either as a lump sum upon signature of the contract or later at different stages of the manufacturing process.
- Qard al hassan (القرض الحسن) is an interest-free loan used to bridge short-term financing gaps. The principal amount of the loan is repaid by the borrower without interest, mark-up or a share in the business the loan was used for.Qardalhassanis designed for people in need andthe only type of loan in Islamic finance.

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