THE TABLEAU DE BORD FOR AN NPL PORTFOLIO UNDER CONTROLL

Cristiano A. Motto

NON PERFORMING LOANS
AT A GLANCE

Households Indebtedness is growing year on year

We live one-fourth of our life in debt

Arrears and Financial Issues are quite common events

The 20% of Householders declare issues in Debt Repayments

The overall NPL market is estimated over €264Billions

HOUSEHOLDERS INDEBTEDNESS GROWING YEAR ON YEAR

"Some debts are fun when you are acquiring them, but none are fun when you set about retiring them."
- Ogden Nash (1902 – 1972)

ONE-FOURTH OF LIFE IN DEBT

20.3Y
Average Years for the full Debt Repayment

0   20   40   60   80

€1.5tr
Total Householders debt

€43,000
Average yearly income per Household

€54,600
Average total debt per Household

€225
Average monthly repayment per Household

The average unsecured debt per Household in 2016 is about 9,000 GBP. The average number of debts per person is 5.6.

€1.90bn
Total Unsecured Debt

€9,000
Average Unsecured Debt per Household

Percentage of Householders with each type of Debt | Average Debt Amount

61% | €3,400
Credit Cards

52% | €1,100
Overdrafts

42% | €6,600
Personal Loans

33% | €1,000
Catalogues

The overall NPL market is estimated over €264 bn
€94 bn Unlikely To Paid | €165 bn Charge-Off | €5 bn Arrear

ASSOFINTECH

ARREARS AND FINANCIAL ISSUES ARE QUITE COMMON EVENTS

"Running into debt isn't so bad. It's running into creditors that hurts."
- English Proverb

"With incomes rising and inflation at lower rates, families have more money to spend. 2017 findings suggest that they are spending some of it on servicing debts, although it is a worry that overall debt levels are continuing to rise. Looking ahead, we hope to see families getting their borrowing down to more manageable levels to leave them better prepared for a rainy day."

- Louise Colley, managing director, protection, Aviva

20%
Householders declaring difficulties with Debt payments

500+
People a day are declared insolvent or bankrupt

ARREARS ON ESSETIAL HOUSEHOLDS BILLS

24% | €2,900
Arrears on Mortgages

25 % | €900
Arrears on Rents

31% | €950
Arrears On Taxes

24% €700
Arrears on Water

13% | €500
Average Arrears on Gas

14% | €600
Arrears on Electricity

8 % | €80
Arrears on TV Licenses

A GROWING TREND

In 2017, about the 19% of Householders in difficulty have arrears on priority bills.

31% of them had arrears on tax, 25% had arrears on rent and 24% had arrears on water bills.

In addition, 25% of them has arrears on their mortgage.

The level of arrears debt clients have on essential bills has increased steadily since 2012.

CURRENT CREDIT RISK METHODOLOGIES ARE OBSOLETE

"CREDIT - A person who can't pay, gets another person who can't pay, to guarantee that he can pay."
- Charles Dickens (1812-1870)

TRADITIONAL PHASES NEED TO BE SEEN IN A NEW HOLLISTIC VIEW CONSIDERING THE WHOLE CREDIT CYCLE

UNDERWRITING & SANCTIONING

PORTFOLIO MANAGEMENT

COLLECTION & RECOVERY

FRADUD MANAGEMENT

THE REASONS FOR DELINQUENCY AND DEBT REPAYMENT ISSUES ARE PART OF OUR EVERYDAY LIFE

1%
Fraudulent behaviors

60%
Unemployment and Job issues

17%
Injury or Illness

14%
Separation or Divorce

8%
Others

MIND THE GAP

50% PERSONAL DOMAINS

50% BUSINESS DOMAINS

WOULD YOU READ ONLY HALF OF A BOOK ?

SINGLE BUSINES DOMAINS DO NOT COVER MORE THAN THE 15% - COMBINED SOLUTIONS NEVER COME TO MORE THAN THE 30%

THIS IS NOT THE REAL STORY

After the credit crunch, traditional Risk approaches were deemed an inadequate and inaccurate way of generating credit strategies and decisions. Occurrences such as missed credit card payments are not as relevant regarding an individual's credit worthiness as the reasons for the default and whether their circumstances are improving.

FINTECH WILL DOMINATE
THE UTP MARKET

Fitch reported that in the next years the UTP market will be dominated by players leveraging on disrupting technologies

Due to the complexity to analyze and manage UTP positions banks will demand new advanced services based on Big Data and Artificial Intelligence

Fintech Startups are entering the game introducing disrupting technologies for NPL portfolios management
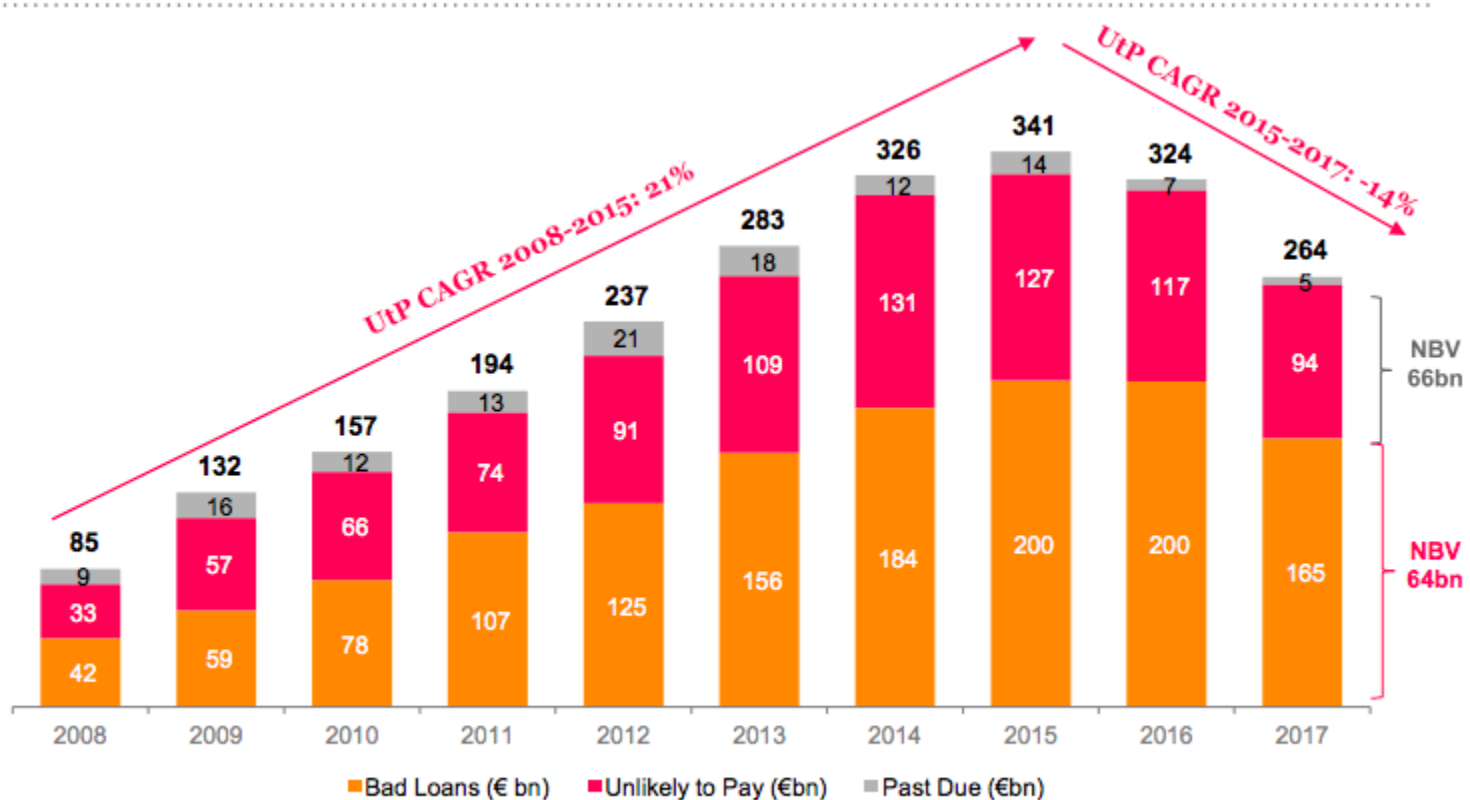
Top Servicers are investing in new technologies to introduce Artificial Intelligence and Robotic Process Automation

UTP AND ARTIFICIAL INTELLIGENCE

"In God we trust, all others bring data."
- *W. Edwards Deming (1900-1993)*

UtP CAGR 2008-2015: 21%

UtP CAGR 2015-2017: -14%

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total	85	132	157	194	237	283	326	341	324	264
Past Due (€bn)	9	16	12	13	21	18	12	14	7	5
Unlikely to Pay (€bn)	33	57	66	74	91	109	131	127	117	94
Bad Loans (€ bn)	42	59	78	107	125	156	184	200	200	165

NBV 66bn

NBV 64bn

■ Bad Loans (€ bn)   ■ Unlikely to Pay (€bn)   ■ Past Due (€bn)

Source: Bank of Italy Report – «Condizioni e rischiosità del credito» updated Dec17

A NEW CREDIT RISK MANAGEMENT TAKING AN HOLLISTIC AND DEEP PICTURE

"In God we trust, all others bring data."
- W. Edwards Deming (1900-1993)

BIG DATA AND ARTIFICIAL INTELLIGENCE

Big data helps prioritize delinquent accounts and enhance collection strategies, as it considers the probability of recovery and the expected amount that can be recovered. The utilization of big data analytics helps credit risk managers to make important business decisions. The analytics offer visibility, assessment of the loan applicants, and evaluate the revenue returns associated with the borrowers.

OVERCOME THE GAP

READ THE WHOLE BOOK !

INCREASE CUSTOMER ACQUISITION, RETEMTION AND OVERALL REVENUES WHILE REDUCE COSTS AND LOSSES

THIS IS THE REAL STORY

For decades, companies have dealt with information in a familiar way, deliberately exploring known data sets to gain insights. Artificial Intelligence can push past the limitations of human cognition, allowing us to process and understand big data in real time, undaunted by exploding volumes of data or wild fluctuations in form, structure, and quality.

For the first time in our history, it is possible for machines to learn from experience and penetrate the complexity of data to identify associations. Natural Language Processing, Computer Vision, Speech Recognition, Machine Learning and Artificial Intelligence have moved from experimental concepts to potential business disruptors

ADVANCED ANALYTICS ARE THE NEXT GENERATION OF CREDIT RISK MANAGEMENT

CONNECTING DOTS

UP TO

-10%
CUSTOMER
DELINQUENCY

+15%
Credit
COLLECTION

+20%
Processes
IMPROVEMENT

CREDIT IS A MATTER OF DATA AND ALGORITHMS WITH HUMAN DYNAMICS ALL AROUND

We use data and Algorithms to evaluate borrowers in the sanctioning phase.

We use Data and Algorithms to profile and manage our customers day by day.

We use Data and Algorithms to define and address Collection strategies when not repaid.

We use Data and Algorithms to detect Frauds across the whole Credit Life Cycle.

A NEW CREDIT RISK MANAGEMENT TAKING AN HOLLISTIC AND DEEP PICTURE
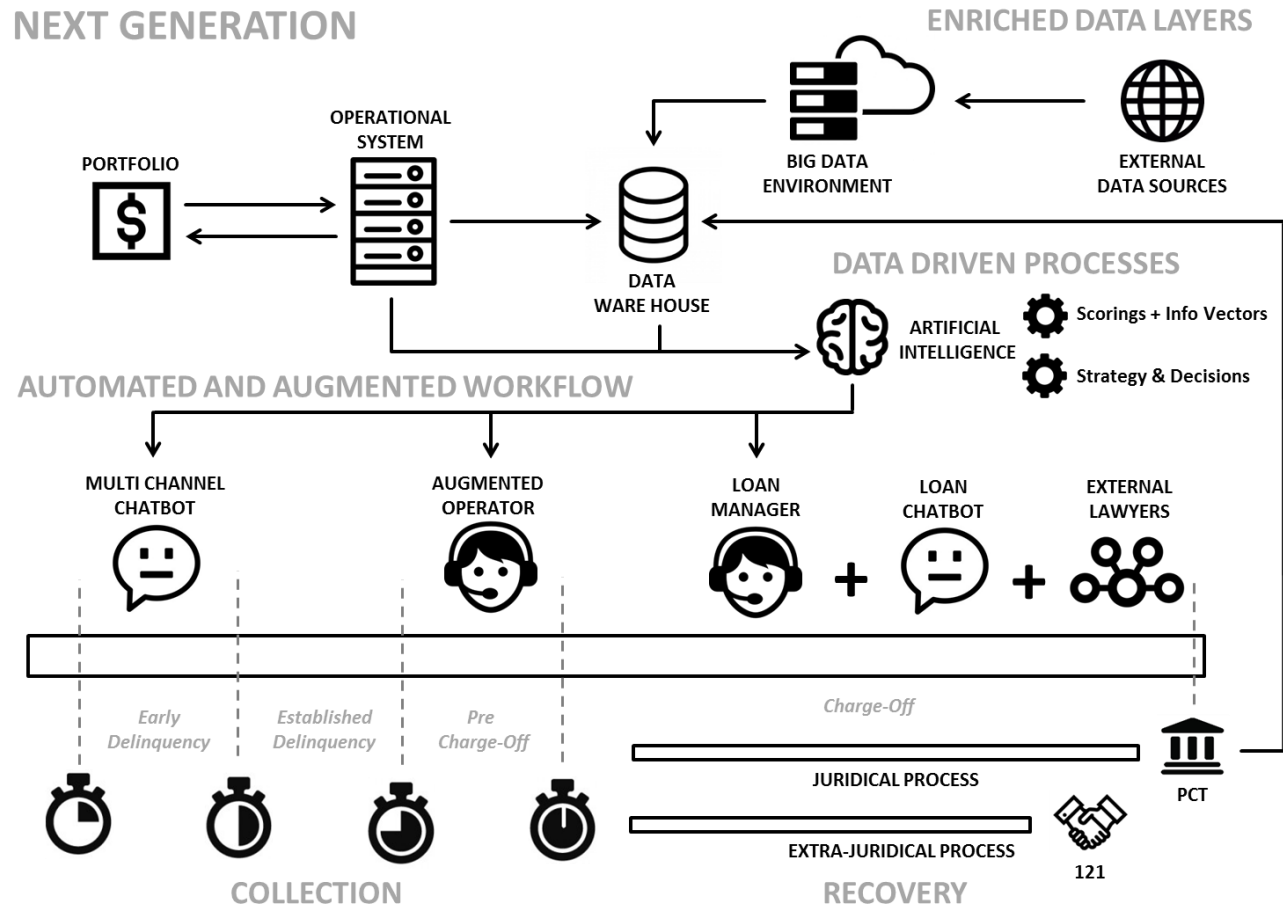
"In God we trust, all others bring data."
- W. Edwards Deming (1900-1993)

Debt collection organizations rely heavily on human agents, who connect with borrowers through multiple communication channels such as tele calling, emails, letters, and SMS campaigns, to maximize recovery.

The rising costs of maintaining such a high-end landscape often puts a dent in the financials, in relation to the recovered cash. Additionally, regardless of whether contact center operations are managed in-house or outsourced, conventional collection practices involve making direct calls to customers.

These challenges can be addressed by minimizing human intervention and using mobile applications and digital solutions for communication, with artificial intelligence (AI) and chatbot technology picking up pace, adopting a digital approach to debt collection can optimize productivity and improve efficiency. Artificial Intelligence can help businesses understand customer behavior, irregular payment patterns, and reasons behind payment delays, making it easier to devise a feasible payment plan and increasing the chances of recovery.

COLLECTION & RECOVERY
NEXT GENERATION

ENRICHED DATA LAYERS

PORTFOLIO — OPERATIONAL SYSTEM — BIG DATA ENVIRONMENT — EXTERNAL DATA SOURCES — DATA WARE HOUSE

DATA DRIVEN PROCESSES

ARTIFICIAL INTELLIGENCE — Scorings + Info Vectors — Strategy & Decisions

AUTOMATED AND AUGMENTED WORKFLOW

MULTI CHANNEL CHATBOT — AUGMENTED OPERATOR — LOAN MANAGER + LOAN CHATBOT + EXTERNAL LAWYERS

Early Delinquency — *Established Delinquency* — *Pre Charge-Off* — *Charge-Off*

JURIDICAL PROCESS

EXTRA-JURIDICAL PROCESS

PCT

121

COLLECTION — RECOVERY

THE ROBOTS ARE COMING
AI & RPA

Reducing unproductive agent time

Collections agencies handle an influx of inbound traffic. Caller intents can range from consumers wanting to make a payment, to wrong party contacts, to updating account information and more. While a certain percentage of those calls have the potential to drive revenue, most do not. Applying Virtual Assistants to answer inbound phone calls provides a great opportunity to automate self-service for non-revenue generating transactions.

Driving Omni Channel campaigns

Proactive Virtual Assistants have successfully been deployed through channels in which collections agencies can reach out to customers, i.e. SMS, outbound dialing, etc. These solutions can communicate with consumers naturally to collect payment information, set up payment arrangements, and more. This allows organizations to increase the number of touches they're able to make on a daily basis. Virtual Assistants are also available around the clock, so consumers can make payments and complete transactions at a time that is convenient for them. In addition, there is a growing consumer acceptance of automated solutions. Consumers are increasingly willing to interact with automated solutions to complete transactions that previously required live agents.

Partially automating transactions

Virtual Assistants may not always need to stand alone. Organizations have leveraged solutions that rely on live agents for certain parts of the collections process and automation for others. For example, collections agencies have been using Virtual Assistants for credit card capture after the consumer has agreed to make a payment. These solutions pass data back and forth between the Virtual Assistant and a live agent to retain context and provide a seamless customer experience.

# ROBOTIC PROCESS AUTOMATION APPLIED TO COLLECTION & RECOVERY

"What casual for a Robot, isn't necessary casual for a human."
- Alan Tudyk

For a collections organization, live agents on the frontline represent the heartbeat of the organization. The productivity of the people who connect with consumers on a daily basis has a direct correlation with revenue .

That said, at peak times or seasons, collections agencies incur a tremendous amount of risk by relying on agents to drive revenue. Artificial Intelligence, however, can offset this risk by leveraging technology to maximize the effectiveness and efficiency of live agents.

While there are several opportunities for AI within the collections industry, Intelligent Virtual Assistants have emerged as a proven leader. Virtual Assistants emulate and automate the experience consumers have with agents.

CHATBOT ARCHITECTURE

ASSOFINTECH
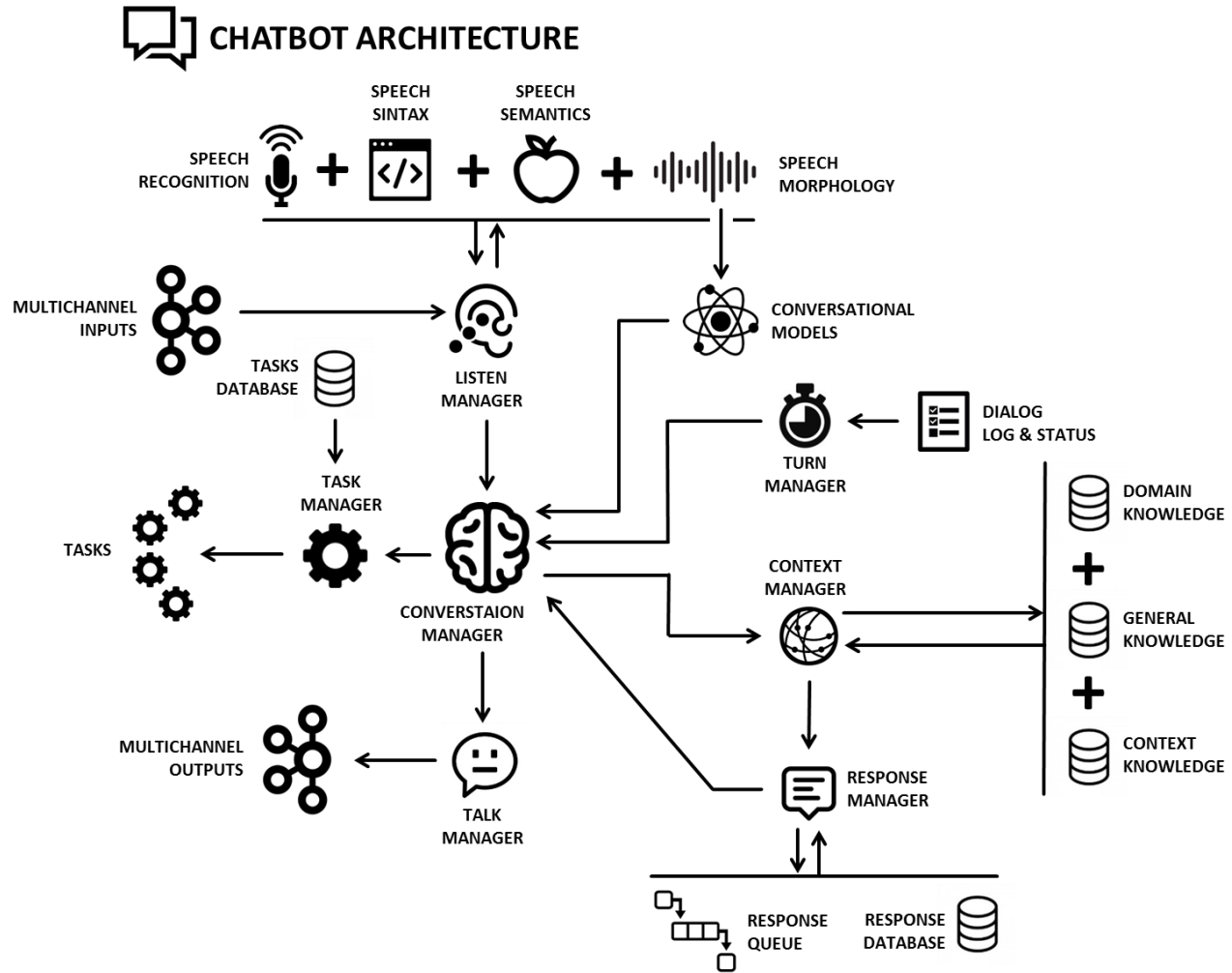
CHATBOTS ARE THE NEW INTERFACES

"ChatBots will be your next best friend."
- *Forbes*

Automated Chatbots can be pre-programmed to handle basic information collection and payment plans.

The robots, powered by advanced algorithms, can automatically sense customer sentiments and based on customer response, resolve simple non-payments issues related to:

- Payments made but not received
- Lack of knowledge on how to pay
- Non-receipt of invoice or statements
- Payment oversight
- Bankruptcy filing

Based on these business cases, chatbots can be programmed to effectively respond, by providing the best-suited, pre-defined solution that any human agent would have suggested.

Most overdue accounts might not require any manual intervention to collect aged debts.

Chatbots can be programmed to carry out these interactions effortlessly.

Customers are getting comfortable interacting with chatbots as the process takes away the stigma of exposing their financial instability or non-payment record to human agents.

Their comfort with chatbots is being boosted by the concerted efforts made by leading financial companies in educating customers and encouraging them to use this channel more frequently.

MEET DEBBIE – THE FIRST OMNI CHANNEL COLLECTION BOT

"Let the Bot talk !"

Debbie

https://app.botsociety.io/s/591abc59e3d4141b00a3313d?b=591abc59e3d4141b00a3313c

We are working on the exciting project to deliver the new world class Chatbot for Debt Collection.

Is your company considering chatbots to optimize the debt collection process?

We'd like to know your thoughts on what this development spells for the industry, what are the keys to success, and some words about our project.

ASSOFINTECH