

Data Driven Contact Strategy

Deloitte for LUISS

Nice to meet you!



Marco Caridi
Manager

Marco is lead specialist of AI & Data in Deloitte Consulting Italy. Graduated in Electronic Engineering, Automation and Control Systems, he is passionate about of man-machine interaction. He has collaborated with the Department of Computer Science on various AI researches, one of which was published during the Matlab Workshop in Turin (1998). Subsequently, as a tech lead, he worked on the automation of the sw of the digital press review. He has been a senior consultant for several years (CS-VAS Telecom of Rome) and has published dozens of articles in the Computer Programming magazine. In 2006 he founded Obd2world, specialized in AI and IoT solutions in the automotive sector and designed a virtual eco-driving assistant and a chatbot. In 2013 it obtained a patent concerning the reduction of CO2 emissions. Since February 2018 he has been part of the Samsung Bixby ASR team (Vocal Assistant and ChatBot) and has worked as a partner of the Samsung HQ research center. He has been involved in challenges on artificial intelligence algorithms applied to audio and NLP. He joined Deloitte's AI & Data team in January 2021.



Marzia Del Prete
Manager

Marzia is Manager at Deloitte. She has a Ph.D. in Marketing Management, and her research interest focuses on AI&ML. She has conducted studies, research and strategic consultancy on Emotional Artificial Intelligence for CRM systems. She has published on AI and Customer Emotions in top ranking journals. She has five years of experience in leading consulting firms such as Deloitte Consulting and Value Team (NTT DATA). Furthermore, for 6 years, she was co-founder of a management consulting start-up (Abigail Consulting). Over time she has developed leadership skills in international projects. She has more than 6 years of practical experience in strategic and applied marketing in multinational companies such as H3G Italy (CK Hutchison Holdings Limited) and in the academy (University of Salerno, Sapienza University of Rome, University of Laval, Canada).

DELOITTE ANALYTICS & COGNITIVE OFFERING

Big Data & Insights driven Organization

Big data to answer critical and complex business questions



An insight-driven organization embeds analysis, data, and reasoning into the decision making process, every day.

AI, Cognitive & Advanced Analytics

Analytics in the IOT improve processes efficiency and optimize assets usage



Cognitive technologies automatically learn autonomously and extend both human and machine actions

Advanced analytical methods provide insurers opportunities to obtain client-specific insights.

A&C GLOBAL

29
GLOBAL DELIVERY CENTERS

28 **28**
DIGITAL STUDIOS GREENHOUSES

10.000+
GLOBAL HEADCOUNT

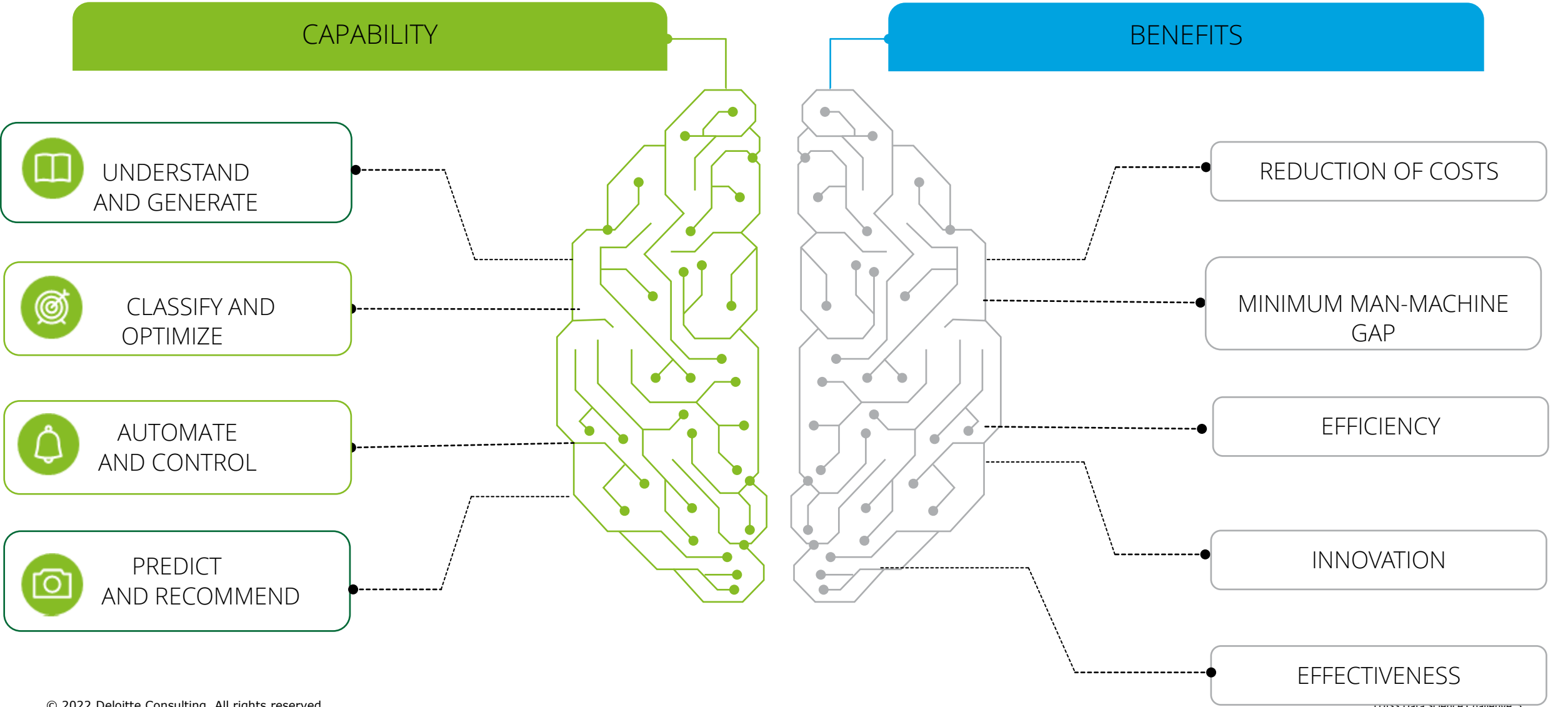
A&C ITALY

250+
RESOURCES IN ITALY

30+
BROAD TECH SKILLS

50+
CLIENTS

Artificial Intelligence helps to solve key business cases for the company with accurate and efficient methodologies that renew traditional approaches.



The context

In the world of Digital Marketing, personalizing sales actions on individual customers with Data Driven strategies is increasingly important. It is essential to identify the target to address a specific product / offer through the most suitable channel (eg DEM, SMS, TLS). Advanced Analytics algorithms can support rule based tools in making the personalization of marketing / caring campaigns more accurate.



A company in Energy & Utilities sector

The company deals with the sale of electricity and gas and high energy efficiency solution (boilers, air conditioners, photovoltaics)



2 marketing campaigns

- CROSS-SELLING to offer a commodity to a customer that has a gas/power contract
- SOLUTION to offer a highly energy efficient solution



3 Communication Channels

- DEM
- SMS
- TLS (teleselling)



Goal: Data driven contact strategy

Develop, on an annual basis, a monthly contact strategy that maximizes the success of the campaigns by avoiding contacting the customer excessively and distributing the contacts evenly over



Timeline

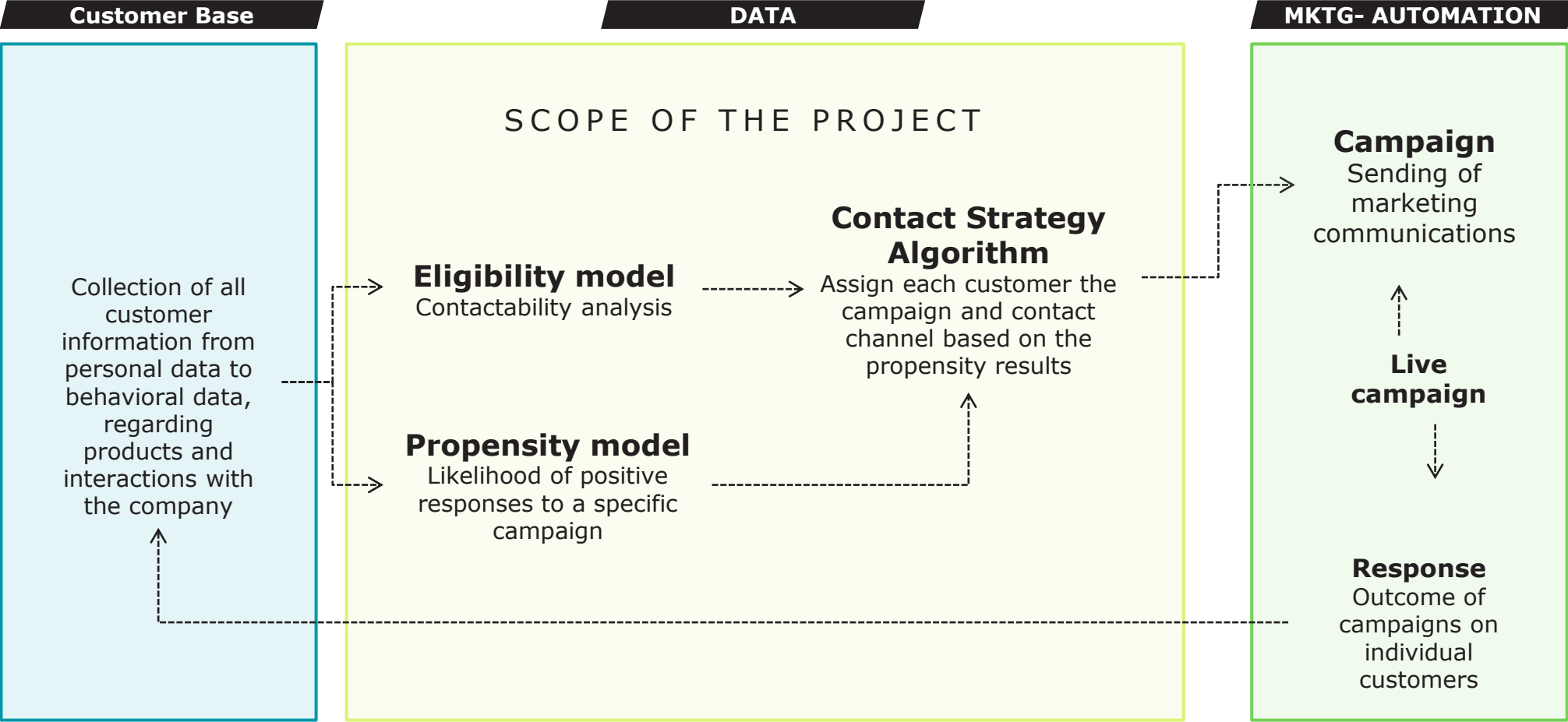
- **2022-02-22:** Project work presentation
- **2022-03-22:** Check Point
- **2022-04-26:** Presentation of the solution and sharing of results



Evaluation

- Originality and effectiveness of the proposed solution
- Clarity and creativity of the presentation
- Approach to the problem

The process



The rules of the game

General rules

- The contact priority is based on the propensity for the type of campaign
- Customers at risk of being churned or outbound cannot be contacted for commercial purposes
- Max 1 commercial campaign for customer for month:
 - 1 Cross Selling DEM+SMS
or
 - 1 Cross Selling TLS
 - or
 - 1 Solution DEM+SMS
 - or
 - 1 Solution TLS

Campaign Rules

DEM

- Max **1 DEM every 2 months**
- Yes, overlaps between DEM and SMS in the same month for the same type of campaign
- No overlaps between DEM and TLS in the same month for the same type of campaign

SMS

- Max **1 SMS every 2 months**
- No overlaps between SMS and TLS in the same month for the same type of campaign

TLS

- Max **1 TLS every 6 months** for the same type of campaign

Cross-Campaigns rules

DEM

- Max **1 mail for month**(max 12 email per year)

SMS

- Max **1 SMS for month** (max 12 pr year)

TLS

- **No TLS in 2 consecutive months (maximum 6 TLS per year)**
- All customers selected for TLS are considered contacted, regardless of the response



TLS

TARGET

Customers with valid phone number and privacy consent

CONTACTS/YEAR

- CROSS-SELLING: **2**
- SOLUTION: **1**



DEM

TARGET

Customers with valid email address and privacy consent

CONTACTS/YEAR

- CROSS-SELLING: **6**
- SOLUTION: **2**



SMS

TARGET

Customers with valid phone number and privacy consent

CONTACTS/YEAR

- CROSS-SELLING: **6**
- SOLUTION: **2**

ELIGIBILITY

General rule: those customers whose last contact dates back to at least **N months ago are eligible** ($N = \# \text{ months} / \# \text{ contacts per year}$)



CROSS SELLING

- Mono commodity customers (GAS / POWER no DUAL)
- TLS / DEM / SMS only if the authorization / privacy flag is present



SOLUTION

- Customers (GAS / POWER / DUAL)
- TLS / DEM / SMS only if the authorization / privacy flag is present

Dataset

| CUSTOMER | CUSTOMER CARE INTERACTIONS | PRODUCTS | CAMPAIGNS |
|--|--|--|--|
| ID GENRE YEAR_OF_BIRTH CLC_STATUS NEW_CUSTOMER FIRST_ACTIVATION_DATE SUPPLY_START_DATE EMAIL_VALIDATED PHONE_VALIDATED | ACQUISITION_CHANNEL DESK_VISITS_LAST_MONTH DESK_VISITS_LAST_3MONTHS DESK_VISITS_LAST_YEAR LAST_VISIT_DATE_DESK INBOUND_CONTACTS_LAST_MONTH INBOUND_CONTACTS_LAST3MONTHS INBOUND_CONTACTS_LAST_YEAR CC_REQUESTS_LAST_MONTH CC_REQUESTS_LAST_3MONTHS CC REQUESTS LAST YEAR | COMMODITY SOLUTIONS N_GAS_POINTS N_POWER_POINTS LAST_PRODUCT_GAS LAST_PRODUCT_POWER | LAST_CAMPAIGN_TIPOLOGY LAST_CAMPAIGN_DATE N_CAMPAIGN_SENT N_CAMPAIGN_CLICKED N_CAMPAIGN_OPENED N_DEM_CARING N_SMS_CARING N_TLS_CARING N_DEM_RENEWAL N_TLS_RENEWAL N_SMS_RENEWAL N_SMS_CROSS_SELLING N_DEM_CROSS_SELLING N_TLS_CROSS_SELLING N_TLS_SOLUTION N_DEM_SOLUTION N_TLS_SOLUTION |
| | BEHAVIOUR | CHURN | |
| | PRIVACY_FLAG LOYALTY_PROGRAM AVG_CONSUMPTION_GAS_M3 AVG_CONSUMPTION_POWER_KWH WEB_PORTAL_REGISTRATION_FLAG N_MISSED_PAYMENTS BEHAVIOURAL_SCORE BAD_PAYER_FLAG | N_GAS_POINTS_TERMINATED N_POWER_POINTS_TERMINATED N_GAS_TERMINATED_SWITCH N_POWER_TERMINATED_SWITCH N_CASES_RISK_CHURN_POWER N_CASES_RISK_CHURN_GAS | |

Suggestion: Not all data is helpful in solving the problem. Use only those you deem indispensable!

The expected output

Presentation of the contact strategy

- How did you approach the problem?
- What methods did you use to prioritize customer contact on one channel rather than another?
- How do you associate the right campaign with the right customer?
- How will your solution integrate into the process?
- What could be the future developments?

Planning of the customer base

Starting from the file 'DLT_AI_and_DATA_CUSTOMER_BASE.csv' indicate the customers to contact in the next 12 months in 6 csv files:

- Cross_Selling_DEM.csv
- Cross_Selling_SMS.csv
- Cross_Selling_TLS.csv
- Solution_DEM.csv
- Solution_SMS.csv
- Solution_TLS.csv

The files must have one row per customer, and contain the following columns:

ID: The customer's ID present in the file 'DLT_AI_and_DATA_CUSTOMER_BASE.csv'

Month_1, Month_2,...Month_12: they will take the value 0 if the customer will not be contacted for the campaign with that channel and 1 otherwise.

| ID | Month_1 | Month_2 | ... | Month_12 |
|----|---------|---------|-----|----------|
| 1 | 0 | 1 | ... | 1 |
| 2 | 1 | 0 | ... | 0 |



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Thank you

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