# Projeto de Formatura – 2023

## PCS - Departamento de Engenharia de Computação e Sistemas Digitais

### Engenharia de Computação

**Tema:** Marketing Technology: a study on compliance, acquisition and usage of first-party data in digital marketing

## Introduction

The importance of consumer data in digital marketing has risen significantly, especially in light of the new General Data Protection Regulation (GDPR). Companies, particularly those in digital marketing and the business-to-consumer (B2C) sector, are adapting to a cookie-less environment by prioritizing the collection of First-Party Data directly from consumers. This shift away from Second and Third-Party data is driven by the need to comply with regulations and achieve better sales performance. First-Party Data, obtained directly from consumers, is more accurate and allows companies to tailor marketing campaigns to individual consumer needs.

The objectives of this Project was to analyze how GDPR's regulations in Europe affect the processing of user data on digital marketing based on two real world use cases done by the student during his internship at Procter & Gamble in France.
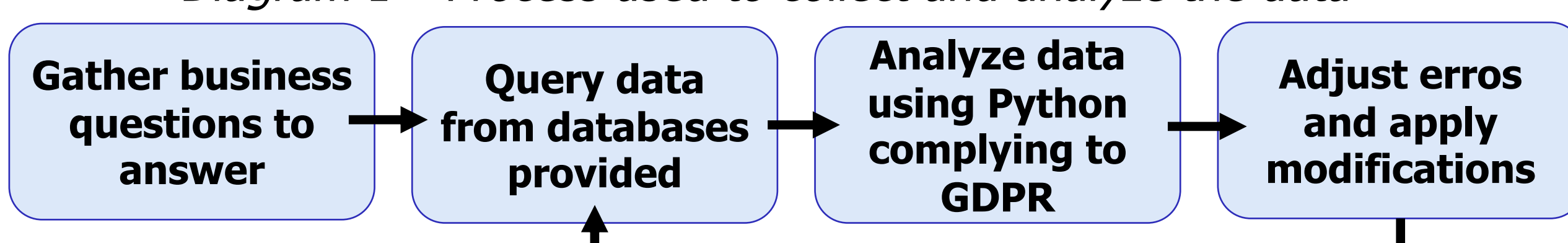
## Methodology

### Projects

The research comprises two key projects: first-party data acquisition and media activation, and retail data collaboration using Amazon Marketing Cloud (AMC). In the first project, the goal is to collect and activate consumer first-party data for P&G's grooming brands. The discussion also addresses the changing landscape of data collection mechanisms in digital marketing due to new European regulations. The second project involves leveraging the Amazon Marketing Cloud platform to collect and analyze consumer data. Python is employed for data analysis to answer predefined business questions from Procter & Gamble. AMC, serving as a cloud-based clean room, contains information on sales and consumer activity on Amazon's website, accessible through SQL queries. Overall, the research sheds light on the practical applications of data analysis in optimizing digital marketing strategies within a framework of evolving regulatory standards.

### Analysis methodology

*Diagram 1 – Process used to collect and analyze the data*



Gather business questions to answer → Query data from databases provided → Analyze data using Python complying to GDPR → Adjust erros and apply modifications

### Some results

The first sub-project confirmed the viability of companies obtaining first-party data, even from internal datasets, a critical factor for meeting their business goals. It highlighted the increasing awareness among companies

of the importance of compliance with new regulations, given potential penalties for non-compliance. Table 1 presents the analysis results, revealing the number of potential grooming product consumers, the number that agree to the usage of their data (Opt-in) and the number of consumers who actively purchase the company's products in each of the analyzed countries.

*Table 1 – Potential grooming consumers analysis results*

| Country | Total Users | Opt-in Users | Active Users |
|---------|-------------|--------------|--------------|
| France | 119.186 | 88.316 | 80.977 |
| Italy | 454.006 | 407.995 | 242.937 |
| Spain | 456.780 | 305.224 | 250.391 |
| Germany | 206.550 | 82.771 | 77.083 |
| UK | 145.965 | 89.591 | 65.589 |

In the second sub-project, the results demonstrated the capability to derive valuable insights from in-depth analysis of first-party data. The use of Amazon Marketing Cloud showcased the ability to answer business questions using previously untapped data. This highlights the potential for extracting new insights from existing, untreated, and disorganized data, aligning with the company's interests. One specific analysis aimed to identify peak consumer activity and purchase times throughout the day. Figure 1 provides an example outcome for an analyzed brand.

*Figure 1 - Percentage of user activity during the day vs purchase rate*
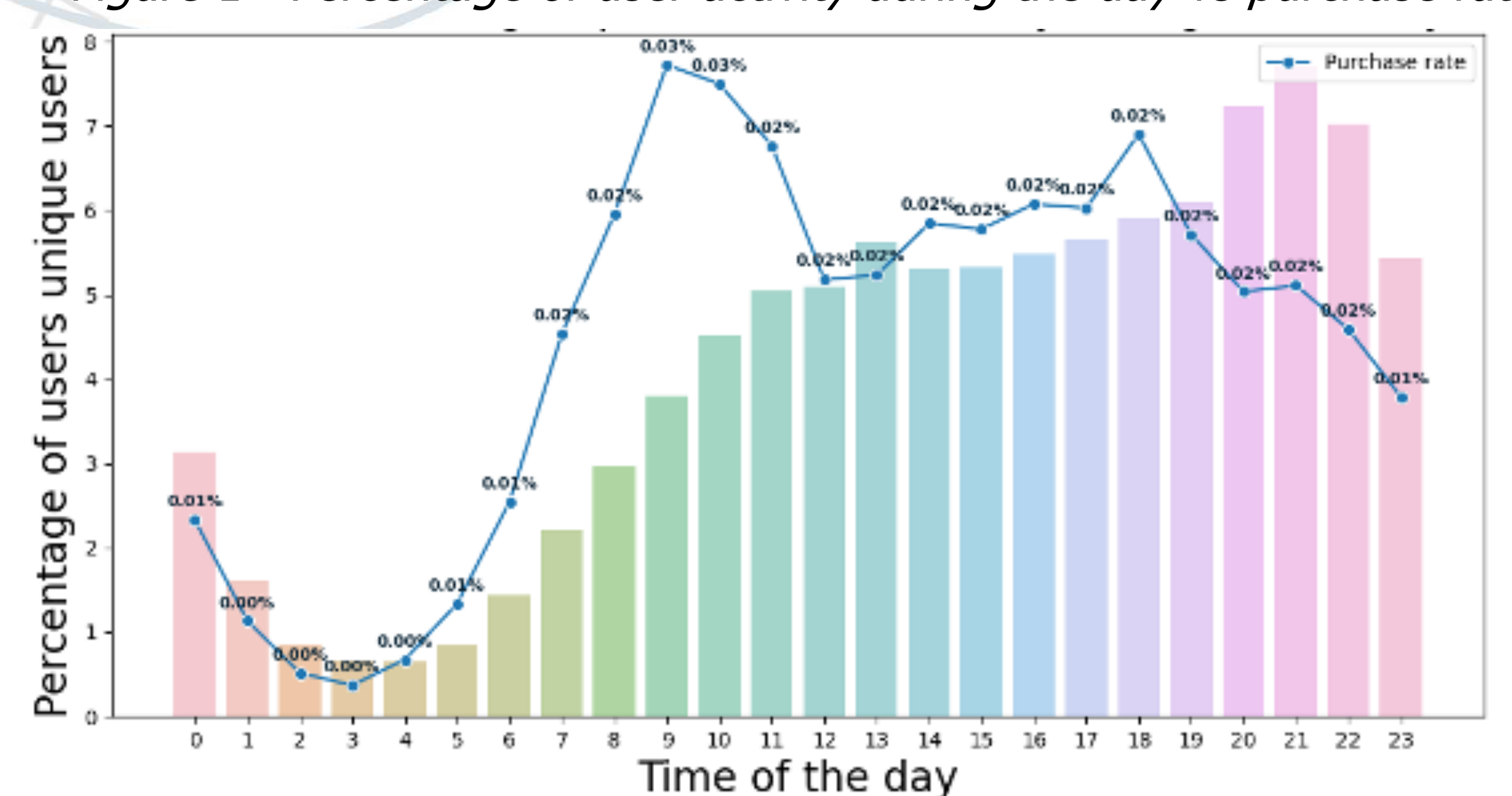


## Conclusions

The findings of this study indicate that companies are compelled to adhere to the new GDPR regulations. Despite these regulations, companies are still able to discover novel consumer data within their existing consumer database platforms and identify new data from previously unexplored sources. This impact is widespread, affecting numerous countries, as variations of the GDPR regulations are implemented globally, including in Brazil. The usage of first-party data is also displayed as a source of relevant information on digital marketing strategies used by companies.

**Integrantes:** João Vitor Vargas Soares

**Professor Orientador:** Prof. Dr. Jorge Rady de Almeida Junior