citibank

EXECUTIVE REPORT

2019 ANNUAL CONVENTION

TOURISM CONSUMPTION PATTERNS

INSIGHTS FROM CREDIT CARDS TRANSACTIONAL DATA

ANALYSTS TEAM

Clelia
CERVETTO

Konstantinos
KARALIVANOS

Sergey
KOLMAKOV

Andrew
RIZK

Antonia Caroline
SCHULZE

Marçal
SOLE MORELLO

Dominik
THAUSING

MBD 02 | Group E

INTRODUCTION

The Citibank credit card transactions dataset contains more than 10,000 data points of payments performed by tourists in the city of Madrid in the month of March 2012. The senior data science team was tasked with the initiative to assess the traction of tourists in Madrid and help our stakeholders understand the dynamics of tourist expenditures, with the intention of helping them grasp the various levels of market segmentations to optimize their targeting practices and business operations.

This report's focus is targeted in the analysis of the different consumption patterns from said tourists, in order to reach a two-fold value creation:

- On the bank's side, to monetize the data in a B2B manner by extracting value in the form of insights to be delivered to potential clients.
- On the clients' side, to obtain delivery of insights to enhance their customer experience oriented towards tourists and focus their segmentation efforts in a more efficient way.

Most notably, the all-around goal of the team was to discover different insights from the data through data visualization to then conclude by transforming them into potential business outcomes.

Some of the questions that will be answered are:

- Is there a particular time in which tourists are buying?
- Which business category do tourist spend most on?
- Which nationality has the highest average ticket and why?
- Which nationality has the highest expenditure volumes?
- Do high end fashion retailers need to focus more on attracting visitors of a specific set of nationalities? Why?

1. GLOBAL OVERVIEW
THE WORLD IN MADRID

Total Spending by Country (€)

Average Spending (€)

150,000
100,000
50,000
10,000
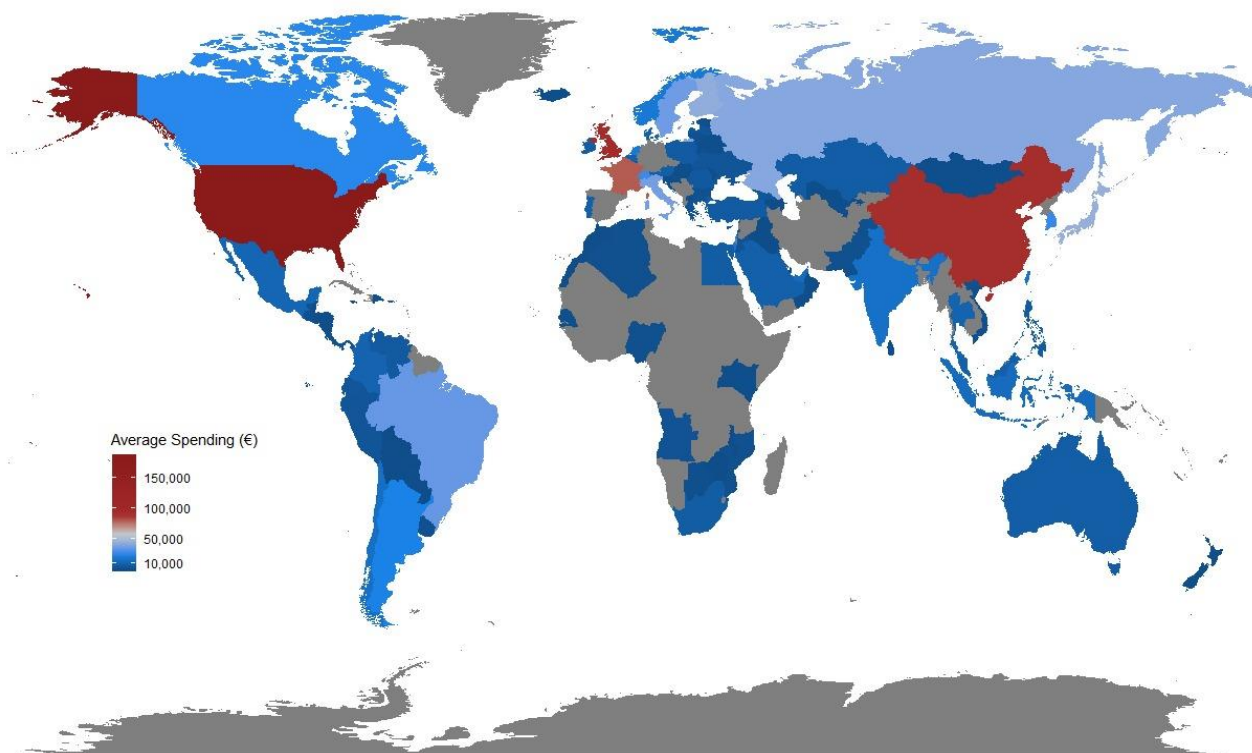
Source: © Group E | O2

FIGURE 1 – WORLD MAP: SPENDING PER COUNTRY

The map highlights countries based on total expenditure in Madrid during the 1st and 2nd days of March 2012. The amount of total expenditure of foreign tourists amounts to €1,174m with an average daily spending of €109 per tourist among different sectors.

According to the reported numbers, the United States accounts for 16% of the total expenditure with an average spending of 109 Euros, followed by the British (8% and €105 average spending), the Chinese (8% and €250 average spending), the French (7% and €65 average spending), and finally the Japanese and Finnish at 4% each and €172, €199 average spending, respectively.

Further analysis is also included for countries to follow with their average expenditures and percentages. The numbers presented in this report comprise the top 20 countries and their expenditures, they were considered of higher interest given that they alone account for 76% of the total expenditure out of 110 countries.

QUICK HIGHLIGHTS

€1,174m
total expenditure of foreign tourists

€109
average daily spending per tourist

20 Countries
account for

76%
of total expenditure

The table below summarizes the numbers of these countries in terms of total spending, average spending, number of transactions, and their corresponding ratios of transactions.

Index	Country	Total spending (€)	Average spending (€)	Number of transactions	% of spending	Accumulated % of spending
1	United States	184197	109	1686	16	16
2	United Kingdom	88681	105	848	8	24
3	China	88412	240	369	8	32
4	France	80338	65	1239	7	39
5	Japan	44566	172	259	4	43
6	Finland	43402	199	218	4	47
7	Russia	40601	121	335	3	50
8	Italy	36914	85	434	3	53
9	Sweden	35587	92	385	3	56
10	Brazil	33750	79	428	3	59
11	Switzerland	27667	120	231	2	61
12	South Korea	27170	102	267	2	63
13	Canada	26154	108	242	2	65
14	Argentina	23606	79	297	2	67
15	Norway	19805	86	229	2	69
16	Netherlands	19718	63	314	2	71
17	Israel	18430	73	252	2	73
18	Taiwan	16629	297	56	1	74
19	India	16153	234	69	1	75
20	Chile	15383	113	136	1	76

TABLE 1 – COMPREHENSIVE SUMMARY (TOP 20 COUNTRIES)

2. MADRID, A SPENDING PLAYGROUND

2.1.   CATEGORICAL OVERVIEW
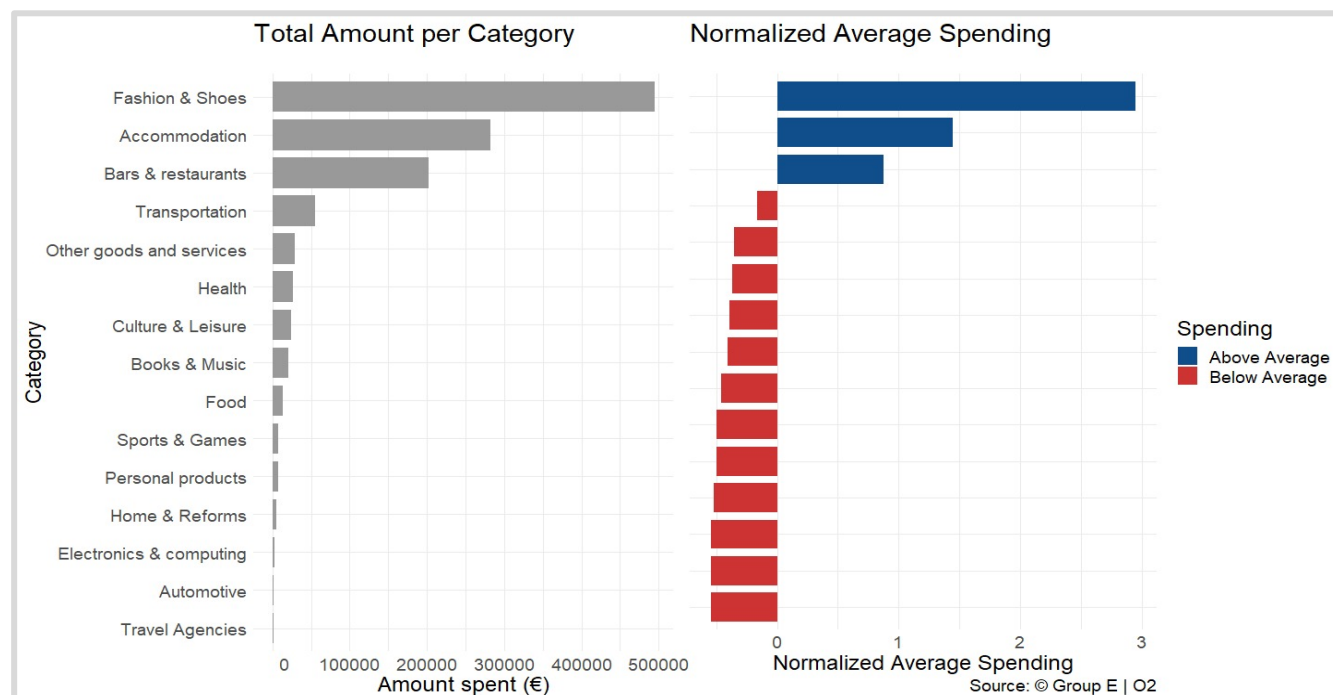
FIGURE 2 – SPENDING PER BUSINESS CATEGORY

The top three categories of tourists' spending contribute up to 1 million Euros. They are (1) Fashion & Shoes, (2) Accommodation and (3) Bars & restaurants. Figures also show that tourist spend more on average in these three categories than in other categories which underlines their significance and the overall interest that the bank should pursue in targeting clients in those fields to monetize those insights.

CLIENT MATERIAL: TARGETING EL CORTE INGLES

As Citi should initially focus on the limited number of clients to extract the most tailored insights before scaling the scope of the project, we suggest starting by focusing Citi's sales effort for this initiative towards El Corte Ingles. Indeed, as the most popular retail and shopping chain in Madrid, this player presents a high profile both in terms of revenue stream volume and of market specialization, combining in its business model two of the highest ranking categories for tourist spending uncovered by our insight (Fashion & Shoes and Bars & Restaurants).

2.2.   A DAY IN MADRID : DAILY DISTRIBUTION OF SPENDING

There is a clear value-story to be told between all investigated categories and our client. Indeed, on the one hand the El Corte Ingles Group also has a travel agency (related to the category Travel Agencies), a Supermarket chain (related with the Food category) and in general does have an offering ranging across various categories (Electronics & Computing, Personal Products, etc.).

Figure 3 shows the hourly distribution of total spending among all categories.This clearly shows the predominance of some categories in total expenditure across various time slots.
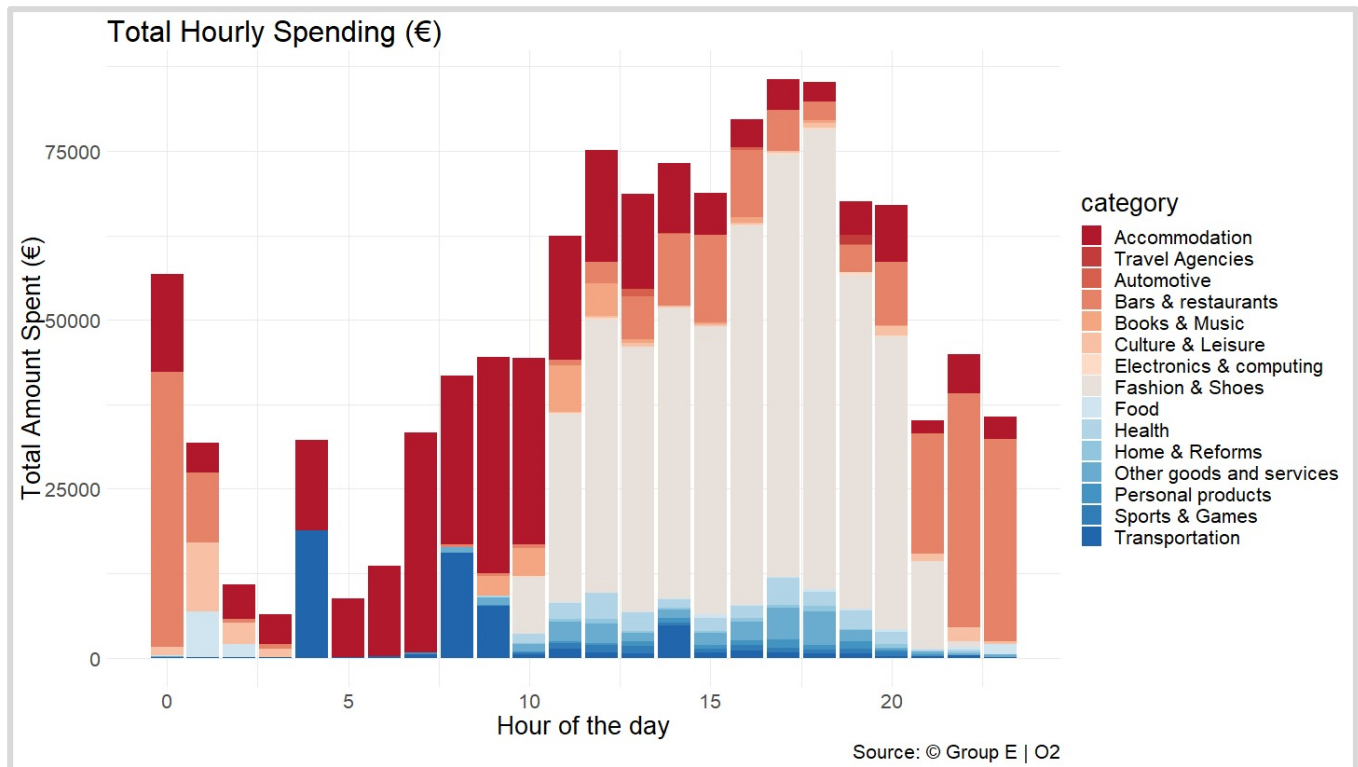
FIGURE 3 – HOURLY SPENDING BREAKDOWN (ALL CATEGORIES)

However, we propose to concentrate the efforts on the most case-relevant points of growth: Fashion & Shoes and Bars & Restaurants.

Bringing together the client's business specifics and the uncovered day time consumption patterns, we can observe that spending on 'Shopping' happens mostly during the afternoon and evening hours, as for Bars & Restaurants tourists spend money usually from night till dawn. This information can also help the customer allocate their staff resources more efficiently since, for instance morning hours don't contribute into revenues as much as later hours, and consequently reduce their labour cost.
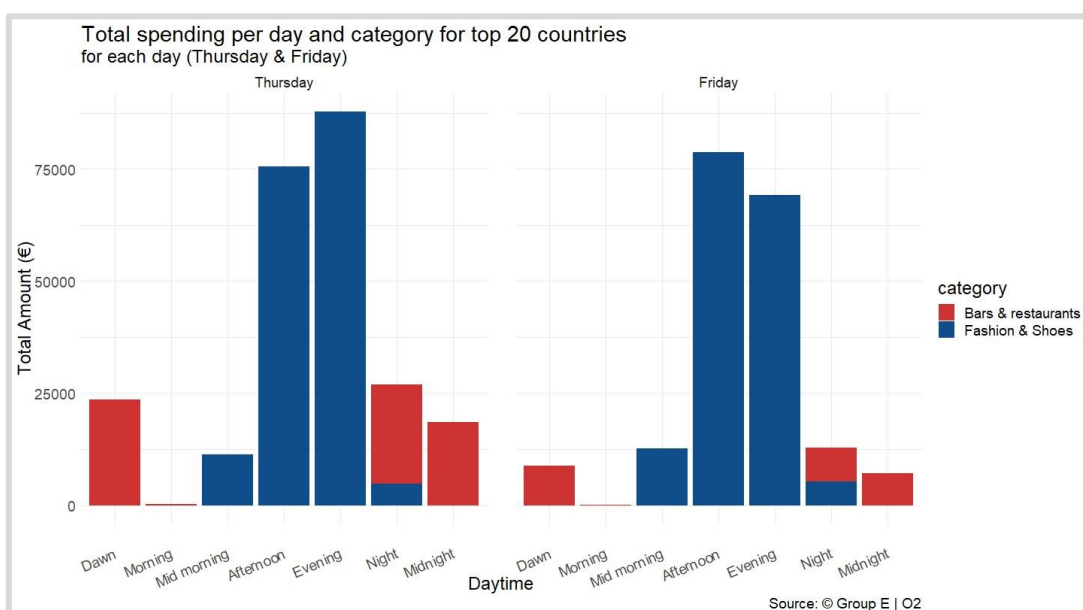
FIGURE 4 – DAILY SPENDING BREAKDOWN

3. CUSTOMER SEGMENTATION BY NATIONALITY & SPENDING

3.1. SPENDING BEHAVIOUR BY COUNTRY: CHINA, US, AND FRANCE HAVE THE LARGEST POCKETS.

For a strategic outlook, we would also like to understand which nationalities of tourists we need to target, considering their spending on Fashion & Shoes and Bars & Restaurants, our two categories of focus given our client's needs.

Before deep diving into customer segmentation by price sensitivity for the two categories of interest in the next section, let us consider Figure 5. It seems that, both categories combined, China forms the main target audience for the shopping centre in terms of revenue stream volume, followed by the US and France tourists in the second "echelon".

It is then up to the client's discretion to interpret this insight to cluster by "high revenue" clusters to target, or instead low ones who represent an opportunity to pursue for expansion of the customer base.
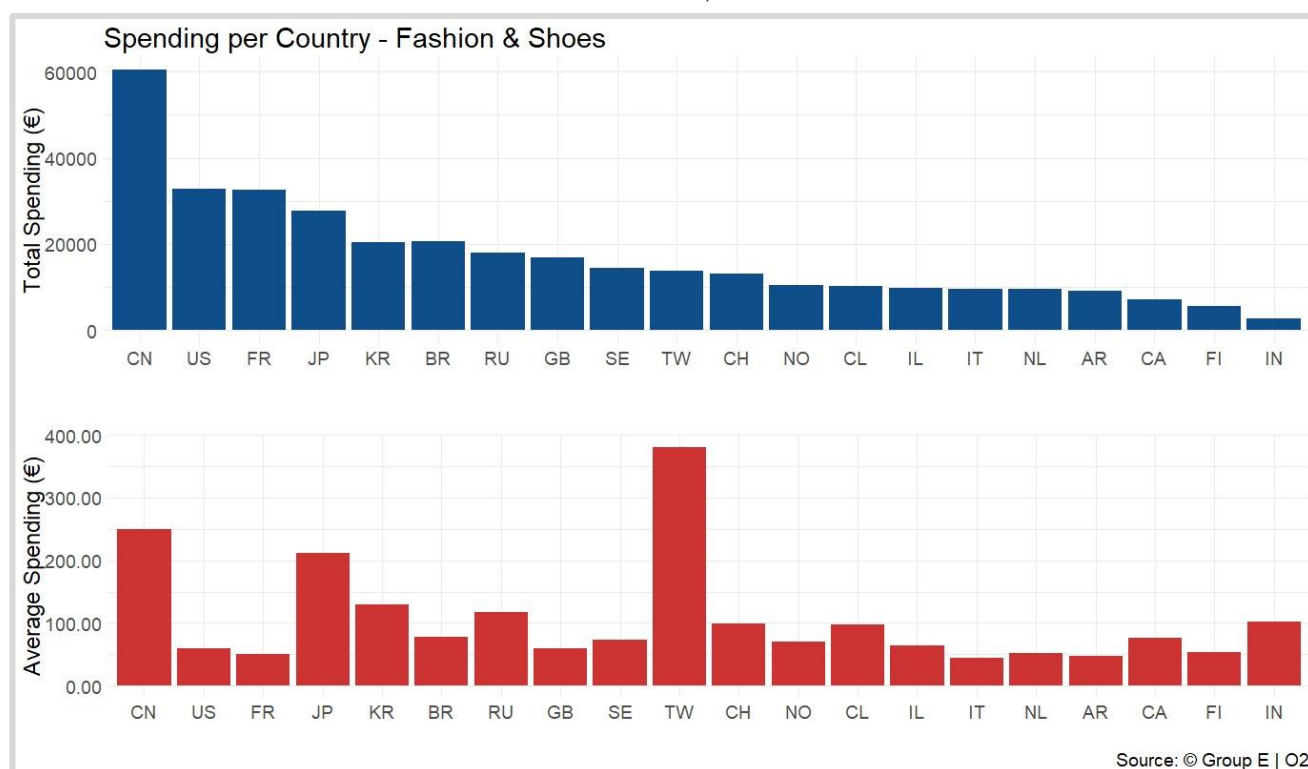
FIGURE 5 – TOP 20 COUNTRIES, TOP 2 CATEGORIES
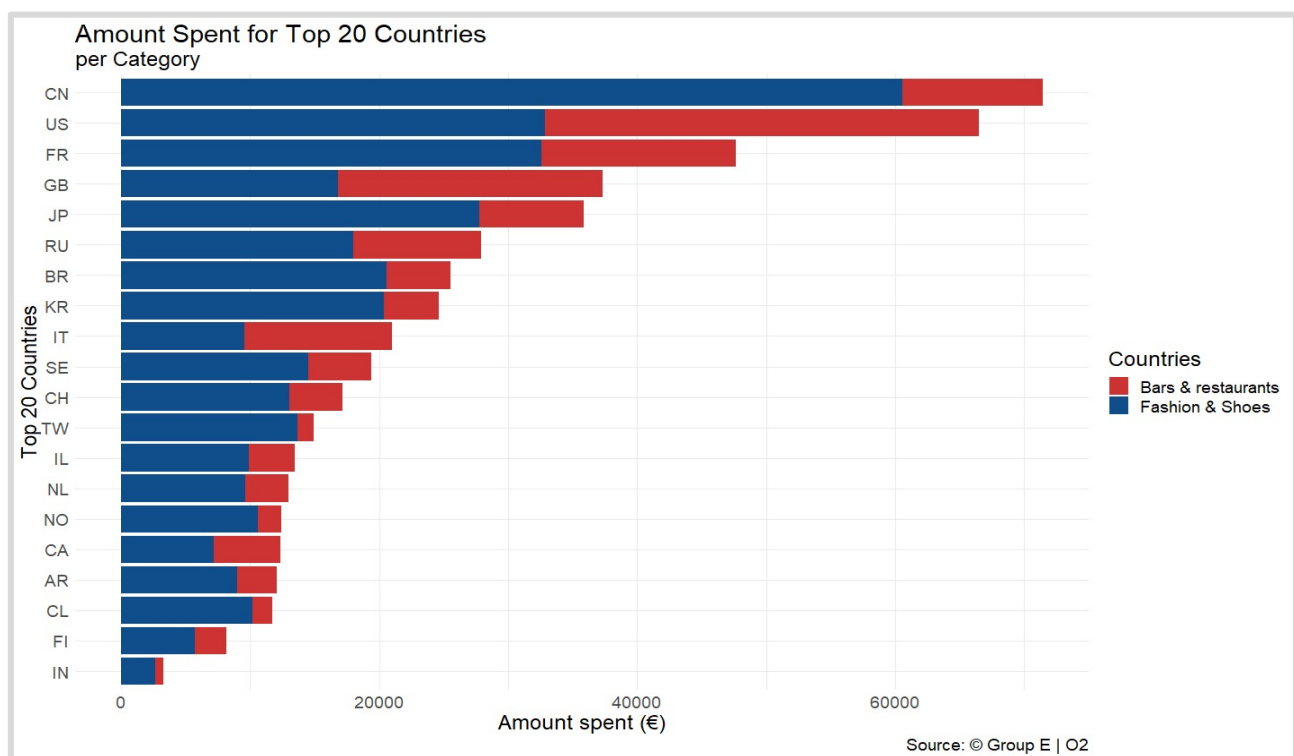
3.2. FASHION & SHOES:
MASS MARKET VS. HIGH END FOCUS

Figure 6 gives insight as to the nationalities that spend the most in volume (total spending), versus those who spend the most per transaction (average spending).

FIGURE 6 – TOP 20 COUNTRIES, FASHION & SHOES CATEGORY

Source: © Group E | O2

High-end customer segment
TAIWAN, CHINA, JAPAN

Although the Taiwanese are not the ones who spend the most in total (€14,000), they do spend more, per transaction, than any other nationality among the top 20 countries (around €380). The Chinese have led the "volume" race (total expenditure around €60,000) as well as the spending per transaction (€250), making them an important target group for this sector. Japan follows the mentioned countries with an average around €210 per transaction and a total of €28,000.

Mass market (volume) segment
US, FRANCE, GREAT BRITAIN

Although these three nationalities top the "total spending" chart with high volumes (around €321,000, €320,000, and €180,000 respectively), they are amongst the lowest spenders when it comes to spending per transaction (around €50, €40, €50, respectively).

3.3. BARS & RESTAURANTS: MASS MARKET VS. HIGH END FOCUS

FIGURE 7 – TOP 20 COUNTRIES, BARS & RESTAURANTS

Spending per Country - Bars & Restaurants

Source: © Group E | O2
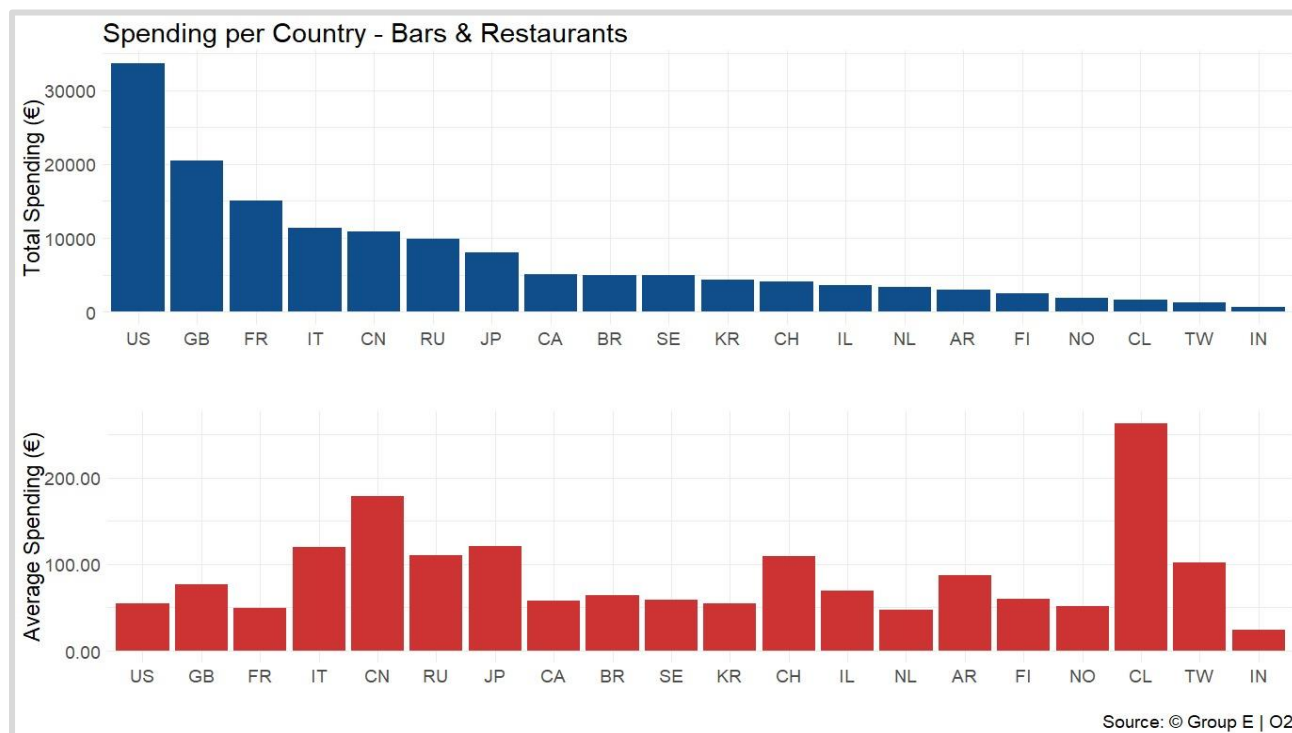
In total spending, the US and Western Europe are the highest spenders, with the likes of nationalities such as Great Britain, France and Italy. When it comes to spending per ticket, Chileans spend the most, followed by Chinese, Japanese, Russians and Taiwanese.

SUMMARY OF FINDINGS – BUSINESS PROPOSAL

In general Madrid is characterized by a wide variety of tourists, both in terms of countries of origin and consumer behaviour. As it can prove complex to understand connections between these two segmentations, local businesses are depending on external data to understand specific patterns that surround their business environment.

This constitutes a monetization opportunity for Citibank's gathering of data on credit card transactions. The data, once properly explored, provides exactly those insights with a level of detail by business category, therefore to be potentially offered to a wide range of clients by tailoring the insights to their specific industries.

The following process has led to an initial business proposal targeted towards El Corte Ingles, a strategic client per its revenue stream size and market specialization.

In a first step, the most important tourists have been identified. These 20 out of 110 countries make up 76% of total spending. As a consequence, the business can first concentrate its marketing efforts in reaching those customers and their cultural preferences.

Next, a suitable business partner, to which business insights will be sold to, has to be identified. In a first step it seems reasonable to focus on businesses with a certain market power to ensure sufficient initial revenue stream from monetization. Therefore, Corte Ingles, as the largest Spanish department store chain should be addressed first.

The data has been prepared in order to give more specific consultation to El Corte Ingles. Resulting in the identification of the most important categories (Shoes & Fashion and Bars & Restaurants) in terms of total amount spent, average purchase ticket amount and number of transactions.

As a next step, El Corte Ingles will be provided with the following concrete proposals, which will enable them to maximize profits by focusing on the right consumption peaks, and optimizing offers according to the proposed customer segmentation (geographical and "willingness to pay" oriented):

Identifying times of consumption peaks for both of its stronger categories, enables Corte Ingles to optimize allocation of its labour force within stores. That means unevenly distributing employees by cutting retail employees during morning and evening hours and vice versa increasing staffing for gastronomical areas during night hours. We could also imagine an adjustment of the social media marketing channel advertisement per time of day to gain efficacy.

The customer spending insights have unveiled that there is a potential for high end versus mass market segmentation in Fashion & Shoes, targeting respectively Taiwan, China and Japan on the one hand, and the United States, France and Great Britain on the other.

Regarding bars and restaurants, the United States and Western Europe produce the highest spending volumes, while Chile, China, Japan Russia and Taiwan have the highest ticket spending.