

IE School of Human Sciences & Technology Master's in Big Data & Business Analytics

Course Name:

BIG DATA & ARTIFICIAL INTELLIGENCE IN MARKETING

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Context

Google is a company that sells most of its services in non-tangible ways. Indeed, most of its flagship products are not sellable in physical: Google Search Engine, Google Chrome, Android, Drive, YouTube, Google Drive, etc.

So why open a Google Merchandising Store? It is necessary to dissociate a Google Store from a Google Merchandising Store which does not sell the same thing at all. In the Google Merchandise Store, we will find all kinds of customized products with the brand's logo to promote it and become true ambassadors of the brand. Through this the company can gain exposure in people's life.

Many large companies are getting into Merchandising because it has two major advantages: to offer unique products for customers who admire the brand, but also to promote the company's services and/or products. Indeed, even in the fashion industry, the brand is more and more highlighted through the brand tree directly on the products via a logo, slogans, etc.

Why do we need a physical store when we have a successful online setup? A primary challenge for e-commerce organizations is how to deliver a **personalized experience** to their customers. In a physical store, **customers can interact with the staff** and ask them questions about the product and the services. They can have a more **engaging experience** that allows them to touch, test, smell or taste the product before making a decision to purchase it.

Through physical stores, GMS is looking to **acquire the customer segment** that they are unable to cater through online stores. This includes customers who:

- 1) Do not have credit cards/digital payment methods;
- 2) Want to avoid shipping costs;
- 3) Looking for more personal experience;
- 4) Tourists.

Just like Apple who opened a Merchandise Store in its headquarter a first merchandising store called Infinite Loop, Google has also opened a Google Merchandise Store in its HQ in Silicon Valley. This is the only physical GM Store for now.

It is interesting to see that depending on whether you are in the **United States or in the European Union**, the look of the site changes radically. Indeed the market is not the same, so the customs and the **buying behaviors are different**. Therefore, there is a **significant interest in opening a first physical store in the European Union to meet a new market.**

Choosing the location for a GMS store

Choosing the right location for your business is majorly going to impact your public presence, potential income, walk-in traffic, and other elements. Choosing a location that does not account for such factors is going to limit the business and its ability to succeed and grow. While choosing the

location, we filtered our search based on the following 3 criterias (See appendix Analytics Charts 1-3 for Dashboard Insights generated from Google Analytics).

Revenue by location

To be able to open an offline store, the location should have a proven user or revenue stream. Hence top geo locations in the revenue generation within the European Union should be shortlisted. To do the same, in Google Analytics, we navigated to the Audience \rightarrow Geo \rightarrow Location tab. In that, we limited our search to continent "Europe" by creating a "New Segment" option.

City	Users	New Users	Revenue
Dublin	21,836	21,338	US\$18,330.13
Zurich	8,767	8,373	US\$5,387.54
Frankfurt	4,059	3,676	US\$4,063.44

As shown in the screen above, **Dublin** and **Zurich** are the top geolocation in revenue generation.

YoY 'Growth' and 'Decline' of users by location

Growth in the % can indicate that more users are now starting to use online stores for their purchases whereas decline in the % can indicate that the users are either using some other online stores or are not convinced by online products. Hence, this can be potentially a location that can be shortlisted for the offline store. We compared past three-year growth with its previous three-years.

City	Users	New Users
Frankfurt		
Jan 4, 2019 - Mar 4, 2022	1,849	1,612
Nov 5, 2015 - Jan 3, 2019	2,347	2,181
% Change	-21.22%	-26.09%
Dublin		
Jan 4, 2019 - Mar 4, 2022	9,801	9,576
Nov 5, 2015 - Jan 3, 2019	12,538	12,159
% Change	-21.83%	-21.24%

Based on the above screen shot, **Dublin** has the highest YoY decline with -21.83%.

New vs Returning Users

Locations which have growing % of new users can potentially have growing interest in the google merchandise and hence can be a shortlist for an offline store as it can further increase the awareness amongst the people in that location. To further our analysis to shortlist cities, we looked at the number of new/returning users from all the cities.

City	Users	New Users
Paris	24,237	23,066
Dublin	21,836	21,338
Madrid	16,351	15,574

Based on the google analytics stats, 'Paris' has the maximum users/new users.

Based on the above analysis we shortlist: 1) **Zurich; 2) Dublin; 3) Paris** as our potential locations to open the physical GMS store.

Additional City-Level Data

In order to further enrich our analysis and facilitate decision-making, we collected some demographic, economic, and cultural data about the three shortlisted cities:

Cities	Population	Avg. Monthly Income	Avg. Age	Considered Tech Hub - Yes/No?	
Dublin	544,107	2,500€	36.35	Yes	
Zurich	402,762	6,000 SFr	41.05	No	
Paris	2,161,000	2,250€	39.94	Yes	

Proposed Product

To decide which products could potentially be offered in the new physical store we analyzed the top selling categories per city with a focus on the top three products per category. This gives an overview of what type of demand can be expected and where it might be more profitable to launch the store. The following path was taken in GA: Conversion \rightarrow E-commerce \rightarrow Product Performance \rightarrow Primary Dimension (Product Category) \rightarrow Secondary Dimension (Filtering for City) \rightarrow Choose desired category \rightarrow Advanced Filter on City.

(See appendix Analytics Charts 1-3 for Dashboard Insights generated from Google Analytics).

City	Product Category	Product	Product Revenue	Quantity	Avg.Price
Dublin	Nest-USA	Thermostat 3rd Gen- USA Stainless Steel	US\$6,827.07	46	US\$148.41
		Outdoor Security Camera	US\$3,271.49	27	US\$121.17
		Product + CO White Alarm	US\$2,171.83	27	US\$80.44
	Apparel	Google Womens Puffer Vest	US\$615.81	9	US\$68.42
		Google Crew Socks	US\$469.19	37	US\$12.68
		Google Charcoal Unisex Badge Tee	US\$461.86	27	US\$17.11
	Nest	Secure Alarm System Starter Pack	US\$3,198.18	9	US\$355.35
		Thermostat E - USA	US\$1,814.44	18	US\$100.80
		Nest Detect - USA	US\$449.03	9	US\$49.89
Zurich	Nest-USA	Cam Outdoor Security Camera - USA	US\$2,181.00	18	US\$121.17
		Protect Smoke + CO White Battery Alarm - USA	US\$1,447.89	18	US\$80.44
	Office	Google Metallic Notebook Set	US\$1,316.84	275	US\$4.79
	Lifestyle	Google Mini Kick Ball	US\$437.12	275	US\$1.59
Paris	Waze	Mens Short Sleeve Tee	US\$174.02	9	US\$19.34
		Mood Ninja Window Decal	US\$36.47	18	US\$2.03
		Mood Original Window Decal	US\$36.47	18	US\$2.03
	Apparel	Google Infant Charcoal Onesies	US\$183.28	9	US\$20.36
		Professional Cloud Architect Mens North Face Pullover	US\$0.00	9	US\$0.00
		Professional Data Engineer North Face Pullover Womens	US\$0.00	9	US\$0.00
	Lifestyle	Windup Android	US\$36.56	9	US\$4.06

Conclusion

Given our analysis we would recommend the executive team to choose **Dublin** as the first main location for a **physical Google Merchandise Store in the EU**.

Looking at city-level analytics, we see that Dublin is **leading in revenue generation**, has the **highest YoY decline of users** (meaning we should increase exposure to keep relevance), and still has, proportional to its size, the **highest number of old and new users**.

This is further supported by **product-level** analytics and the on-average **higher quantities** for a **wider range of products** being sold.

Also, Dublin has a **younger population** and is being considered the **main-tech hub in the EU**, making it a perfect place to launch the second physical store of GM after the store at our HQ in Silicon Valley.

Appendix

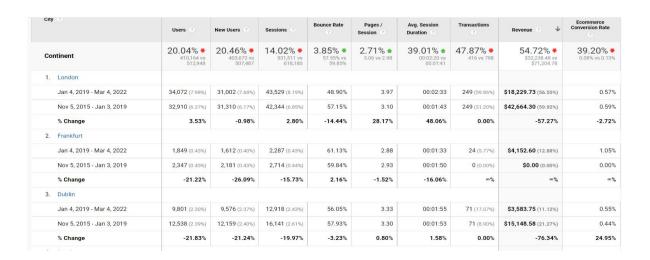
Location Filter: Revenue by Location

Analytics Chart 1

	Acquisition	Behavior			Conversions eCommerce ▼				
City ?	Users ?	New Users ?	Sessions ?	Bounce Rate	Pages / Session	Avg. Session Duration	Transactions	Revenue ⊘ ↓	Ecommerce Conversion Rate
Continent	896,856 % of Total: 21.65% (4,142,693)	890,116 % of Total: 21.55% (4,131,340)	1,125,656 % of Total: 19.84% (5,672,734)	58.71% Avg for View: 46.35% (26.67%)	3.00 Avg for View: 4.56 (-34.23%)	00:01:59 Avg for View: 00:02:43 (-27.11%)	1,202 % of Total: 1.36% (88,064)	\$103,018.68 % of Total: 0.85% (\$12,091,208.37)	0.11% Avg for View: 1.55% (-93.16%)
1. London	65,892 (7.09%)	61,485 (6.91%)	84,817 (7.53%)	52.89%	3.53	00:02:10	499 (41.51%)	\$61,383.02 (59.58%)	0.59%
2. Dublin	21,836 (2.35%)	21,338 (2.40%)	28,516 (2.53%)	56.98%	3.33	00:01:54	139 (11.56%)	\$18,330.13 (17.79%)	0.49%
3. Zurich	8,767 (0.94%)	8,373 (0.94%)	11,110 (0.99%)	51.14%	3.86	00:01:56	46 (3.83%)	\$5,387.54 (5.23%)	0.41%
4. Frankfurt	4,059 (0.44%)	3,676 (0.41%)	4,859 (0.43%)	60.14%	2.92	00:01:43	23 (1.91%)	\$4,063.44 (3.94%)	0.47%

Location Filter: YoY 'Growth' and 'Decline' of users by location

Analytics Chart 2



Location Filter: New & Existing users by location

Analytics Chart 3

	Acquisition	Behavior			Conversions eCommerce ▼				
City ①	Users ⊘ ↓	New Users ?	Sessions ?	Bounce Rate	Pages / Session	Session Avg. Session		Revenue ?	Ecommerce Conversion Rate
Continent	896,856 % of Total: 21.65% (4,142,693)	890,116 % of Total: 21.55% (4,131,340)	1,125,656 % of Total: 19.84% (5,672,734)	58.71% Avg for View: 46.35% (26.67%)	3.00 Avg for View: 4.56 (-34.23%)	00:01:59 Avg for View: 00:02:43 (-27.11%)	1,202 % of Total: 1.36% (88,064)	\$103,018.68 % of Total: 0.85% (\$12,091,208.37)	0.11% Avg for View: 1.55% (-93.16%)
1. London	65,892 (7.09%)	61,485 (6.91%)	84,817 (7.53%)	52.89%	3.53	00:02:10	499 (41.51%)	\$61,383.02 (59.58%)	0.59%
2. (not set)	52,637 (5.67%)	49,888 (5.60%)	61,995 (5.51%)	60.92%	2.80	00:01:54	46 (3.83%)	\$2,075.56 (2.01%)	0.07%
3. Paris	24,237 (2.61%)	23,066 (2.59%)	31,334 (2.78%)	58.70%	2.87	00:02:16	46 (3.83%)	\$0.00 (0.00%)	0.15%
4. Dublin	21,836 (2.35%)	21,338 (2.40%)	28,516 (2.53%)	56.98%	3.33	00:01:54	139 (11.56%)	\$18,330.13 (17.79%)	0.49%
5. Madrid	16,351 (1.76%)	15,574 (1.75%)	21,442 (1.90%)	59.76%	2.76	00:02:26	0 (0.00%)	\$0.00 (0.00%)	0.00%

Dublin:

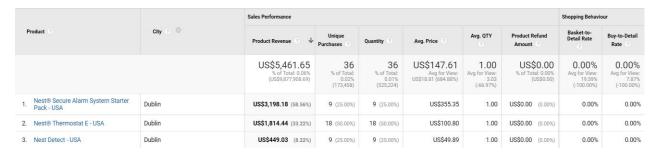
Analytics Chart 4: Nest-USA

		City 🤨 🔘	Sales Performance	Sales Performance						
Pr	Product ①		Product Revenue ② ↓	Unique Purchases	Quantity ?	Avg. Price (7)	Avg. QTY	Product Refund Amount	Basket-to- Detail Rate	Buy-to-Detail Rate
			US\$16,907.30 % of Total: 0.17% (US\$9,877,908.69)	90 % of Total: 0.05% (173,458)	136 % of Total: 0.03% (525,224)	US\$123.41 Avg for View: US\$18.81 (556.20%)	1.49 Avg for View: 3.03 (-50.82%)	US\$0.00 % of Total: 0.00% (US\$0.00)	0.00% Avg for View: 19.59% (-100.00%)	0.00% Avg for View: 7.87% (-100.00%)
1.	Nest® Learning Thermostat 3rd Gen- USA - Stainless Steel	Dublin	US\$6,827.07 (40.38%)	18 (20.00%)	46 (33.82%)	US\$148.41	2.56	US\$0.00 (0.00%)	0.00%	0.00%
2.	Nest® Cam Outdoor Security Camera - USA	Dublin	US\$3,271.49 (19.35%)	18 (20.00%)	27 (19.85%)	US\$121.17	1.50	US\$0.00 (0.00%)	0.00%	0.00%
3.	Nest® Protect Smoke + CO White Wired Alarm-USA	Dublin	US\$2,171.83 (12.85%)	18 (20.00%)	27 (19.85%)	US\$80.44	1.50	US\$0.00 (0.00%)	0.00%	0.00%

Analytics Chart 5: Apparel



Analytics Chart 6: Nest



Zurich:

Analytics Chart 7: Nest-USA

			Sales Performance							Shopping Behaviour			
P	Product ①	City 3 ©	City 💿 🔘	City ?	City 🕜 🔘	Product Revenue ? ↓	Unique Purchases	Quantity ?	Avg. Price ③	Avg. QTY	Product Refund Amount	Basket-to- Detail Rate	Buy-to-Detail Rate
			US\$4,994.30 % of Total: 0.05% (US\$9,877,908.69)	27 % of Total: 0.02% (173,458)	45 % of Total: 0.01% (525,224)	US\$108.57 Avg for View: US\$18.81 (477.29%)	1.70 Avg for View: 3.03 (-43.73%)	US\$0.00 % of Total: 0.00% (US\$0.00)	0.00% Avg for View: 19.59% (-100.00%)	0.00% Avg for View: 7.87% (-100.00%)			
1.	Nest® Cam Outdoor Security Camera - USA	Zurich	US\$2,181.00 (43.67%)	9 (33.33%)	18 (40.00%)	US\$121.17	2.00	US\$0.00 (0.00%)	0.00%	0.00%			
2.	Nest® Protect Smoke + CO White Battery Alarm-USA	Zurich	US\$1,447.89 (28.99%)	9 (33.33%)	18 (40.00%)	US\$80.44	2.00	US\$0.00 (0.00%)	0.00%	0.00%			

Analytics Chart 8: Office

Product ③		Sales Performance							Shopping Behaviour	
	City ③	Product Revenue ? ↓	Unique Purchases	Quantity ?	Avg. Price ③	Avg. QTY	Product Refund Amount	Basket-to- Detail Rate	Buy-to-Detail Rate	
		US\$2,159.46 % of Total: 0.02% (US\$9,877,908.69)	27 % of Total: 0.02% (173,458)	1,237 % of Total: 0.24% (525,224)	US\$1.75 Avg for View: US\$18.81 (-90.72%)	45.81 Avg for View: 3.03 (1,413.06%)	US\$0.00 % of Total: 0.00% (US\$0.00)	0.00% Avg for View: 19.59% (-100.00%)	150.00% Avg for View: 7.87% (1,807.18%)	
Google Metallic Notebook Set	Zurich	US\$1,316.84 (60.98%)	9 (33.33%)	275 (22.23%)	US\$4.79	30.56	US\$0.00 (0.00%)	0.00%	100.00%	

Analytics Chart 9: Lifestyle

Product ①		Sales Performance	Sales Performance						
	City 3	Product Revenue 🦿 🔱	Unique Purchases	Quantity 2	Avg. Price	Avg. QTY ②	Product Refund Amount	Basket-to-Detail Rate	Buy-to-Detail Rate
		U\$\$582.82 % of Total: 0.01% (U\$\$9,877,908.69)	18 % of Total: 0.01% (173,458)	367 % of Total: 0.07% (525,224)	US\$1.59 Avg for View: US\$18.81 (-91.56%)	20.39 Avg for View: 3.03 (573.35%)	US\$0.00 % of Total: 0.00% (US\$0.00)	0.00% Avg for View: 19.59% (-100.00%)	28.12% Avg for View: 7.87% (257.60%)
Google Mini Kick Ball	Zurich	US\$437.12 (75.00%)	9 (50.00%)	275 (74.93%)	US\$1.59	30.56	US\$0.00 (0.00%)	0.00%	0.00%

Paris:

Analytics Chart 10: Waze

Product 9		Sales Performance						Shopping Behaviour	
	City 🕜 🔍	Product Revenue ○ ↓	Unique Purchases	Quantity (?)	Avg. Price ?	Avg. QTY ?	Product Refund Amount	Basket-to-Detail Rate	Buy-to-Detail Rate
		U\$\$246.97 % of Total: 0.00% (U\$\$9,877,908.69)	27 % of Total: 0.02% (173,458)	45 % of Total: 0.01% (525,224)	US\$5.37 Avg for View: US\$18.81 (-71.45%)	1.70 Avg for View: 3.03 (-43.73%)	US\$0.00 % of Total: 0.00% (US\$0.00)	0.00% Avg for View: 19.59% (-100.00%)	0.00% Avg for View: 7.87% (-100.00%)
Waze Men's Short Sleeve Tee	Paris	US\$174.02 (70.46%)	9 (33.33%)	9 (20.00%)	US\$19.34	1.00	US\$0.00 (0.00%)	0.00%	0.00%
2. Waze Mood Ninja Window De	ecal Paris	US\$36.47 (14.77%)	9 (33.33%)	18 (40.00%)	US\$2.03	2.00	US\$0.00 (0.00%)	0.00%	0.00%
3. Waze Mood Original Window	Decal Paris	US\$36.47 (14.77%)	9 (33.33%)	18 (40.00%)	US\$2.03	2.00	US\$0.00 (0.00%)	0.00%	0.00%

Analytics Chart 11: Apparel

		Sales Performance						Shopping Behaviour	
Product ①	City ③	Product Revenue ⊘ ↓	Unique Purchases	Quantity ?	Avg. Price	Avg. QTY	Product Refund Amount	Basket-to- Detail Rate	Buy-to-Detail Rate
		US\$183.28 % of Total: 0.00% (US\$9,877,908.69)	36 % of Total: 0.02% (173,458)	36 % of Total: 0.01% (525,224)	US\$4.95 Avg for View: US\$18.81 (-73.66%)	1.00 Avg for View: 3.03 (-66.97%)	US\$0.00 % of Total: 0.00% (US\$0.00)	0.00% Avg for View: 19.59% (-100.00%)	17.54% Avg for View: 7.87% (122.96%)
1. Google Infant Charcoal Onesie	Paris	US\$183.28(100.00%)	9 (25.00%)	9 (25.00%)	US\$20.36	1.00	US\$0.00 (0.00%)	0.00%	100.00%
Professional Cloud Architect Men's N Face Pullover	orth Paris	US\$0.00 (0.00%)	9 (25.00%)	9 (25.00%)	US\$0.00	1.00	US\$0.00 (0.00%)	0.00%	0.00%
Professional Data Engineer North Fac Pullover Men's	e Paris	US\$0.00 (0.00%)	9 (25.00%)	9 (25.00%)	US\$0.00	1.00	US\$0.00 (0.00%)	0.00%	0.00%

Analytics Chart 12: Lifestyle

Product ③	City •	Sales Performance							Shopping Behaviour	
		Product Revenue ○ ↓	Unique Purchases	Quantity 2	Avg. Price 2	Avg. QTY	Product Refund Amount	Basket-to-Detail Rate	Buy-to-Detail Rate	
		US\$36.56 % of Total: 0.00% (US\$9,877,908.69)	9 % of Total: 0.01% (173,458)	9 % of Total: 0.00% (525,224)	US\$4.06 Avg for View: US\$18.81 (-78.40%)	1.00 Avg for View: 3.03 (-66.97%)	US\$0.00 % of Total: 0.00% (US\$0.00)	0.00% Avg for View: 19.59% (-100.00%)	8.91% Avg for View: 7.87% (13.30%)	
1. Windup Android	Paris	US\$36.56(100.00%)	9(100.00%)	9(100.00%)	US\$4.06	1.00	US\$0.00 (0.00%)	0.00%	0.00%	