Project Plan

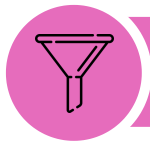**1. The main product metrics**
1.1.General product funnel by events
1.2. Conversion rate for 1 day
1.3. Conversion rate for 1 week
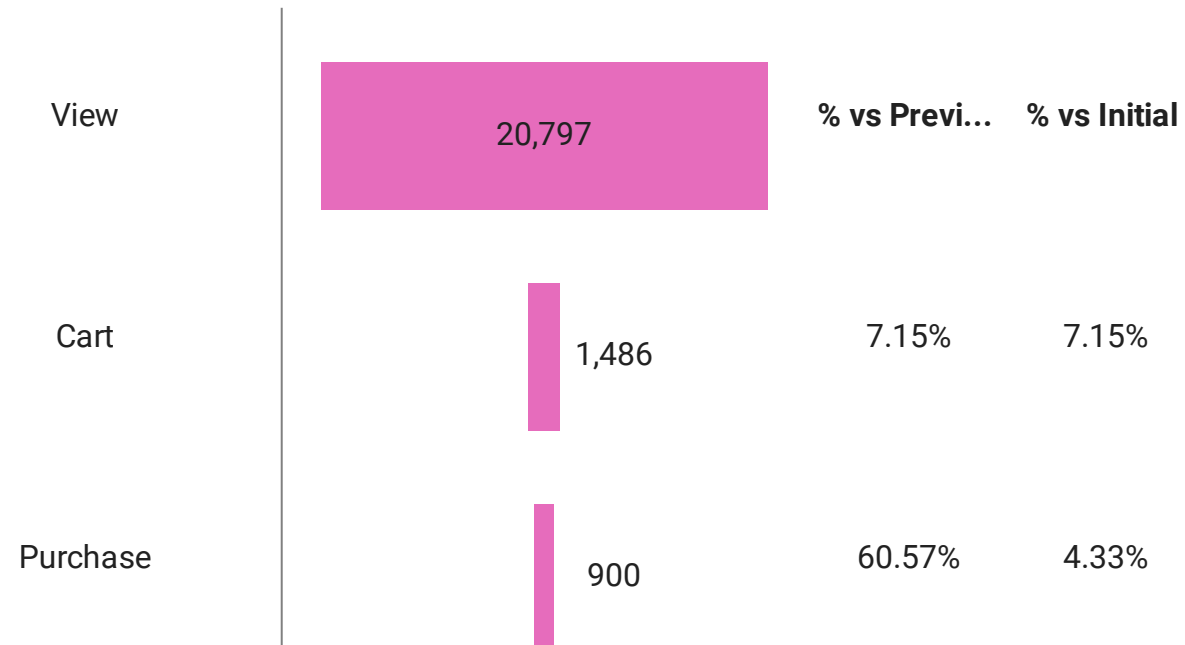**2. Retention analysis**
2.1. Average day retention
2.2. Countries with the highest retention
2.3. Countries with he highest and lowest average purchase receipts
3. Churn analysis

General funnel

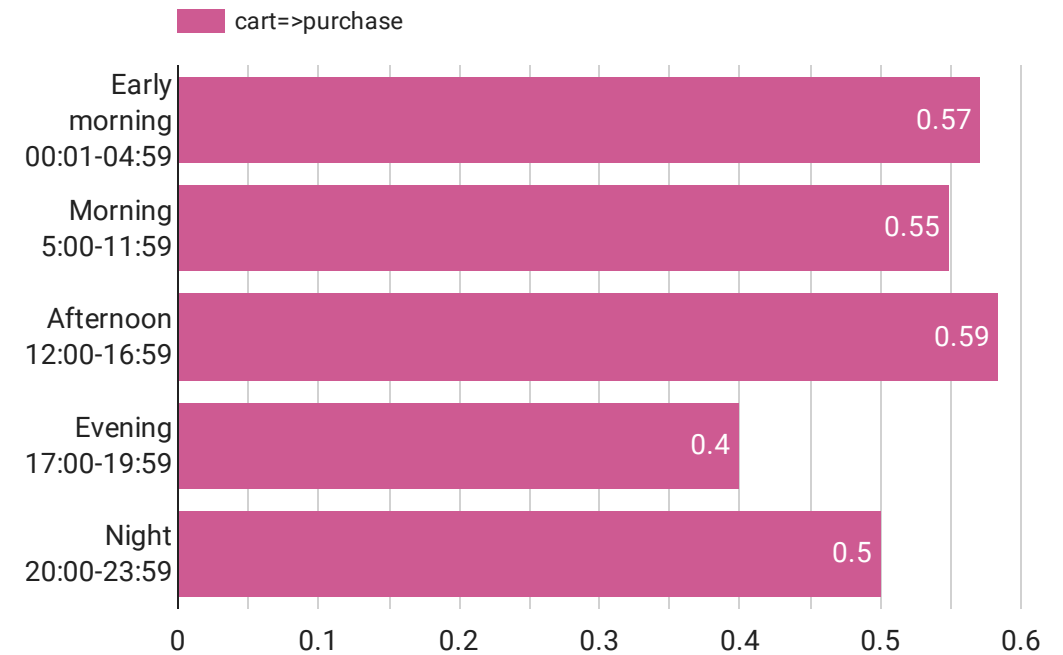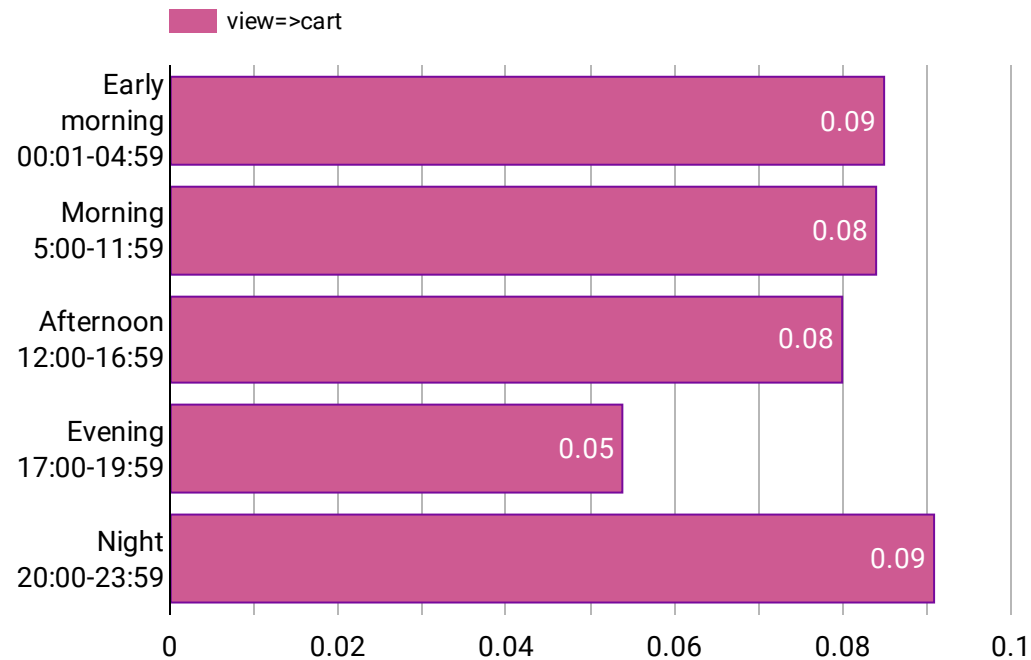|		% vs Previ...	% vs Initial
View	20,797		
Cart	1,486	7.15%	7.15%
Purchase	900	60.57%	4.33%

Most users drop out at the viewing stage, with only 4.33% of users adding the product to the cart. The conversion rate from cart to purchase is 60.57%, which is good. However, the overall conversion rate from viewing to purchase is only 7.15%, which is low.

Conversion rate for 1 day

view=>cart

Early morning 00:01-04:59	0.09
Morning 5:00-11:59	0.08
Afternoon 12:00-16:59	0.08
Evening 17:00-19:59	0.05
Night 20:00-23:59	0.09

0   0.02   0.04   0.06   0.08   0.1

cart=>purchase

Early morning 00:01-04:59	0.57
Morning 5:00-11:59	0.55
Afternoon 12:00-16:59	0.59
Evening 17:00-19:59	0.4
Night 20:00-23:59	0.5

0   0.1   0.2   0.3   0.4   0.5   0.6

Conversions are **the highest** in the morning and at night, with 9% of users adding products to their cart and more than 50% of users who add a product to their cart making a purchase. The **highest** cart-to-purchase conversion rate is in the afternoon at 59%.

To improve the product, increase the number of users who add products to their cart by simplifying the checkout process, offering multiple payment options, and addressing any concerns that users may have about the purchase.

Conversion rate for a week

Legend: view | cart | purchase

Day	view	cart	purchase
Thursday	1,355	81	56
Friday	2,445	193	105
Saturday	2,028	132	73
Sunday	2,183	137	70
Monday	2,726	197	118
Tuesday	2,828	217	133
Wednesday	2,733	150	96

Legend: view=>cart | cart=>purchase

Day	view=>cart	cart=>purchase
Thursday	0.06	0.69
Friday	0.08	0.54
Saturday	0.07	0.55
Sunday	0.06	0.51
Monday	0.07	0.6
Tuesday	0.08	0.61
Wednesday	0.05	0.64
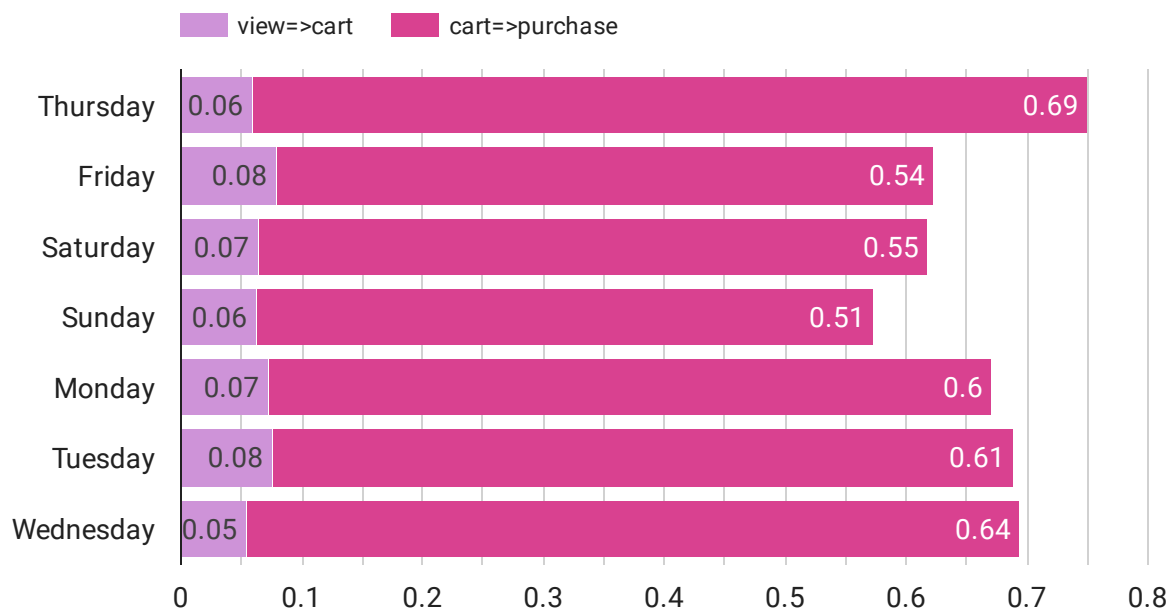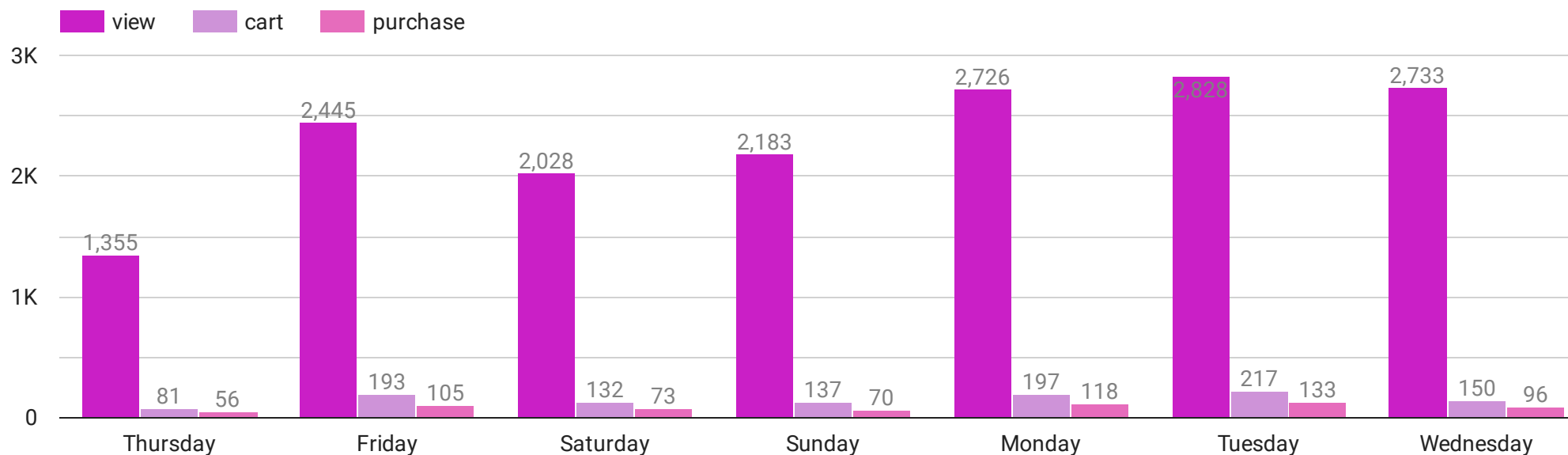
The **best conversion for view=>cart** is on Tuesday and Friday (8%).
The **best conversion for cart=>purchase** is on Thursday (69%).
The **lowest conversion for view=>cart** is on Wednesday (5%), **for cart=>purchase** is on Sunday (51%).

Retention analysis

	first_day_invoice ▲	day_0	returned_day_1	returned_day_2	returned_day_3	returned_day_4	returned_day_5	returned_day_6	returned_day_7	returned_day_8
1.	Jan 12, 2010	95	95	6	4	0	5	7	3	0
2.	Feb 12, 2010	93	0	93	0	0	0	2	6	0
3.	Mar 12, 2010	46	0	0	46	0	1	1	1	0
4.	May 12, 2010	69	0	0	0	0	69	2	3	0
5.	Jun 12, 2010	70	0	0	0	0	0	70	2	0
6.	Jul 12, 2010	50	0	0	0	0	0	0	50	0
7.	Aug 12, 2010	8	0	0	0	0	0	0	0	8

Retention analysis

	Cohorts	1/12/2010	2/12/2010	3/12/2010 ▾	5/12/2010	6/12/2010	7/12/2010	8/12/2010
1.	returned_day_2	4.21%	0.00%	2.17%	4.35%	0.00%	0.00%	0.00%
2.	returned_day_3	0.00%	0.00%	2.17%	0.00%	0.00%	0.00%	0.00%
3.	returned_day_4	5.26%	2.15%	2.17%	0.00%	0.00%	0.00%	0.00%
4.	day_0	100%	100%	100%	100%	100%	100%	100%
5.	returned_day_1	6.32%	0.00%	0.00%	2.90%	2.86%	0.00%	0.00%
6.	returned_day_5	7.37%	6.45%	0.00%	0.00%	0.00%	0.00%	0.00%
7.	returned_day_6	3.16%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
8.	returned_day_7	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

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The **highest retention** was for cohort that used the app on 1/12/2010 for the 1st time and returned on the 5th day (7,37%).
The **lowest retention** was for cohorts that used app for the 1st time on 7/12/2010 and 8/12/2010.
The **highest average retention** was on the 5th day(1,97%), the **lowest average retention** was on the 7th day (0%).

	Day	Average_retention
1.	returned_day_1	1.72%
2.	returned_day_2	1.53%
3.	returned_day_3	0.31%
4.	returned_day_4	1.37%
5.	returned_day_5	1.97%
6.	returned_day_6	0.45%
7.	returned_day_7	0%

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Retention analysis by countries

	Country	distinct_cus...	cohort_day...	cohort_day_2	cohort_day_3	cohort_day_4	cohort_day_5	cohort_day_6	cohort_day_7	cohort_day_8
1.	United Ki...	401	89	97	37	0	69	79	61	7
2.	Australia	1	1	0	0	0	0	0	0	0
3.	EIRE	2	1	1	2	0	0	1	0	0
4.	France	5	1	0	2	0	1	0	2	0
5.	Germany	10	1	1	3	0	3	1	1	1
6.	Netherla...	1	1	0	0	0	0	0	0	0
7.	Norway	1	1	0	0	0	0	0	0	0
8.	Belgium	1	0	0	1	0	0	0	0	0
9.	Iceland	1	0	0	0	0	0	0	1	0
10.	Italy	1	0	0	1	0	0	0	0	0
11.	Japan	1	0	0	0	0	1	0	0	0
12.	Lithuania	1	0	0	0	0	1	0	0	0
13.	Poland	1	0	0	1	0	0	0	0	0
14.	Portugal	2	0	0	1	0	0	1	0	0
15.	Spain	1	0	0	1	0	0	0	0	0
16.	Switzerla...	1	0	0	1	0	0	0	0	0

Retention analysis by countries

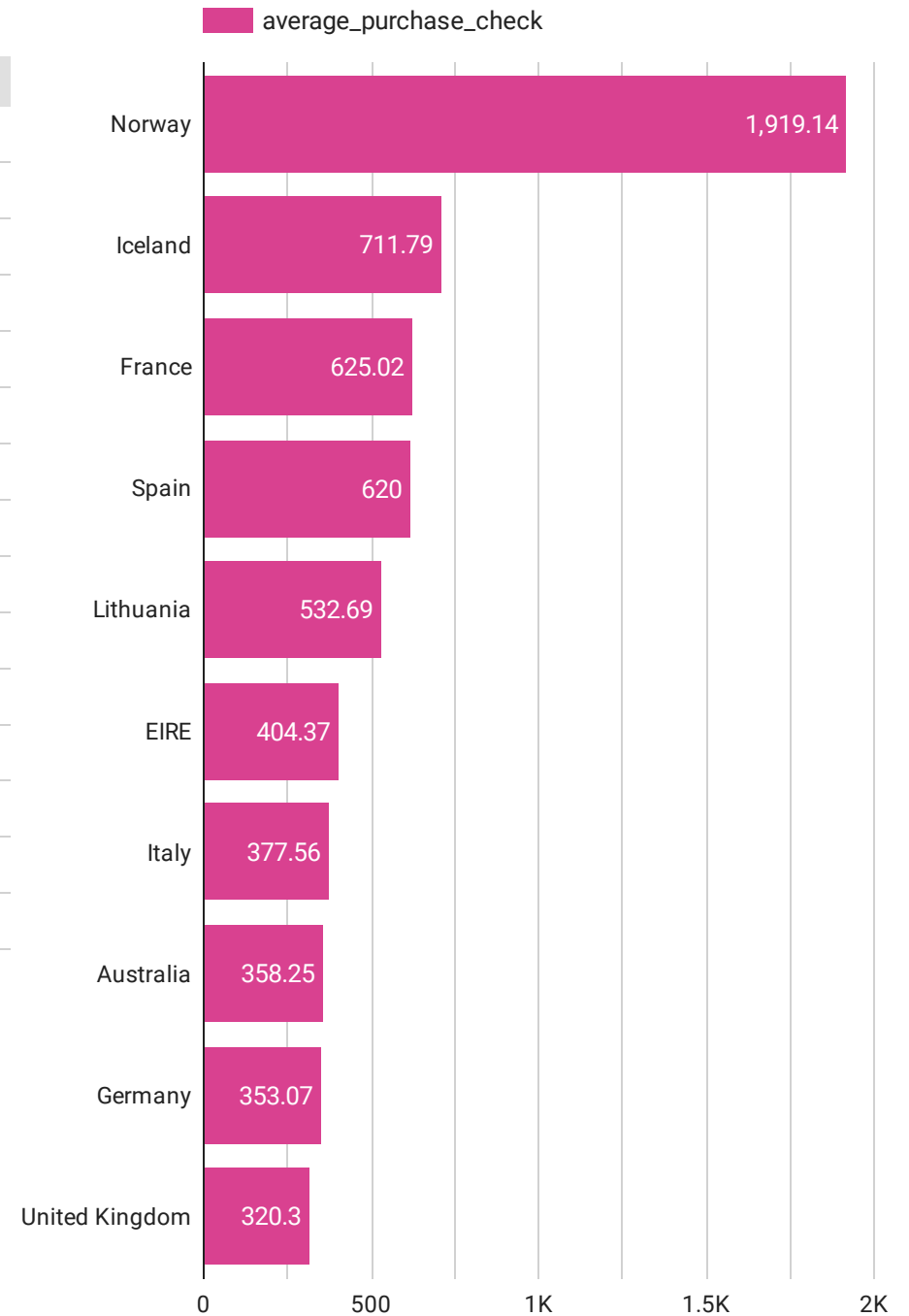|	Country	day_0	returned_da...	returned_da...	returned_da...	returne...	returned_...	returned_day_6	returned_da...	returned_da...
1.	Netherlands	1	100%	0%	0%	0%	0%	0%	0%	0%
2.	Norway	1	100%	0%	0%	0%	0%	0%	0%	0%
3.	Belgium	1	50%	100%	0%	0%	50%	0%	0%	0%
4.	EIRE	2	50%	50%	100%	0%	0%	50%	0%	0%
5.	United King...	401	22%	24%	9%	0%	17%	20%	15%	2%
6.	France	5	20%	0%	40%	0%	20%	0%	40%	0%
7.	Germany	10	10%	10%	30%	0%	30%	10%	10%	10%
8.	Australia	1	0%	0%	0%	0%	0%	0%	0%	0%
9.	Iceland	1	0%	0%	0%	0%	0%	0%	100%	0%
1...	Italy	1	0%	0%	100%	0%	0%	0%	0%	0%
1...	Japan	1	0%	0%	0%	0%	100%	0%	0%	0%
1...	Lithuania	1	0%	0%	0%	0%	100%	0%	0%	0%
1...	Poland	1	0%	0%	100%	0%	0%	0%	0%	0%
1...	Portugal	2	0%	0%	50%	0%	0%	50%	0%	0%
1...	Spain	1	0%	0%	100%	0%	0%	0%	0%	0%

Countries with the highest and lowest average purchase receipts

	Country	unique_orders	total_purchase_amount	total_purchase_amoun...
1.	United Kingdom	534	171042.12	171,042.12
2.	Germany	12	4236.84	4,236.84
3.	France	6	3750.15	3,750.15
4.	EIRE	8	3235	3,235
5.	Norway	1	1919.14	1,919.14
6.	Lithuania	3	1598.06	1,598.06
7.	Iceland	1	711.79	711.79
8.	Spain	1	620	620
9.	Italy	1	377.56	377.56
10.	Australia	1	358.25	358.25
11.	Japan	1	320.08	320.08
12.	Belgium	1	315.86	315.86
13.	Poland	1	248.16	248.16
14.	Switzerland	1	229.16	229.16
15.	Portugal	2	210.96	210.96
16.	Netherlands	1	192.6	192.6

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The **highest average purchase** check is in Norway (1919$).
The **lowest average purchase** check is in United Kingdom (320$).

average_purchase_check

Norway — 1,919.14
Iceland — 711.79
France — 625.02
Spain — 620
Lithuania — 532.69
EIRE — 404.37
Italy — 377.56
Australia — 358.25
Germany — 353.07
United Kingdom — 320.3

Churn analysis

Legend: Female, Male

Top left chart:
- with_paperless_billing: Female 9.92%, Male 9.95%
- without_paperless_billing: Female 3.41%, Male 3.25%

Top right chart:
- without_partners: Female 8.8%, Male 8.24%
- with_partners: Female 4.53%, Male 4.97%

Bottom left chart:
- Fiber optic: Female 107.1%, Male 102.1%
- DSL: Female 35.32%, Male 38.71%
- No_Internet_Service: Female 9.03%, Male 9.19%

Bottom right chart:
- without_dependents: Female 10.99%, Male 10.92%
- with_dependents: Female 2.34%, Male 2.29%