

Construction of a multi-dimensional analytical dataset from an e-commerce BigQuery database, with insights visualized in Looker Studio.

--1 cte--Metrics by account

```
WITH cte_account AS (  
  SELECT  
    s.date AS date,  
    sp.country AS country,  
    acc.send_interval AS send_interval,  
    acc.is_verified AS is_verified,  
    acc.is_unsubscribed AS is_unsubscribed,  
    COUNT(DISTINCT acc.id) AS account_cnt  
  
    FROM `DA.account` acc  
    JOIN `DA.account_session` acs  
ON acc.id=acs.account_id  
    JOIN `DA.session` s  
ON acs.ga_session_id=s.ga_session_id  
    JOIN `DA.session_params` sp  
ON acs.ga_session_id=sp.ga_session_id  
  GROUP BY 1,2,3,4,5  
  ORDER BY 1,2  
)
```

--2 cte Metrics by emails

```
cte_email AS (  
  SELECT  
    DATE_ADD(s.date,INTERVAL es.sent_date DAY) AS date,  
    sp.country AS country,  
    acc.send_interval AS send_interval,  
    acc.is_verified AS is_verified,  
    acc.is_unsubscribed AS is_unsubscribed,  
    COUNT (DISTINCT es.id_message) AS sent_msg,  
    COUNT (DISTINCT eo.id_message) AS open_msg,  
    COUNT (DISTINCT ev.id_message) AS visit_msg  
  
    FROM `DA.email_sent` es  
    LEFT JOIN `DA.email_open` eo  
ON es.id_message=eo.id_message  
    LEFT JOIN `DA.email_visit` ev  
ON es.id_message=ev.id_message  
    LEFT JOIN `DA.account` acc  
ON es.id_account=acc.id
```

```

JOIN `DA.account_session` acs
ON acs.account_id=acc.id
JOIN `DA.session` s
ON s.ga_session_id=acs.ga_session_id
JOIN `DA.session_params` sp
ON acs.ga_session_id=sp.ga_session_id
GROUP BY 1,2,3,4,5
--ORDER BY date, country
),
--3 cte - Merging tables with account-level and email-level metrics
cte_union_account_email AS
(
SELECT
    date,
    country,
    send_interval,
    is_verified,
    is_unsubscribed,
    account_cnt,
    0 AS sent_msg,
    0 AS open_msg,
    0 AS visit_msg
FROM cte_account
UNION ALL
SELECT
    date,
    country,
    send_interval,
    is_verified,
    is_unsubscribed,
    0 AS account_cnt,
    sent_msg,
    open_msg,
    visit_msg
FROM cte_email
)
,
--4 cte - Calculating the total number of accounts and messages
cte_union_upd AS
(
SELECT
    date,
    country,
    send_interval,

```

```

    is_verified,
    is_unsubscribed,
    SUM(account_cnt) AS account_cnt,
    SUM(sent_msg) AS sent_msg,
    SUM(open_msg) AS open_msg,
    SUM(visit_msg) AS visit_msg
FROM cte_union_account_email
GROUP BY ALL)
,
--5 cte - Ranking countries by the number of accounts and sent messages
cte_ranking AS
(
SELECT
    country,
    DENSE_RANK() OVER (ORDER BY SUM(account_cnt) DESC) AS
rank_total_country_account_cnt,
    DENSE_RANK() OVER (ORDER BY SUM(sent_msg) DESC) AS rank_total_country_sent_cnt,
FROM cte_union_upd
GROUP BY country
ORDER BY 2
),
--6 cte - Calculating the total number of accounts and sent messages for each
country
cte_total_account_email_cnt AS (
    SELECT
        country,
        SUM(account_cnt) AS total_country_account_cnt,
        SUM(sent_msg) AS total_country_sent_cnt
FROM cte_union_upd
GROUP BY country)

--FINAL - Displaying all account- and email-level metrics, including total counts
and country rankings based on the overall number of accounts and sent emails -
limited to the top 10 countries in each category.

SELECT
    cte_union_upd.date,
    cte_union_upd.country AS country,
    cte_union_upd.send_interval,
    cte_union_upd.is_verified,
    cte_union_upd.is_unsubscribed,
    cte_union_upd.account_cnt,
    cte_union_upd.sent_msg,
    cte_union_upd.open_msg,

```

```

cte_union_upd.visit_msg,
total_country_account_cnt,
total_country_sent_cnt,
rank_total_country_account_cnt,
rank_total_country_sent_cnt
FROM cte_union_upd
JOIN cte_total_account_email_cnt
ON cte_total_account_email_cnt.country= cte_union_upd.country

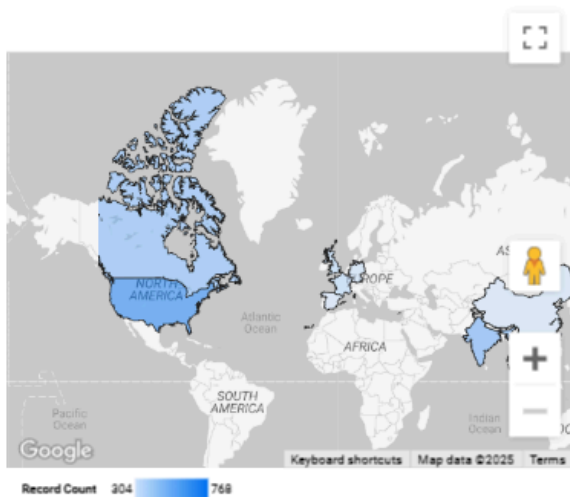
JOIN cte_ranking
ON cte_union_upd.country=cte_ranking.country
WHERE rank_total_country_account_cnt<=10
AND rank_total_country_sent_cnt<=10

```

--Looker Studio

## LUXURY FURNITURE

Map1. Number of accounts by country



Map 2. Number of sent messages by country

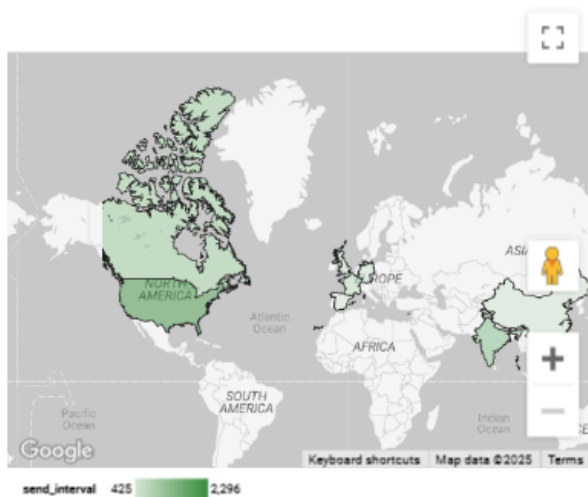


Figure 1. Ranks of top 10 countries by numbers of accounts

	country	rank_total_c...	account_cnt ▾
1.	United States	1	<div></div>
2.	India	2	<div></div>
3.	Canada	3	<div></div>
4.	United Kingdom	4	<div></div>
5.	France	5	<div></div>
6.	Spain	6	<div></div>
7.	Taiwan	7	<div></div>
8.	China	8	<div></div>
9.	Germany	8	<div></div>
10.	Singapore	10	<div></div>

1 - 10 / 10 < >

Figure 2. Ranks of top 10 countries by numbers of sent messages

	country	rank_total_c...	sent_msg ▾
1.	United States	1	<div></div>
2.	India	2	<div></div>
3.	Canada	3	<div></div>
4.	United Kingdom	4	<div></div>
5.	China	5	<div></div>
6.	France	6	<div></div>
7.	Spain	7	<div></div>
8.	Germany	8	<div></div>
9.	Taiwan	9	<div></div>
10.	Singapore	10	<div></div>

1 - 10 / 10 < >

Figure 3. Dynamics of the number of sent messages

