



PROJECT-3: DATA ANALYSIS USING POWER BI E-COMMERCE WEBSITE LOGS

My dataset presents a compilation of e-commerce website access logs. The dataset captures instances of website access, detailing timestamps, durations, originating IP addresses, countries, languages, platforms, data usage, and sales or return amounts associated with each access session.

This dataset serves as a valuable resource for analysts aiming to study online consumer behavior. By exploring access patterns, geographical distributions, language preferences, platform utilization, data consumption trends, and sales performance metrics, analysts can gain valuable insights into the dynamics of e-commerce interactions.

This dataset was obtained from a data repository named Kaggle, and the data was originally obtained from actual website access logs.



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DATA DICTIONARY

Accessed_Date: Timestamp indicating when the website was accessed.

Duration_(secs): Duration of the access session in seconds.

Network_Protocol: Protocol used for accessing the website.

IP: IP address of the device or network accessing the website.

Bytes: Number of bytes transferred during the access session.

Accessed_From: Software or platform used to access the website.

Age: Age of the user accessing the website.

Gender: Gender of the user accessing the website.

Country: Country from which the website was accessed.

Membership: Membership status of the user accessing the website.

Language: Language in which the website was accessed.

Sales: Amount of sales made by the user during the access session.

Returned: Indicates whether a purchase was returned (Yes/No).

Returned_amount: Amount refunded for returned purchases.

Pay_method: Payment method used by the user for purchases.

DATA PREP - 1

Renamed Columns:

I renamed the columns for clarity and clear understanding.

DATA PREP - 2

Formatted Misleading Names:

I changed the country name format and browser spellings to increase readability .

DATA PREP - 3

Changed Data Types:

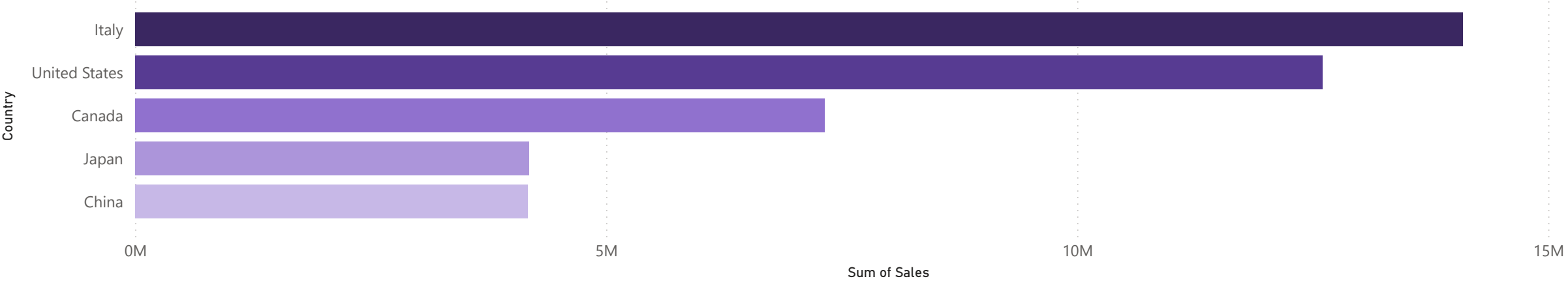
I changed the Accessed_Date column from string to the datetime format by splitting the previous column, changing the format and combining it.

QUESTION 1

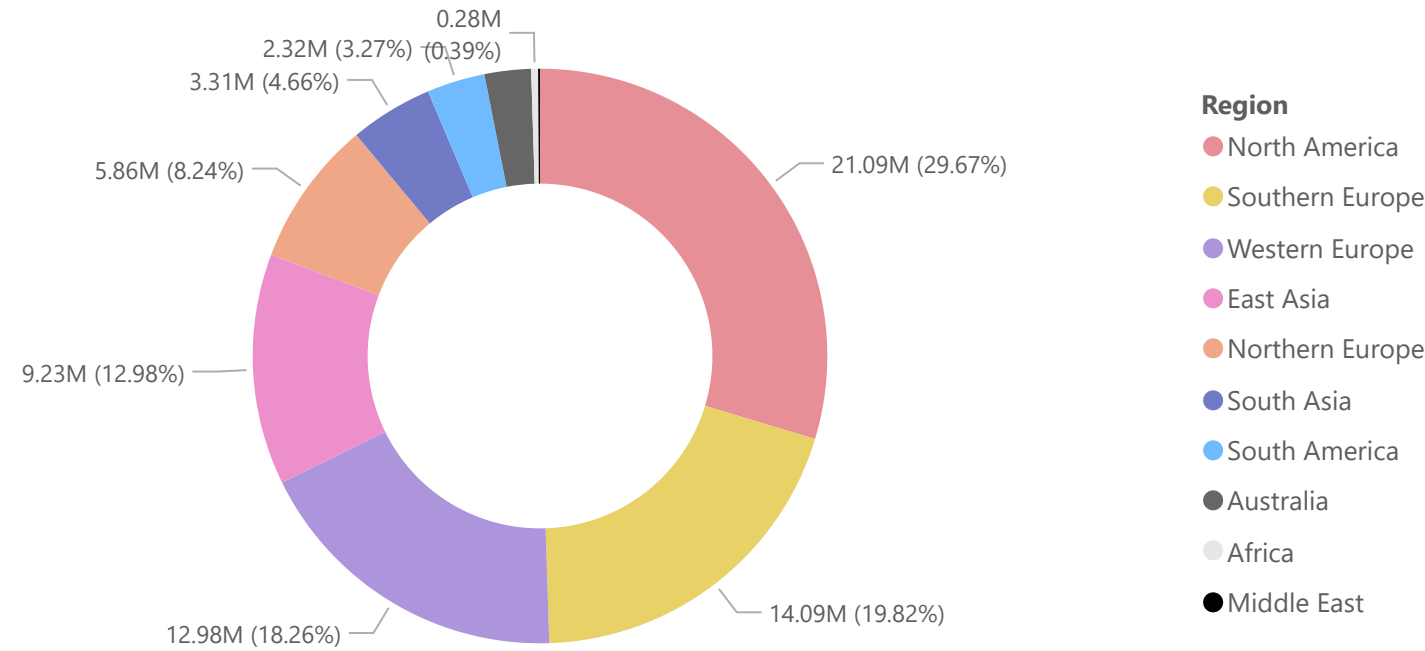
Which countries have the most sales and what is the total sales? List top 5 countries and contribution of each region to the global market sales.

Nominal Comparison & Part-to-Whole

Top 5 Countries by Sales



Sum of Sales by Region



71.10M
TOTAL SALES

DISCUSSION 1

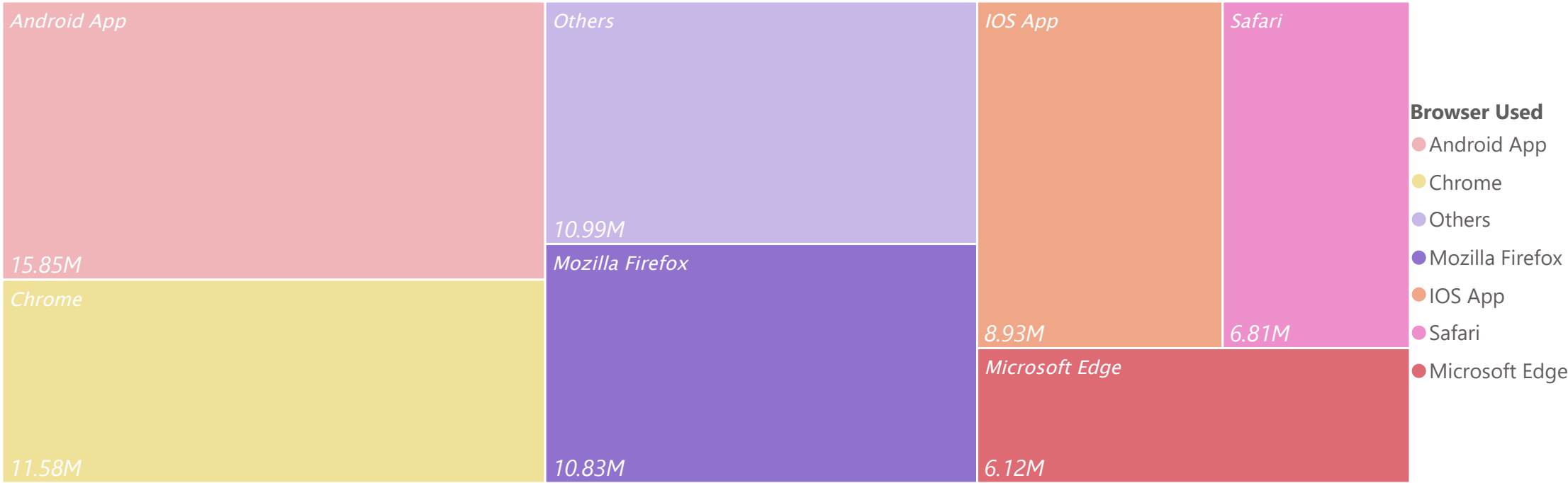
- More than 29% of total sales occurred in North America, amounting to 21.09 million dollars. This significant share could be due to a high level of consumer spending and well-established market presence and geographical area.
- Western Europe and Southern Europe follow, contributing 18.26% and 19.82% to the total sales, respectively. These regions are important markets due to their economic stability and purchasing power.
- The top countries by sales are led by Italy, the United States, and Canada, highlighting their strong market demand and consumer base. These insights suggest focusing on these key regions and countries to sustain and grow sale.

QUESTION 2

Which is the most commonly used browser and the sales contribution of each browser?

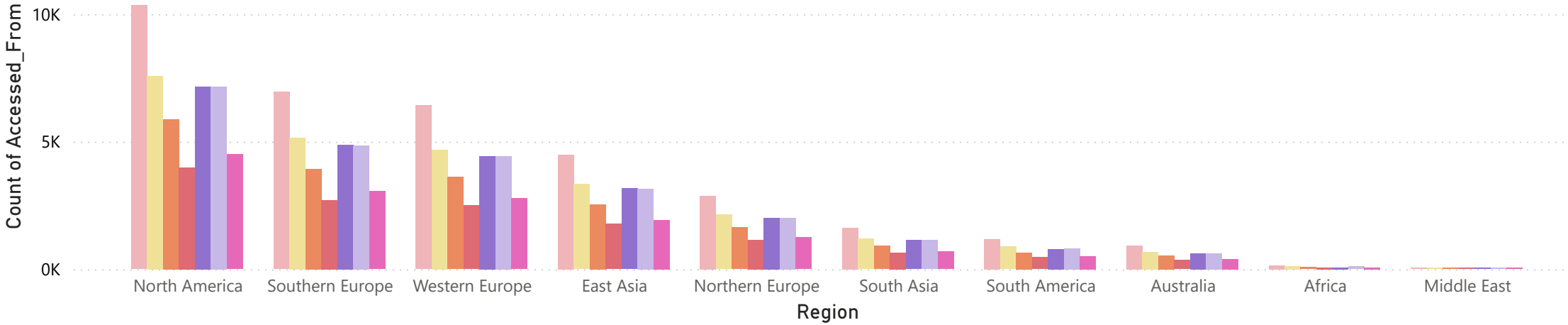
Ranking & Part-to-Whole

Sales by Browser Preference



Browser Access based on Region

Accessed_From Android App Chrome IOS App Microsoft Edge Mozilla Firefox Others Safari



DISCUSSION 2

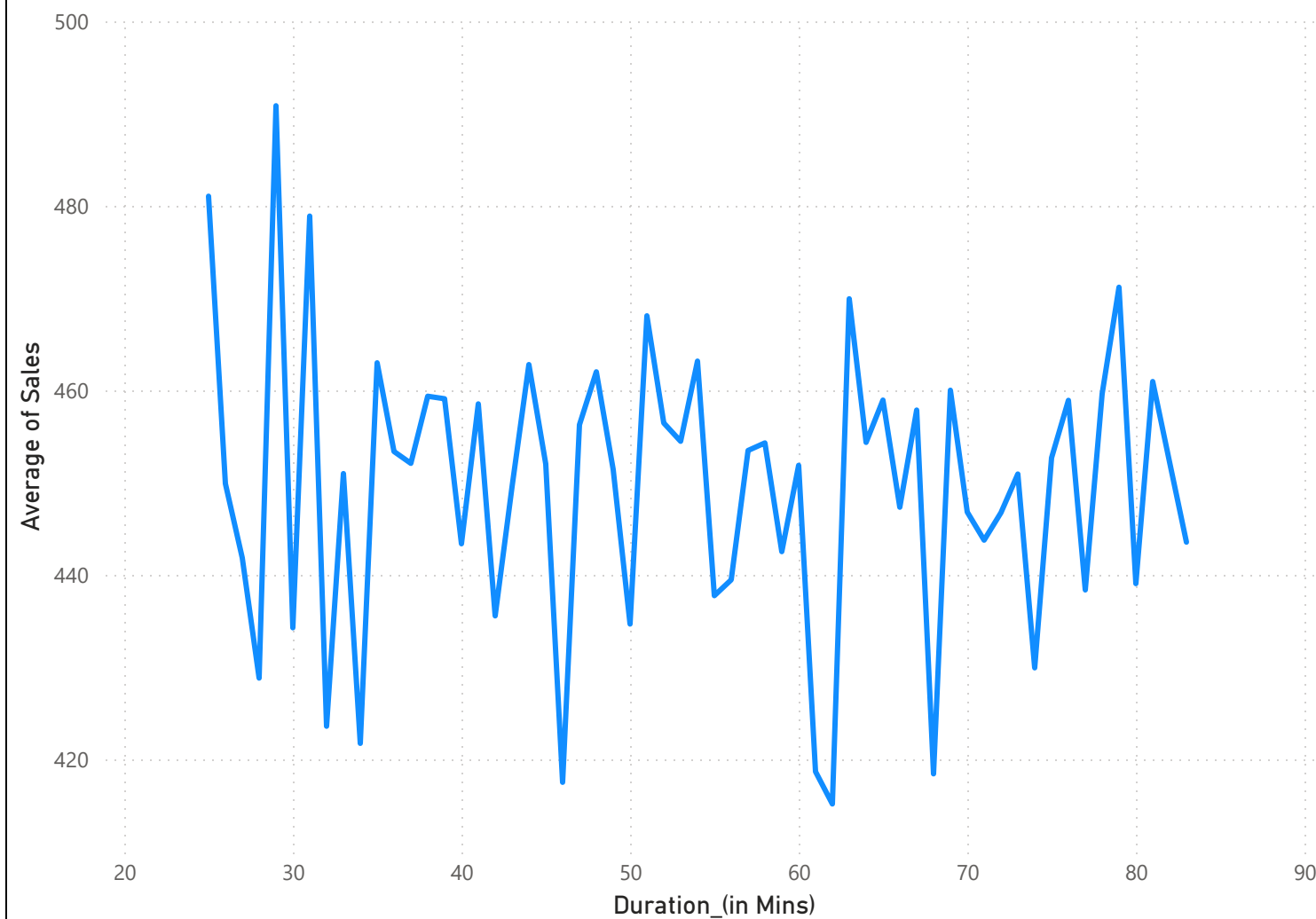
- Regionally, North America exhibits the highest browser access across all types, with the Android App and Chrome being particularly prevalent. This implies high mobile usage and influence of technology in the region.
- Southern and Western Europe also demonstrate significant browser access, particularly for the IOS App and Mozilla Firefox, indicating regional variations in browser preference. These insights suggest focusing on enhancing mobile app performance and cross-browser compatibility.
- Additionally, tailored marketing strategies targeting specific browser preferences in different regions can further drive engagement and sales. This approach ensures that user experience is optimized across all platforms, catering to the diverse preferences observed in the data.

QUESTION 3

Does the duration spent on the website influence sales?

Correlation

Average of Sales by Duration (in Minutes)



Average Duration Spent by a Customer in Minutes

53.65

AVERAGE DURATION IN MINS

Average Amount Spent by a Customer in USD

449.71

AVERAGE SALES IN USD

DISCUSSION 3

- . The average duration a customer spends is 53.65 minutes, with an average spending of \$449.71.
- . The line chart shows fluctuations in average sales relative to the duration of visits. Interestingly, there isn't a straightforward correlation between longer visit durations and higher sales.
- . Instead, the data suggests that optimal engagement and sales can occur at various points within the visit duration. This insight emphasizes the need for targeted strategies to maximize customer engagement and sales efficiency throughout the entire visit, rather than just focusing on increasing visit duration

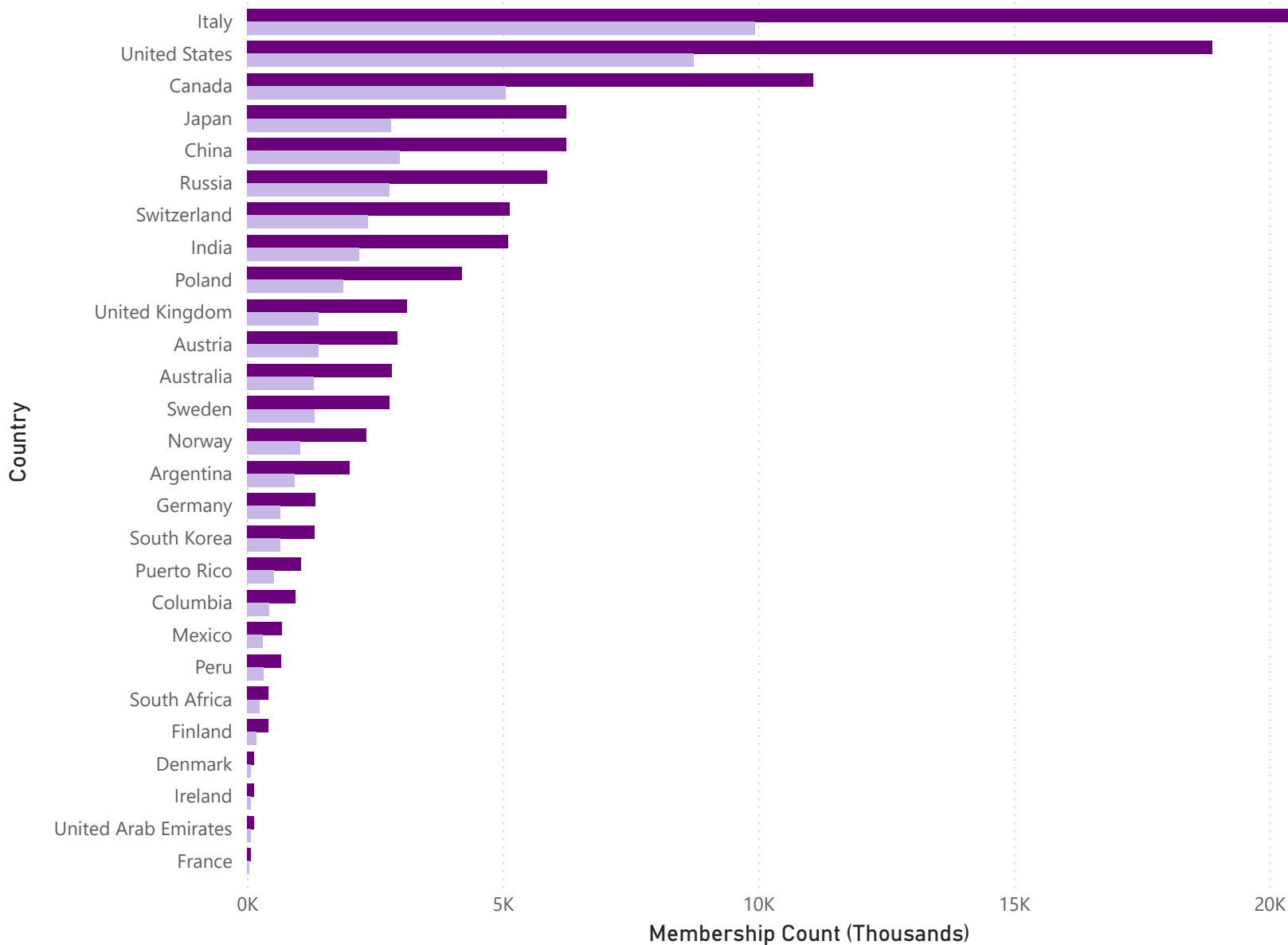
QUESTION 4

**Which is the target audience for Premier Membership?
Compare the revenue generated by Normal and Premium memberships.**

Deviation

Count of Premium Membership by Country

● TOTAL PREMIUM MEMBERSHIP COUNT ● TOTAL NORMAL MEMBERSHIP COUNT



48.40M

TOTAL PREMIUM MEMBERSHIP REVENUE

22.69M

TOTAL NORMAL MEMBERSHIP REVENUE

DISCUSSION 4

- The data shows that the total revenue from premium memberships is 48.40 million, significantly higher than the 22.69 million from normal memberships. This indicates a strong preference for premium memberships among the user base, which contributes to a substantial portion of the total revenue.
- Italy leads with the highest count of premium memberships, followed by the United States and Canada. This suggests that these countries have a significant number of users who see value in premium memberships. The large gap between premium and normal membership revenues further emphasizes the importance of promoting premium memberships to maximize revenue.
- Overall, focusing on countries with high premium membership counts and identifying strategies to convert normal members to premium could be key to increasing overall revenue.

QUESTION 5

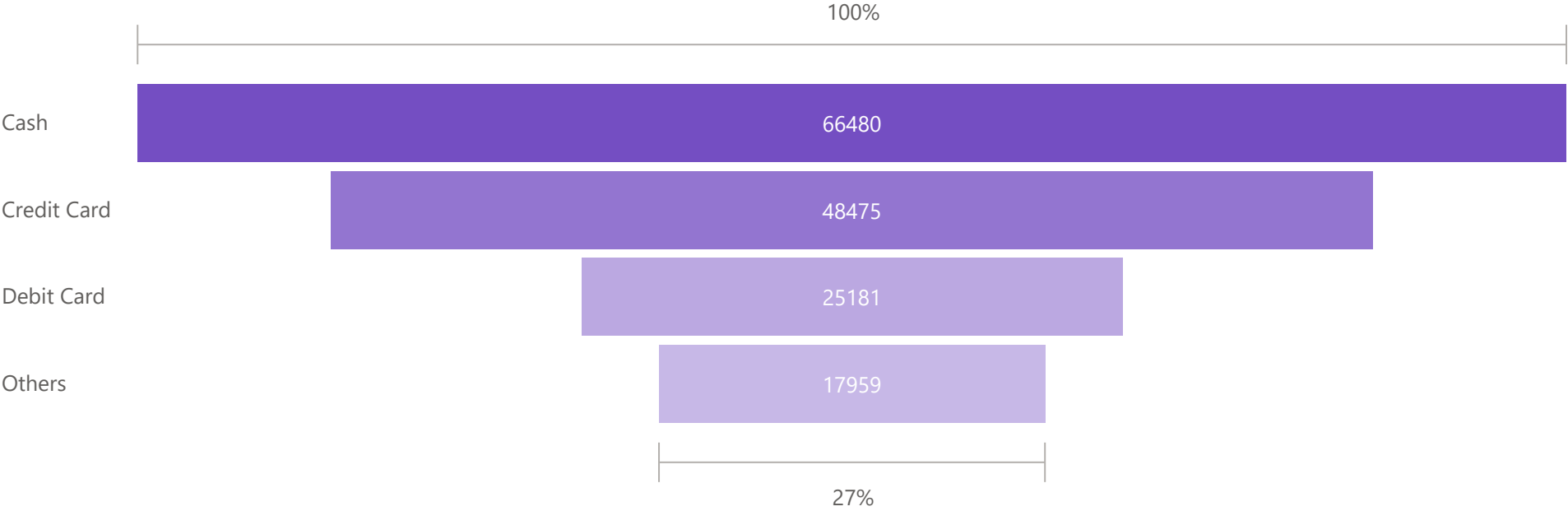
What is the breakdown of payment method usage? How does the payment method usage vary based on each country?

Ranking

Country

- ☐ Argentina
- ☐ Australia
- ☐ Austria
- ☐ Canada
- ☐ China
- ☐ Columbia
- ☐ Denmark
- ☐ Finland
- ☐ France
- ☐ Germany
- ☐ India
- ☐ Ireland
- ☐ Italy
- ☐ Japan
- ☐ Mexico
- ☐ Norway
- ☐ Peru
- ☐ Poland
- ☐ Puerto Rico

Breakdown of Payment Method Usage



DISCUSSION 5

- Cash emerges as the most frequently used payment method, indicating a strong preference for cash transactions in various regions.
- Credit cards also show significant usage, highlighting their importance in digital payments. Debit cards and other methods are less prevalent, suggesting room for growth in these areas.
- These insights can guide strategies to promote digital payments, such as offering incentives for credit card use and enhancing the security of online transactions. Understanding regional payment preferences can help tailor marketing efforts and improve the overall customer payment experience.