

BUSINESS INSIGHTS

AFTER PERFORMING EXPLORATORY DATA ANALYSIS ON THE PROVIDED DATA SET THE FOLLOWING INSIGHTS WERE OBTAINED:

1. NULL VALUE COUNT FOR EACH DATASET AFTER INSPECTION–
 - CUSTOMER = 0
 - PRODUCTS = 0
 - TRANSACTIONS = 0

THUS, THE DATASETS ARE COMPLETE ENSURING DATA RELIABILITY

2. AS THE CUSTOMER DATASET PROVIDES **REGION** COLUMN, IT ALLOWS AN ANALYSIS OF HOW CUSTOMERS ARE DISTRIBUTED ACROSS DIFFERENT REGIONS. FROM 'CUSTOMERS DISTRIBUTION BY REGION' –
SOUTH AMERICA HAS MAXIMUM CUSTOMERS.
3. AS THE PRODUCTS DATASET CONTAINS **CATEGORY** COLUMN, DISTRIBUTION OF PRODUCTS OVER CATEGORIES CAN BE IDENTIFIED-

PRODUCT CATEGORIES	DISTRIBUTION
BOOKS	26.0%
ELECTRONICS	26.0%
CLOTHING	25.0%
HOME DECOR	23.0%

4. WITH THE TRANSACTION DATASET, IDENTIFYING **TRANSACTIONS WITH THE HIGHEST TOTAL VALUE** IS POSSIBLE. AS OF HERE CUSTOMERID- C0082 WITH TOTLAVALUE- 1991.04 HAS THE HIGHEST TOTAL VALUE TRANSACTION
5. THE **TRANSACTIONDATE** COLUMN, WITH THE HELP OF GROUPBY, CAN PROVIDE VALUABLE INSIGHT INTO MONTHLY TRANSACTIONS. HERE, **JAN 2024 HAS THE HIGHEST NUMBER OF TRANSACTIONS OF ALL MONTHS.**
6. **CUSTOMER ACTIVITY** - THE TOTAL SPENDING PER CUSTOMER AND COUNT OF REPEAT PURCHASES CAN ALSO BE OBTAINED WITH THE HELP OF **TOTALSPENDING** COLUMN
7. JOINING CUSTOMERS AND TRANSACTION DATASET ON **CUSTOMERID** PROVIDES INSIGHTS REGION-WISE TOTAL TRANSACTION
8. WITH THE MERGING OF TRANSACTION AND PRODUCT DATASETS, ON **PRODUCTID** COLUMN, THE TOP 5 MOST POPULAR PRODUCTS ARE OBTAINED –

SR.NO	PRODUCT NAME	PURCHASE_COUNT
1	SOUNDWAVE JEANS	19
2	TECHPRO HEADPHONES	17
3	HOMESENSE NOVEL	16
4	ACTIVEWEAR RUG	16
5	SOUNDWAVE COOKBOOK	16

SIMILARLY LEAST POPULAR CAN BE OBTAINED