

- *Here is the Overview of the merged data set :-*

	transaction_id	customer_id	tran_date	prod_sub_cat_code	prod_cat_code	Qty	Rate	Tax	total_amt	Store_type	DOB	Gender	city_code	prod_cat
0	80712190438	270351	28-02-2014	1	1	-5	-772	405.300	-4265.300	e-Shop	26-09-1981	M	5.0	Clothing
1	29258453508	270384	27-02-2014	5	3	-5	-1497	785.925	-8270.925	e-Shop	11-05-1973	F	8.0	Electronics
2	51750724947	273420	24-02-2014	6	5	-2	-791	166.110	-1748.110	TeleShop	27-07-1992	M	8.0	Books
3	93274880719	271509	24-02-2014	11	6	-3	-1363	429.345	-4518.345	e-Shop	08-06-1981	M	3.0	Home and kitchen
4	51750724947	273420	23-02-2014	6	5	-2	-791	166.110	-1748.110	TeleShop	27-07-1992	M	8.0	Books
5	97439039119	272357	23-02-2014	8	3	-2	-824	173.040	-1821.040	TeleShop	09-10-1982	F	6.0	Electronics
6	45649838090	273667	22-02-2014	11	6	-1	-1450	152.250	-1602.250	e-Shop	29-05-1981	M	9.0	Home and kitchen
7	22643667930	271489	22-02-2014	12	6	-1	-1225	128.625	-1353.625	TeleShop	21-04-1971	M	9.0	Home and kitchen
8	79792372943	275108	22-02-2014	3	1	-3	-908	286.020	-3010.020	MBR	04-11-1971	F	8.0	Clothing
9	50076728598	269014	21-02-2014	8	3	-4	-581	244.020	-2568.020	e-Shop	27-11-1979	F	3.0	Electronics

- Data comprises of categorical variables and continuous variables

Categorical variables :-

	tran_date	Store_type	DOB	Gender	prod_cat	prod_subcat
count	23053	23053	23053	23044	23053	23053
unique	1129	4	3987	2	6	18
top	13-07-2011	e-Shop	27-12-1988	M	Books	Women
freq	35	9311	32	11811	6069	3048

Continuous variables :-

	Qty	Rate	Tax	total_amt
count	23053.000000	23053.000000	23053.000000	23053.000000
mean	2.432395	636.369713	248.667192	2107.308002
std	2.268406	622.363498	187.177773	2507.561264
min	-5.000000	-1499.000000	7.350000	-8270.925000
25%	1.000000	312.000000	98.280000	762.450000
50%	3.000000	710.000000	199.080000	1754.740000
75%	4.000000	1109.000000	365.715000	3569.150000
max	5.000000	1500.000000	787.500000	8287.500000

- Interpretation from this table :-

	Qty	Rate	Tax	total_amt
count	23053.000000	23053.000000	23053.000000	23053.000000
mean	2.432395	636.369713	248.667192	2107.308002
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25%	1.000000	312.000000	98.280000	762.450000
50%	3.000000	710.000000	199.080000	1754.740000
75%	4.000000	1109.000000	365.715000	3569.150000
max	5.000000	1500.000000	787.500000	8287.500000

- Mean of qty is positive which shows there is enough quantity present in store
- Mean of Total amount is positive which shows that store is in profitable condition

Frequency tables for all the categorical variables

```
e-Shop          9311
MBR             4661
Flagship store  4577
TeleShop        4504
Name: Store_type, dtype: int64
```

➔ 40% of the total stores are from e-shop which indicates people are preferring to shop from e-shop stores

```
: Books          6069
  Electronics    4898
  Home and kitchen 4129
  Footwear       2999
  Clothing       2960
  Bags           1998
Name: prod_cat, dtype: int64
```

➔ 47% of the total sales is from category “books” & “electronics”

➔ This shows people are moving more towards buying “books” & “electronics” equipments

➔ 34% of the total sales is from category “clothing” & “electronics”

```
4.0    2422
3.0    2411
5.0    2360
7.0    2356
10.0   2333
8.0    2330
2.0    2270
1.0    2258
9.0    2178
6.0    2127
Name: city_code, dtype: int64
```

- > This table indicated sale in all city_code is almost equal
- > City code 4 has maximum customers and they are 10.64% of the total customers

Product categories that are most popular among females vs male customers.

	Gender	prod_cat_code	customer_id
10	M	5	3116
4	F	5	2949
8	M	3	2570
2	F	3	2328
11	M	6	2134
5	F	6	1994
1	F	2	1529
6	M	1	1518
7	M	2	1469
0	F	1	1439
9	M	4	1004
3	F	4	994

→ Both male and females are preferring more and more “Books”

Store type with maximum products by value and by quantity

	Qty	total_amt
Store_type		
Flagship store	27600	24072659.260000
MBR	27869	24018167.290000
TeleShop	27059	22980349.080000
e-Shop	56372	49096588.710000

→ E-shop leads among all store types
in “quantity” and “total amount”

- ➔ Total amount earned from the Electronics and Clothing categories from Flagship Stores : 3409559.27
- ➔ 14% of the total sales from flagship store is from the Electronics and Clothing categories