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| **Data**  **visualization**      ***Supermarket Sales***  ***ASSIGNMENT******1***  *By- Team 3*  *Team Lead-G.Harshit*    **Suggestion and finding**    The analysis of the Supermarket Sales data using EDA , data analytics software by data  visualization methods  A series of sheet are developed to explore the impact of different factors on profitability  1. When chart are created for sales of 3 months and customer ratings by 3 months , considering insights about supermarket sales transactions of customers and also obtain inference about customer ratings. we found following things   1. Distribution of customer ratings count 6.5 for every 120 customers. 2. When compared with aggregate sales and branches branch C has more sales compared to A&B branches. 3. The most popular payment method used by customers is E-wallet then cash and then credit card. 4. The relationship between gross income and customer ratings is the form 0 to 10 gross income has more ratings , form 10 to 30 gross income has moderate ratings and from 30 to 50 gross has very ratings. 5. The relationship between gender and gross income according to boxplot drawn is females made more gross income than males.  |  |  |  |  | | --- | --- | --- | --- | | **Category** | **Product line** | **Payment** | **Branches & Cities** | | **Sub category** | Electronic accessories(EA),  Fashion accessories(FA),  Food and beverages(FB),  Health and beauty(HB), Home and lifestyle(HL), sports and travel(ST). | Cash,  Credit card, Member card, E-Wallet. | 1. (Yangoon) 2. (Mandalay) 3. (Naypyitaw) | | |
| **Data**  **visualization**       |  |  |  |  | | --- | --- | --- | --- | | Findings from EDA | **EA**:-Sales declined by 10% in 2nd month & Surged back 24% in 3rd month.  **FA**:-Dropped by 1.7% in 2nd month & further declined by 17.3% in 3rd month.  **FB**:-Grew by a mere 2% in 2nd month  & had steep decline of 17% in the 3rd month.  **HB**:- Sales Declined by 10% in the 2nd month & then surged back by 24% in the 3rd month.  **HL**:-Sales dropped by a staggering 39% in 2nd month but bounced back with 68%.  **ST**:-Sales dropped by a staggering 36% in 2nd month but bounced back with 42% | Most popular payment method is E-Wallet with count around 350.  Moderate payment method is Cash with count below 350. Least payment method is Credit Card with below 310. | Branch C has more aggregate sales,  Branch A & B had maintained a equal aggregate sales. | | **Solution**  **/efficiency** | 1. The Mandalay city branch should expand because they had the most sales in three months and they should focus on these three products mainly i).Health and beauty, ii).sports and travel and iii).Fashion and lifestyle. 2. For increasing customer ratings & sales we need to provide better quality products and services, this creates interest in customers to visit the store again.   3.Increase the price of the product to improve the profit margin.  4.Expand the customer base by giving advertisements and promotions.  5.Avoid product which give loses to the company and focus on higher profit margin products.  6.Focus on higher profit margin products in sub-categories which give more profits **like**  **Branch A** on **Home and lifestyle, Sports and travel & Fashion accessories, Branch B** on **Food and beverages, Sports and travel & Electronic accessories, Branch C** on **Health and beauty, Home and lifestyle, Sports & travel.** | | |   ---------------0----------------- |

# Observation Observation

According to the graph above, the majority of ratings are above six and below seven, indicating that the ratings are above average. As a result, the supermarket needs to enhance its offerings and provide excellent customer service in order to draw in more consumers.

According to the graph above, Branch C has a higher gross income than the other branches. As a result, Branch A and B should adopt Branch C's practices and do customer research to boost their own gross income.

# Observation Observation

The above chart indicates that the majority of transactions are made through e-wallets, thus we must make sure we provide excellent support in this area. If we don't, revenue may decline and customer satisfaction may suffer.

From the above chart we can say that there is no relation between ratings and gross income.As we can see straight line

# Observation Observation

The income of branch C exceeds that of the other two.Thus, branch C has a higher gross income than the other two and Branch B is having Gross income greater than Branch A

Women make more money overall because they visit and purchase goods at a higher rate than men do.The graph indicates that women make more money overall and in the median than men do.

# Observation Observation

The graph above shows that gross income decreases from January to February and slightly increases from February to March, indicating that gross revenue is higher at the beginning of each

month.Therefore, at the beginning of each month, we ought to be able to handle that many members. At the end of the month, the gross revenue falls.

According to the graph above, food and beverages account for the largest portion of overall revenue, followed by sports and travel, home and lifestyle, fashion accessories, and electronic accessories. Health and beauty brings in the least amount overall, although all are quite close.that, with the exception of health and beauty products, all earn around the same total income—roughly 50,000.

# Observation Observation

Based on the graph above, it is evident that women are more likely to purchase fashion accessories, while men are more interested in health and beauty items. By offering discounts on these products while keeping profit margins intact, we can better cater to the tastes of both genders and draw in more business.

Based on the graph above, we can infer that the majority of consumers purchase four to six items.it is extremely low, but we can sell more if we continue to provide things like make bills about 2000 (around 10–15 products) and give these products some discounts while maintaining profit margins.

# Observation Observation

We can infer from the above graphs that sales are highest on Saturday and Tuesday and lowest on

Monday.Customers are therefore more likely to attend super markets on weekends, particularly on Saturdays.However, by reserving particular offers for particular days, we can draw in more business on other days as well.

From the above graphs we can say that most customers are visiting super market around 2pm and at 7pm in evening. That is most of the customers are visiting in luch hours and after returning home time therefor maybe customers are coming for food items in luch hour.and at evening for dinner or groceries.

# Observation Observation

Based on all of the preceding graphs, we may see higher revenues if we concentrate more on food and drink because more customers will be visiting during lunch.

Branch A and B have lower gross incomes than Branch C, so we must concentrate on them. We should develop new strategies for them or adopt Branch C's approach, but we shouldn't ignore Branch C and blindly follow its previous methods.This will enable the firm to expand.