**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.

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| **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. | A (Yangoon)  B (Mandalay)  C (Naypyitaw) |
| 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.** | | |

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