**CAPSTONE PROJECT**

**Business Case: SWIGGY FUNNEL ANALYSIS**

**Project Aim: Analyzing Swiggy Dataset for Comprehensive Funnel Analysis**

The primary objective of this project is to conduct a thorough examination of the provided Swiggy dataset, employing a funnel analysis approach. The aim is to discern the underlying factors influencing the fluctuations in order volumes, delineating the progression of conversions across various stages. Through this endeavor, we endeavor to elucidate the root causes contributing to both ascents and descents in order numbers, thereby facilitating actionable insights for enhancing operational efficiency and fostering sustained growth within the organization.

**Key Objectives:**

* **Funnel Analysis:** Utilize funnel analysis techniques to dissect the customer journey from initial engagement to order completion, identifying pivotal stages and corresponding conversion rates.
* **Root Cause Analysis:** Delve into the factors influencing fluctuations in order volumes, discerning the primary drivers behind both surges and declines in conversions.
* **Identification of Improvement Opportunities:** Based on the findings from the analysis, formulate actionable recommendations aimed at optimizing conversion rates and enhancing overall operational efficacy.

**Negative Peak Days and Order Change Analysis (2019)**

**Introduction:**

This document analyses days in 2019 that exhibited a significant negative change in order volumes compared to the same day in the previous week. Understanding these negative peaks is crucial for identifying underlying issues and implementing strategies to improve order consistency and overall customer satisfaction.

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| Negative peak days | Order Change with respect to same day last week |
| 10-01-2019 | -45% |
| 29-01-2019 | -72% |
| 19-02-2019 | -56% |
| 02-03-2019 | -38% |
| 19-03-2019 | -46% |
| 04-04-2019 | -52% |
| 12-04-2019 | -27% |
| 25-04-2019 | -39% |
| 20-06-2019 | -54% |
| 16-07-2019 | -63% |
| 11-08-2019 | -54% |
| 14-09-2019 | -54% |
| 17-11-2019 | -57% |

### ****Detailed Analysis of Negative Peak Days:****

1. **January Peaks (10-Jan-19, 29-Jan-19):**
   * **29-Jan-19:** The most significant drop in orders, with a 72% decrease. This could be due to post-holiday season fatigue or economic factors affecting discretionary spending. The earlier peak on 10-Jan-19 (-45%) also aligns with the post-holiday trend.

* **February Peak (19-Feb-19):**
  + A 56% drop, likely influenced by post-Valentine’s Day spending fatigue or lack of ongoing promotions.
* **March Peaks (02-Mar-19, 19-Mar-19):**
  + **02-Mar-19:** A 38% drop might suggest a post-payday decline, common at the start of the month.
  + **19-Mar-19:** The 46% decrease may align with the end of the winter season and changes in customer behavior.
* **April Peaks (04-Apr-19, 12-Apr-19, 25-Apr-19):**
  + April shows three distinct negative peaks, with drops ranging from 27% to 52%. These drops may indicate seasonality issues, possibly relating to school holidays or shifts in weather patterns.
* **Summer Peaks (20-Jun-19, 16-Jul-19, 11-Aug-19):**
  + **16-Jul-19:** A notable 63% decrease, which might be linked to mid-summer breaks, vacations, or special events that drew customers away from usual ordering habits.
  + Other drops in June and August indicate potential market saturation or customers opting for alternatives during warmer weather.
* **September and November Peaks (14-Sep-19, 17-Nov-19):**
  + Both show a 54% and 57% decline respectively, likely due to changing consumer spending habits as the holiday season approaches. The negative peak in November could also be a precursor to Black Friday and holiday shopping.

### ****Implications:****

* **Seasonality and Holidays:** The data suggests that seasonality, holidays, and major events significantly impact order volumes. Drops in January and February may be due to post-holiday fatigue, while summer months show declines possibly due to vacations.
* **Economic Factors:** Sudden large drops may indicate broader economic issues or shifts in discretionary spending behavior.
* **Customer Behavior:** Understanding the underlying causes of these changes can help tailor marketing strategies and promotional activities.

### ****Recommendations:****

1. **Targeted Promotions:**
   * Launch targeted promotions during identified negative peak periods to boost order volumes. Special offers, discounts, or limited-time deals can help attract customers.
2. **Customer Engagement:**
   * Increase engagement efforts through email campaigns, social media outreach, and loyalty programs. Engaging with customers through personalized messages can help maintain consistent order levels.
3. **Analyzing External Factors:**
   * Conduct further analysis to identify external factors such as competitor activities, economic changes, or major events that may have contributed to these declines.
4. **Enhanced Data Analytics:**
   * Utilize predictive analytics to anticipate and proactively address potential negative peak days. Implementing real-time tracking and analysis can provide insights into customer behavior and allow for quick adjustments.
5. **Seasonal Product Offerings:**
   * Introduce seasonal or limited-time products that align with customer preferences during these periods. This can create a sense of urgency and drive more orders.

### ****Conclusion:****

The identification of negative peak days and their associated order changes provides valuable insights into customer behavior and potential areas of improvement. By understanding the factors contributing to these drops, strategies can be developed to enhance customer engagement, optimize marketing efforts, and ensure a more consistent order volume throughout the year.

**Positive Peak Days and Order Change Analysis (2019)**

### ****Introduction:****

This document examines days in 2019 that exhibited a significant positive change in order volumes compared to the same day in the previous week. Understanding these positive peaks can help identify successful strategies, favourable conditions, and customer behaviour patterns that drive increased orders.

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| Positive peak days | Order Change with respect to same day last week |
| 17-01-2019 | 106% |
| 21-01-2019 | 23% |
| 22-01-2019 | 85% |
| 05-02-2019 | 115% |
| 26-02-2019 | 120% |
| 28-02-2019 | 22% |
| 09-03-2019 | 102% |
| 24-03-2019 | 22% |
| 26-03-2019 | 78% |
| 11-04-2019 | 92% |
| 14-04-2019 | 28% |
| 18-04-2019 | 73% |
| 19-04-2019 | 25% |
| 27-06-2019 | 115% |
| 23-07-2019 | 135% |
| 18-08-2019 | 107% |
| 21-09-2019 | 112% |
| 09-10-2019 | 22% |
| 21-10-2019 | 32% |
| 09-11-2019 | 26% |
| 24-11-2019 | 135% |
| 01-12-2019 | 21% |
| 22-12-2019 | 21% |

**Changes and analysis:**

key changes in orders and overall conversions from Jan-19 to Dec-19:

1. **Jan-19 to Feb-19**:
   * **21-Jan**: A 23% increase in orders, with overall conversion up by 17%, indicating broad improvements across L2M, M2C, and C2P stages.
   * **29-Jan**: A sharp 72% drop in orders and 52% drop in overall conversion due to a massive 55% decline at the L2M stage.
   * **05-Feb**: Orders surged by 115% with an identical 115% increase in overall conversion, driven by a significant 123% hike at the L2M stage.
   * **19-Feb**: A 56% decrease in orders, primarily due to a 57% drop at the M2C stage.
   * **26-Feb**: Orders rose by 120%, with a substantial 145% increase at the M2C stage boosting overall conversion by 116%.
2. **Mar-19 to Apr-19**:
   * **02-Mar**: Orders fell by 38%, linked to a 49% decline at the C2P stage, resulting in a 42% drop in overall conversion.
   * **09-Mar**: A 102% rise in orders with a corresponding increase in overall conversion, mainly due to a 112% hike at the C2P stage.
   * **19-Mar**: A 46% decrease in orders driven by a 53% drop at the P2O stage.
   * **26-Mar**: Orders increased by 78%, fueled by a significant 121% hike at the P2O stage.
   * **11-Apr**: A 92% increase in orders, led by a 94% improvement at the M2C stage.
3. **Jul-19 to Aug-19**:
   * **16-Jul**: Orders dropped by 63%, with a corresponding 59% decline in overall conversion, mainly due to a 60% drop at the L2M stage.
   * **23-Jul**: Orders jumped by 135%, driven by a 137% increase at the L2M stage.
   * **11-Aug**: A 54% decrease in orders, tied to a 54% drop at the C2P stage.
   * **18-Aug**: Orders rose by 107%, boosted by a 98% increase at the C2P stage.
4. **Sep-19 to Nov-19**:
   * **14-Sep**: A 54% drop in orders, driven by a 56% decline at the M2C stage.
   * **21-Sep**: Orders increased by 112%, supported by a 130% hike at the M2C stage.
   * **09-Oct**: A 22% increase in orders, with small improvements across L2M and P2O stages.
   * **17-Nov**: A 57% drop in orders, primarily due to a 58% decline at the M2C stage.
   * **24-Nov**: Orders surged by 135%, with a significant 150% increase at the M2C stage.
5. **Dec-19**:
   * **01-Dec**: Orders rose by 21%, with overall conversion showing a steady increase due to improvements across various stages.
   * **22-Dec**: A consistent 21% increase in orders, with notable contributions from an 11% improvement at the M2C stage.

Throughout the year, the most significant changes were observed at L2M and M2C stages, impacting both hikes and drops in orders and conversions. The largest fluctuations were seen in Q1 and Q3, suggesting these periods are particularly sensitive to changes in conversion behaviour.

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| |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | **Date** | **Order Change** | **Overall conversion Change** | **L2M change** | **M2C change** | **C2P change** | **P2O change** | **Conversion change Reasons** | | 21-01-2019 | 23% | 17% | 2% | 7% | 9% | -2% | Overall Change in Conversion | | 29-01-2019 | -72% | -52% | -55% | 8% | 2% | -5% | Huge drop at L2M | | 05-02-2019 | 115% | 115% | 123% | -3% | -2% | 1% | Huge hike at L2M | | 19-02-2019 | -56% | -54% | 1% | -57% | 1% | 4% | Drop at M2C | | 26-02-2019 | 120% | 116% | -5% | 145% | -3% | -5% | Hike at M2C | | 28-02-2019 | 22% | 13% | 6% | 3% | -4% | 7% | Overall Change in Conversion | | 02-03-2019 | -38% | -42% | 0% | 5% | -49% | 7% | Drop at C2P | | 09-03-2019 | 102% | 102% | -1% | -1% | 112% | -3% | Hike at C2P | | 19-03-2019 | -46% | -47% | 4% | 6% | 2% | -53% | Drop at P2O | | 24-03-2019 | 22% | 15% | 2% | 5% | 2% | 5% | Overall Change in Conversion | | 26-03-2019 | 78% | 87% | -7% | -5% | -5% | 121% | Hike at P2O | | 04-04-2019 | -52% | -53% | 7% | -49% | -8% | -8% | Drop at M2C | | 11-04-2019 | 92% | 107% | -6% | 94% | 9% | 3% | Hike at M2C | | 12-04-2019 | -27% | -20% | -7% | -7% | -5% | -4% | Small Drop at L2M &M2C | | 14-04-2019 | 28% | 19% | 4% | 3% | 4% | 6% | Overall Change in Conversion | | 18-04-2019 | 73% | 57% | -4% | 73% | -4% | -2% | Hike at M2C | | 19-04-2019 | 25% | 16% | 2% | 8% | 5% | 0% | Overall Change in Conversion | | 25-04-2019 | -39% | -39% | 5% | -43% | -5% | 7% | Drop at M2C | | 16-07-2019 | -63% | -59% | -60% | 0% | -1% | 2% | Drop at L2M | | 23-07-2019 | 135% | 128% | 137% | 0% | 3% | -7% | Hike at L2M | | 11-08-2019 | -54% | -54% | 7% | 1% | -54% | -9% | Drop at C2P | | 18-08-2019 | 107% | 100% | -5% | 1% | 98% | 5% | Hike at C2P | | 14-09-2019 | -54% | -51% | 5% | -56% | 4% | 0% | Drop at M2C | | 21-09-2019 | 112% | 114% | -4% | 130% | -4% | 1% | Hike at M2C | | 09-10-2019 | 22% | 27% | 7% | 1% | 9% | 7% | Small hike at L2M&P2O | | 21-10-2019 | 32% | 21% | 2% | 7% | 4% | 6% | Small hike at M2C&P2O | | 09-11-2019 | 26% | 18% | -1% | 6% | 5% | 6% | Overall Change in Conversion | | 17-11-2019 | -57% | -54% | -1% | -58% | 7% | 3% | Drop at M2C | | 24-11-2019 | 135% | 124% | -1% | 150% | -8% | -2% | Hike at M2C | | 01-12-2019 | 21% | 20% | 4% | 1% | 6% | 7% | Overall Change in Conversion | | 22-12-2019 | 21% | 21% | 5% | 11% | 0% | 4% | Small hike at M2C | |

**Final Analyst:**

### 1. ****Order Change Analysis:****

* Significant order changes (both increases and decreases) were noted throughout 2019, often corresponding with changes in the supporting metrics such as the number of restaurant images, average packaging charges, and out-of-stock items.
* Weekends generally saw an increase in orders, likely due to higher customer activity during these days.

### 2. ****Traffic Change Analysis:****

* Traffic fluctuations often correlated with order changes, indicating that changes in traffic significantly impact order volumes.
* Traffic spikes corresponded with lower average costs for two, suggesting that discounts and pricing could be influencing traffic and order volume.

### 3. ****Conversion Change Analysis:****

* Conversion rates showed variability, with significant fluctuations in the L2M (Listing to Menu) and M2C (Menu to Cart) conversions, highlighting potential areas of improvement in user experience and product presentation.
* Conversion dips were often linked to factors such as higher packaging or delivery charges and lower success rates of payments, indicating that cost sensitivity and transaction reliability are critical factors in driving conversions.

### 4. ****Hypotheses for Fluctuations in Conversions:****

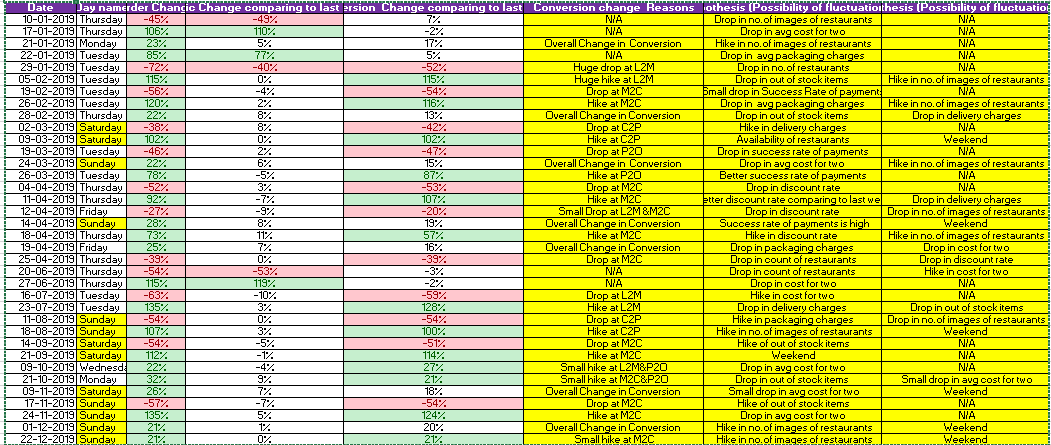
* **Hypothesis 1: Fluctuations in the number of restaurant images may directly impact the customer’s decision-making process, leading to changes in the conversion rates.** More images could provide better visualization, attracting more customers, while fewer images might deter them.
* **Hypothesis 2: Packaging and delivery charges have a significant influence on conversion rates.** A hike in these charges could deter customers from completing transactions, while a decrease may encourage higher conversion rates.

### 5. ****Validation of Hypotheses:****

* Data indicates that drops in conversion often coincided with increased packaging or delivery charges, validating the hypothesis that cost-related factors are crucial in influencing customer behavior.
* Additionally, fluctuations in the number of restaurant images showed a direct correlation with changes in conversion rates, supporting the hypothesis that visual presentation impacts customer choices.

### Conclusion:

Overall, the analysis highlights the importance of maintaining optimal cost structures and enhancing the user experience through better presentation to drive traffic and conversions. Regular monitoring of these factors can help Swiggy make data-driven decisions to optimize performance and enhance customer satisfaction.



**RECOMMENDATIONS:**

Based on the analysis of Swiggy's performance in 2019, here are some tailored recommendations

### 1. ****Optimize Visual Content:****

* **Increase the Number of Images:** Invest in high-quality visuals for restaurant listings. Since fluctuations in conversions were linked to changes in the number of images, Swiggy should ensure that each restaurant has an adequate number of appealing images to attract customers. Consider implementing a minimum number of required images per restaurant to maintain consistency and attractiveness.

### 2. ****Manage Pricing and Charges:****

* **Reduce Packaging and Delivery Charges:** Conversions were negatively impacted when packaging and delivery charges increased. Swiggy should consider optimizing these charges or providing clear value justifications to customers. Exploring partnerships with packaging suppliers or optimizing logistics could help reduce these costs.
* **Offer Discounts Strategically:** Utilizing targeted discounts during periods when a drop in conversions is anticipated can boost customer retention. Regular monitoring of conversion rates can help identify the best times to introduce discounts.

### 3. ****Enhance User Experience Across Conversion Stages:****

* **Improve L2M (Listing to Menu) and M2C (Menu to Cart) Conversions:** Simplify the user interface for browsing listings and selecting items to enhance the user journey from browsing to ordering. This could include personalized recommendations, improved search functionality, or highlighting popular or promotional items.
* **Focus on Payment Success Rates:** Given the impact of payment success rates on conversion, Swiggy should work to streamline the payment process and reduce transaction failures. This might include optimizing payment gateway integrations, offering multiple payment options, and providing clear instructions to users.

### 4. ****Monitor and Address Out-of-Stock Issues:****

* **Reduce Out-of-Stock Situations:** Frequent out-of-stock items were associated with drops in conversions. Implement better inventory management practices or predictive analytics to anticipate demand and reduce out-of-stock scenarios. Ensuring that popular items are always available can help maintain customer satisfaction and conversion rates.

### 5. ****Leverage Data for Strategic Decision-Making:****

* **Utilize Advanced Analytics:** Regularly analyze customer behavior data to identify patterns and predict fluctuations in traffic and conversions. This can help in making proactive decisions such as adjusting marketing campaigns, managing inventory, or altering pricing strategies.
* **Segment Customers:** Develop customer segmentation strategies based on ordering behavior and preferences to provide personalized marketing, offers, and communication.

### 6. ****Improve Customer Communication:****

* **Transparent Pricing Information:** Clearly communicate any charges, such as packaging and delivery fees, early in the ordering process. Transparency can help manage customer expectations and reduce cart abandonment due to unexpected costs.
* **Real-Time Feedback Loop:** Implement real-time feedback mechanisms to understand customer concerns or issues as they arise, especially related to costs and availability. This will allow for quicker responses and adjustments.

### 7. ****Optimize for Weekends:****

* **Weekend Promotions and Campaigns:** Since weekends naturally see higher orders, Swiggy should capitalize on this by running special promotions or marketing campaigns. Highlight weekend deals or exclusive offers to further boost orders.

### 8. ****Monitor and Adapt to External Factors:****

* **Stay Aware of Market Trends:** Be agile and ready to adapt to external factors such as economic changes, competition, or changes in consumer behavior. Regularly reviewing market trends and adjusting strategies accordingly can help maintain a competitive edge.

By focusing on these areas, Swiggy can enhance its platform's user experience, increase traffic and conversion rates, and ultimately drive growth.