

Enhancing DashMart AOV and Basket Size via Strategic Initiatives

By Jeremy Caothien

Objective & Summary

In this analysis, I examine DoorDash's convenience & groceries transaction data for the date range "2022-09-14" through "2022-10-14" in Cincinnati, Ohio. I evaluate the **Average Order Value (AOV)**, its relationship to **Basket Size**, and segment the transactions into different parts of the day in order to determine the most popular times of the day Customers (Cx) are ordering convenience products. Included are my recommendations, both in the short term and long term, on how to best improve Cx AOV, while also being mindful of Dasher (Dx) experience and Merchant (Mx) experience.

Data Analysis

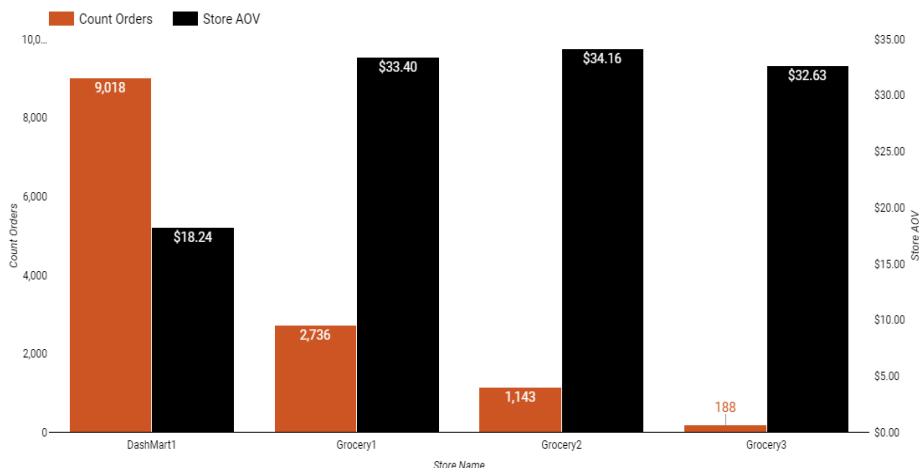
Assumptions & Data Cleaning

- "Time of Day" (all times have been converted from UTC to EST, Cincinnati's local time) - I segmented order times into
 - Mornings - Orders made between 6 am and 11 am
 - Lunch - Orders made between 11 am and 1 pm
 - Afternoon - Orders made between 1 pm and 5 pm
 - Dinner - Orders made between 5 pm and 9 pm
 - Late Night - Orders made between 9 pm and 12 am
 - Early Morning - Orders made between 12 am and 6 am
- I am interested in knowing three time-based elements for these orders, converting UTC to EST.
 - Date - How does the distribution of orders change over the course of the month?
 - Day of Week - Are there days of the week that are more popular? Weekends vs weekdays?
 - Time of Day - When during the day do these delivery orders come in?
- Transactions with Missing Dasher IDs - There are 46 delivery_uuids missing a dasher_id, and no indication that the order is canceled. The **WAS_FOUND** boolean indicates that all items were found as well. I am hypothesizing that the customer picked up these orders, instead of relying on delivery.

Visualizations

AOV & Order Volume by Store

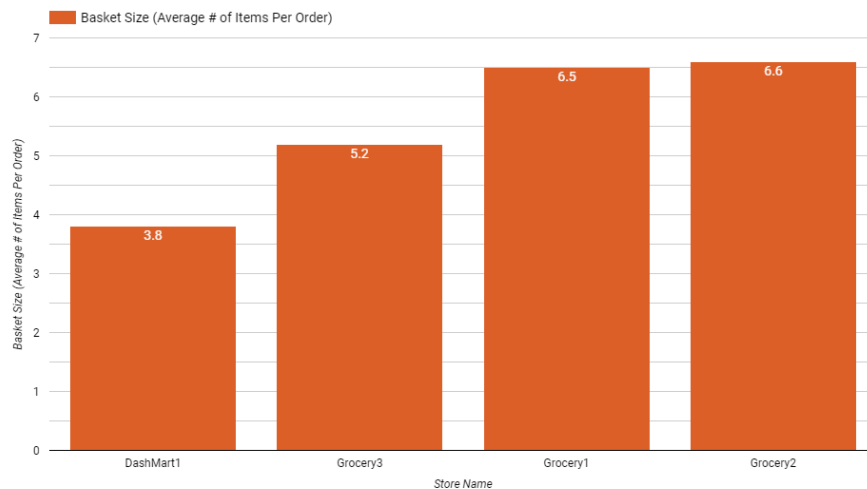
Dashmart's AOV is the worst performing of the four storefronts in Cincinnati. For the date-period in the data set (2022-09-14 through 2022-10-14), Dashmart's AOV is \$18.24. DashMart's order volume is 9,018 *which is 2.2x more than the other three Grocery stores combined*. Despite strong order volume, DashMart's AOV is approximately **54%** of the Grocery stores.



Basket Size by Store

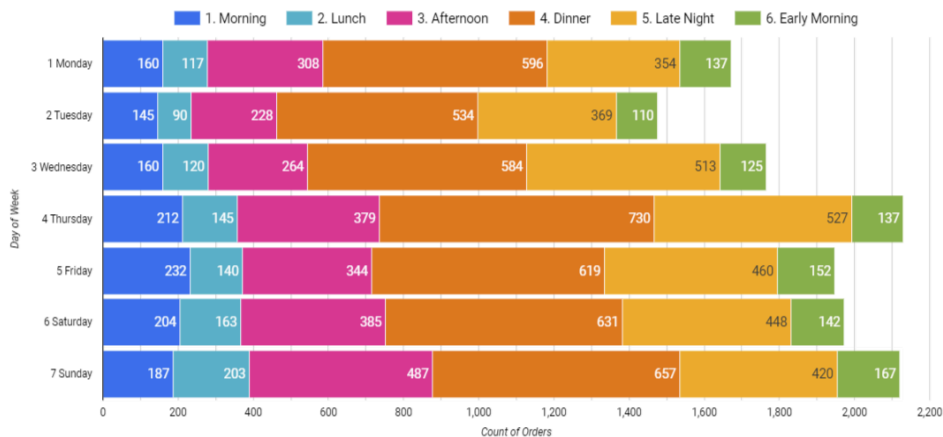
We can see that DashMart's average basket size (*i.e., the number of items per purchase*) is the smallest of the four stores. Basket Size and AOV generally have a direct relationship; an increase in basket size will generally improve AOV. Combining the data in the chart above and the data in the chart below, we can see a store's AOV is directly correlated with its basket size:

Store Name	Store AOV (Rank)	Store Basket Size (Rank)
DashMart	\$18.26 (4th)	3.8 (4th)
Grocery1	\$33.55 (2nd)	6.5 (2nd)
Grocery2	\$33.62 (1st)	6.6 (1st)
Grocery3	\$31.23 (3rd)	5.2 (3rd)



Distribution of Orders by Day of Week

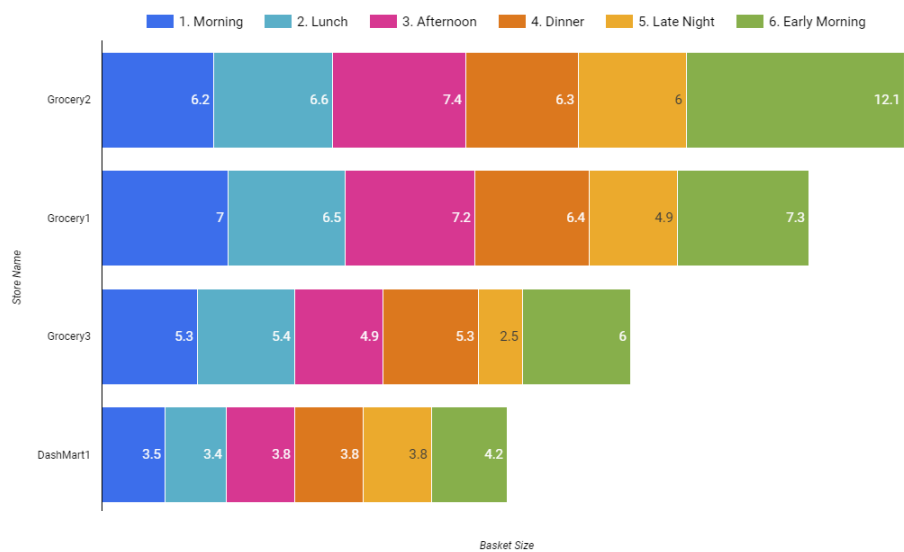
The highest performing days of the week are Thursday, Friday, Saturday, and Sunday. For these days, the highest density of orders come during **Dinner Time** - between 5 pm and 9 pm, followed by **Late Night** - between 9 pm and 12 am.



Basket Size by Time of Day

While **Dinner Time** and **Late Night** have the highest volume of orders, on average, these times of day do not have the strongest basket size. It appears that **Early Morning** - between midnight and 6am has the biggest average basket size across the board.

DashMart has the worst performing basket size through all time periods of the day, and is a perfect candidate to be improved upon.



Recommendations

Short-term Actions

Increasing AOV - DashMart Credits

DashMart Credits

DashMart has great order volume, but poor AOV. To improve AOV, the short-term solution is to improve basket size via offering a \$10 store credit promotion that is eligible only at DashMart. The intention for this promotion is to experiment and measure how Basket Size and AOV change throughout *all* periods of the day as a result of the store credit.

My hypothesis is that a \$10 promotion can generate an even greater delta for AOV. For example, if DashMart AOV is currently \$18, and the promotion is \$10, success would be an improvement in AOV by \$35, minus the \$10 promotion to generate a net \$25 net AOV. From the average Cx perspective, they are getting \$35 of merchandise for \$25, but they are spending an additional \$7 they would not have otherwise spent.

Since all promo codes can be exploited to make orders no longer profitable for DashMart, I recommend a slow rollout that does not affect all users to minimize any potential exploits. Metrics should be measured over the course of the campaign to determine if the promotion still makes sense to offer.

Here is how I anticipate the store credits to affect each of the marketplace stakeholders:

Marketplace Stakeholder	Strengths	Weaknesses
Customer (Cx)	<div>1. Store credits lower the barrier of entry to commit to more items.</div> <div>2. Extra frugal Cx can pick up the items themselves for additional value.</div>	<div>1. A customer may expect the promo code, and not shop until the promo code appears on their front-end.</div>
Dasher (Dx)	<div>1. Higher demand for deliveries and jobs for Dx.</div>	<div>1. Cx tip is based on order, if the basket is now \$10 lower, tips may also decrease.</div>
Merchant (Mx)	<div>1. Improves and smooths out orders throughout the day; more predictable demand.</div>	<div>1. The flat-rate promotion may cause some DashMart items to be unprofitable when sold.</div>

Long-term Actions

Time-Based Promotions

From the data above, we can conclude that the most popular times to order convenience items are during **Dinner Time** and **Late Night**. I propose an in-app product called *SnackBlitz*. *SnackBlitz* takes place during these busy hours: Thursday - Sunday between **Dinner Time** and **Late Night**. During *SnackBlitz*, there will be bundles that Cx can opt into. Bundle options will contain the top 5 most popular items for each category inside the bundle.

The bundles aim to accomplish a few objectives:

1. Increase basket size *and* AOV.
2. Offer a discount for Cx and take advantage of the spontaneity of convenience orders.
3. Direct Dx to the nearest Mx on average, reducing travel time and improving efficiency when compared to Grocery stores (Appendix A).
4. Improve operational efficiency for Mx, since demand is more predictable, and bundles are focused on the top five most popular items sold per category.

If the base *SnackBlitz* bundle does well, there are potential other Bundle options that can be implemented:

Bundle Name	Components
Base SnackBlitz	2 snacks 2 candies 2 beverages
GameBlitz	2 alcoholic options 2 snack options 2 frozen options
MovieBlitz	3 snack options 2 beverage options
PartyBlitz	3 alcoholic options 3 snack options (large options)

Why does DashMart's SnackBlitz work?

Marketplace Stakeholder	Strengths	Weaknesses
Customer (Cx)	<ol style="list-style-type: none">1. Savings for committing to a bundle2. DashMart orders are less likely to be late (Appendix C)3. DashMart orders have fewer missing items (Appendix D)	<ol style="list-style-type: none">1. Less item diversity2. Bundle only exists during rush hour, less flexibility
Dasher (Dx)	<ol style="list-style-type: none">1. Average Dasher Time to Retail (D2R) to DashMarts are the lowest averages in the data set (Appendix A).2. Navigating the warehouse more efficiently3. Higher tips because of higher AOV	<ol style="list-style-type: none">1. Bigger basket size may become challenging for some couriers (e.g., cyclists) to fulfill.2. With enough critical mass, there will be more traffic during busy hours and a reduction in overall efficiency.
Merchant (Mx)	<ol style="list-style-type: none">1. Choosing from already popular options means managing inventory is easier.2. Higher AOV from bigger basket size	<ol style="list-style-type: none">1. Build out new processes to accommodate more Dx at the same time at the warehouse.2. Change warehouse layout

Rollout Plan & Execution

1. Collect data from Short Term Plan - did AOV increase meaningfully, net of discounts?
2. Build out Base SnackBlitz, collect data and measure metrics moving in a successful direction:
 - a. AOV increases through bundles.
 - b. Dx average D2R decreases, since more orders are fulfilled at DashMart warehouses.
 - c. Fewer substitutions and missing item complaints.
3. As bundles continue being successful, continue deploying new bundle variants.

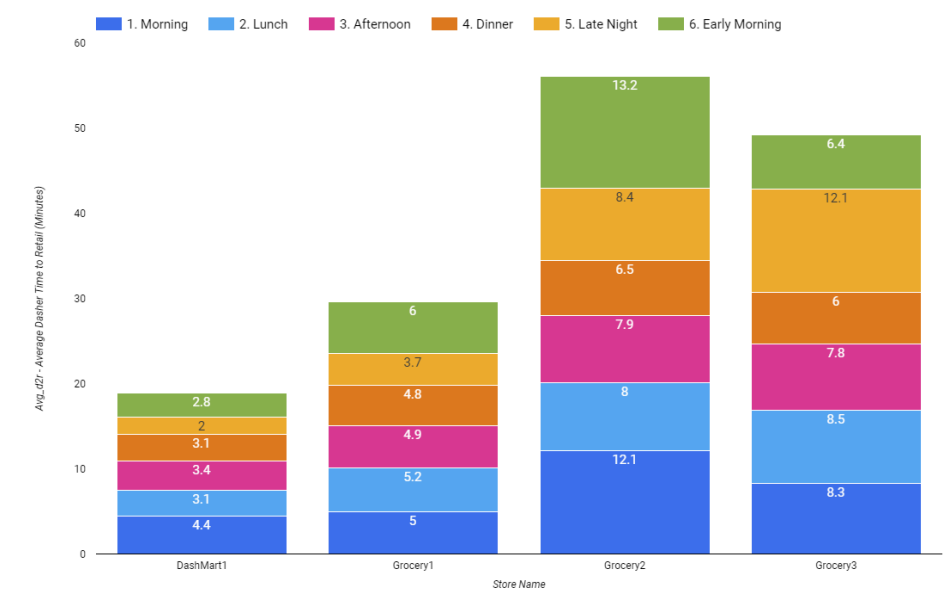
Conclusion

After examining the data, DashMart’s AOV and basket size is lagging behind its Grocery store counterparts. The short-term recommendation implements DashMart Credits to potentially boost AOV by incentivizing larger purchases. The long-term strategy for a Time-Based Promotions, *SnackBlitz*, aims to capitalize on peak ordering times and offer curated bundles to enhance customer satisfaction and operational efficiency. These recommendations consider Cx, Mx, and Dx, and the strengths and weaknesses each stakeholder faces for rollout. With a robust rollout plan, DashMart can improve its AOV and basket size to match their Grocery counterparts, and become the go-to service provider for the convenience market.

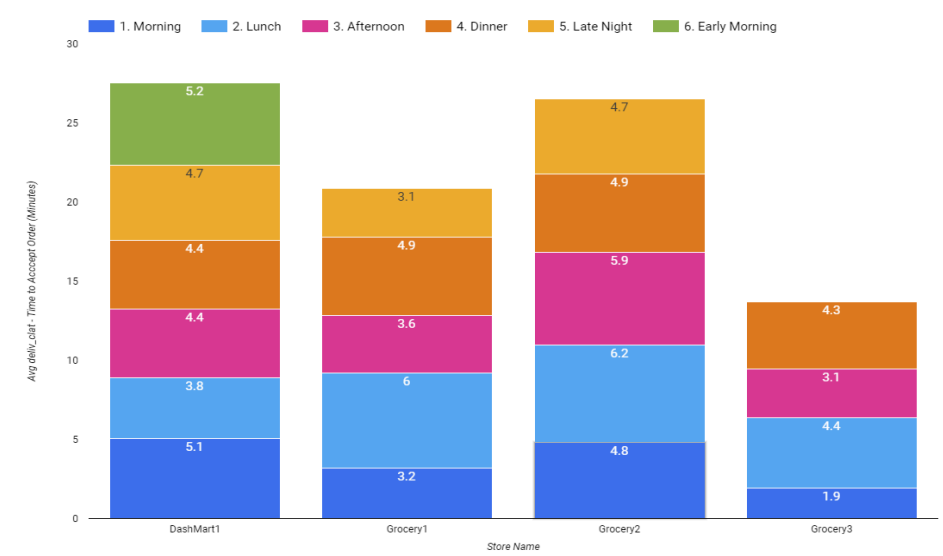
Appendix

Dasher Experience Benchmarks

Appendix A: Average D2R by Store

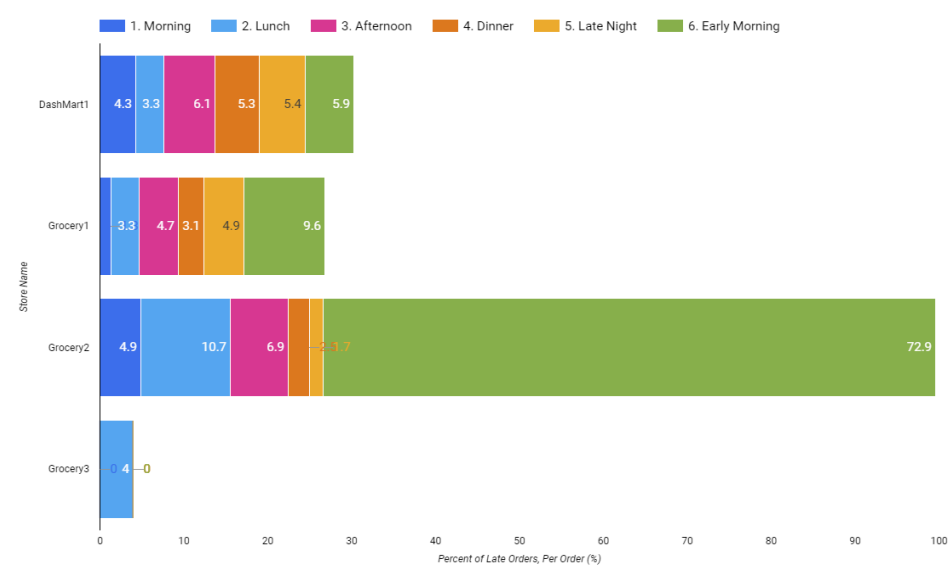


Appendix B: Average Deliv_clat by Store



Customer Experience Benchmarks

Appendix C: Percent of Late Orders, Per Order (%)



Appendix D: Percent of Complaints, Per Order (%)

