

# DOORDASH



# Overview

**With a mission to empower local communities and in turn, creating new ways for people to earn, work, and thrive, DoorDash has emerged as the market leader in this space!**

- **Founded:** 2013
- **HQ:** San Francisco, CA
- **Founders:** Tony Xu, Stanley Tang, Andy Fang
- **Mission:** "Empowering local economies"
- A leading **on-demand delivery platform** connecting customers with local restaurants, chains, and grocery stores
- Allows users to order a diverse range of meals and products, **supporting local businesses and community values.**
- Challenges faced by DoorDash include a high average time to place an order and low customer retention rate.



# Present State - KPIs

DoorDash grapples with extended order times, soaring marketing costs, and weak customer retention, demanding strategic adjustments for sustainable growth.

Longer order duration hints at indecisive ordering habits.

DoorDash's marketing costs are notably steep, highlighting the industry's intensity.

Losing customers may mean feeding the competition.

**20 mins**

Avg Time to  
Place an Order

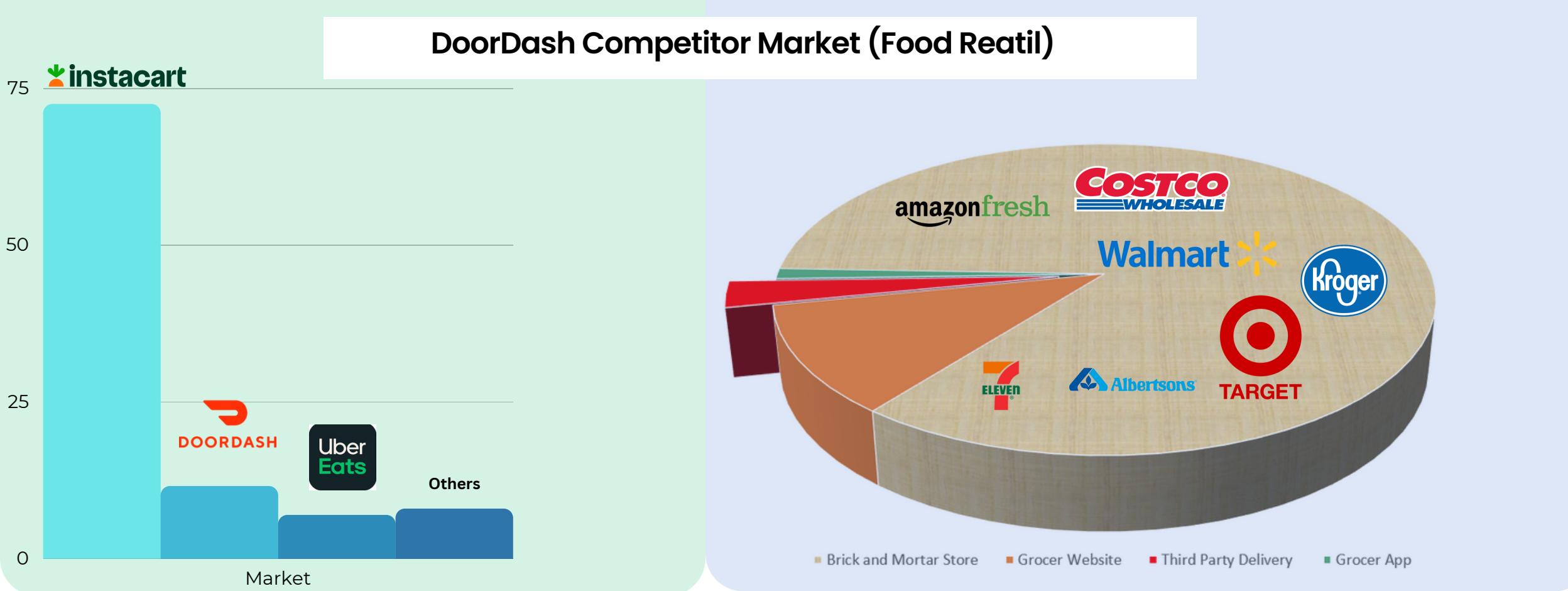
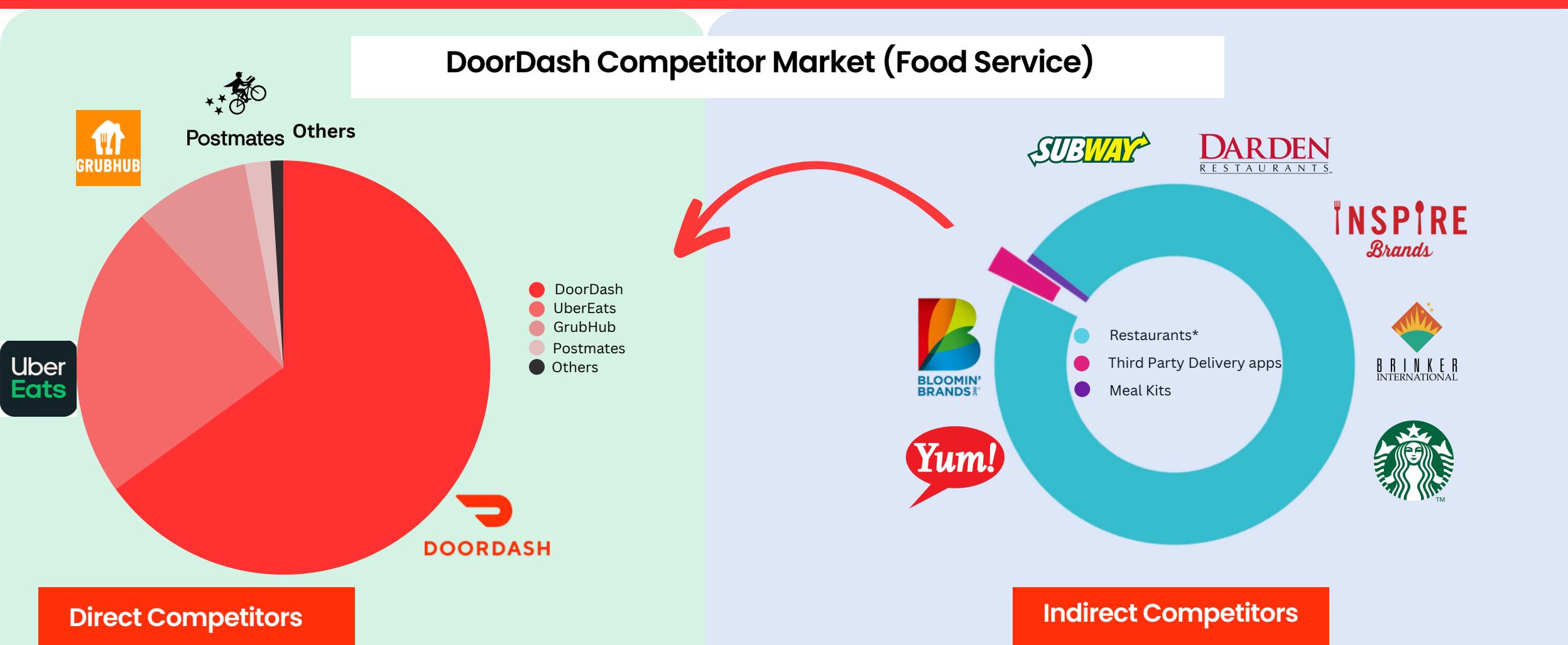
**\$1.7 billion**

Marketing Cost

**29%**

Customer Retention Rate

Dashing ahead in the world of food delivery, DoorDash leads the charge. Now, it's time to spice things up in the food retail game!



**Status QUO/ DIY**

Despite the modern conveniences offered by online food orders and dining out, the old-school charm of visiting a grocery store in person and preparing meals at home still holds a special place in the hearts of many, highlighting the enduring appeal of traditional culinary practices.

Value Prop:

- Cost Saving
- Health and Nutrition
- Full Control
- Culinary Creativity

# User Persona

## Zoey

### ABOUT THE USER

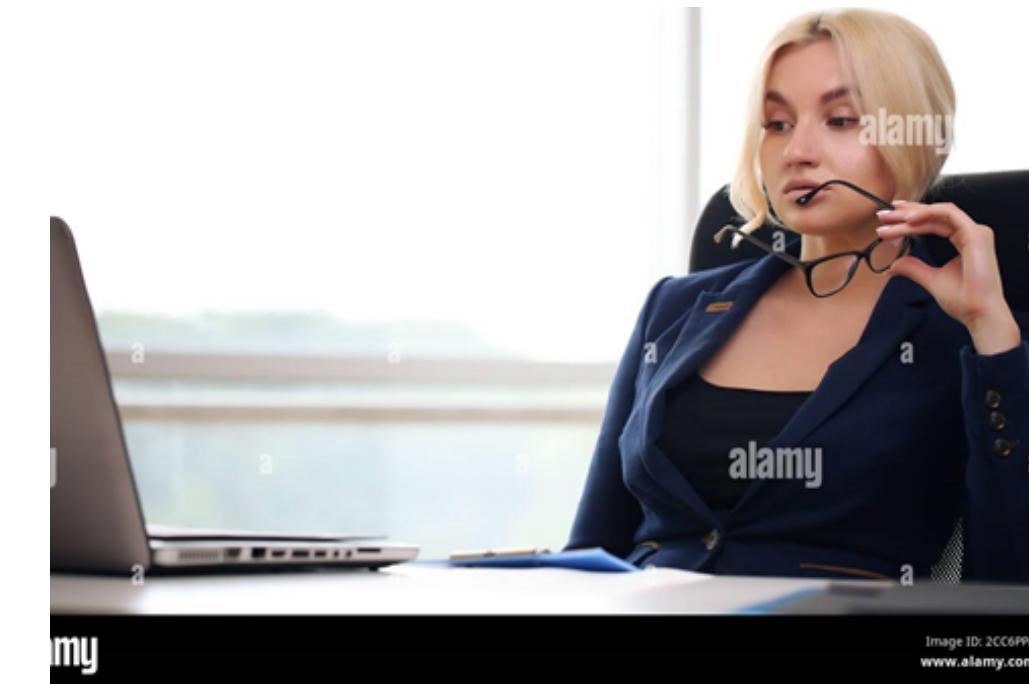
Zoey is a Marketing Head. She is a busy young adult who values convenience and is an online-shopper. She enjoys cooking but has little to no free time to cook

### DEMOGRAPHIC INFORMATION

- Age: 27
- Location: California, USA
- Occupation: Marketing
- Status: Single

### MOTIVATIONS:

- Variety
- Convenience
- Price



### PSYCHOGRAPHIC

- Lifestyle : Zoey has a busy , urban lifestyle and often works up late. She finds it hard to make time for cooking.
- Tech-savvy : She is comfortable using apps and appreciates the idea of online ordering
- Convenience-oriented : She values the easy of ordering food online on her busy work days.
- Personality : Open-minded, creative and social

### NEEDS

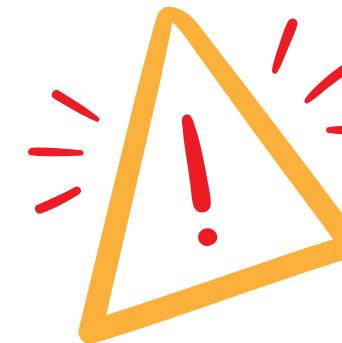
- Easy of Ordering
- Time saving
- Enjoys food varieties
- Customizes orders to accomodate dietary preferences
- Cost-saving
- Reliable deliveries

### PAIN POINTS

- Delivery delays can be frustrating for Zoey as she has tight schedules
- Missing items in delivery
- No food selection guidance
- Poor food quality
- Price fluctuations

**Doordash is using new tech like AI to make life super convenient for us!**  
And this is going to be a game changer 🎉

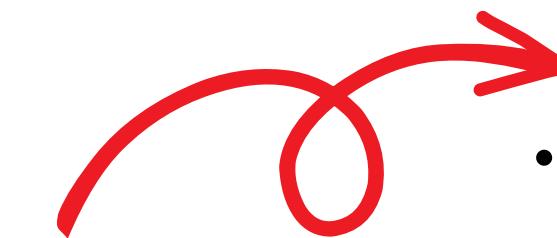
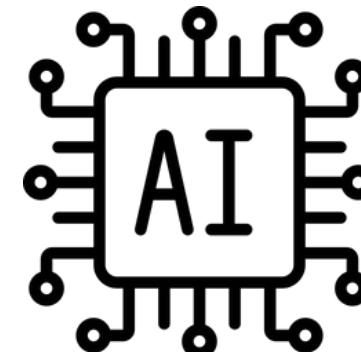
## How DoorDash uses Emerging technologies and services



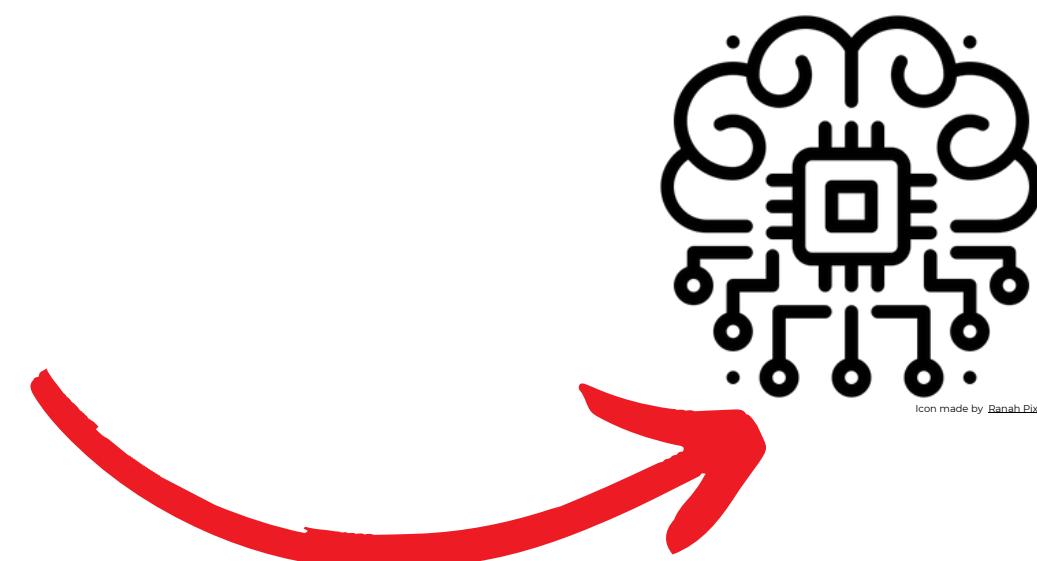
Did you just say that **up to 50% of customer calls made to place orders are left unanswered!!!**

**Chill Out**

AND USE



DoorDash still reports losses due to its high operational costs!



### 2. Doordash uses ML to improve delivery efficiency and save costs

- ML algo's are used to predict food preparation time, travel time etc in order to optimise the order delivery, plan multiple delivery
- They are used to also predict the demand so that doordash can optimally allow only a certain number of dashers at a given time

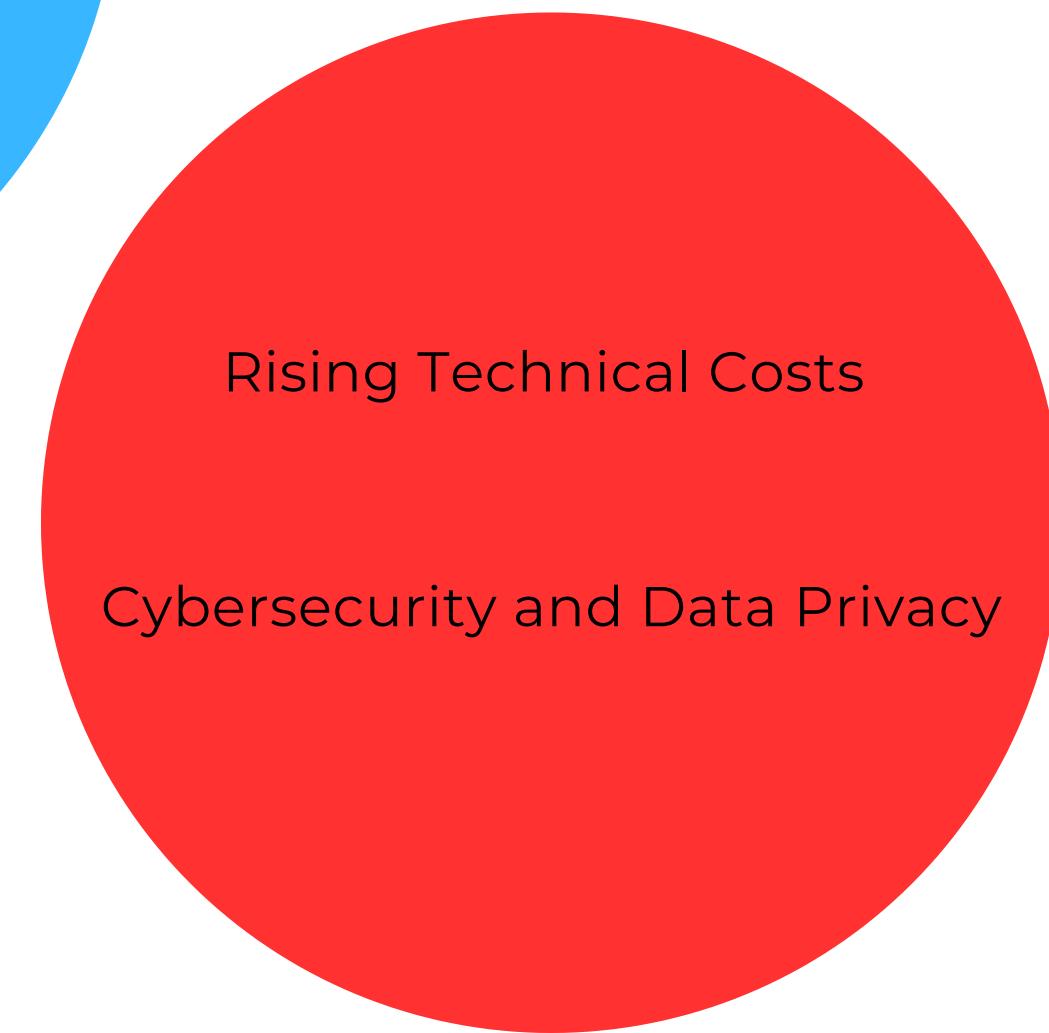
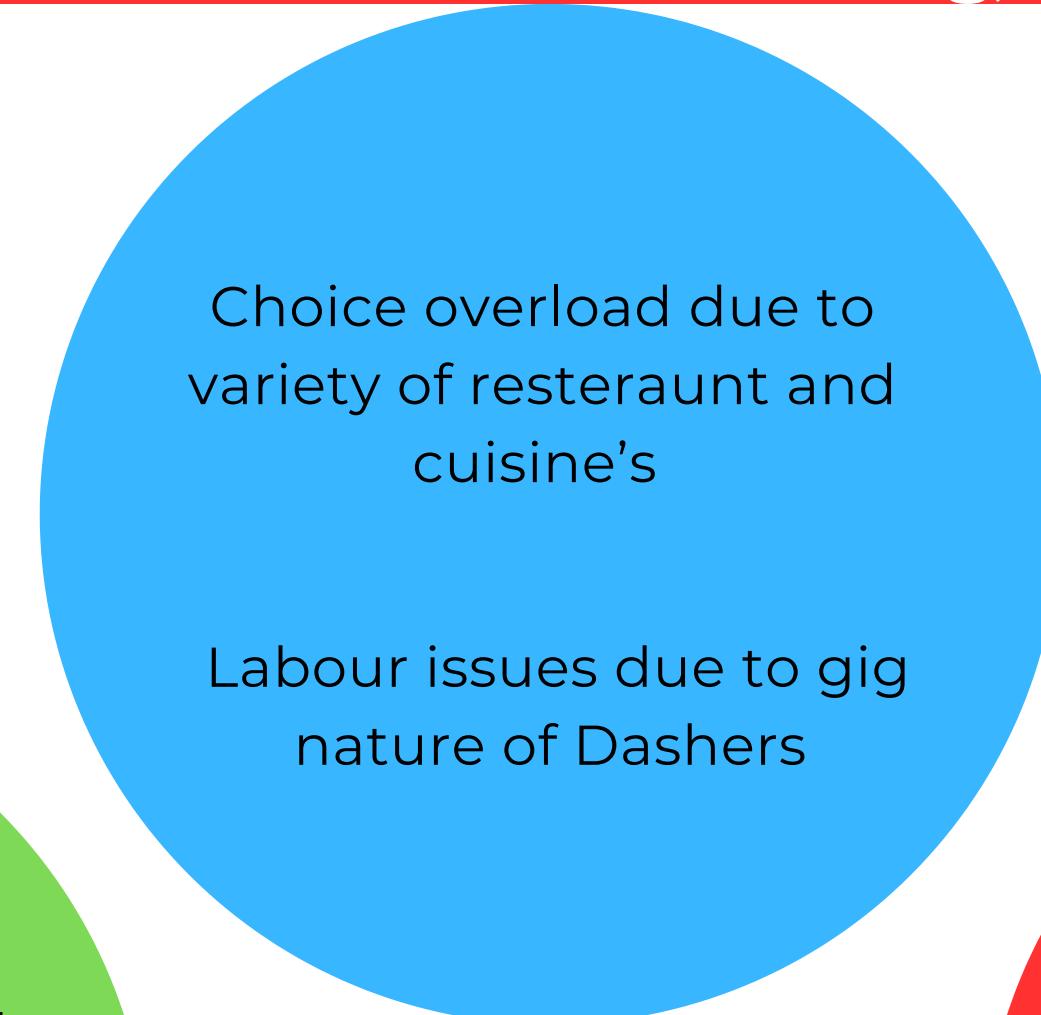
### 1. Doordash Introduces AI-powered voice ordering technology

- No more unanswered call which mean more orders and more revenue!
- Balanced peak hours - The system will also kick in during peak times at restaurants, AI will answer calls, allowing employees to focus on in-store customers.
- The system will also provide customers with curated recommendations to complement their meal.

# Present State : Key Problems

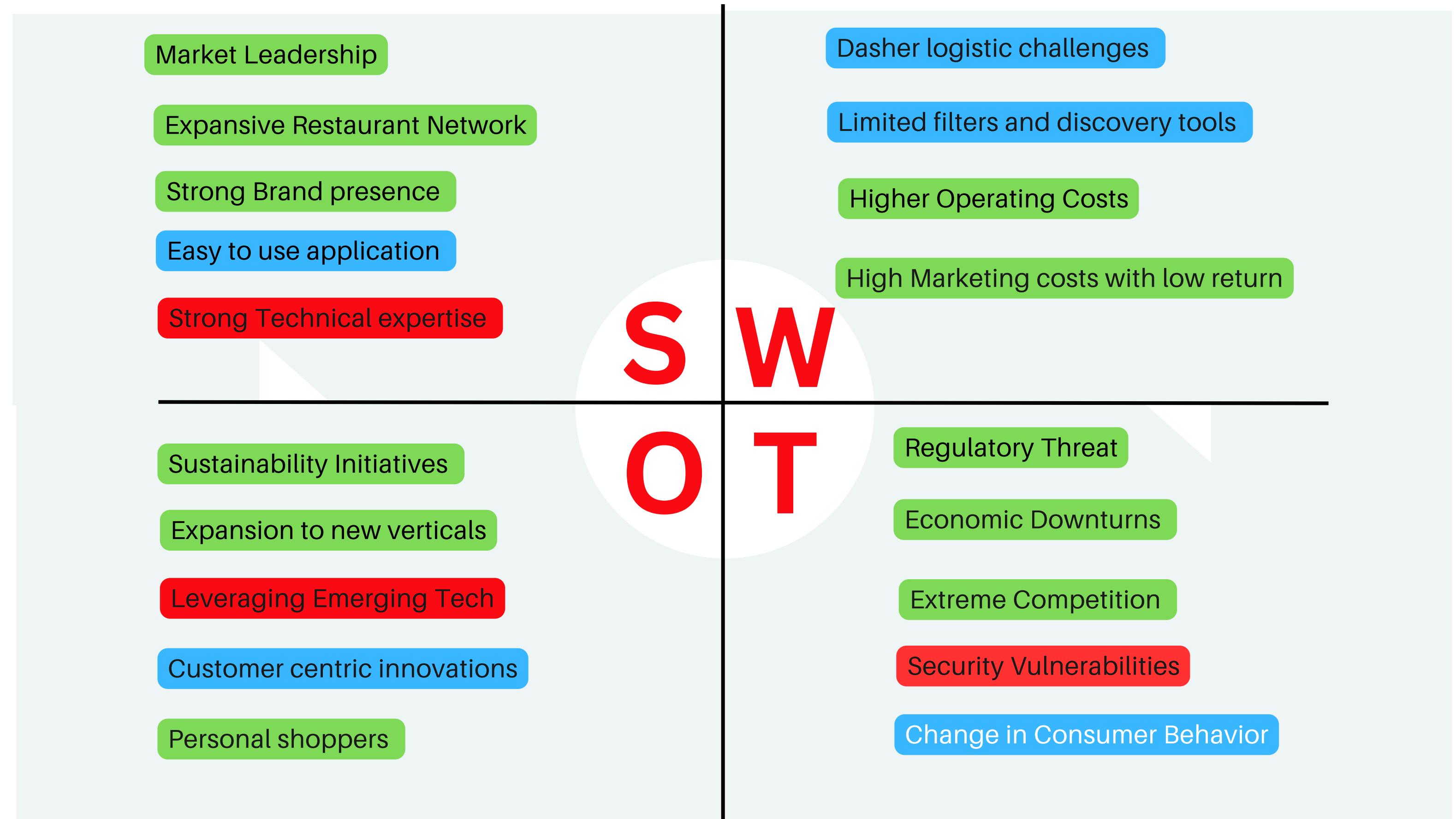
Ours users are increasing, our revenue is increasing, but we are still unprofitable!

- Customer
- Business
- Technology

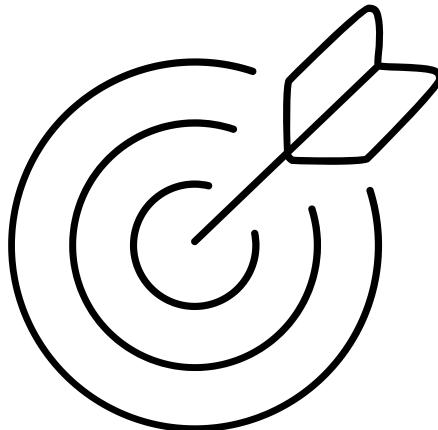


**DoorDash aims to utilize its strengths such as strong brand presence and in-house tech expertise and capitalize new opportunities such as emerging technologies to work on its weakness and problems and we believe this will be key in achieving its goal of profitability.**

- █ Customer
- █ Business
- █ Technology



In an effort to tackle Doordash's considerable marketing expenses and harness the potential for an enhanced customer experience, our aim is to not only attract consumers but also to make each customer acquisition count, leading to substantial improvements in conversion rates, customer retention, revenue and marketing ROI



## Objective

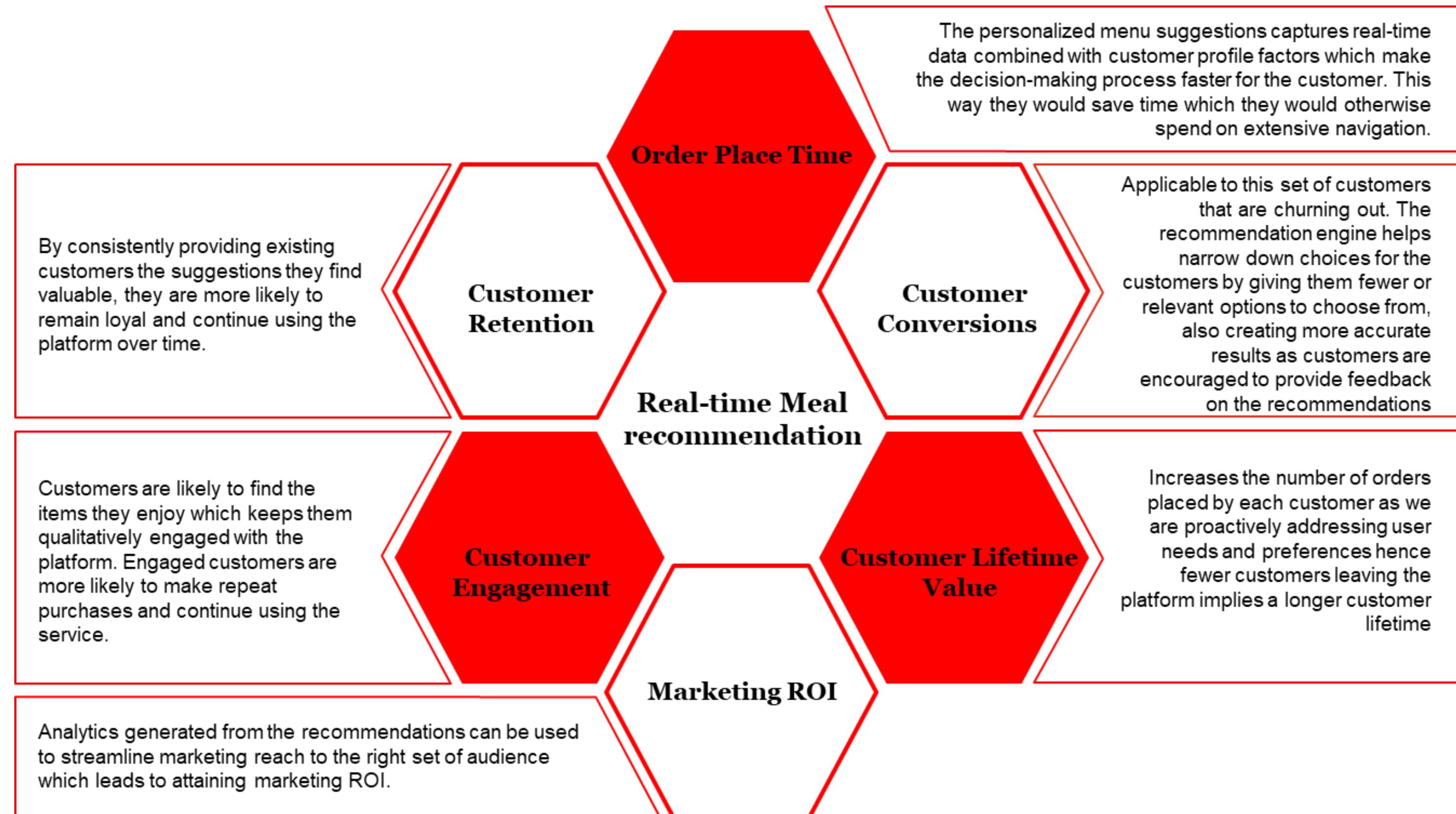
**Transform Doordash into a dining experience revolution, delivering high levels of personalization to amplify customer satisfaction and loyalty to attain sustainable business outcomes.**



## Key Results

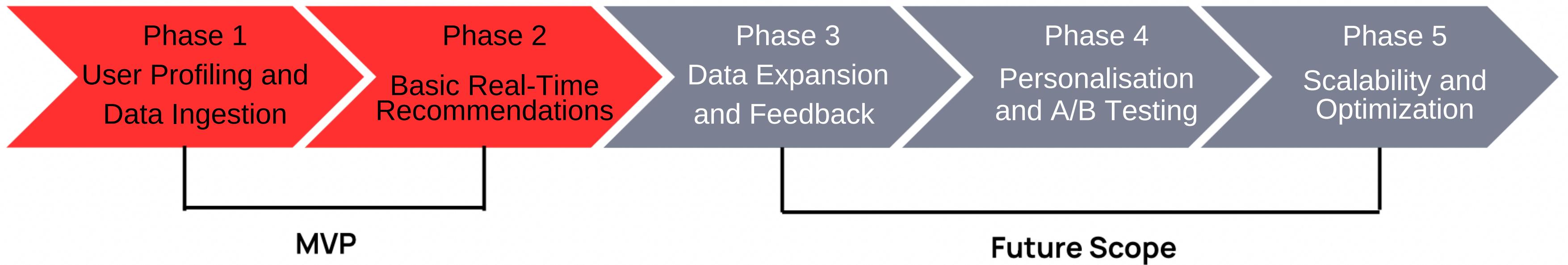
- Enhance every order placing time from 20min to 10min
- Enrich customer conversions to 20%
- Increase customer lifetime value by 2x
- Attain 2x marketing ROI for the next 2 years.
- Amplify customer engagement to 40%
- Increase in customer retention to 10% on a recurring yearly basis.

# Targetting our objective and key results with Real-time Meal Recommendation



# Minimum Viable Product

Our MVP is the keystone of our journey to deliver a real-time recommendation system for DoorDash. It's about setting up data, implementing real-time algorithms, and ensuring scalability. This marks our first step toward an innovative, personalized, and real-time dining experience for DoorDash users.



# BUILD vs BUY

## Crafting Our Future, One Byte at a Time: We Choose to Build for Complete Control and Customer Trust

A build approach is the optimal choice for a real-time recommendation system because we have the necessary technology capabilities in-house. This approach offers the flexibility to customize the system to our precise requirements, ensuring alignment with our business goals and customer needs. By building the system ourselves, we maintain complete control over its development, allowing us to fine-tune algorithms, safeguard data integrity, and harness our deep technological proficiency. This level of customization is essential for delivering a recommendation engine that is both distinctive and competitive in the market.

| Parameters                               | Rank | Weight | Build |        |                       | Buy  |        |                       | Hybrid |        |                                    |
|--|------|--------|-------|--------|-----------------------|------|--------|-----------------------|--------|--------|------------------------------------|
|  |      |        | Rank  | Weight |                       | Rank | Weight |                       | Rank   | Weight |                                    |
| Cloud Infrastructure                     | 4    | 4%     | 3     | 0.12   | Yes                   | 3    | 0.12   | Yes                   | 4      | 0.16   | Yes                                |
| Data Accessibility & Availability        | 1    | 20%    | 1     | 0.2    | Yes                   | 1    | 0.2    | No                    | 1      | 0.2    | Yes                                |
| Integration Simplicity                   | 3    | 10%    | 3     | 0.3    | Yes                   | 4    | 0.4    | No                    | 4      | 0.3    | Yes                                |
| System Design                            | 4    | 5%     | 3     | 0.15   | Yes                   | 3    | 0.15   | Yes                   | 3      | 0.15   | Yes                                |
| Time to Market Efficiency                | 3    | 10%    | 4     | 0.4    | Yes                   | 2    | 0.2    | Yes                   | 4      | 0.4    | Yes                                |
| Maintenance                              | 5    | 2%     | 5     | 0.1    | Yes                   | 5    | 0.1    | No                    | 5      | 0.1    | Yes                                |
| Ease of use                              | 4    | 5%     | 4     | 0.2    | Yes                   | 3    | 0.15   | Some                  | 3      | 0.15   | Some                               |
| Engineering and Development Capabilities | 3    | 10%    | 2     | 0.2    | Yes                   | 2    | 0.2    | No                    | 1      | 0.1    | Yes                                |
| Licensing and Contracts                  | 5    | 2%     | 4     | 0.08   | Not Required (Our IP) | 4    | 0.08   | Required( Not our IP) | 4      | 0.08   | Not Required( developing in house) |
| Data Security and Governance             | 2    | 15%    | 2     | 0.3    | Yes                   | 1    | 0.15   | No                    | 1      | 0.15   | Yes                                |
| Financial Considerations                 | 4    | 7%     | 3     | 0.21   | High                  | 2    | 0.14   | Moderate              | 3      | 0.21   | Moderate                           |
| Tailoring and Customization              | 3    | 10%    | 3     | 0.3    | Yes                   | 2    | 0.2    | No                    | 2      | 0.2    | Yes                                |
|  |      |        |       | 2.56   |                       |      | 2.09   |                       |        | 2.2    |                                    |

# Sizing - Time Estimate, Phases

Delivering Real-Time Recommendation Engine for Doordash in Just 3 Months!

|         | Project Task                             | Timeline     | Task Details   | Stakeholders  | Risk Level   |  |
|---------|--|--------------|--|---|--|--|
| Phase 1 | <b>Research &amp; Planning</b>           | 1 week ( XS) | Competitor Analysis, Industry research, Value proposition, Business Case, Project Charter                | Product, Project, Engineering, User Research, Data Teams. | Low - Limited resources deployed                                     |  |
| Phase 2 | <b>Approval &amp; Revision</b>           | 1 week (XS)  | Review Charter, Validate Business Case, Project Feasibility, And Project viability.                      | CXO, Business Heads, Finance, Marketing                   | Low - Very limited resources   |  |
| Phase 3 | <b>Design &amp; Development</b>          | 5 weeks (L)  | Tech Review of requirements, BE development, FE development, Integration, Deployments                    | Engineering and Design teams                              | High - Large number of FE, BE teams utilized                         |  |
| Phase 4 | <b>Testing</b>                           | 3 weeks(M)   | Test Cases development, Testing the product, Bug fixes. UI/UX testing with users for usability and value | Product and QA teams                                      | Medium - As only QA and product teams are involved                   |  |
| Phase 5 | <b>Feature Improvement / MVP Release</b> | 2 weeks(S)   | Use feedback to iterate on product, Address any missing components, Soft launch.                         | User research, Data analysts, Engineering                 | Medium - as not the entire engineering team will be needed for this. |  |

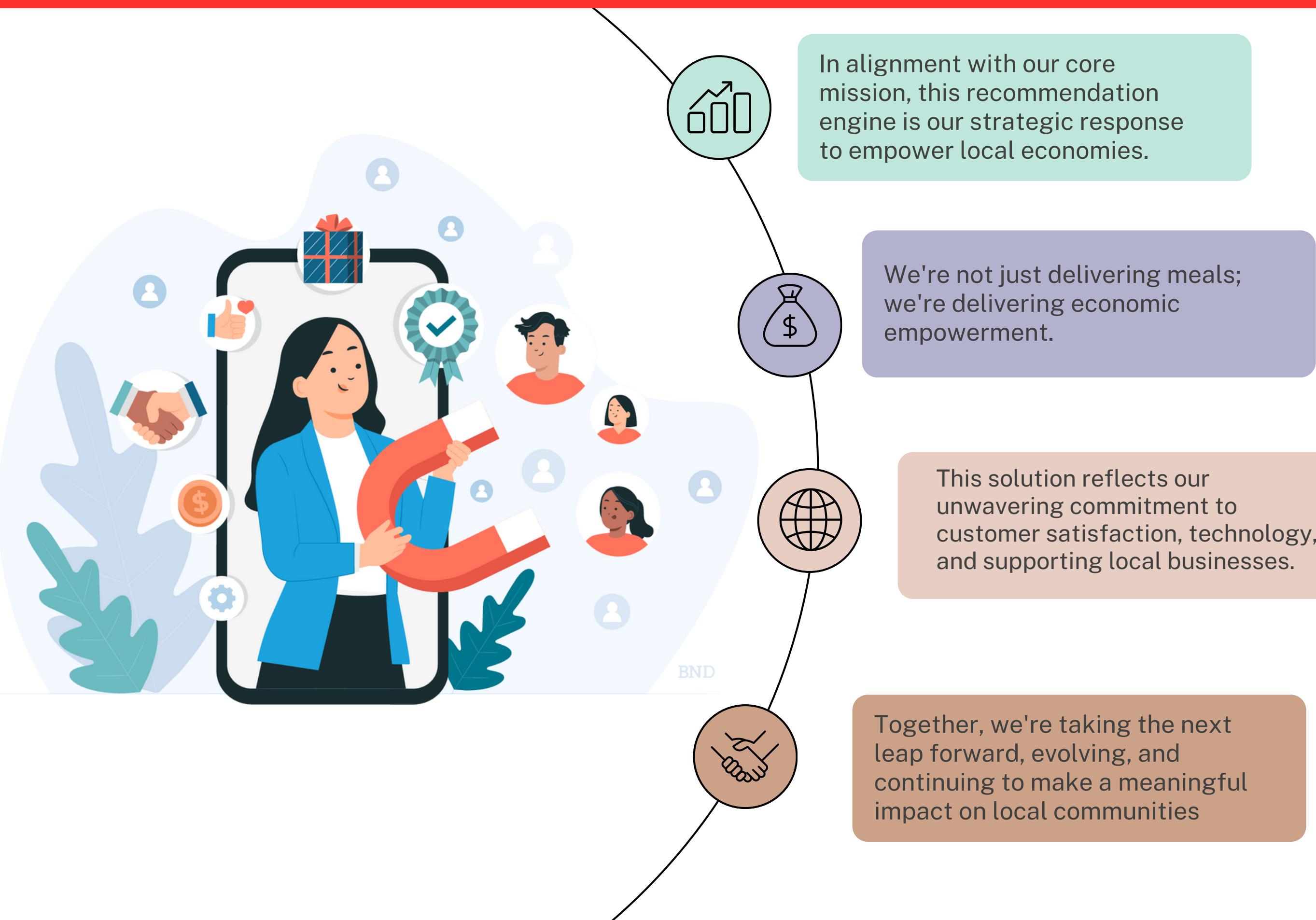
# PROJECT COST ESTIMATE

From Data to Dollars: The Recipe for Cost-Effective Real Time Recommendation

|   | MVP                | Full Implementation |
|---|--------------------|---------------------|
| Time to Completion                        | 3 months           | 1 year              |
| <b>Direct Costs</b>                       |                    |                     |
| Assets                                    | \$30,000           | \$30,000            |
| <b>Overhead Costs</b>                     |                    |                     |
| Salary                                    | \$450,000          | \$1,350,000         |
| Cloud Cost                                | \$100,000          | \$300,000           |
| Marketing                                 | \$350,000          | \$1,000,000         |
| <b>Total (Direct &amp; Overhead Cost)</b> | \$930,000          | \$2,680,000         |
| <b>General/Admin Overhead(20%)</b>        | \$186,000          | \$536,000           |
| <b>Total</b>                              | <b>\$1,116,000</b> | <b>\$3,216,000</b>  |

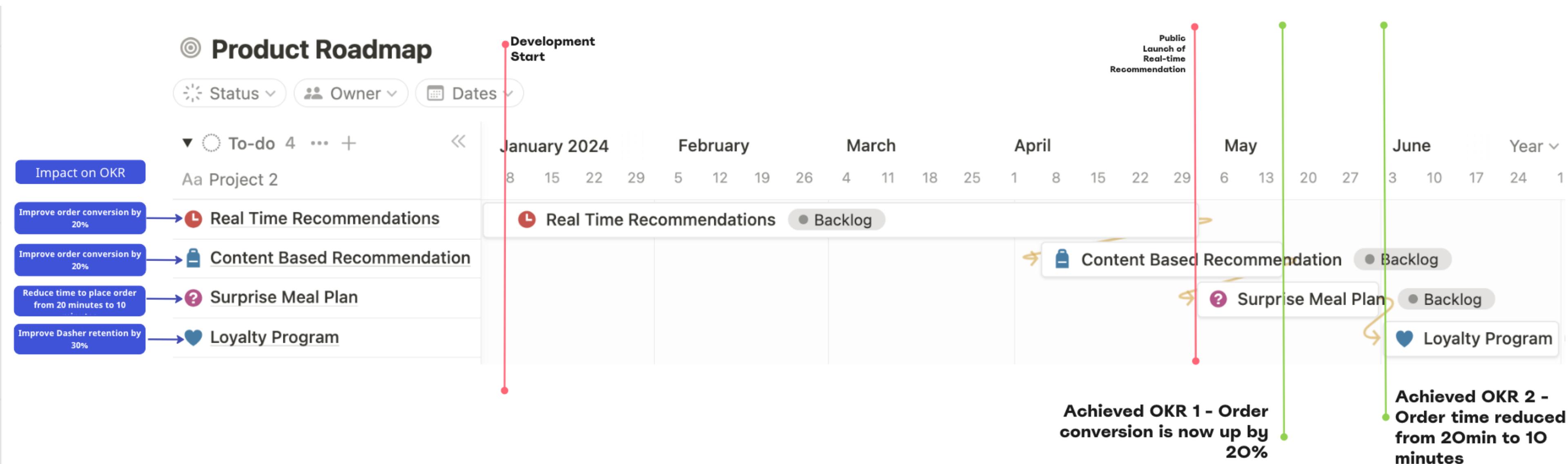
# Closing Remarks: Empowering Local Economies and Our Commitment

Spicing Up Success ; Satisfying Appetites, Empowering Communities, and Evolving Together!



# Product Roadmap

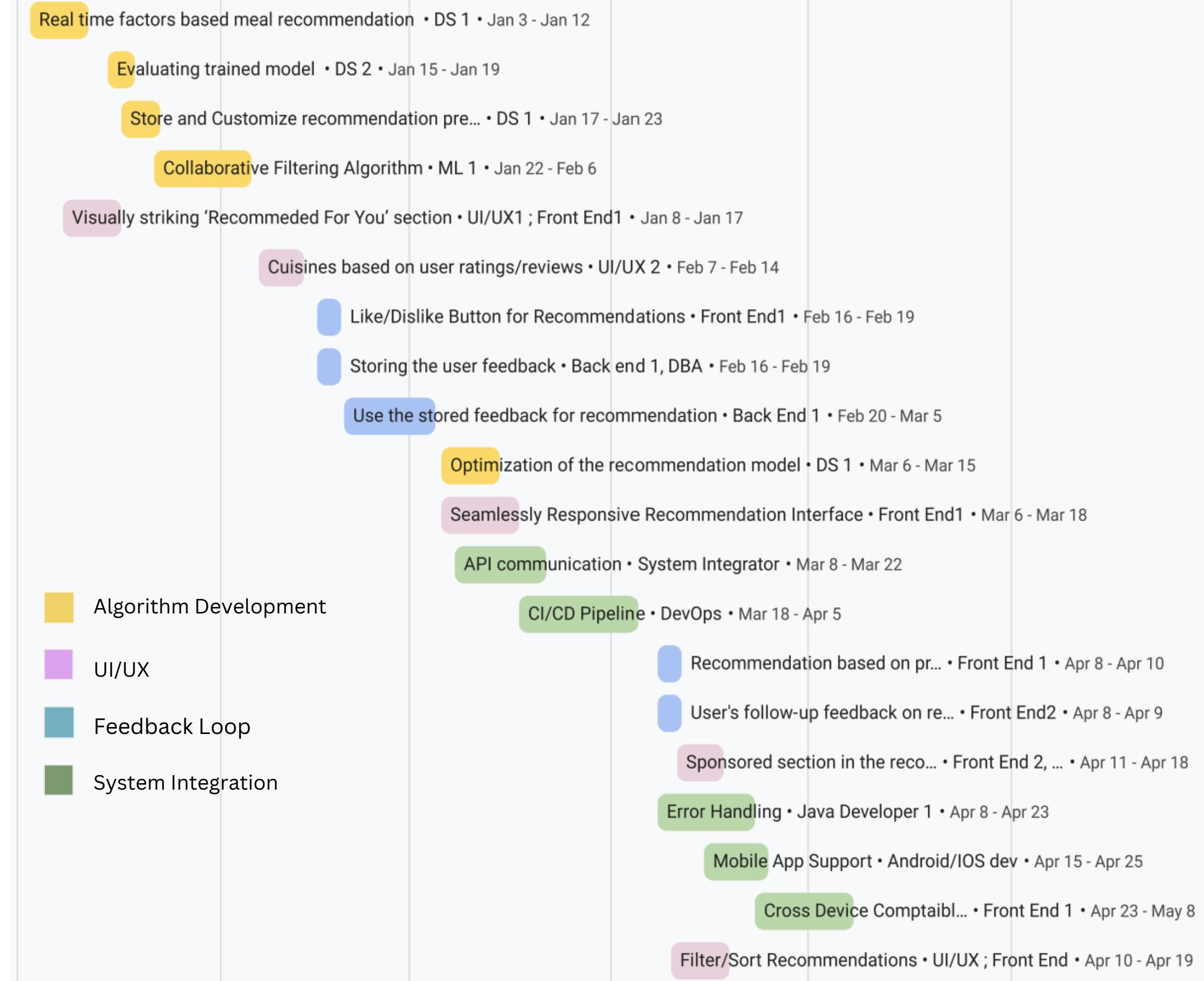
With a focus on achieving our OKR's we have prioritized our ideas and set eyes to build a world class Real time Recommendation system first and then building other ideas on top of it.



# Project Plan

2024

Jan Feb Mar Apr May Jun Jul



# Project Plan

## Drill in details for tasks

| A Story name   | Status      | Assigned to       | # Story Point |
|--|-------------|-------------------|---------------|
| "Recommended For You" section on the homepage that displays recommendation items so that I can quickly find my recommendations.  | Not started |                   |               |
| As a user, I want a seamlessly responsive recommendation interface that loads recommended items instantly without any lag/interruptions and supports smooth swipe/navigation functionality, so that I have a hassle-free order-placing experience. | Not started |                   |               |
| ▶ As a user, I want a Filter and Sort mechanism so that I can refine recommendations   | Not started | UI/UX , Front End |               |
| As a user seeking variety, I want to see new/trending cuisine and dishes based on user ratings and reviews, so that I can make informed decisions about the meal.  | Not started |                   |               |
| As a marketing manager, I want a Sponsored section in the recommendation interface so that Doordash can empower local economies/partners and generate higher revenue.  | Not started |                   |               |
| As a user, I want the meal recommendations to consider real-time factors like weather, time of day, and local events for personalized and context-aware suggestions.   | Not started |                   |               |
| As a data scientist, I want to optimize the recommendation model so that it continually learns and improves its accuracy over time   | Not started |                   |               |
| As a data scientist, I want to evaluate the trained model on relevant criteria, so that I can ensure the accuracy of the recommendation engine   | Not started |                   |               |
| As a user, I want to be able to store and customize my recommendation preferences, so that the algorithm considers my evolving taste and dietary choices   | Not started |                   |               |

COUNT 28

### As a user, I want a Filter and Sort mechanism so that I can refine recommendations

|                     |  |
|---------------------|--|
| Assignee            | G Gunashree  |
| Status              | Not started  |
| Due                 | April 19, 2024   |
| Project             | Empty  |
| Sprint              | Empty  |
| Priority            | Low  |
| Tags                | Mobile Improvement Website   |
| Acceptance Criteria | <ol style="list-style-type: none"><li>When users click on the 'Recommendation' section, display user-friendly controls such as dropdown menus, sliders, and checkboxes to select filtering and sorting criteria.</li><li>Users should have the ability to filter meal recommendations based on price range, and delivery time allowing them to set minimum and maximum limits for displayed items.</li><li>Users should have the ability to sort recommendations based on various parameters, such as price (low to high or high to low) or delivery time (min to max)</li></ol> |
| Assigned to         | UI/UX , Front End  |
| Description         | Filter Mechanism to refine recommendations   |
| # Story Point       | 8  |

### Assumptions

- The technology infrastructure can handle the increased data processing demands.
- Availability of sufficient data to train and refine the recommendation algorithms.
- The project team has sufficient resources allocated to achieve a minimum of 50 story points in each sprint without there being any resource reallocation in future sprints.
- Each story point is equivalent to one working day

### Risks

- Due to unclear QA scope, project timelines may be impacted, leading to potential delays and unforeseen cost increases.
- Unplanned leaves, turnover, or unavailability of key team members can disrupt project timelines.
- Expanding project scope without proper evaluation may lead to increased workload and timeline extensions.
- There exists uncertainty regarding the effectiveness and quality of the recommendation engine. If the completion of this component falls short of expectations, it may act as a critical risk to the project completion, potentially jeopardizing the successful execution of dependent stories and impacting the overall project timeline.

### Bottleneck

- We have limited number of data scientist resources
- Since Database administrator is a shared resource across all teams we have limited bandwidth in making data base changes

# Prioritized Backlog

- We prioritized our 4 scope items and the corresponding 20 user stories.
- We initially prioritized tasks based on algorithm development to establish a solid foundation for our recommendation engine. (P0)
- Simultaneously, we addressed frontend and feedback dependencies essential to the process.
- The next priority focused on system integration, ensuring seamless communication among all components. (P1)
- Once the essential elements were in place, optimization became our third priority. We concentrated on complete system integration, enabling features across all devices, and directing our efforts toward business outcomes. (P2)

# Prioritized Backlog

| Epic                                     | Stories   | Story Points | Priority |
|--|---|--------------|----------|
| Algorithm Development and Model Training | As a user, I want the meal recommendations to consider real-time factors like weather, time of day, and local events for personalized and context-aware suggestions.  | 8            | P0       |
|  | As a data scientist, I want to optimize the recommendation model so that it continually learns and improves its accuracy over time  | 8            | P1       |
|  | As a data scientist, I want to evaluate the trained model on relevant criteria, so that I can ensure the accuracy of the recommendation engine  | 5            | P0       |
|  | As a user, I want to be able to store and customize my recommendation preferences, so that the algorithm considers my evolving taste and dietary choices  | 5            | P0       |
|  | As a machine learning engineer, I want to implement a collaborative filtering algorithm that considers user preferences, so that the recommendation engine can provide personalized suggestions.  | 11           | P0       |
| User Interface                           | As a user, I want to see a visually striking "Recommended For You" section on the homepage that displays recommendation items so that I can quickly find my recommendations.  | 8            | P0       |
|  | As a user, I want a seamlessly responsive recommendation interface that loads recommended items instantly without any lag/interruptions and supports smooth swipe/navigation functionality, so that I have a hassle-free order-placing experience.                | 9            | P1       |
|  | As a user, I want a Filter and Sort mechanism so that I can refine recommendations  | 8            | P2       |
|  | As a user seeking variety, I want to see new/trending cuisine and dishes based on user ratings and reviews, so that I can make informed decisions about the meal.   | 6            | P0       |
|  | As a marketing manager, I want a Sponsored section in the recommendation interface so that Doordash can empower local economies/partners and generate higher revenue.   | 6            | P2       |
| System Integration                       | As a system integrator, I want to establish secure APIs between different components for real-time data flow in meal recommendations so that I ensure a reliable and seamless communication infrastructure, without getting bogged down by technical intricacies. | 11           | P1       |
|  | As a DevOps Engineer, I want to deploy continuous integration and continuous deployment (CI/CD) pipelines so that I can automate the integration and deployment processes.  | 15           | P1       |
|  | As a developer, I want to implement error handling mechanisms so that I can gracefully manage communication errors between components, ensuring a resilient system.   | 12           | P2       |
|  | As a user, I want to seamlessly access the real time meal recommendations on my Android or iOS device to ensure a consistent and delightful experience regardless of the mobile platform I use.   | 9            | P2       |
|  | As a user, I want meal recommendations to be synchronized across all devices when accessed using my account so that I can enjoy a consistent and personalized culinary experience, regardless of the device I use.  | 12           | P2       |
| Feedback Loop                            | As a user, I should be able to know if a recommendation was based on a previously liked recommendation so i can relate to that positive experience  | 4            | P2       |
|  | As a system I should be able to use user feedback so it can be used to make better recommendation decisions.  | 10           | P1       |
|  | As a system, we should be able to store the feedback so it can be reused for future recommendations.  | 5            | P0       |
|  | As a user once i've placed a order via recommendation, i need to be shown a feedback on order so that i can share if was helpful  | 5            | P2       |
|  | As a user I should be able to see a like and dislike option so that I can give feedback on the recommendations I am shown.  | 2            | P0       |

# Sprint Breakup

Breaking up the Backlog into 3 semi-equal sprints based on story points and our prioritization

| Sprint 1   |        |
|--|--------|
| User Story   | Points |
| As a machine learning engineer, I want to implement a collaborative filtering algorithm that considers user preferences, so that the recommendation engine can provide personalized suggestions. | 11     |
| As a user I should be able to see a like and dislike option so that I can give feedback on the recommendations I am shown.   | 2      |
| As a user, I want to see a visually striking "Recommended For You" section on the homepage that displays recommendation items so that I can quickly find my recommendations.                     | 8      |
| As a user seeking variety, I want to see new/trending cuisine and dishes based on user ratings and reviews, so that I can make informed decisions about the meal.                                | 6      |
| As a user, I want the meal recommendations to consider real-time factors like weather, time of day, and local events for personalized and context-aware suggestions.                             | 8      |
| As a data scientist, I want to evaluate the trained model on relevant criteria, so that I can ensure the accuracy of the recommendation engine.  | 5      |
| As a user, I want to be able to store and customize my recommendation preferences, so that the algorithm considers my evolving taste and dietary choices   | 5      |
| As a system, we should be able to store the feedback so it can be reused for future recommendations.   | 5      |
| Total  | 50     |

| Sprint 2  |        |
|---|--------|
| User Story  | Points |
| As a system I should be able to use user feedback so it can be used to make better recommendation decisions.  | 10     |
| As a system integrator, I want to establish secure APIs between different components for real-time data flow in meal recommendations so that I ensure a reliable and seamless communication infrastructure, without getting bogged down by technical intricacies. | 11     |
| As a DevOps Engineer, I want to deploy continuous integration and continuous deployment (CI/CD) pipelines so that I can automate the integration and deployment processes.  | 15     |
| As a user, I want a seamlessly responsive recommendation interface that loads recommended items instantly without any lag/interruptions and supports smooth swipe/navigation functionality, so that I have a hassle-free order-placing experience.                | 9      |
| As a data scientist, I want to optimize the recommendation model so that it continually learns and improves its accuracy over time  | 8      |
| Total   | 53     |

| Sprint 3   |        |
|--|--------|
| User Story   | Points |
| As a user, I should be able to know if a recommendation was based on a previously liked recommendation so I can relate to that positive experience   | 4      |
| As a user once I've placed an order via recommendation, I need to be shown a feedback on order so that I can share if was helpful  | 2      |
| As a developer, I want to implement error handling mechanisms so that I can gracefully manage communication errors between components, ensuring a resilient system.  | 12     |
| As a user, I want a Filter and Sort mechanism so that I can refine recommendations   | 8      |
| As a user, I want meal recommendations to be synchronized across all devices when accessed using my account so that I can enjoy a consistent and personalized culinary experience, regardless of the device I use. | 12     |
| As a user, I want to seamlessly access the real time meal recommendations on my Android or iOS device to ensure a consistent and delightful experience regardless of the mobile platform I use.                    | 9      |
| As a marketing manager, I want a Sponsored section in the recommendation interface so that Doordash can empower local economies/partners and generate higher revenue.  | 6      |
| Total  | 53     |

# Sprint 1

In this sprint, we are developing a collaborative filtering algorithm for personalized recommendations, adding a feedback system, creating a "Recommended For You" section, incorporating new cuisine suggestions, implementing user preference customization, and ensuring feedback storage for future recommendations while evaluating model accuracy.

| Sprint 1   |        |
|--|--------|
| User Story   | Points |
| As a machine learning engineer, I want to implement a collaborative filtering algorithm that considers user preferences, so that the recommendation engine can provide personalized suggestions. | 11     |
| As a user I should be able to see a like and dislike option so that I can give feedback on the recommendations I am shown.   | 2      |
| As a user, I want to see a visually striking "Recommended For You" section on the homepage that displays recommendation items so that I can quickly find my recommendations.                     | 8      |
| As a user seeking variety, I want to see new/trending cuisine and dishes based on user ratings and reviews, so that I can make informed decisions about the meal.                                | 6      |
| As a user, I want the meal recommendations to consider real-time factors like weather, time of day, and local events for personalized and context-aware suggestions.                             | 8      |
| As a data scientist, I want to evaluate the trained model on relevant criteria, so that I can ensure the accuracy of the recommendation engine.  | 5      |
| As a user, I want to be able to store and customize my recommendation preferences, so that the algorithm considers my evolving taste and dietary choices   | 5      |
| As a system, we should be able to store the feedback so it can be reused for future recommendations.   | 5      |
| Total  | 50     |

# Sprint 2

In this sprint, we are focusing on implementing user feedback to enhance recommendations, establishing secure APIs for real-time data flow, deploying CI/CD pipelines for automation, ensuring a responsive interface for users, and optimizing the recommendation model for continual improvement in accuracy.

| Sprint 2  |        |
|---|--------|
| User Story  | Points |
| As a system I should be able to use user feedback so it can be used to make better recommendation decisions.  | 10     |
| As a system integrator, I want to establish secure APIs between different components for real-time data flow in meal recommendations so that I ensure a reliable and seamless communication infrastructure, without getting bogged down by technical intricacies. | 11     |
| As a DevOps Engineer, I want to deploy continuous integration and continuous deployment (CI/CD) pipelines so that I can automate the integration and deployment processes.  | 15     |
| As a user, I want a seamlessly responsive recommendation interface that loads recommended items instantly without any lag/interruptions and supports smooth swipe/navigation functionality, so that I have a hassle-free order-placing experience.                | 9      |
| As a data scientist, I want to optimize the recommendation model so that it continually learns and improves its accuracy over time  | 8      |
| Total   | 53     |

# Sprint 3

This sprint focuses on user experience improvements, including tracking recommendations based on likes, order feedback, a Filter and Sort mechanism, synchronized meal recommendations across devices, and a Sponsored section, along with implementing error handling for system resilience.

| Sprint 3   |        |
|--|--------|
| User Story   | Points |
| As a user, I should be able to know if a recommendation was based on a previously liked recommendation so I can relate to that positive experience   | 4      |
| As a user once I've placed an order via recommendation, I need to be shown a feedback on order so that I can share if it was helpful   | 2      |
| As a developer, I want to implement error handling mechanisms so that I can gracefully manage communication errors between components, ensuring a resilient system.  | 12     |
| As a user, I want a Filter and Sort mechanism so that I can refine recommendations   | 8      |
| As a user, I want meal recommendations to be synchronized across all devices when accessed using my account so that I can enjoy a consistent and personalized culinary experience, regardless of the device I use. | 12     |
| As a user, I want to seamlessly access the real time meal recommendations on my Android or iOS device to ensure a consistent and delightful experience regardless of the mobile platform I use.                    | 9      |
| As a marketing manager, I want a Sponsored section in the recommendation interface so that Doordash can empower local economies/partners and generate higher revenue.  | 6      |
| Total  | 53     |

**Thank You**