

DoorDash Product Pitch

Food delivery using Self-Driving Robots

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Background

Why Are We Here?

- Ever wondered how to make small deliveries more efficient and profitable?
- Can we reduce carbon footprint and make deliveries close to environmental best possible standard?
- Is there a way to reduce the required human effort in short, small deliveries?
- Can we reduce both operating cost and the resultant consumer charge on small distance deliveries?

[Robo-Dasher]

Business Case

Initial Focus

Our Journey so far

- At DoorDash , we have been providing services to customers and merchants since 2012 across 5 countries with the aid of our efficient Dashers.
- With our last-mile logistics infrastructure we have been able to deliver on both user sides.
- We currently hold a 56% market share with revenue generated via delivery fee and commission on every order, advertisement and marketing.

<https://www.doordash.com/en-US/about>

<https://en.Wikipedia.org/wiki/DoorDash>

Initial Focus

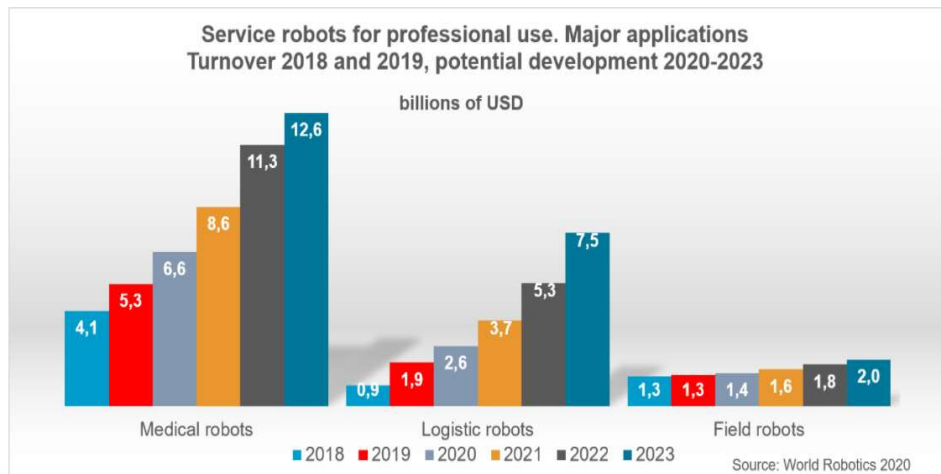
Concerns

- Comparatively higher delivery and commission fees
- Operation cost
- Increasing competitors for market share

<http://www.ameranth.com/pdf/How%20Does%20DoorDash%20Make%20Money,%20Feb%2012,%202019.pdf>

Opportunity

With advancement in autonomous technology and robotics , there has been an increase in the use of automation and service robots in customer based sectors like health care, home maintenance, delivery etc.



- One out of three professional service robots sold in 2020 was built for the transportation of goods or cargo
- Service robot market has a projected CAGR > 21% over till 2027.
- Advent and deployment of Lidar technology

<https://ifr.org/service-robots>

https://ifr.org/img/worldrobotics/Executive_Summary_WR_Service_Robots_2021.pdf

<https://www.astuteanalytica.com/industry-report/service-robots-market>

Opportunity - TAM

- The direct users of this product is our Doordash operators who would be able to assist our actual customers track, route the Robo-Dasher and also manually control the Robo-dasher. However the target users in the long run , are Doordash customers who have order and are in need of a this product.
- With a planned roll out **in San Francisco**, we have estimated the ‘TAM’ for the rollout phase as

Top-Down TAM:

SF Population: 883,255

Estimated Homeless Population: 8838

Homeless population in 2019: 8,035

With the average rate of increase over the past 4 years @10%

Average amount spent on food delivery per buyer per year: 579.76\$

TAM calculation (Top down): $(883,305 - 8597) \times 579.76 = \$507M$

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DoorDash Market Share estimated at 56% market share = \$283.92M

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Bottom-Up TAM:

SF Population: 883,255

No of Households in SF: 362,354

Average Food order value = 47.75 for simple meals

Minimum Estimated amount of Order per year = 24 (estimated as 2 orders per month)

TAM calculation (Bottom-Top) = $362354 \times \$47.75 \times 24 = \415M

DoorDash Market Share estimated at 56% market share = \$232M

Proposal

What's Our Solution?

- Deployment of Autonomously Robots (Robo-Dashers) to handle small deliveries within a 2 mile radius.
 - Human Dashers handle larger orders and long distance delivery.
 - Reduced operation cost
 - Reduced delivery fee charge on customer
 - Reduced Carbon Footprint

Return On Investment

What can we do?

[Link to spreadsheet](#)

- Estimated cost for development and operating

EXPENSES		
S/N	Description	Cost
1	Cost of Robot Development	\$ 240,000.00
2	In-House Dev Team Expansion	\$ 2,064,000.00
3	API Licensing	\$ 250,000.00
4	Product Marketing Team	\$ 350,000.00
5	CSR and Ops Team	\$ 900,000.00
TOTAL		\$ 3,804,000.00

- Estimated Net income from deployment

REVENUE		
S/N	Description	Cost
1	Delivery Returns	\$ 1,600,000.00
2	Advertising revenue	\$ 3,750,000.00
TOTAL		\$ 5,350,000.00

$$ROI = \frac{\text{revenue} - \text{expenses}}{\text{expense}} \% = \frac{5.35M - 3.804M}{3.804M} = 39.3\%$$

Measurement

How will we know if we're successful?

- Increase in booking orders for small deliveries by 25%
- Increase in positive reviews from customers and merchant that place and provide small delivery by 7%
- Increase in market share capitalization > 3%
- Reduction in Operating cost > 10%
- Reduction in delivery carbon footprint by 15-20%

Competitors

Grubhub

- Formely GrubHub seamless and currently owned by Netherland based Just Eat Takeaway.
- Founded in 2004 and services just the United States Market.
- Currently facing a decline in Net Income
- No plans in place to deploy robot technology
- Slower delivery and App technology is very limited.

<https://en.wikipedia.org/wiki/Grubhub>

Postmates

- Founded in 2011 , Operates in 2940 U.S cities .
- Rolled back on internationalization plans
- Focuses on delivery of consumer goods
- Currently developing Autonomous delivery rover
















<https://en.wikipedia.org/wiki/Postmates>

Uber Eats

- Founded in 2014 , sprouted out of ride Sharing company-Uber.
- Global presence.
- Currently working on delivery via drones
- Drone deployment is currently skeptic – No regulations, safety risks etc.

https://en.wikipedia.org/wiki/Uber_Eats

Competitors Overview

	UBER EATS	POSTMATES	GRUBHUB
Global presence			
Autonomous Tech.			
Focus on Food Delivery			
Order Tracking via App			
Order tracking via Customer care			

Our Advantages

Why are we better?

- We hold 56% market share in the food delivery space
- Wide and dominant presence in USA, Canada.
- Easy to use app with proven food tracking technology.
- Timely deliveries.
- Significant number of exclusive customers compared to competitors
- Proven track record with restaurant franchises.

<https://www.doordash.com/en-US/about>

<https://en.Wikipedia.org/wiki/DoorDash>

<https://secondmeasure.com/datapoints/food-delivery-services-grubhub-uber-eats-doordash-postmates/>

Roadmap and Vision

Roadmap Pillars

Where do we go from here?

	Q1	Q2	Q3	Q4
Development of Robots with Partner Company (Hardware)	Design and Build prototype to serve functionality	Camera, Sensors and Mobility	Security, Integration with Software	Field Testing
App Development (Software)	Map updates and location mapping.	Route detection, Computer vision programs Human needed control interface	Customer side software interface with Robot. App update to include Robo-Dash use	Field Testing

Hardware Development

Robot prototyping

- Development and design and mechanical build.
- Integration of hardware that would serve as software complements – cameras, wheels

Testing

- Robot balance when under weights
- Movement on various surfaces
- Anti-theft protection and security

Software Development

- Updates to map to include sidewalks routing
- OpenCV and computer vision
- Lidar technology integration
- Object detection.
- Human interface for Robo-Dasher control
- Customer interface for interaction during Robo-Dasher delivery.
- Software security
- Integration with Hardware team
- Develop the current app to integrate Robo-Dasher

Where do we go from here?

Widening the scope

- Testing in major USA cities
- Further development to reduce Human interference in Robo-Dasher delivery
- Improve the delivery radius of Robo-Dasher.
- Improve delivery speed and load carrying capacity of Robo- Dasher.
- Further intelligent conversation by Robo-Dasher

Thank You