Doordash product pitch

Food delivery using autonomous robots

Product Owner: Ahmed Abdelnasser

Background

Why Are We Here?

- Is there a way to reduce the operating costs especially for small orders?
- Ever wonder how to use a food delivery system for small deliveries?
- Have we gained experience from the pandemic and reduced human contact?

[Automated Dasher]

Business Case

Initial Focus

Where are we starting?

- Doordash providing services to both restaurants and to the customers since 2013, serves over 50 states or close to 3300 cities in US.
- Revenue streams based on:
  - Delivery fee of an average of 6 to 8 USD per order based on the distance and time of order.
  - advertisements or marketing.
  - Commission fee upto 20% from restaurants for every order.

- Deliveries are executed by contractual drivers (so-called Dashers) that operate on an on-demand basis.

https://productmint.com/the-doordash-business-model-how-does-doordash-make-money/

https://help.doordash.com/consumers/s/article/What-fees-do-I-pay?language=en_US

https://www.investopedia.com/how-does-doordash-make-money-4587027

Opportunity

What's the problem?

- Doordash has to come with a more competitive price than its competitors.
- Need to reduce operation costs.
- Concerns from restaurants and customers on the comparatively higher delivery and service or commission fees

https://www.seattletimes.com/business/technology/up-to-91-more-expensive-how-delivery-apps-are-eating-up-your-budget/

https://craft.co/doordash/competitors

Opportunity

What's the problem?

- Increase in the automation and the usage of service robotics in customerservice segments like health care facilities, banks, airports, retail,home,factories, warehouses,etc

Figure 1: Robots per 10,000 manufacturing workers, 2017

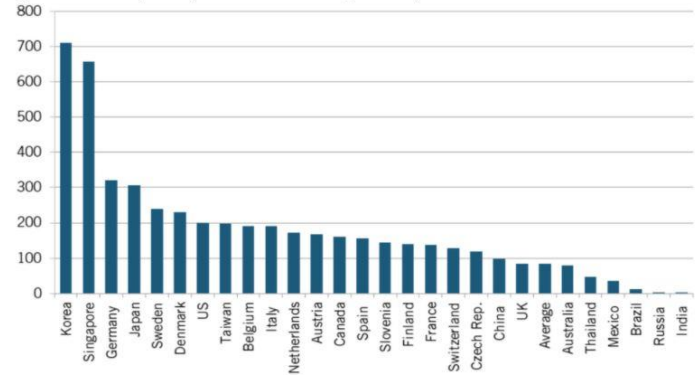
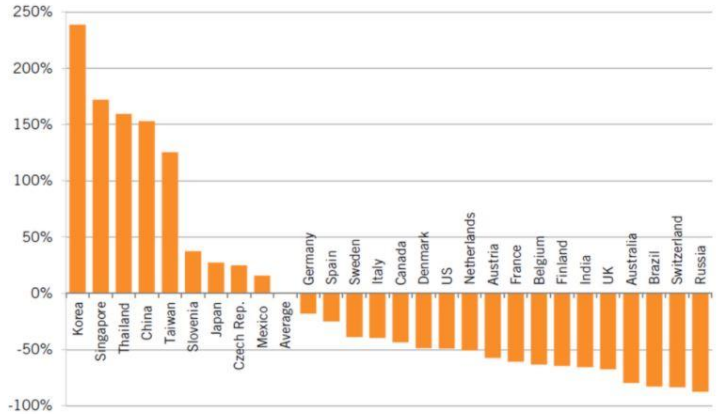


Figure 2: Actual robot adoption rates as a share of expected robot adoption rate[19]

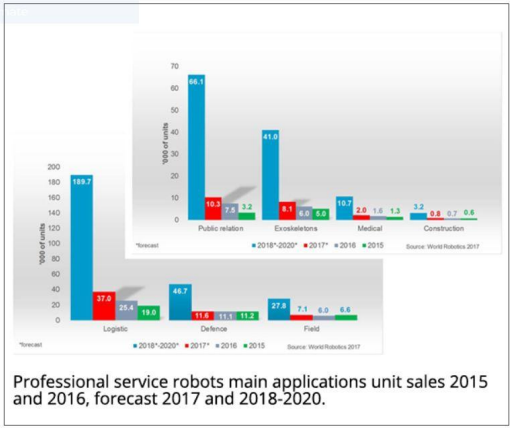


https://itif.org/publications/2019/10/15/robotics-and-future-production-and-work

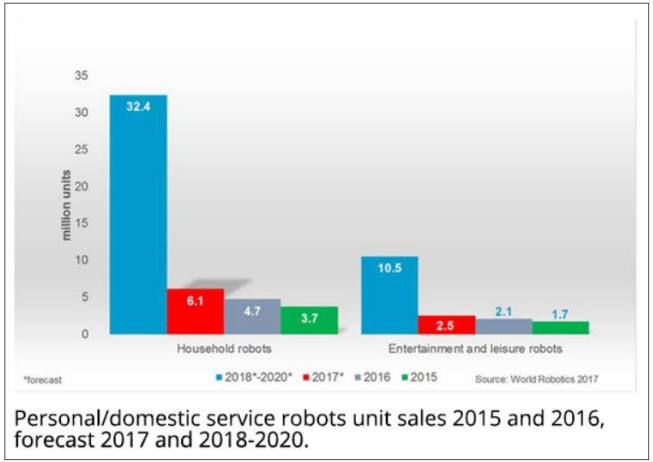
Opportunity

What's the problem?

- It is likely the emergence of the next production system and improvement in robotics technology will increase both productivity and labor-market churn. But higher labor-market-churn rates are not the same as higher unemployment rates.



Professional service robots main applications unit sales 2015 and 2016, forecast 2017 and 2018-2020.



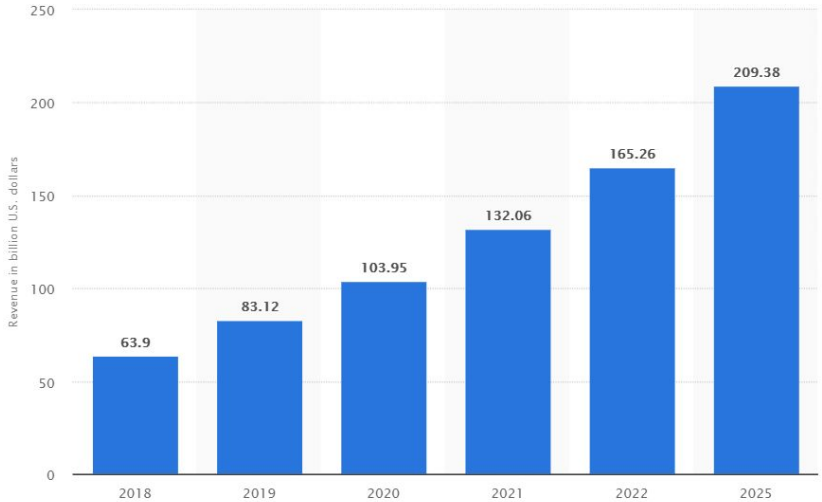
Personal/domestic service robots unit sales 2015 and 2016, forecast 2017 and 2018-2020.

https://www.automate.org/industry-insights/service-robots-on-the-world-stage

Opportunity

What's the problem?

- The global market for robots is expected to grow at a compound annual growth rate (CAGR) of around 26 percent to reach just under 210 billion U.S. dollars by 2025. It is predicted that this market will hit the 100 billion U.S. dollar mark in 2020.



https://www.automate.org/industry-insights/service-robots-on-the-world-stage

https://www.statista.com/statistics/760190/worldwide-robotics-market-revenue/

Proposal

What's Our Solution?

- Replacement of human dashers with automated robot dashers for small deliveries within small distances which will:

- Reduced operational costs for the company
- Human dashers to focus on big deliveries and longer distance deliveries.
- Reduced delivery and service fee for small deliverables
- Reduced human direct contact.

Return On Investment

What can we do?

Expenses

- ordering customized robotic vehicles from partner companies.
- Development and maintenance of the tracking app.
- Development of map data with side walks details (around stores for small deliveries)
- Development of a department for maintenance and breakdowns.

ROI

(An average fee payable to human dashers of 6$ - 8$ per order for delivery + fuel expenses – operating costs of robots per delivery) x number of small deliveries per year

Return On Investment

What can we do?

For example, assuming a $70,000 initial investment in a robot that replaces two workers (one on each shift) where annual total compensation for the average manufacturing worker is $95,500, the payback period

https://www.glassdoor.com/Salaries/dasher-salary-SRCH_KO0,6.htm

Measurement

How will we know if we're successful?

- Positive impact in the other delivery methods due to the change in the focus on bigger orders and long distance deliveries
- Increase in the booking orders for small deliveries by 20%
- Increased positive reviews and ratings from the customers and the restaurants for small deliveries segment by 10% (Compared with competitors)
- Increase in the ROI by 15%

Competitors

GrubHub

- GrubHub provides a corporate program that helps businesses address inefficiencies in food ordering and associated billing.
- no plans to go on service robots delivery (to be verified).
- Relatively cheaper delivery fees and commission towards the restaurant but not known for speedy delivery or a user friendly app like with Doordash.

https://craft.co/grubhub

https://www.ridester.com/doordash-on-demand-food-delivery-service/#DoorDash_vs_Grubhub

Postmates

- A San Francisco based logistics company that also focuses in deliveries other than food (pickup orders from supermarkets, restaurants, hardware stores, pharmacies, etc)
- Piloted with Starship delivery robots in Washington D.C

https://craft.co/postmates

https://techcrunch.com/2017/01/18/postmates-and-doordash-are-testing-delivery-by-robot-with-starship-technologies/

Our Advantages

Why are we better?

- Doordash the biggest on-demand food provider in the U.S. in February, surpassing GrubHub and UberEats.
- Wide area coverage within USA and catering.
- Known for its transparent pricing model.
- Better app experience.
- On time deliveries
- Partnership with the company like Starship

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

https://www.statista.com/statistics/1080826/market-share-doordash-us/

https://www.ridester.com/doordash-on-demand-food-delivery-service/

Roadmap and Vision

Roadmap Pillars

Where do we go from here?

- Ordering robots with some Requirements:
  - Odometer sensors and camera.
  - Obstacle avoidance software.
  - Routing and Rerouting

- Develop software with some requirements:
  - Security software for robots – key handling, sending SMS, alarms, theft detection.
  - Map update and Route calculation based on sidewalks.

Mechanical

- Test Robot:
  - The max weight can carry.
  - Running on more damaged surface.
  - on the wheels using more weight.

Hardware

- Development camera and image processing.
- Improving GPS module for Mapping.
- Self lock in case of theft.
- Improve LIDAR sensors for better and accurate collision and object detection

Software

- Software interface(UI/UX) /fleet management for a human operator to oversee the robots.
- New map integration with sidewalks included.
- Navigation software update.
- Security software for robots key handling, sending SMS, alarms, theft detection.
- Sensor and camera feed data fusion software development.

Where do we go from here?

Widening the scope

- To widen the scope of delivery radius by one step every quarter.
- More intelligent interactions with human and with objects.
- Supplying the robot with screens and displaying paid advertisements for restaurants and companies.
- To increase the Payload maximum capacity and the speed of delivery by 10-15% (Customized actuators)
-

Partnership

3rd party partners

- Starship
- ASTI MOBILE ROBOTICS
- DS AUTOMOTION LLC
- Marble robots
- Scotty labs

https://techcrunch.com/2019/08/20/doordash-acquires-autonomous-driving-startup-scotty-labs/

Go To Market

- **Target Audience:**
  - From 18 to 45 (Males and Females)
  - Geeks with technology
  - Near to restaurant or market thy will order from

- **Channels:**
  - Software App
  - Website

- **Packaging and pricing:**
  - New pricing model calculation
  - The same as the older fees(for Dashers)

Thank You