



Starbucks

Group 1

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Company Overview

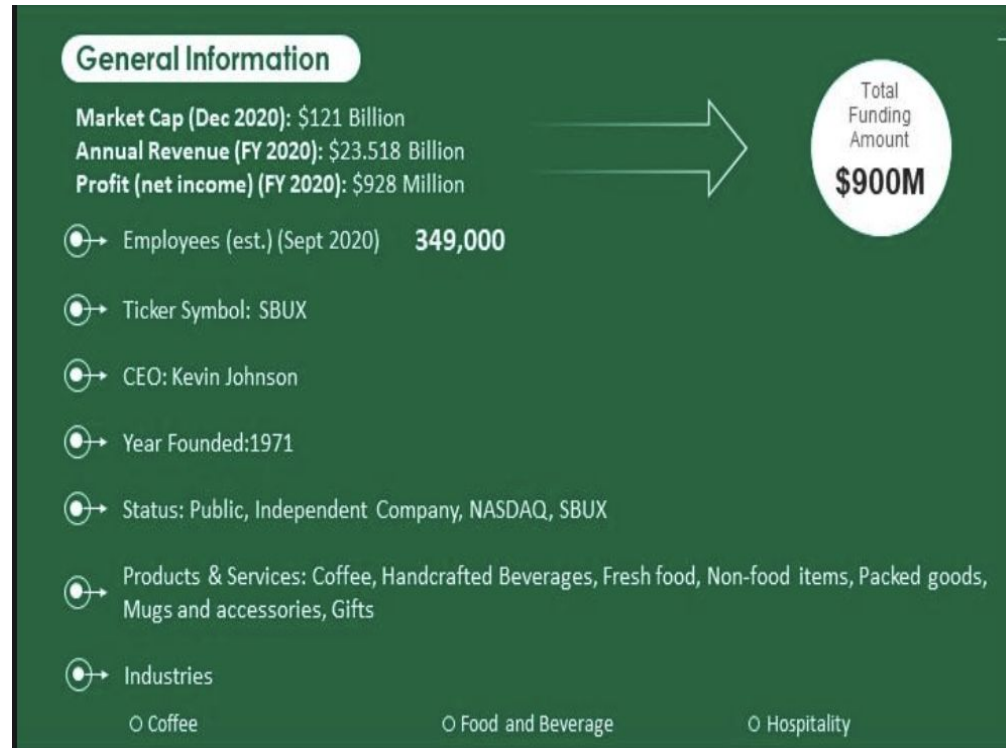
- Starbucks Corporation is an American international coffeehouse and roastery reserve chain.
- Starbucks also licenses its trademarks through licensed outlets, grocery and foodservice accounts , and other networks.

MISSION: to inspire and nurture the human spirit - one person one cup and one neighborhood at a time

SECTOR: Restaurants

VISION: to establish starbucks as the premier purveyor of the finest coffee in the world while maintaining our uncompromising principles while we grow

HEADQUARTERS: Seattle, Washington



The Challenges that Starbucks is Currently Facing

Problem #1

Workers inability to keep up with the demand.

Problem #2

Mobile app ordering and pick ups creating an additional stream of demand.

Problem #3

Inability to meet demand due to constrained supplies as a result of supply chain issues.



Closest Approximation on Starbucks Operation Queue

Average no of customers in Starbucks = 480

Total Open hours = 16

Customer per hour = $480 / 16 = 30$ customers per hour

Time to Serve customers = 3 minutes

Flow Rate = $60 \text{ minutes per hour} / 3 \text{ minutes between customers} = 20$ customers on average per hour

Calculations

Process Capacity	26 customers on average per hour
Demand	30 customers per hour
Processing time	3 minutes per customer
Processing time of worker 1	45 seconds
Process Capacity worker 1	80 customers per hour
Processing time of worker 2	135 seconds or 2 minutes 15 seconds
Process Capacity 2	26 customers per hour
Demand/Capacity constrained	Capacity Constrained

Resolving the bottleneck

Introduce automation

New processing time- Worker 1=60 seconds

New processing time- worker 2=120 seconds/2 minutes

New processing capacity=30 customers/hour



Workers Inability to Keep Up w/ Demand

- Reduce, the number of product combinations.
- Model the properties of each of those combinations in both time, material, information, steps, and flow. But focus on the 80/20 the most ordered combinations first.
- Identify the natural bottlenecks, then apply the principles of lean to the bottlenecks first.

Works Inability to keep Up w/Demand

- Service Time control but making sure customer has the best experience
- Reduce Service Time and improve product quality – the impact of rework loops will make the queue achieve WIP Explosion.

Mobile App Ordering Creating an Additional Stream of Demand

- Mobile orders at Starbucks increased to 7% in 2017.
- One out of four orders are coming from mobile device
- Challenges with handling mobile orders,
- Wait time of ten-minute per person.



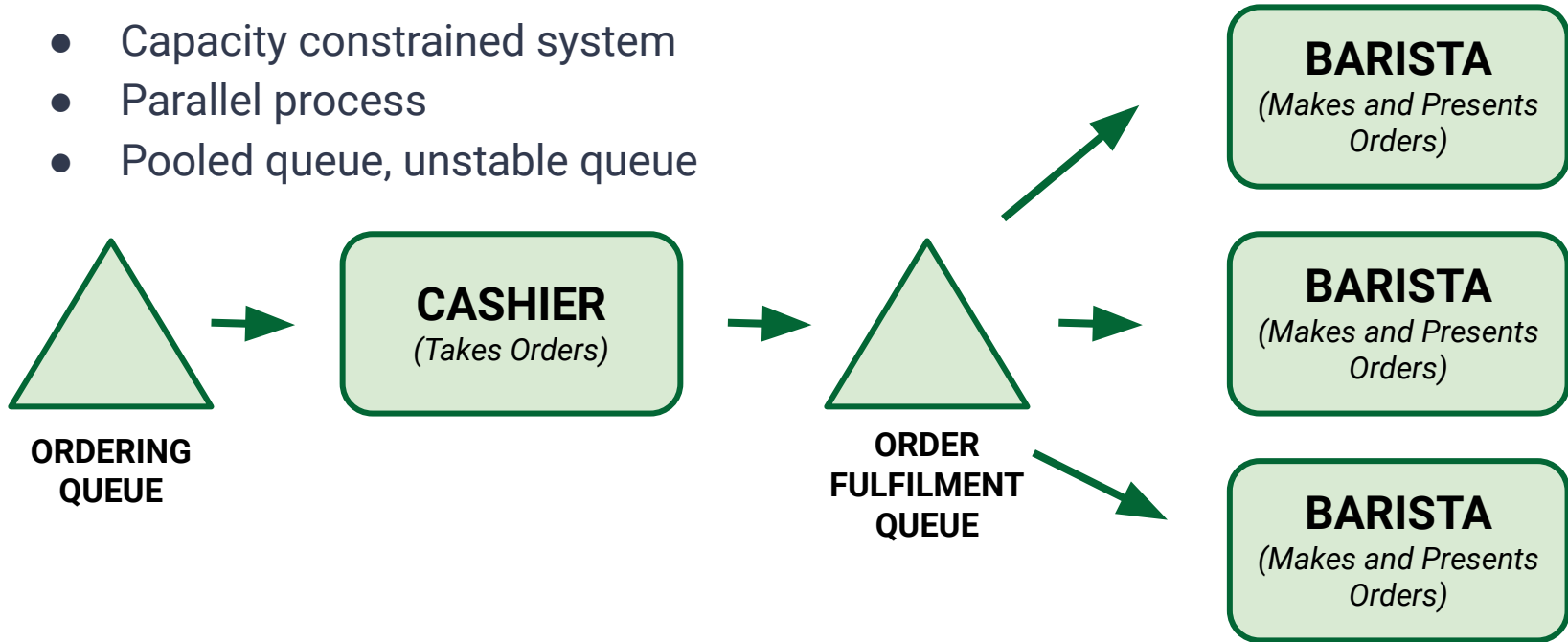
This is all on one mobile order during a 50 customer half hour. They showed up looking for it five minutes after the order came through.

1,530 views

imgur

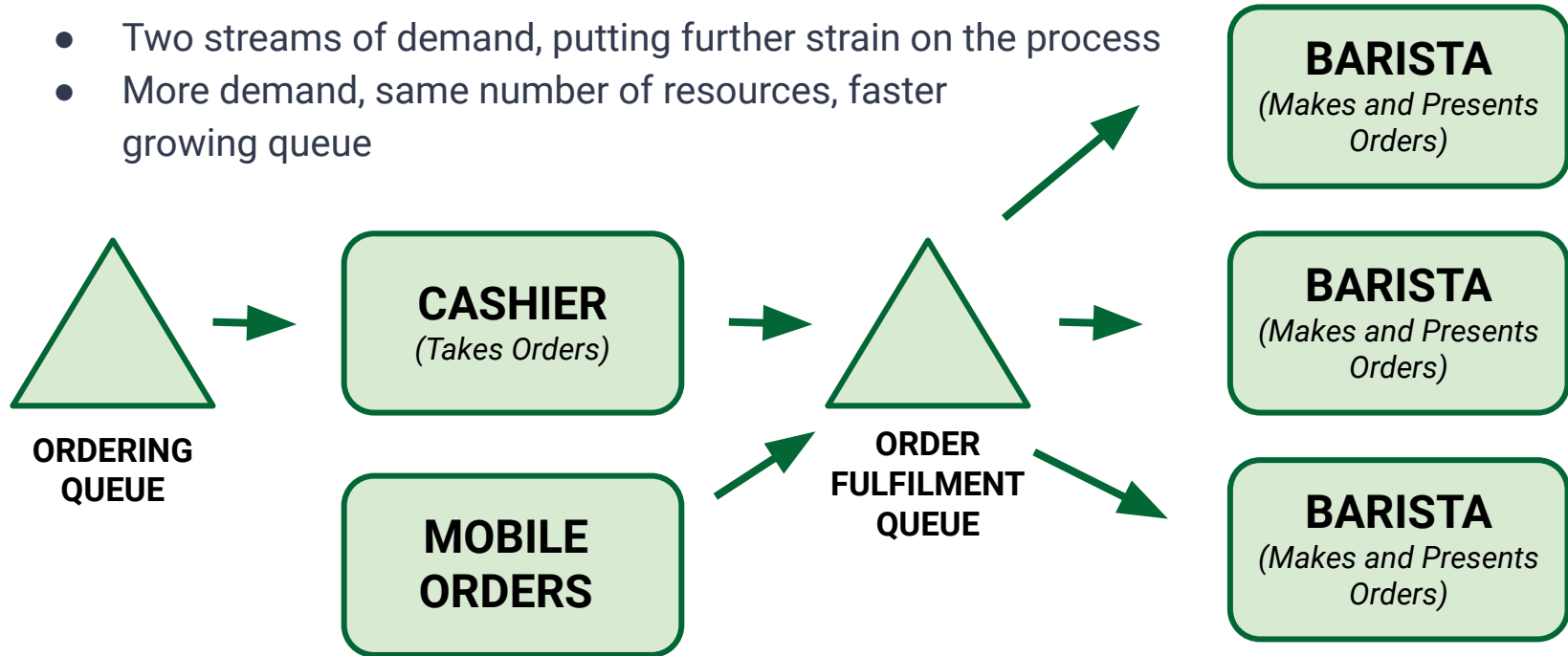
Process Flow Diagram

- Capacity constrained system
- Parallel process
- Pooled queue, unstable queue



Process Flow Diagram – Mobile Orders

- Two streams of demand, putting further strain on the process
- More demand, same number of resources, faster growing queue



Possible solutions to additional stream of demand with mobile orders

1. Improved the physical space
2. Text messaging system
3. Rethinking the production methodology
4. Adjusting the digital infrastructure
5. Introduction of kiosks in stores
6. Mobile order only locations



Starbucks' Supply Chain Issues

Key Issues Surrounding Starbucks' Supply Chain

1. *Transportation Issues*

- Huge expenses
- Slow delivery speeds that sometime result in deliveries not being made at all

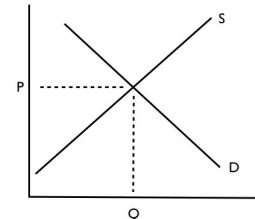


2. *Labor Shortages at Key Distribution Centers and Manufacturing Sites*

- Factories are understaffed which makes it difficult to produce key ingredients and items that the chain needs to fulfill orders

3. *Issues with forecasting demand throughout the year*

- During certain holidays and when new product lines are released, demand is unpredictable
- There is not enough inventory to match with the unpredictability of demand



Possible Solutions to Make the Supply Chain Run More Efficiently

1. Reducing the amount of outsourcing the company relies on to reduce transportation fees and increase efficiency
 - Outsourcing is a significant portion of Starbucks supply chain but also the most costly
 - Focus on increasing domestic production will reduce oversea transport fees
2. Starbucks can assist their distribution and manufacturing partners optimize operations
 - Increasing workers benefits to boost labor
 - Improving working conditions and wages
3. Using analytics from customer loyalty cards, websites and mobile apps can help the company understand its consumer demand
 - We can forecast the next period of demand using data collected from previous company data on trends

Work Cited

Sahael. "Starbucks: The Rise of Mobile Orders." *Technology and Operations Management*, <https://d3.harvard.edu/platform-rctom/submission/starbucks-the-rise-of-mobile-orders/>.

Kline, D. (2021, December 27). *Why is my Starbucks out of...CEO, president explain product shortages*. TheStreet. Retrieved December 4, 2022, from <https://www.thestreet.com/investing/starbucks-ceo-product-shortages-supply-chain-concerns>

Barganier, E. (2022, February 11). *One of Starbucks' most important items is the next victim of Supply Chain Trouble*. Mashed. Retrieved December 4, 2022, from <https://www.mashed.com/765406/one-of-starbucks-most-important-items-is-the-next-victim-of-supply-chain-trouble/>

Shrum, A. (2018, July 10). *A look inside Starbucks' Coffee Supply Chain*. Dynamic Inventory. Retrieved December 4, 2022, from <https://www.dynamicinventory.net/starbucks-supply-chain-management/>

Young, A. (2017, February 7) *A digital bottleneck: Mobile payments breed new challenges for to-go retailers*. Retrieved December 5, 2022, from <https://www.salon.com/2017/02/07/a-digital-bottleneck-mobile-payments-breed-new-challenges-for-to-go-retailers/>

Hsu, J. (2020, October) *Why Top Restaurants are Doubling Down on Mobile Ordering Apps*. Retrieved December 5, 2022, from <https://www.qsrmagazine.com/outside-insights/why-top-restaurants-are-doubling-down-mobile-ordering-apps>

Ryan, T. (2017, April 12). *Starbucks Mobile Ordering is Working Too Well*. Retrieved December 5, 2022, from <https://www.forbes.com/sites/retailwire/2017/04/12/starbucks-mobile-ordering-is-working-too-well/?sh=1d51de66ea28>

Questions?

