**The Importance of Queues**

Steven Munich

Eastern Florida State College

MAN 4504: Operational Decision Making

Dr. F. D. Christopian

01/20/2023

My favoriate thing about this class is how much terminology is shared with my Major in computer Science. Queueing as a concept usually a FIFO(First in First out) structure or “first come first serve”. In the real world we can think of fast-food. The queue is how many cars are in the line and the first ones to order get their food first. Now with priority queues, something that is more important can get pushed to the front of the line, a good example is Disney’s fast-pass. Those who paid extra money have a less waiting time. Stevenson provides good examples of the different types of queues.

“There is first-come service at banks, stores, theaters, restaurants, four-way stop signs, registration lines, and so on. Examples of systems that do not serve on a first-come basis include hospital emergency rooms, rush orders in a factory, supermarkets that have multiple checkout lines, and mainframe computer processing of jobs.” (Stevenson, 790)

When I think of priority queues in the context of operations, I’m reminded of why it is so important to cross-train workers. If part of an assembly-line breaks down and the only guy who knows how to fix it is working down the line, we need to replace his spot in the assembly line while he fixes the broken part. Otherwise there will be a bottleneck, either we he was in the line or the part of the line that needs maintenance. Now that is a queue in reference to manufacturing. People who buy toys are not at the factory waiting for the toy to be assembled. They get it off the shelf and wait in line to purchase it.

Queues in the service industry mainly involve the customers and if you want to stay in business you needs the customer’s loyalty. The best way to do that is to improve the customer’s experience.

“**1. Unoccupied time feels longer than occupied time.**
When you have something to distract yourself, time passes more quickly. Some hotels put mirrors by the elevators, because people like to look at themselves.”(Rubin).
Luckily we live in the age of smart phones and can play a video game, look at our email, or browse the web while waiting. Now what if the queue is on our phones, where we are waiting in line for customer service? This is where the time factor is more important. For this we need a forecast.

 We need to know how many customers are going to arrive and how many people we will need to service those customers. Something very interesting I found on the web is called “Queueing Theory”. It is basically what I was talking about beforehand.
“Queuing theory was first implemented in the beginning of 20th century to solve telephone calls congestion problems. Hence, it isn’t any newly discovered concept. Today, this concept is being heavily used by companies such as Vodafone, Airtel, Walmart, AT&T, Verizon and many more to prepare themselves for future traffic before hand.”(Srivastava)

 IN conclusion, a queue is a very basic concept. However it is also tied to things such as: forecast, cross-training, and bottlenecks. Probably the more important thing about queues is its effect on the customer experience. In the economy we have(which is mostly a service economy) the customer is a business’s bread-and-butter. Without the customer you don’t have a business and in this context a long waiting queue is better than no queue at all.

**References**

# Gretchen Rubin. The Psychology of Waiting: 8 Factors that Make the Wait Seem Longer. www.psychcentral.com Updated 10/19/2012 Retrieved 04/21/2023 from https://psychcentral.com/blog/the-psychology-of-waiting-in-lines-8-reasons-that-the-wait-seems-long#1

[Tavish Srivastava](https://www.analyticsvidhya.com/blog/author/tavish1/) **How to predict waiting time using Queuing Theory ?.** www.analyticsvidhya.comPublished 04/28/2016.Retrieved 04/21/2023 fromhttps://www.analyticsvidhya.com/blog/2016/04/predict-waiting-time-queuing-theory/

Stevenson, W. J. (2020). Operations Management (14th ed.). McGraw-Hill Higher Education (US). <https://reader2.yuzu.com/books/9781260718447>