jrni

To Queue or Not to Queue

Best Practices for Queue Management

Contents

Introduction

Americans spend roughly **37 billion hours** each year waiting in line or **125 hours annually** for each person.

Most people do not like to wait in line or queue as the British say. For some of us, waiting in a line makes us feel as if we are wasting time. Others feel that waiting in line reminds us of our childhood, "Okay, children! Line up! No talking!" A lack of control over their wait could be the source of frustration. For many people, the time spent waiting is — in their minds — a form of torture. However, some people don't mind waiting. Especially in those instances where they are so excited about the result, for example, seeing the new Star Wars movie. In such cases, the time spent waiting in line is an opportunity to share their excitement with other like-minded individuals.

A person waits in line because they want something. Unfortunately, other people want the same thing at the same time, so someone ends up waiting in line. In other words, *a queue is created when demand exceeds supply*. People wait in line because they value something more than the cost of it and the time it takes to wait for it.

Now, imagine your customers. If customers decide that the combined cost of money and waiting time is too much, they drop out of line so that they can spend their time and money elsewhere. If customers make it to the end of the line but are too frustrated with the experience, they take their business elsewhere. Therefore, it is very important for companies to understand the *science of waiting in line* to ensure that these instances do not occur.

This whitepaper will outline both the science and the best practices companies can adopt to minimize the downside risks. Learn from examples from Starbucks and Disney on how they expertly manage lines. Implementing these best practices will benefit customer satisfaction and employee productivity.

The Science of Waiting in Line

Waiting in line is a fairly recent concept. The science of waiting in lines is only about a hundred years old, and the existence of orderly waiting lines dates back only a little bit longer. It was probably utter bedlam before the advent of organized queues.

The History of Waiting Lines

The first mention of waiting in line in literature was in 1837, in Thomas Carlyle's *The French Revolution*. He was describing the scarcity of bread in post-war Paris, "If we look now at Paris, one thing is too evident: that the Bakers' shops have got their *Queues*, or Tails; their long strings of purchasers, arranged *in tail*, so that the first come be the first served."

As the industrial revolution took off in the early 1900s, and more people needed to buy products at stores, mathematicians developed a scientific theory around waiting in a line called queuing theory. The catalyst was the growth of modern telephone networks. As call volumes grew, the Copenhagen Telephone Company wanted to know how many human operators it should have on hand to route incoming calls, but it could not predict when they would arrive. It hired Danish mathematician Agner Krarup Erlang, who in 1909 published *The Theory of Probability and Telephone Conversations*, which used statistics to work out when calls would arrive. Grounded in statistical theories like Poisson distributions, the theory of waiting

in line was born. Large companies now use customized computer algorithms to optimize the checkout staff they have on hand and maximize revenue.

The psychology of people in the lines is significant too. MIT professor Richard Larson, known as "*Doctor Queue*," has spent his life studying the science of waiting in line. He says, "***Often the psychology of queuing is more important than the statistics of the wait itself.***"

His research on queuing has shown that, on average, people overestimate how long they've waited in a line by about 36 percent. Larson found that after measuring wait times and conducting interviews, customer satisfaction was determined not by the actual wait times but the *expected* wait times.

Types of Waiting Lines

Companies have many options when designing their waiting lines; the design can greatly impact the time it takes customers to get through the lines and their satisfaction after successfully navigating the line.

PARALLEL LINES

Most supermarkets are set up with parallel lines, presenting us with the conundrum — which line to join at checkout. Do we choose the shortest line? Or do we choose the line with the customers who have the fewest items in their basket? Even if we choose wisely, there is the chance that we might get stuck behind someone who pulls out a stack of coupons or begins to question everything on their bill.
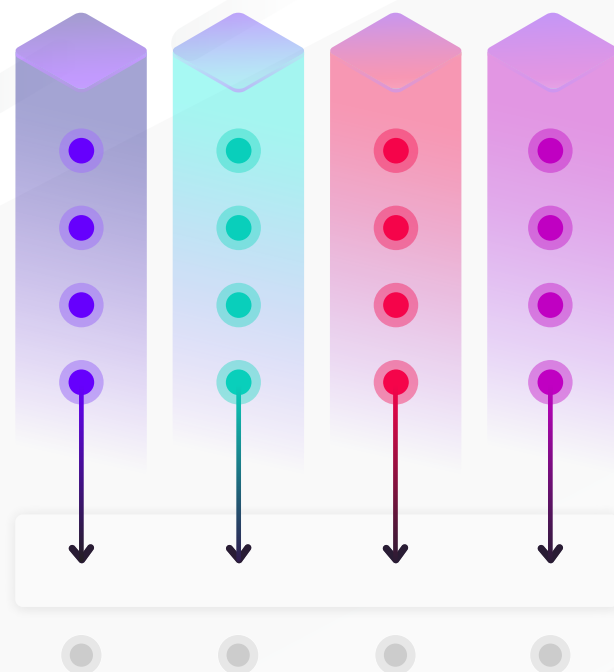
SERPENTINE LINES

A better alternative to parallel lines is the serpentine line; this is one long line that feeds at its head through to a collection of servers. That way, the added time burden from a potential delay is shared equally, leading to an equitable queuing experience and less anxious customers. While serpentine lines look longer than parallel lines, people in serpentine lines walk farther, increasing the sense of progress. Serpentine lines are very common at banks and airport security stations.
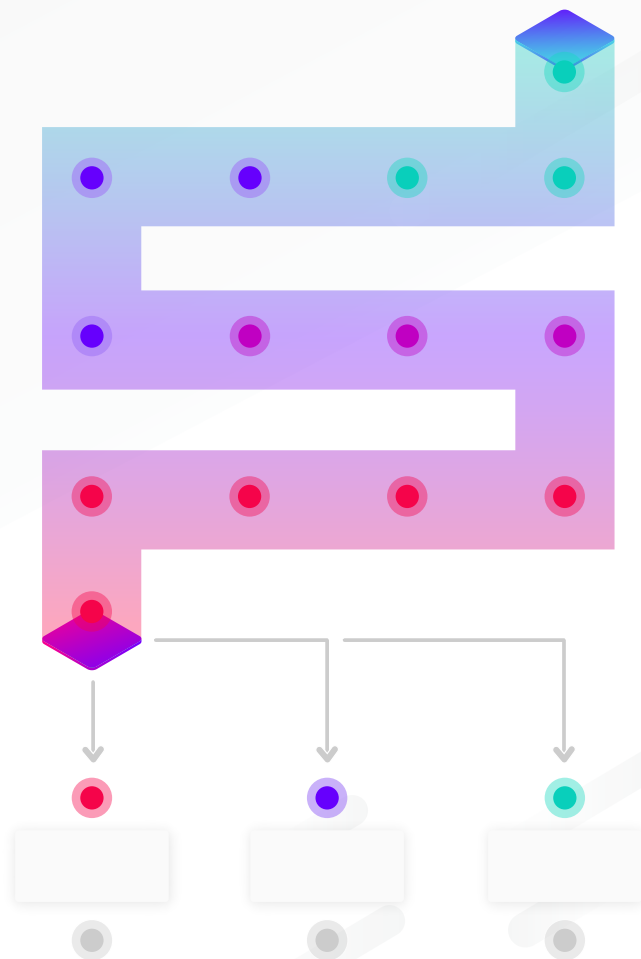
SIDEWALK LINES

One does not have to walk too far in many cities to see a sidewalk line. Sometimes these lines are unintentional, but most often they are not. These are lines that spill out from a cupcake store or a nightclub onto the sidewalk due to overwhelming demand. These lines become a billboard of humans, blaring that "all these people are willing to wait for our products or services, so whatever this store is serving, it must be phenomenal." Sidewalk lines often allow VIP access, which provides the ability for certain people to skip the line for a cost or at no cost at all. Examples of this include celebrities at nightclubs, top customers with priority access, or something like Disney's FastPass, which for a cost allows customers to get expedited access.

TAKE A NUMBER LINES

At most supermarket deli counters, customers take a number and then wait until their number is called. These first-come, first-serve lines are very fair and allow the customer the freedom to continue to browse the choices. Many popular restaurants, especially ones at malls, have begun offering a technology-based upgrade to the take a number system, a pager-like device that allows customers to continue to shop until their table is ready. Recently, this type of system was rolled out as a mobile app, which allows for interactive communication.

VIRTUAL LINES

Companies have been offering virtual lines for years to customers while waiting on hold or queuing online to get concert tickets. This technology previously was fairly simple and not very interactive.

Today, new virtual line technology, called "virtual queuing software," is much more sophisticated for both companies and the customers. The application optimizes the customer waiting experience by offering them the ability to join or manage queues from any computer or mobile device along with receiving updates via phone call, text, email, or the web. For customers, the software provides control to decide how and when they want to queue along with their preferred method of updates. For companies, the software manages customer flow efficiently; reduces the number of customers who drop out of line; improves staff productivity; and converts more business.

Best Practices for Waiting Lines

There are many practices a company can take to improve their waiting lines. From the physical and psychological to the environmental and the engagement, implementing these strategies will make customers happier and companies more efficient.

DESIGN THE LINE

Companies have many choices when designing their lines: parallel, serpentine, sidewalk, virtual, or combination. Technology can eliminate physical lines by providing the customer with the ability to preorder the product or to use appointment booking to schedule an appointment. Starbucks uses this to great effect, enabling customers to find their closest location and order their coffee in advance via their mobile apps.

Proper signage is imperative in lines if a company is combining physical lines with virtual lines as it is important to make sure people get in the right line. For complex transactions, having signs or videos along the way, telling them what paperwork to have ready can avoid unnecessary delays at the service point.
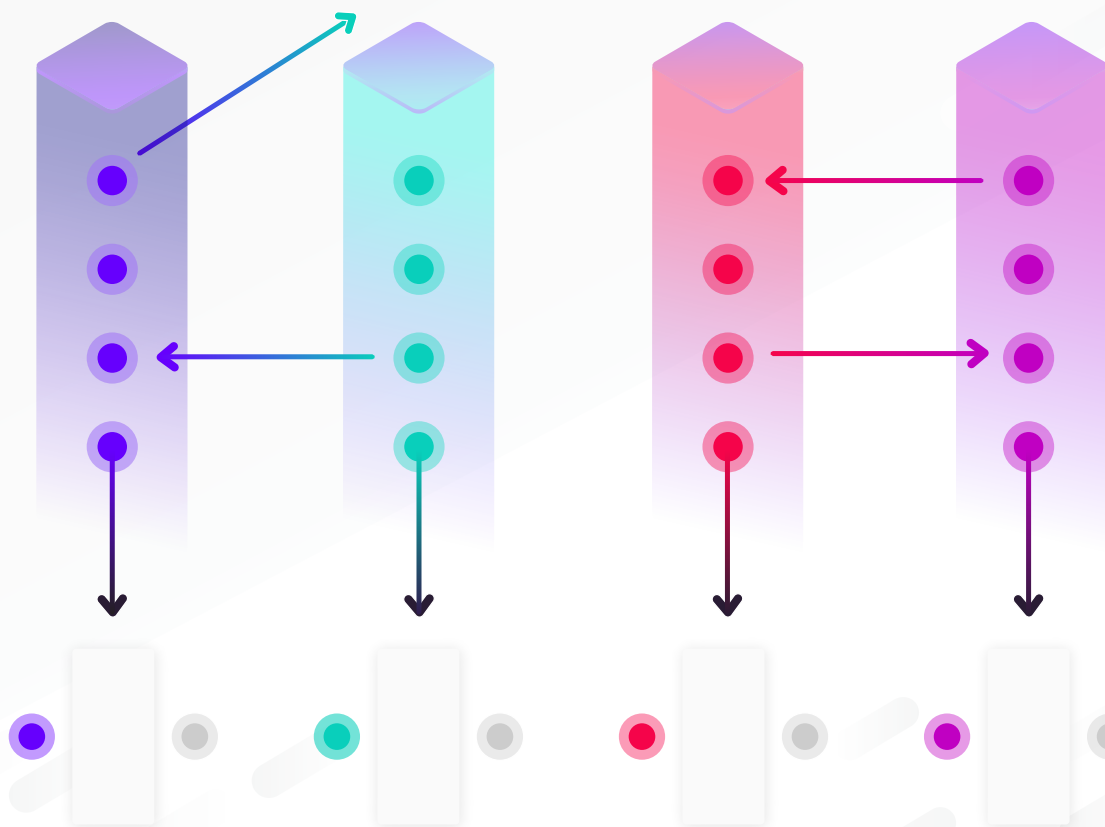
Designing the waiting line can be counterintuitive as executives at the Houston Airport found out. They were receiving excessive customer complaints about long wait times at the baggage claim. In response, they hired additional baggage handlers, and the average wait fell to eight minutes. This wait time was well within industry benchmarks, but the complaints were still coming in. Puzzled by this, the executives conducted an on-site analysis. They found it took passengers on average a minute to walk from their arrival gate to baggage claim. Roughly 88% of their time was spent standing around waiting for their bags. The airport moved the arrival gates away from the main terminal and routed bags to the outermost carousel. Passengers now had to walk six times longer to get their bags, and complaints dropped to nearly zero.

LINES OF COMMUNICATION

Lines make people anxious. In addition to the psychological reasons, people are concerned whether the item in stock will still be available, whether the wait is taking too long or someone else will get what they want. Companies have the power to alleviate the anxiety of people waiting in line through communication either by waiting time signage or by having the employees visit the line to answer customer questions. Many companies will overestimate the waiting time on these "countdown clocks" so customers will be pleasantly surprised that the wait was shorter.

ADAPT TO THE CULTURE

Culture is a key element of lines. Customers from one country will act differently in line than those from another. Canadians are known to be very polite and have a deep tradition of orderly waiting in line. In China, the government had to post line monitors before the Beijing Olympics to ensure that people followed the rules. The London Underground was looking to move its passengers through the escalators faster. Traditionally, one could either walk on the left or stand on the right. They turned to mathematics and found they could move 38% more passengers if everyone stood on the escalators rather than some people walking and some standing. While initially successful, eventually enforcement of the new method stopped and people went back to the old system.

LET'S GET THIS LINE STARTED

A key aspect of queuing psychology is that people want to feel as though they're making progress. In his article, The Psychology of Waiting Lines, professional management consultant David Maister argued that customers lining up are often afraid of being forgotten. Communicating their expected wait time to customers in line is a great way to alleviate this stress. Doctors' offices will put patients in an examination room before the exam begins because then the patient feels that the exam process has begun, even if they face a further wait. Self-serve kiosks can eliminate the need to stand in line and have become omnipresent at parking garages, banks, and subway stations. Another trick is to display wait times at different points in the line to reinforce the notion of progress.

MAKE THE LINE FAIR

People waiting in line agree that the policy should be first-come, first-serve. Maister points out that customers hate inequitable queuing, and often, this can happen in less obvious ways. It is unfair that people can call ahead for service at the store and get priority treatment over customers who are patiently waiting in the store line. Customers who intentionally or inadvertently cut into a long line may raise the anxiety levels for the others. Labeling different lines for different purposes can not only process customers more quickly, but it can alleviate anxiety by explaining why some are waiting longer than others.

THE LINE IS A CAPTIVE AUDIENCE

Richard Larson highlights one of the biggest psychological rules of queuing: time spent waiting in line seems to pass more slowly than time spent doing something else. Armed with this knowledge, companies could distract customers in line to make the wait seem shorter.

In an essay on the sociology of waiting in line, Larson highlights the Manhattan Savings Bank, which for a while offered live entertainment for customers waiting in line at its New York branches. Disney has the serpentine line refined to a fine art. The company divides line segments at its theme parks into different rooms with different design themes, hiding each segment of the line from the other.

Customers can't see how long the entire line is but feel as though they're making progress every time they enter a new room. Disney uses videos and other entertainment to keep customers happy while they wait along with posting wait times to reinforce the idea that they're making progress.

Rather than providing distractions, another option could be to focus on education. Providing product demonstration videos or showcasing new products is a great way to captivate a captive audience. Waiting in line can be a sales opportunity. People who are waiting in line at supermarket checkouts will reach for an impulse buy items like magazines, tabloids, snacks, and candy, thereby earning U.S. supermarkets about $5.5 billion annually.

Conclusion

The challenge for many companies is keeping customers engaged through a seamless, consistent, and unified journey. Customers waiting in line are both an opportunity and a danger for companies. Therefore, it is important for companies to understand the science behind waiting in line and implement these practices to mitigate any issues.

Please visit our website to learn how our queuing solution can help turn your queue into a source of increased revenue. Download our queuing solution datasheet or speak with a member of our team — but don't wait too long!

https://www.jrni.com