

# The Art & Science of Queuing

## A Guide to Queue Management



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# Introduction



When planning a queuing strategy, managers rely extensively on models that analyze behavior using mathematical formulas. These formulas are certainly valuable but neglect to account for the human side of the equation. After all, just because the formula says people will wait X minutes and the queue will serve X number of people per hour, if people arrive in the queue frustrated by the line, annoyed at the process, or confused by the queuing setup, there's a good chance they'll leave or at least not return again.

## **It's more than the actual time spent waiting; it's the experience that matters.**

Popularized by Dr. Richard Larson, so called "Dr. Queue," the psychology of queuing addresses the softer side of standing in line. When you consider that the average American spends 2 years waiting in line and you think about the measures some people take to avoid waiting, it's important for managers to get their queuing strategies straight.

In planning a queue, managers need to put right brain and left brain to use, meshing art and science to create an efficient and enjoyable process for all. This guide is designed to help you think through the psychology of queuing and highlights trends that can help you extract more value from your line.

### **What's Covered in this Guide:**

The Five Tenets of Queuing  
Queuing Trends

**Let's get started!**

# The Five Tenets of Queuing



Research has shown that the psychology of waiting in line matters more than a ticking clock. In other words, a person's experience in line can be more important than the actual time spent waiting. While people will find ways to avoid lines altogether, there are ample opportunities to improve a customer's experience when they are waiting in the queue.

The following Five Tenets of Queuing illuminate the "psychology of waiting."

## Queuing Tenet #1 | Occupied time feels shorter than unoccupied time.

You've heard the phrase, "A watched pot never boils." Well, it can literally feel like an eternity to stand in line waiting – with nothing else to do but pay attention to the passing of time. The only things reaching a boil are the moods of the people standing in line.

If customers are distracted while they wait, preferably diverted by something that benefits or entertains them, they will perceive a wait to be shorter. Some restaurants provide waiting patrons with a menu to peruse or offer bite-sized appetizers on the house. Some hotels will hang a mirror on the wall which, surprisingly, can keep people occupied while they wait for the elevator.

Dr. Richard Larson, a professor of engineering systems at MIT, has studied the psychology of waiting in line for 30 years (earning him the nickname Dr. Queue) and gives Disney an A++ as the best managers of the psychology of queuing. Walt Disney himself said the queuing experience should be the beginning of the entertainment.

According to Larson, Disney employs about 15 operations researchers who perform queue analysis to optimize the parks for guest interaction. The amusement starts early with interactive media and photos of what's ahead while visitors are waiting in line – at Disney, waiting in the queue is half the fun and part of the attraction! (The park queues are also designed so visitors can never see the entire queue or how long it is, and Disney lines also have a "warning sign" telling patrons how long they can expect to stand in the queue. See tenet 4 for more on this excellent queuing practice.)

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## Queuing Tenet #2 | People want to get started.

A 2006 Ipsos Public Affairs survey found that people are most frustrated waiting in line at grocery stores – reportedly hating it even more than waiting in line at the DMV or doctors' offices combined. What cools the queue rage? Having an opportunity to get started on whatever it is you're standing in line for can minimize (or eliminate) the perceived injustice of having to wait longer than a person believes they should have to wait.

An “in-process” wait feels shorter than a “pre-process” wait... which is why doctors put patients in exam rooms 20 minutes before the exam actually begins, because it makes a person feel like they’re getting started even if there will be waits during the process. They’re officially “in the system.” The same applies to being an airline passenger – 10 minutes waiting to board a plane seems much longer than the 10 minutes you still have to wait once you’ve been seated on the plane.

Many restaurants now offer call-ahead seating which means waiting in a queue is practically eliminated. The time you would spend looking at your watch, counting the number of times your stomach growls, or scowling at the patrons who get called to their seats before you is instead spent shopping, hanging out at home, or getting an aperitif at the bar down the street.



Larson and his colleagues showed that customers at a downtown Boston bank overestimated their wait times by 23 percent – but when a clock displaying expected wait time was added to the queue, customers’ estimates of wait time were more accurate.

### Queuing Tenet #3 | Anxiety makes waits seem longer.

When you’re waiting in line, the obsession is all about getting somewhere sooner... and fretting that someone else will get there before you do. If a customer thinks they’ve chosen the slowest line, or they’re worried about getting a seat on the train, the wait will seem longer. Eliminating the element of “competition” and instead offering reassurances that a customer hasn’t been forgotten, they haven’t chosen the wrong line, they won’t be delayed so much they’ll miss another appointment, can reduce anxiety.

People in a queue worry that there won’t be enough room left in the overhead compartment for their luggage – the quality of their wait has just plummeted. Queued up for a movie? Customers in a long line may be judging the crowd ahead of them with growing concern that there will be no available seats for their desired showing once they reach the front of the line, or sometimes worse, that they’ll be split up from their party or stuck sitting in the front row of the theater.

Reassurance reduces anxiety by limiting or eliminating uncertainty and removing what the customer is worried about – that there are tickets still remaining, that they’re in the right line, that there will be room for their possessions... Even scent can decrease anxiety. An Australian study in 2002 showed that a lavender scent emitted in waiting areas at the DMV improved 200 customers’ rating of service when waiting for more than 10 minutes.

**Tip:** A sure-fire way to remove the anxiety of choosing the wrong line is to have just one line to begin with! (We discuss single-line queuing later in this guide.)

## Queuing Tenet #4 | Uncertain waits are longer than known, finite waits.

Being told, "The doctor will see you soon," may seem reassuring, but the more effective statement would be, "The doctor will see you in 30 minutes." Reservations and appointment systems help alleviate uncertain wait times (as long as a service provider has the solid reputation of upholding their estimated wait times). And customers typically perceive their wait to be shorter if they're given an accurate estimate of the length of their expected wait.

If you build overestimation into the information you provide your customers, they'll be even happier with the result of their time in the queue – and pleasantly surprised that you came through with an even better result than originally promised. Restaurants who give you a 20-minute wait time that ends up being 10-minutes are more likely to have patrons begin their dining experience in a more positive frame of mind. Unfortunately, businesses that tend to increase their delays bit by bit, perhaps naively thinking that a customer won't notice, reinforce a customer's belief that they're not being dealt with honestly.

The idea behind providing a finite wait is to manage a customer's expectations or aid the individual in deciding whether they are willing to wait or prefer to move on to another task, ride, queue, etc. A simple visual display can be a powerful indicator for a customer who might otherwise find their toe-tapping time in line interminable.

David Maister is the author of *The Psychology of Waiting Lines* (1985) and identifies an amusing phenomenon: If you knowingly arrive somewhere 30 minutes early, you happily wait patiently. However, three minutes after your appointment time passes, annoyance begins. You can't be all things to all people who are waiting, but you can certainly provide them with information.



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## Queuing Tenet #5 | Unfair waits are longer than equitable waits.

There are those wait areas where it's unclear who exactly is the next person in line – an elevator or a subway station, for example. There's no clear way to determine who gets to go first or next. People are generally happy, however, when their wait is perceived to be fair.

A valued customer may rank higher on the queue chain than a regular, infrequent customer – but it's tricky to offer preferential treatment in front of the rest of the queue without a clear delineation or categorization of this person's status. Even then, the person who is waiting instead of being waited on can perceive their wait as unfair – believing, perhaps, that all customers should be treated equally no matter what.

**People just want a fair wait.**

If you're treating people out of sequence, or attending to a patron on the phone when a customer is standing right in front of you, it's wise to serve them in a place other than near the general queue. "First come, first served" is considered by many to be the most just method of waiting – a departure from the status quo needs to be justified or explained unless you want to risk that waiting patrons will become anxious, perceive their wait as tedious, or believe that someone is jumping the queue for no good reason.

A single line queue is one of the easiest and simplest ways to create a fair and equitable wait. It naturally creates a first come, first served process that most customers understand as being fair.

According to Larson, customers' perceptions of their wait are influenced by perceptions of social injustice – the belief that someone has gotten ahead of you in line can lead to stress and irritation. (e.g., Multiple-line queues, like those at McDonald's, can feel longer than the single-line queue at Wendy's where it truly is first come, first served.) Which means patrons might abandon the queue altogether, or leave feeling that their experience was unsatisfactory.

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## Queuing Trends



### Electronic Queuing

Customers appreciate efficiency, convenience, and a sense of fairness when they're in a queue. They like knowing where they're going without having to ask any questions. Most of all, they appreciate it when they feel no pressure to look for a shorter line or worry about people getting ahead of them.

Audio cues ("Register number two is now open" or "Now serving customer number 28") and visual cues (screens displaying the customer being called to a service agent, or flashing lights announcing agent availability) are the crux of electronic queuing, and these methods direct customers to the next available checkout position methodically, logically, and peacefully.

Here's why enterprises choose this method:

#### **Electronic queuing increases customer satisfaction.**

Entertain your customers while they wait and you can slash their perceived wait time by nearly 40 percent! Electronic queuing solutions allow you to play promotional stills or video between queuing prompts to keep customers engaged. After all, staring at a screen waiting for a number to appear can be just as anxiety-producing as waiting in line without electronic assistance. If you keep customers busy, they'll be distracted – and happier for it.

## Electronic queuing eliminates agent “down time.”

An inefficient queuing process plays havoc with queuing and transaction times. When an available agent is waiting for a customer the ensuing “down time” can get costly. For the business, that means valuable time is being wasted. For the customer who sees an available agent not working, that means frustration. Electronic queuing systems make lines efficient – overhead LCD monitors direct customers to the next available service position, which means customers and employees are both kept busy. Additionally, since employees know that their calls to service are being monitored and reported on, they naturally work more efficiently. Electronic Queuing is field-proven to increase service efficiency by as much as 35 percent, while also improving customer and employee satisfaction. Win win.

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## Electronic queuing decreases the average wait time by optimizing customer throughput.

You’ve seen a crime caper movie where a bank agent surreptitiously pushes the panic button under the desk to alert the police who show up just in time to save the day. Well, you can have a “panic button” too – with the push of a button, an agent can alert waiting customers via electronic queuing methods like flashing lights or lit numbers that their station is available. Agents can even call customers to their line from another queue. Exit finger-snapping, yoo-hoos, flag waving and shouts of “I can help you over here!” Enter patience and peace.

## Electronic queuing can be installed easily and quickly.

A plug and play electronic queuing system can work independently from your other networks, which means all proprietary info is kept safe and secure. The features are many: You can play around with different modes to display media as full-screen, split-screen, or picture in picture; use pre-installed alerts, images, and voices, or create your own messages to suit the style of your place of business; or wirelessly control several queues and numerous peripheral devices from one remote. Forget your home remotes. This is *the* universal remote.



## Call Forward Queuing

The first come, first served practice creates that ideal feel-good atmosphere you want in a waiting line – you can implement that coveted pattern with the Call Forward Electronic Queuing method which essentially “calls forward” the next person in the queue.

Call forward is best used in businesses where transaction times are short but lines will be long – think your local discount department store. The art of distraction is very necessary in crowded, busy environments, and call forward enables you to truly target your captive audience to cross sell and increase impulse purchases.

When is the last time you added something to your order because you discovered it while standing in line? Probably very recently – that’s because 65 percent of all retail sales are bought on impulse. You either lose or keep sales at checkout – and, ideally, you increase them by keeping customers engaged in a queue through in-line merchandising options, promotional media, information, and advertising.

# Virtual Queuing

No queue at all, you say? No waiting in line? It can be done – and your customers will love you for it. Virtual queuing is an electronic queuing system that is designed to free customers from waiting in line and enhance service-oriented environments where wait times are typically longer. Perceived wait time plummets when a customer is able to use the time they would have spent standing in line for more productive activities – like relaxing, shopping some more (virtual queuing has that all-powerful cross sell/merchandise feature), or just browsing.

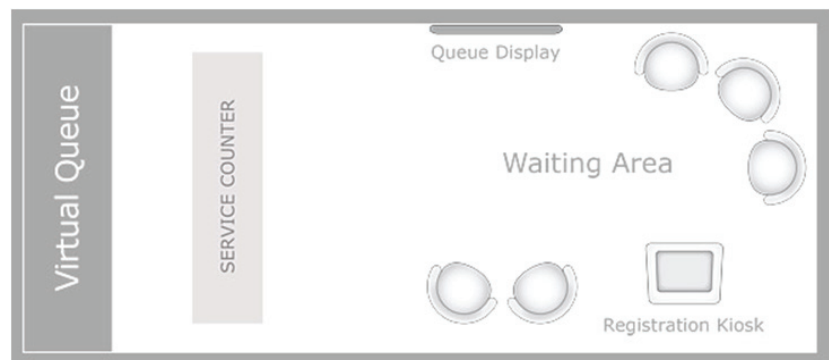
But the good news is that virtual queuing systems not only decrease perceived wait times but actual wait times as well. Service efficiency and effective digital signage both contribute to a shorter wait and, therefore, customer satisfaction. Virtual queuing also gives you the opportunity to serve different customer segments differently – like VIPs or frequent customers.

Effective digital signage contributes to a shorter perceived wait and, therefore, customer satisfaction.

In essence, virtual queuing is designed to disperse waiting crowds and create a more pleasant waiting environment (think the DMV where it's all queues and waits). Customers can be communicated with via the ticket they receive, the LCD display, and even text message.

## How it works:

- Customers register at a kiosk for their desired service which then spits out a ticket specifying their call number, the service they're waiting for, and their estimated wait time.
- Customers do what they please – shop, browse, chill out, anything but watch the clock as they stand in a queue.
- In between queuing messages, your virtual queuing monitor can display promotional stills or videos. If you opt for the split-screen mode, you can keep people happy with info about whose ticket is up next while simultaneously providing them with information.
- Agents click the service button on their end to call the next customer forward through auditory and/or visual cues. No mad dash for the checkout line with virtual queuing.
- Virtual Queuing systems can also offer the ability for customers to register for service offsite, such as through their home computer or cell phone and then receive queue alerts and messaging via email or text messages.





# Digital Signage + In Line Merchandising

Time to shake up your queue? Increase the bottom line? Make your customers happier? It's always the right time to say "yes" to these questions. So here are two things you need to know:

- 1) In-queue marketing via digital signage reduces perceived wait times by nearly 40 percent, dramatically boosts impulse purchases, and improves the customer experience.
- 2) Adding in-line merchandising options in conjunction with electronic queuing can increase impulse sales at checkout by as much as 400 percent!

## Digital instruction can convert to impulse sales.

People may want things, but sometimes they don't buy them because they aren't exactly sure how to use them – a fancy new smartphone feature, a clever kitchen tool, a discount card for future purchases. Short how-to videos will keep people entertained while giving them new information at the same time, which improves the customer experience.

But this effort on your part can dramatically boost impulse purchases – ideally, a waiting customer will watch your informative video (why do you think QVC is so successful?) and snatch that item up then and there (because, of course, you'll have implemented in-line merchandising and the product will be on display right beside the video) or, at the very least, inspire a return visit to purchase said item in the future.

## Conclusion

Hopefully this guide has given you some insight into how you can plan an efficient and enjoyable queuing strategy that adds value to your business and brings joy to your customers. When queuing is done right, organizations benefit from happier customers and employees, and greater business results.

If you're looking for help on planning your queue, selecting the right queuing products, stanchions and crowd control barriers, electronic queuing, and more, we invite you to speak with the public guidance experts at Lavi Industries.

Let's Plan  
Your Approach

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