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Analysis and Implications of Guest Attitudes Towards Queuing in Theme Parks

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ANALYSIS AND IMPLICATIONS OF GUEST ATTITUDES TOWARDS QUEUING IN THEME PARKS

by

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ABSTRACT

Queue lines are a fundamental inevitably of the modern theme park. Parks have begun to introduce various systems for combating the normal queue, some of which are at no extra cost to guests and some of which are an extra cost. These systems feature a variety of methods by which guests can bypass the normal queue and enter one featuring a minimal wait. Parks have also started to introduce elements within queues that make waiting in them easier and change guests' perception of time, thus making the waits seem shorter.

This thesis attempts to determine the attitudes of guests towards these new trends as well as traditional queuing. Experiences and perceptions of queues from theme park guests were collected and have been compared with existing literature on guest satisfaction, theme parks and queue lines in order to determine relationships between current practices and theory. The findings from these relationships resulted in several suggestions for theme parks to take into account as queues continue to evolve in order to best suit guest needs.

DEDICATION

This thesis is dedicated to all those who are not satisfied with the status quo,
recognize the need for constant innovation and change,
and believe those with the power to do so have
an inherent responsibility to facilitate it.

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INTRODUCTION

Theme parks are businesses that turn profit by providing their guests with experiences that they cannot find anywhere else. Unfortunately for theme park designers and operators, this is a much more complex task than it may at first seem. Reza Ahmadi remarked on this with the following:

> Theme parks possess several interesting characteristics that influence both analysis and management of their operations. First, the service package is not homogeneous . . . Second, customer preferences are not uniform . . . Third, the park attendance level fluctuates significantly . . . Fourth, customer perceptions play an important role in evaluations of the park's operations. (1997, p. 1)

Theme parks are difficult to operate not only because of their numerous separate departments, ranging from rides/attractions to food and beverage to security, but also because the guests that they draw have different needs and desires for their trip. Potential guests use different factors when deciding to visit a theme park and then which theme park to visit, and guests in the park use different factors when deciding what kind of experiences they would like to have while there (Kemperman, 2000). A park must give guests the highest satisfaction possible in order to increase their likelihood to return to the highest level possible (Davis & Heinke, 1998). Works have been written on the importance of giving positive experiences to guests in order to get them to return to a service-based business, but few have been specifically geared to the complex theme park industry or the factors within them that influence guest satisfaction (Jones & Peppiatt, 1996; Lambert & Cullen, 1987). A simple way to improve guest satisfaction is to remove or reduce

negative experiences, and queue lines are the largest common negative aspect of guest visits to theme parks (Ahmadi 1997). Not only is a queue line usually the first interaction that a guest will have with a theme park or location within a theme park, but it is also where they will spend a very large proportion of their time throughout their visit (Davis & Heinke, 1998; Hui & Tse, 1996). Studies show that waiting times have a direct relation to customer satisfaction, although it is not clear exactly how, or what aspects of the wait affect the guests most (Ahmadi, 1997).

Theme parks today have begun implementing increasingly sophisticated tactics in order to reduce the negative experiences of queues and in some cases turn them into positive ones. This endeavor includes the use of virtual queues, reservation systems, and in-queue entertainment. As the complexity of a queue increases, so does the complexity of studying how they affect guests. Operators of large theme parks often conduct internal studies on their queues and the effects of these, but the results are not made available to the public or other operators. The goal of this thesis is to study the effects of queue experiences on guests in theme parks and suggest methods by which their operators may improve guest satisfaction by modifying their queues and queuing procedures.

This research focuses on three things about which research has been done: theme parks, queue lines and guest satisfaction in service settings. They have not, however, been combined in order to study the effects of all three in the same environment. In a select number of studies, researchers have analyzed two of the three components, and as many of these as possible and relevant have been included to distinguish relationships between them. Ahmadi discusses a statistic commonly used in theme parks, number of rides per person per day, in relation to internal satisfaction studies, and how it may not be an accurate basis for satisfaction

measurement (1997). It does not take into consideration any satisfaction or dissatisfaction that may arise from experiences with food and beverage, value-based measurements and more. Taylor relates how a delay in service (e.g. a queue line) can result in anger and uncertainty for the guests, which will negatively impact satisfaction overall (1994). To this effect, most theme parks now have wait times posted outside of rides to give guests an idea of how long they will be waiting in order to decrease that uncertainty. Some parks also have tip boards, which list the wait times at all attractions, near central points in the park. These originated in 1989 at Disney parks, with the opening of Disney-MGM Studios (D. Dickson, personal communication, March 23, 2015). According to Jones and Peppiatt, the increasing role of the experience economy has caused consumers' attitudes towards queuing to have more of an effect on their experience (1996). Some attractions are now being designed with interactive queues or pre-shows to help integrate the queue as a part of the overall experience (Albert, 2014). In order to present the most accurate and detailed background of research in these three areas, they will be discussed separately and then related in the discussion of this study's findings.

Research Goals

The initial goal of this research was to determine the effects of queuing on guest satisfaction in theme parks, however due to being unable to research in theme parks themselves that focus became unrealistic. Instead, the focus was shifted more towards the guests and away from the intricacies of the theme parks' operations. The scope of this research is fairly large and thus no one area within theme park queuing was studied with particular focus. In the end, this research became exploratory in nature and simply defined general guest attitudes towards theme park queueing at the time of study. As discussed later, the elements of queuing that were studied

here could be used as the basis for future research that goes more in depth into the intricacies of those elements and the guests experiencing them. In addition, if access to the guests within the parks was ever achievable, the direct effects on satisfaction due to queuing would be much easier to determine. The results would be able to be based upon absolutes within the queue instead of the perceptions of the guests after the fact. These perceptions forced a change on the direction of research, but conclusions were still drawn that could impact future design and operation of theme park queues.

GUEST SATISFACTION IN SERVICE SETTINGS

In a 2001 study, Barbara Lewis and Emma Clacher state, "The benefits of quality service include customer retention and loyalty, positive word-of-mouth communication to attract new customers, and associated cost savings and increased revenues and profit" (p. 166). They go on to say that guest satisfaction is based on three main components: the actual outcome of the service, the emotions experienced during the encounter, and the image of the service provider (2001). These are three distinguishable causes for a change in guest satisfaction, but they are all interrelated and can work off of one another easily.

There are many examples in literature that detail the failure of a service delivery system, including within the hospitality industry (Larson, 1987; Lewis & Clacher, 2001). When a delivery system fails, it can cause stress to both the guests and employees within the situation and thus create a negative overall experience (Lewis & Clacher, 2001). Dissatisfaction is not always due to the service system failing, though, and can result from the way employees handle the failure (Bitner, Booms, & Tetreault, 1990). This is likely the cause of a trend that Lewis and Clacher found that identified managers blaming employees for the system failure (2001). The ease of this assumption is evidenced in a situation they presented in their study in which an employee gave a guest the next scheduled time for a show when the show was actually cancelled due to the entertainer calling out sick. The front-line employee was never made aware of this, however, and could be blamed for not knowing while the communication system was actually to blame (Lewis & Clacher, 2001).

In their study, however, Lewis and Clacher also discovered that half of the satisfactory encounters that they studied were the result of the employee's handling of either a failure of the delivery system or helping guests with special requests (2001). In their study, Bitner Booms and Tetreault assert that the simple fact of acknowledging the failure of a system and assisting the customer in making the most of their situation considering the failure is enough to turn the failure into a positive outcome for the customer (1990).

The reaction to the employees can also be a result of the customer, with Jones and Peppiatt noting that there are marked differences in how repeat guests and infrequent guests react to service failures (1996). This is partially due to the customer's perception of the service as presented by the employee, and not necessarily as the service was designed to be presented. On this, Bitner, Booms and Tetreault say, "Front-line employees are not trained to understand customers and do not have the freedom and discretion needed to relate to customers in ways that ensure effective service" (1990, p. 71).

A large portion of the customer's overall view of an encounter is based on their perception and expectations of it (Davis & Heineke, 1998). Davis and Heineke go on to define how expectations of an encounter and company are set: "Prior to the customer's first encounter with the service firm, via advertising and customer word of mouth; and . . . after a previous encounter (or encounters) with the firm, from personal experience" (1998, p. 65). A number of factors within these two methods go into defining a customer's expectations more concretely, such as co-branding with a complimentary brand that has a positive image and dissatisfaction with an alternative choice (Cope, Cope, & Davis, 2008; Kemperman, 2000). The expectations can play a large role in the final analysis of a service encounter in the form of disconfirmation,

which is the act of not having ones expectations confirmed. Positive disconfirmation is especially useful because is encompasses the exceeding of a customer's expectations. Bigné, Andreu and Gnoth found that disconfirmation influences the customer's level of arousal, which then influences their satisfaction. They go on to say that more research needs to be conducted on this, as there is the possibility that purposely lowering a firm's customers' expectation can create greater satisfaction due to positive disconfirmation (2004).

THEME PARKS

A business usually operates based on a series of patterns that have been shown to give positive results in the end. A theme park is no different, but these patterns are much harder to distinguish, plan for, and accommodate. This goes even further than the average service firm, as "theme parks use their environment to communicate to their visitors who interpret messages and information to form expectations and evaluate the service experience," which can be done without a single interaction with an employee (Lewis & Clacher, 2001, p. 173). Kemperman indicates that studies have not been done on seasonality in respect towards choosing to go to a theme park or the presence of prior experience with that park (2000). In his study, Reza Ahmadi breaks down attendance even further than by season, saying that he could accurately predict attendance levels at certain hours based on past percentages, and even identify three separate trends in the morning, afternoon and evening (1997).

In her study, Kemperman attempted to clarify what makes guests choose when to visit a theme park, what theme park to visit and why they chose these. She discovered an exceptionally complex field of study due to a huge number of variables that go into these questions. She presented this example as one of those: "The choice of different destinations might be the result of the fact that parents would like to give their children a well-balanced experience and thus take them to different destinations to expose them to different experiences" (2000, p. 65). Lewis and Clacher studied the interactions and competition between theme parks as a variable of choice behavior and found that not only other theme parks effect this, but also all other possible leisure activities due to the generally large distance between parks (2001). Kemperman notes the

importance of being able to predict choice behavior and attendance levels so that managers and operators can predict the necessary capacity of the park during different times of the year.

Ahmadi's study specifically focused on capacity management at theme parks, a pressing issue in ensuring high customer satisfaction and reducing costs. He describes its complexity as resulting from low utilizations of some rides and by the demand for other rides, both of which fluctuate based on the hour of the day (1997). Theme parks attempt to track this demand using four variables: actual ride capacity (rather than theoretical), guest throughput, wait times and queue lengths (Ahmadi, 1997). The first two variables may seem straightforward, but according to Ahmadi, they are quite complex due to factors such as shifting demand, possible downtimes and a variable capacities due to different numbers of units on the ride (1997). It also may seem as if wait times and queue lengths are redundant, but assuming this can cause major problems. According to Nesbitt and Steven, "In a high intensity environment, it might be expected that individuals would stand further apart in an attempt to moderate the total amount of stimulation they are subjected to. In a deprived stimulus environment, individuals might stand closer together" (1974, p. 106). This has an impact because if a queue line is long, guests will perceive the attraction to have a higher wait time, and thus choose not to experience the attraction.

Discussing the importance of managing capacity, Dickson, Ford and Laval state that "if demand . . . creates long waits, customers will become dissatisfied, leave or even pass by the company. If there is too much capacity, . . . the company saddles itself with an uncompetitive cost structure in the form of idle capacity" (2005, p. 53). Distributing demand throughout the day can lead to more efficient and cost-effective labor management through more consistent practices. Dickson, Ford and Laval present two strategies Disney parks have used to attempt to

distribute demand. The first was the construction of Haunted Mansion in Disneyland as a new "E-ticket" attraction. This was done because the other E-ticket attractions were saddled with long waits because there were so few of them. Adding another one increased the total capacity of E-tickets for the park significantly while only slightly increasing the number of guests. The second strategy was in the creation of "E-ticket nights" at Magic Kingdom. These were special nights in which the E-ticket attractions would remain open after park close for use by guests staying at Disney resorts. This allowed them to bypass those attractions during the day, thus reducing the wait for guests who were not staying on property. This strategy has remained in practice, evolving into "Extra Magic Hours" in which entire parks are open either earlier or later for resort guests (Dickson, Ford & Laval, 2005).

Studies have also analyzed what guests in theme parks consider important while they are there. Kemperman found that frequent visitors to theme parks enjoy entertainment more than those who do not visit theme parks regularly (2000). Research has also found that a guest's comfort in the park can be influenced by other guests' clothing and perfume choices. This study found that guests stood father away from those in bright colored clothes and wearing stronger perfumes (Nesbitt & Steven, 1974). In a more recent study, mobile connectivity and smartphones have been shown to be an important aspect for theme park guests. The ability to take pictures and connect with the outside world in real time has proven to be integral to a positive experience (Durrant, Kirk, Benford, & Rodden, 2011).

These studies show that there is still a large amount of unexplored research that can be done in theme parks, and must be done in order to fully understand the guests and their needs. Because theme parks are generally owned by large corporations, however, they have the ability

to do research themselves and have no reason to divulge it to the public, creating an empty bubble of theme park research potential.

QUEUE LINES

Queue line research has taken many different forms. It has been used with mathematical models to analyze efficiency in a variety of different factors, to determine the optimal amount of capacity to have for certain situations and most recently with regards to the attitudes of those contained in the queue (Kleinrock, 1966; Schaak & Larson, 1986; Larson, 1987). Dickson, Ford and Laval summarize these into two categories: "how long people actually wait," or the results of the theory behind the queue design, and "how long they think they are waiting," or the combination of their experience and perceptions of the queue (2005, p. 54). Larson presents terms that can have disastrous effects both on those experiences and the theoretical framework surrounding queues: a slip, or when one joins a queue and a customer who joined afterwards receives service first, and a skip, when one joins a queue and receives service before a customer who joined before them (1987). The presence of either of these in a standard queuing situation creates "social injustice," as Larson puts it, and the invalidation of the queuing theory for all those who have either skipped or been slipped.

The simplest way to increase satisfaction in queue lines is to make the wait in the queue shorter. Research has been done on this in many different service sectors regarding the reduction of wait times, and has revealed some interesting results. For instance, both computer simulations and observations of actual queue lines have proven that a single, serpentine configuration of the queue will reduce the wait for guests compared to multiple parallel queues next to each other (Dickson, Ford, & Laval, 2005). Today, simulations are used for most queue modeling situations

in order to best configure the queue for minimal wait times, as experimentation is much too time-consuming and costly (Lambert & Cullen, 1987).

Sometimes, however, the wait time cannot be shortened, yet guest satisfaction still needs to be increased. Thus, an increasing number of businesses have attempted to control guests' perception of the wait, and not solely focus on the length of the wait (Taylor, 1994). Perception management seeks to negate any negative effects of the queuing system and social injustice (Baker & Cameron, 1996). This can also work to the opposite point, with positive factors of the queuing system soothing negatives resulting from the queue perception. Julie Baker and Michaelle Cameron note that this perception management works because of the subjective time that the guest experiences in a queue (1996).

Several methods have been presented in research to achieve this control of perception. Most mention some methods of keeping the guest informed of everything that is affecting their wait, such as estimated time, any delays, etc., that are used to alleviate the uncertainty and stress that is an inherent part of waiting (Dickson, Ford, & Laval, 2005; Lewis 2001). Most theme parks now have wait time indicators either at the entrance to queues and/or throughout the queue to accomplish this, as well as public address systems to notify those in the queue of any unexpected delays (Larson, 1987). Jones and Peppiatt also mention that inexperienced guests should be handled with more sensitivity that those who have experienced the same waiting process previously, due to the same reasons of uncertainty and stress (1996). Baker and Cameron hypothesized that the environment of the queue has an effect on the perception as well, and can be categorized into three components: ambient elements, such as music and lighting; design elements, such as colors and furnishings; and social elements, including both employees and

other guests in the queue environment (1996). Some queues have television monitors that entertain guests while they wait and thus shorten perceived waiting time (Larson, 1987). Baker and Cameron also mention that the perception of not only the time of the queue, but the nature of it as well, has an effect. They suggest that any premium services to shorten queue length by kept hidden from those in the normal queue in order to reduce the perception of guests skipping the line (1996).

In their study on managing queue perceptions, Jones and Peppiatt build on the premise that if a service is more valuable, then the guest is willing to wait longer, which is particularly relevant to theme parks because of the sometimes exceptionally long queues for attractions (1996). Exceptionally long queues can result from a multitude of factors, including a brand new ride, high levels of technology, and if the ride broke any world records (prevalent with roller coasters) (Potter, 2013). This fact can help managers design systems based on the perceived value of the attractions, which has led to a fairly new concept in service industries, the virtual queue. Dickson, Ford and Laval mention virtual queues as a third strategy to manage queueing experience apart from managing the wait time and the perception of it (2005).

Virtual Queues

Dickson, Ford and Laval introduce the concept of virtual queuing strategy by saying "that guests can be freed from physically standing in line by being placed in a virtual queue, which eliminates both the activity and perception of waiting by allowing guests to engage in other productive and enjoyable activities until their time to be served has arrived" (2005, p. 53). The theory behind virtual queues has been in use for some time. For example, Larson presented a case study of assigning queue positions to boats going through locks in a canal in order to reduce

the dangerous speeding practices that the boats were using (1987). Systems for providing services to virtual queues have also been developed to help control multiple priority-type queues simultaneously (Stidham, 2002).

Stidham also recalls a seminar from Paul Naor in which he presented a theory that customers will join a queue more than is optimal for the group out of their own self-interests. This is because the customer has their own situation in mind and do not weigh the increase in wait time to the other customers in deciding to join the queue (2002). In most service settings, a reservation system can be used to combat this. However, Dickson, Ford and Laval noted several issues that prevent a reservation system from properly managing theme park queues, notable the very short period of time it would take for all slots to be filled for a day and the lack of a fixed capacity (2005).

Much of Dickson, Ford and Laval's study discusses Disney's FASTPASS system and its success as a virtual-queue system. They note "guests who used this virtual-queue system spent substantially less time in lines, spent more per capita, and saw significantly more attractions" than those who did not utilize FASTPASS and "as a result . . . is now used by more than 50 million guests per year" (2005, p. 63). Another popular virtual queuing system in the industry is Lo-Queue, from the accesso Technology Group, which allows a park to generate revenue while providing this service. This system is currently in place at multiple theme parks worldwide, most notably within all Six Flags parks. A more in-depth description of both are included in the following table:

Table 1: Virtual Queuing Systems

Service	*How it Functions*	*Cost per Guest*	*Delivery Method*
Disney's FASTPASS	A guest arrives at an attraction and receives a paper ticket with a one-hour window in which to return. This places them within the "virtual" queue of all others who have those tickets. A guest may only receive one FASTPASS at a time, until such point as their current window opens or 2 hours have elapsed from the time their FASTPASS is generated, whichever comes first.	Free	Paper tickets
Lo-Queue	A guest will receive a device (see *Delivery Method*) with which they may choose which attraction they wish to experience next. This places them in a virtual queue for this attraction, and when they arrive at the "front" of the virtual queue, their device notifies them it is time to return to the attraction. System is programmable to allow multiple entries at one time, and multiple priority levels within the virtual queue.	Varies seasonally and for tiered price structures (greater priority, multiple queues at once).	Q-Bot, a small handheld device; Q-Band, a small wristband with screen; Q-Smart, a smartphone app

In both of these systems, when a guest returns to the attraction once their time has arrived, they will enter into a designated physical queue, and thus have a minimal wait. For Disney's FASTPASS, this wait is usually no longer than 10-15 minutes.

According to accesso Technology Group COO for North American Operations Steve Brown, virtual queuing allows a theme park to easily spread demand throughout the day to "flatten the curve" that generally peaks around mid-afternoon and is lower towards the park opening and closing times. With a premium service virtual queue, such as how Lo-Queue is used

in most locations, at $3-per cap is a reasonable goal for a theme park (personal communication, April 8, 2014).

Reservation and No-Wait Systems

A recent trend in theme parks has been to introduce a reservation system in place of a virtual queue. Walt Disney World has introduced Fastpass+ as a portion of their MyMagic+ system. It has replaced the previous FASTPASS system and contains different tiers of guests that can book Fastpasses varying lengths of time in advance. A standby queue still exists in this system; however, they have tested its ability to eliminate the use of a standby queue altogether (Pedicini). Some companies are also testing reservation systems as a source of revenue much like Lo-Queue does for virtual queuing. One of these is Entertainment Booking Concepts, with their new system Adventure Resource Planner, which has been introduced at Ocean Park Hong Kong. The Adventure Resource Planner was used to test a reservation-only system for Ocean Park's Halloween event in 2013. New technologies such as these prove that queuing is something that theme park operations are looking at and thinking of new ways to increase guest satisfaction.

Theme parks have also begun using no-wait systems as a premium service to guests. Once again, this generates revenue whereby also allowing a method by which guests may reduce their wait times (S. Brown, personal communication, April 14, 2014). This is the most widely used strategy in parks as it requires the least amount of infrastructure/technology and generates the most revenue, because the parks do it internally and do not have to share revenues with the system owners, such as accesso or Entertainment Booking Concepts. The large majority of major parks in both the United States and Europe have one of these systems. Disney Parks and Six Flags are the only two chains that use exclusively virtual queues or reservation systems. Cedar

Fair, SeaWorld Parks, Universal Parks and Resorts, Merlin Entertainments, Herschend Family Entertainment as well as many independent parks have a no-wait premium service in place. Universal's version of the system, dubbed "Universal Express" in Orlando and "Front of the Line" in Hollywood, is the most wide-ranging that encompasses many examples of strategies that may be used to generate revenue. For instance, there are different tiers that allow either unlimited use or once-per-ride use, there are different fees for one- or two-park passes in Orlando, and guests at the deluxe hotels get free Express during their stay. Universal Orlando even uses the Lo-Queue system as a cheaper alternative for guests than Universal Express. Prices for Universal Express can range from $49.99 per person to $179.99 per person during peak times (Universal Express Passes). See the next page for a comparison of some of the systems on the market today.

Table 2: No Wait/Reservation Systems

Service	*How it Functions*	*Cost per Guest*	*Delivery Method*
Universal Express/Front of Line	A guest arrives at an attraction and presents their Express/Front of Line pass. Its barcode is scanned to verify validity, then the guest is admitted to the Express/Front of Line queue.	Between $49.99 and $179.99	Paper tickets
Fast Lane (Cedar Fair parks)	A guest will receive a wristband that grants them access to the "Fast Lane." A second tier is available that usually allows guests access to the most popular and/or newest rides in the park that the first tier does not.	Varies seasonally and for different tiers.	Wristband
Fast Track (Merlin parks)	Many different tiers exist for allowing access to different groups of rides, including a children's version and an unlimited version. The guest presents their paper ticket at the entrance and is admitted to the Fast Track queue.	As low as £14	Paper tickets
Disney's FastPass+	Guests may reserve up to 3 FastPasses a day, on their smartphone, computer or at a FastPass+ kiosk located in the park. Resort guests may do so 60 days in advance while other guests have smaller windows. The guest returns to the attraction within the specified window and is granted access to the FastPass+ queue. Additional FastPasses may be reserved only after the first three are used.	Free	MyMagic+, range of RFID-enable devices including plastic cards and wristbands

METHODOLOGY

The research in this study consists of several interviews with professionals in the field of virtual queuing in theme parks, as well as a questionnaire exploring the attitudes of the theme park-going public towards queuing. An attempt was made to perform on-site interviews of guests in major theme parks located throughout the country, but all requests were denied. For this reason, a snowball sampling approach was used to distribute and collect responses to the questionnaire, as theme park guests may be considered a hard-to-reach population. This is because the theme parks are very protective of their guests and their experience within the parks. Most of the larger parks have internal research departments that track guests' satisfaction levels and attitudes throughout their experiences. A combination of this and the fact that the park did not want to interrupt the guests' experiences is the reason that on-site research requests were denied.

Snowball sampling has been used in the theme park industry before, when Milman and Dickson performed a study on theme park employees (2014). They assess it as "a chain referral technique for finding research subjects in which, beginning with a small sample from the target population, the sample is extended by recruited subjects who recommend others to participate to study . . . [it] provides easy access to samples that are very difficult to reach by standard methods" (p. 454).

In their study, Milman and Dickson used several social networking sites (SNSs) to distribute their survey, such as Twitter and LinkedIn (2014). For this study, Facebook was used at the main distribution channel due to its size and useful features, such as the creation of pages

and groups (Bhutta, 2012). Facebook is particularly useful "when seeking to construct 'snowball' samples for exploratory work," and because it "can improve the representativeness of the results" (Bhutta, 2012, p. 57; Baltar & Brunet, 2012, p. 58). A study on snowball sampling found that more links in a referral chain creates a better chance of reaching hard-to-access populations, but also increases the likelihood of biased results as a long chain of respondents likely "share similar and unique characteristics not shared by the wider population" (Atkinson & Flint, 2002, p. 2). Bhutta addressed this in her research and found that "while snowball sampling via Facebook is no substitute for probability-based techniques, the face that the relevant correlations among variables hold suggest that Facebook may be a valuable tool for exploratory research of certain populations" (2012, p. 81). Using Facebook as a tool for snowball sampling was not a perfect solution, but met the needs of this study.

The questionnaire used as a research tool in this study assessed both the respondents' experience in theme parks and with virtual queues, as well as their overall attitude on queues and how they affect the guests' experiences (see Appendix A). A Facebook page was made for the questionnaire, as both a distribution tool and a communication portal for any questions or concerns. It was shared through two main channels, the author's personal Facebook page as well as two popular theme park blogs, Theme Park University and Theme Park Adventure. The results of the surveys are presented in the following chapter.

For this questionnaire, several definitions were presented that do not match up with the definitions commonly used in theme parks. A "theme park" was defined as a permanent establishment that offers a large number of attractions to entertain visitors including rides and shows. This makes the term include un-themed amusement parks, such as many smaller regional

parks. A “visit” was defined as any time spent at a theme park on one day. Respondents were told to consider different days during a continuous vacation as separate visits. This is to help normalize responses in the virtual queuing section, such as how many times per visit it was used. A “virtual queuing system” was defined as any system a park has in place that allows a guest to bypass the normal queue line, excluding those for guests with disabilities. This includes reservation systems such as FastPass+ and no-wait services such as Universal Express, neither of which are actually virtual queues. It was defined as this to help simplify the questions for respondents who were not familiar with the jargon and make it easier to lump them together for comparative reasons.

One interviewee was Steve Brown, COO of North American operations for accesso Technology Group. accesso produces and operates Lo-Queue, a queuing solution in place at many parks around the world, notably throughout the Six Flags chain. This interview was done face-to-face in an unstructured format without the use of an audio recorder, and thus a full transcript is not available. The other interview was with Peter Rødbro, CEO and founder of Entertainment Booking Concepts out of Denmark. Their product Adventure Resource Planner is a reservation-based system that has been implemented in multiple parks across Asia. His interview was done via e-mail and a transcript may be found in Appendix B.

QUESTIONNAIRE FINDINGS

The questionnaire was initiated 358 times and completed 297 times, resulting in a completion rate of approximately 83%. To provide the most accurate results, only the 297 completed responses were analyzed. With the use of a tracking tool from Surveymonkey.com, the questionnaire's hosting website, the number of responses from each distribution channel were able to be retrieved separately:

Table 3: Respondent Sources

Source	*All Responses*		*Completed Responses*		*Completion Rate*
	Amount	*Percentage*	*Amount*	*Percentage*	
Theme Park University	232	65%	195	66%	84%
Author's Facebook Page	80	22%	68	23%	85%
Theme Park Adventure	46	13%	34	11%	74%

The similarity in the completion rates between the author's Facebook page and Theme Park University suggests that the two audiences had similar motivations to complete the questionnaire. This in unlikely, however, due to the fact that many of the respondents from the author's Facebook page likely had some personal connection to the author (e.g. family, friends, etc.), whereas the readers of Theme Park University likely do not. The difference in completion rates of the two blogs is likely due to the different methods by which the blogs presented the questionnaire to their readers. Theme Park University used an entire blog post to introduce the project, give some background on the author, and then ask their readers if they would complete the questionnaire. Theme Park Adventure, however, posted short call-to-action posts on both their Facebook and Twitter pages. Theme Park University's method likely garnered a greater

sense of purpose in the audience, and thus provided more encouragement for them to complete the questionnaire.

General Profile of Respondents

Several questions in the questionnaire were used to obtain a general profile of the respondents and will be used in conjunction with the following sections to break down respondents into applicable groupings. The following table presents these results:

Table 4: Respondent General Profile

Attribute	*Respondent Number*	*Respondent Percentage*
18-24 years old	89	30%
25-34 years old	120	40.4%
35-44 years old	44	14.8%
45-54 years old	29	9.8%
55 years old or older	15	5.1%
Married	92	31%
Not married	205	69%
1 child	31	10.4%
2-3 children	26	8.8%
4+ children	4	1.3%
No children	236	79.5%
Reside in United States	281	94.6%
Reside in United Kingdom	5	1.7%
Reside elsewhere	11	3.7%

The respondents were generally younger, with an average age of 31.9 years, placing them mostly within the Millennial generation, with some influence of Generation X and a small number of Baby Boomers. This is influential because some have described the Millennial generation as impatient, likely due to the immediacy of information available via the internet (Strauss & Howe, 2000). In terms of family life, a majority of respondents were unmarried, and even a greater majority had no children. This suggests that many were in younger families, with only a few having enough children to make a significant impact on their choices in regards to

theme parks and queuing, which will be explored more in later sections. Only a few respondents lived outside of the United States. The majority of these were in the UK or mainland Europe, with two in Australia and one in Asia.

Theme Park Background

The next section of the questionnaire assessed respondents' backgrounds and experience with theme parks. Respondents were instructed to only take into account the past 12 months for this questionnaire so that the results would be as up to date as possible. Parks and policies within them change frequently, so older results could have been based on out of date practices.

Table 5: Theme Park Visitation

Number of Total Visits	*Respondent Number*	*Respondent Percentage*
1-2	47	15.8%
3-5	37	12.5%
6-10	67	22.6%
11-20	41	13.8%
21+	105	35.4%

The distribution of visitation is fairly steady, with a skew towards the higher end. This is likely because of the geographical distribution of theme parks. The most popular parks visited were in Orlando, Florida and Southern California (see table on next page), which have clusters of theme parks nearby. The majority of those who visited theme parks between 1 and 5 times had visited theme parks in these regions, suggesting vacations with the purpose of visiting the parks. Cedar Fair and Six Flags parks' visitation was fairly even across the two companies, with the exception of King's Island. This is likely a bias resulting from the author's hometown being near King's Island. Disney parks had the greatest visitation across all parks, which backs up their status as the most visited parks in the world (Themed Entertainment Association 2014).

Table 6: Theme Parks Visited

Park	*#*	*%*	*Park*	*#*	*%*
Magic Kingdom	185	62.3%	Great Escape	7	2.4%
Epcot	183	61.6%	King's Dominion	7	2.4%
Disney's Hollywood Studios	176	59.3%	Six Flags America	7	2.4%
Disney's Animal Kingdom	166	55.9%	Alton Towers	6	2%
Islands of Adventure	154	51.9%	LEGOLAND California	6	2%
Universal Studios Florida	149	50.2%	Silver Dollar City	6	2%
Disneyland	89	30%	Michigan's Adventure	2	0.7%
Disney's California Adventure	81	27.3%	California's Great America	5	1.7%
SeaWorld Orlando	79	26.6%	Canada's Wonderland	5	1.7%
Busch Gardens Tampa	57	19.2%	Holiday World	5	1.7%
Knott's Berry Farm	37	12.5%	SeaWorld San Antonio	5	1.7%
Universal Studios Hollywood	37	12.5%	Thorpe Park	5	1.7%
Six Flags Magic Mountain	29	9.8%	Valleyfair	5	1.7%
Cedar Point	25	8.4%	Worlds of Fun	5	1.7%
King's Island	24	8.1%	Carowinds	4	1.3%
Six Flags Great America	23	7.7%	Darien Lake	4	1.3%
Dollywood	20	6.7%	Six Flags Discovery Kingdom	4	1.3%
LEGOLAND Florida	19	6.4%	Six Flags Over Texas	4	1.3%
Busch Gardens Williamsburg	18	6.1%	Gilroy Gardens	3	1%
Hersheypark	17	5.7%	Six Flags Fiesta Texas	3	1%
Six Flags Great Adventure	16	5.4%	Wild Adventures	3	1%
Six Flags Over Georgia	12	4.0%	Chessington World of Adventures	2	0.7%
Kennywood	10	3.4%	LEGOLAND Windsor	2	0.7%
SeaWorld San Diego	10	3.4%	Heide Park	1	0.3%
Six Flags New England	10	3.4%	Six Flags Mexico	1	0.3%
Dorney Park & Wildwater Kingdom	9	3%	Gardaland	0	0%
Six Flags St. Louis	8	2.7%	La Ronde	0	0%

More parks were visited than contained in the table above, including ones in Australia and Asia. There were also smaller, independent parks across the United States and Europe included in the "Other" option. Approximately 14% of respondents indicated they had visited a park not contained in the table above.

The presence of annual/seasonal passes and employment in theme parks can greatly affect visitation habits and rates, so those statistics were collected as well. There were a select number of international parks not included in this table. Employment generally allows the employee to visit the park at which they work an unlimited number of times, with opportunities to bring guests a limited number of times as well. Both passholders and employees are listed by the company to which the park belongs. In total, 55.2% of respondents indicated that they had an annual or seasonal pass to a park and 32.3% of respondents indicated they had been employed by a park within the past twelve months.

Table 7: Theme Park Annual/Seasonal Passsholders

Company	*Number of Respondents*	*Percentage of Respondents*
Disney Parks & Resorts	63	21.2%
Universal Parks & Resorts	43	14.5%
SeaWorld Entertainment	26	8.8%
Six Flags	23	7.7%
Cedar Fair	17	5.7%
Merlin Entertainments	2	0.7%
Herschend Family Entertainment	2	0.7%

Table 8: Theme Park Employees

Company	*Number of Respondents*	*Percentage of Respondents*
Disney Parks & Resorts	46	15.5%
Universal Parks & Resorts	19	6.4%
Cedar Fair	3	1%
Six Flags	3	1%

Theme Park Habits

A theme parks visitor's habits vary greatly based on a number of factors, including many of those presented in their general profile and background. The questions in this section relate to the very general habits of visitation to a theme park, including with whom they normally visit parks and the time commitment in the parks.

Table 9: Visitation Groups

Group	*Number of Respondents*	*Percentage of Respondents*
Friends	150	50.5%
Family	128	43.1%
Other	19	6.4%

Many of the "Other" responses in this question were from an indecision towards which group someone falls into, such as a non-married significant other. A number of respondents also said they normally visit parks alone, or split the family and friends options fairly evenly.

Table 10: Theme Park Length of Stays

Length of Stay	*Number of Respondents*	*Percentage of Respondents*
Entire day	82	27.6%
Most of the day	121	40.7%
About half of the day	71	23.9%
Less than half of the day	23	7.7%

Table 11: Theme Park Arrival Time

Time of Arrival	*Number of Respondents*	*Percentage of Respondents*
Opening-12pm	197	63.3%
12pm-3pm	59	19.9%
3pm-6pm	34	11.4%
6pm or later	7	2.4%

The responses from length of stay and arrival time match up fairly well, with almost all of those who indicated they spent most or all of the day at the park stating that they usually arrived no later than noon. This is mirrored with all of those indicating that they usually arrived

at 3pm or later stating they spend no more than about half of the day at the park. Of those who indicated that they usually visited parks with their family, more of them indicated they spent most or all of the day at parks than average, and also 81% indicated that they arrived no later than noon. Nearly half of those who indicated they usually visited with friends indicated that they arrived at the park in the afternoon.

The final question of the habits section attempted to determine the importance of different factors that go into choosing a park to visit. Different potential factors were presented and the respondents were asking to rate each on a scale of 1 to 5, with 1 being extremely unimportant and 5 being extremely important.

Table 12: Factors for Visitation

Factor	*Average Rating*	*Standard Deviation*
Immersive Theming	3.89	1.21
Total Cost of Visit	3.6	1.25
Positive Word-of-Mouth	3.57	1.17
Presence of Roller Coasters/Thrill Rides	3.46	1.24
Proximity to Home	3.29	1.31
Food and Beverage Options	2.98	1.21
Attractions for Children	1.93	1.26

As evidenced by the standard deviations, the respondents agreed the most on Positive Word-of-Mouth, whose importance averaged just lower than the Total Cost of Visit. An interesting point to note is that out of respondents with children, the attractions for children averaged 3.28, with a standard deviation of 1.43. They rest of the factors lined up with the ratings for the general population. Proximity to home was the most disagreed upon factor, which could be due to the fact that the most popular parks in the world are located near each other, thus making a trip to these locations more feasible.

Waiting in Theme Park Queues

Beginning to assess the habits and attitudes of guests towards queuing in theme parks, this section's goal was to determine the perceptions of the guests towards how they usually see queues in theme parks, in regards to both waiting time and environment in the queue. The first questions dealt with their estimations of wait times and the impact of these on their visit.

Table 13: Time Spent in Queues

Total Time Waiting	*Respondent Number*	*Respondent Percentage*
0-20% of day	64	21.5%
21%-40% of day	139	46.8%
41%-60% of day	74	24.9%
61%-80% of day	19	6.4%
81%-100% of day	1	0.3%

Table 14: Longest Respondent Would Willing Wait for an Average Attraction

Time Period	*Respondent Number*	*Respondent Percentage*
0-15min	41	13.8%
16-30min	199	67%
31-60min	51	17.2%
61-90min	6	2%
91+min	0	0%

Table 15: Longest Respondent Would Willing Wait for a Popular/Exciting Attraction

Time Period	*Respondent Number*	*Respondent Percentage*
0-30min	17	5.7%
31-60min	147	49.5%
61-90min	92	31%
91-120min	31	10.4%
121+min	10	3.4%

The respondents believed on average that they spent 33.4%, or roughly one-third, of their day waiting in lines. This suggests that their experiences within the lines must be managed so that they feel that their time was both well-spent and enjoyable. The large majority of

respondents indicated that they would wait at most 30 minutes for an average attraction. Given the longer lines at popular parks like Walt Disney World, they must make sure that nearly every attraction that has an average wait over 30 minutes is above average in quality. The respondents were less agreeable on the length of time that they would wait for a popular or exciting attraction, with 44.5% saying that they would wait over an hour, while the remaining population would not. The percent of time that they would willingly wait for attractions relates to the amount of time that they estimate they wait in lines. Those who indicated that they spent at least 40% of their day in lines also indicated higher than average willingness to wait for both average and popular/exciting attractions.

The next set of questions in this section address methods by which theme parks attempt to alleviate uncertainty about the wait or give guests the ability to shorten their wait by agreeing to ride by themselves.

Table 16: Accuracy of Wait Time Boards

Response	*Respondent Number*	*Respondent Percentage*
They are accurate	129	43.4%
They are not consistent	110	37%
They are consistently too high	42	14.1%
They are consistently too low	16	5.4%

These results prove that a reasonable majority believe that wait time boards posted at rides are generally inaccurate. This data is difficult to interpret, however, due to the fact that parks use a variety of different methods to determine and post times. The one conclusion that can be inferred is that a larger number of respondents believed that they were too high is due to a practice of posting wait times higher than they are purposely, in order to allow for positive disconfirmation in regards to the wait time. This practice does have its downfalls, however, as it can cause

problems when parties split up and plan their day according to posted wait times. It is improbable to determine the exact effect on guests due to this however, without getting their reactions immediately following the incident or realization of the issue.

Table 17: Use of a Single Rider Line

How Likely to Use	*Respondent Number*	*Respondent Percentage*
Very Unlikely	26	8.8%
Somewhat Unlikely	40	13.5%
Neutral	29	9.8%
Somewhat Likely	82	27.6%
Very Likely	120	40.4%

Most respondents indicated that they would use a single rider line if available. The relation between the likelihood of a guest utilizing this option and the actual time saved (or lost) by utilizing it is an area deserving future study, but would have to be done in partnership with the theme parks. Several popular rides such as Test Track at Epcot and Hollywood Rip Ride Rockit at Universal Studios Florida have implemented a single rider wait time board in order to prevent overutilization of the single rider line. Most other attractions will simply close entry to the single rider line when it becomes too full. Surprisingly, those who visit the parks with their families or those who have children are no less likely to utilize the single rider line.

The final two questions of this section deal directly with the experience of guests in the queue, assessing their habits and preferences. The first determined the likelihood of participating in certain activities while waiting in a queue, with a rating of 1 to 5, 1 being extremely unlikely and 5 being extremely likely. The second asked their preferences of the environment resulting from the ease or difficulty of waiting with certain atmospheric conditions, also with a rating of 1 to 5, 1 being much easier and 5 being much more difficult.

Table 18: Queuing Activities

Activity	*Average Rating*	*Standard Deviation*
Interacting with party	4.62	0.84
Using a smartphone	4.25	1.08
People-watching	4.03	1.06
Utilizing in-queue entertainment	3.61	1.13
Planning the rest of your day	3.48	1.11
Interacting with guests around you	2.49	1.11

Table 19: Queue Atmospheric Conditions

Condition	*Average Rating*	*Standard Deviation*
Loud atmosphere	3.47	1.28
Outdoors	3.22	1.11
Ability to see attraction	2.69	1.04
Presence of music	2.68	1.14
TV monitors	2.6	1.09
Presence of estimated wait time	2.57	1.21
In-queue games	2.48	1.39
Interactive elements	2.39	1.44
Indoors	2.37	1.4
Themed surroundings/environment	2.3	1.47

The results of the queuing activities question provides some insight into the attitudes of the respondents. The overwhelming popularity of interacting with one's own party suggests that this passes the time the quickest of the options and/or offers the most entertainment value. Those who use a smartphone to pass the time has a divide between generations, with those under 35 years old (Millennials) rating it a 4.36 while those 35 and older rate it as a 3.97. This is not a huge difference, but does indicate one of the factors that separates the two groups in regards to theme park experiences. There are no notable differences between the two groups in regards to the atmospheric conditions of the queue, however, meaning that they are all equally willing to experience what the queue has to offer. The only task that respondents indicated on average that

they would be unlikely to do is interacting with the other guests around them. This is somewhat humorous when the results also indicate that the majority of respondents are likely to watch the people around them for entertainment.

None of the presented atmospheric factors of queues made them exceptionally easy or difficult to wait in according to the respondents. The majority of factors made queues slightly easier to wait in, while respondents agreed only being outdoors and being loud made queues slightly more difficult to wait in. The most effective factor was the presence of a themed environment, however this was also the factor with the most disagreement between respondents, indicating that some did not think it as effective as others did. This could be due to the fact that most regional parks (e.g. Six Flags or Cedar Fair) do not theme their queues and some of the respondents have not experienced the more themed queues of parks such as Disney or Universal Studios.

Virtual Queuing and Queuing Services

This section of the questionnaire is to determine the respondents' experiences and perceptions of virtual queuing services and no wait/reservation systems. In the questionnaire, the questions were presented by service. If a respondent had used a service, they were asked to answer one set of questions, while if they had not utilized the service but had been to the park, they were presented with another set of questions. If they had not been to the park, then they were routed to the next service without either set of questions. These results will be presented in three sets tables: the use of the services, the experiences of those who used it, and the experiences of those who did not.

Table 20: Usage of Virtual Queues and Reservation/No Wait Services

Service	*Did Utilize*		*Did Not Utilize*		*Did Not Attend*	
	Amount	*Percentage*	*Amount*	*Percentage*	*Amount*	*Percentage*
Disney's FASTPASS	267	89.9%	20	6.7%	10	3.4%
Disney's FastPass+	170	57.2%	109	36.7%	18	6.1%
Universal Express/Front of Line	103	34.7%	146	49.2%	48	16.2%
Six Flags Flash Pass	41	13.8%	117	39.4%	139	46.8%
Cedar Fair Fast Lane	33	11.1%	79	26.6%	185	62.3%

Table 21: Experience with Virtual Queues and Reservation/No Wait Services – Number of Times Used

Number of Times Used	*FASTPASS*		*FastPass+*		*Express/ Front of Line*		*Flash Pass*		*Fast Lane*	
	#	*%*	*#*	*%*	*#*	*%*	*#*	*%*	*#*	*%*
0-2	56	20.8%	37	21.8%	20	19.4%	6	14.6%	9	27.3%
3-5	131	48.7%	95	55.9%	25	24.3%	12	29.3%	6	18.2%
6-10	30	11.2%	20	11.8%	31	30.1%	14	34.1%	9	27.3%
11+	52	19.3%	18	18%	27	26.2%	9	22%	9	27.3%

Table 22: Experience with Virtual Queues and Reservation/No Wait Services – Experience Ratings

Factor	*FASTPASS*		*FastPass+*		*Express/ Front of Line*		*Flash Pass*		*Fast Lane*	
	Avg	*σ*	*Avg*	*σ*	*Avg*	*σ*	*Avg*	*σ*	*Avg*	*σ*
Flexibility	3.53	1.14	3.17	1.42	4.7	0.76	4.02	1.05	4.39	0.86
Cost	4.55	0.93	4.36	1.08	2.66	1.36	2.66	1.12	2.79	1.09
Attractions available	3.91	0.97	3.66	1.29	4.26	0.99	3.98	0.81	4.24	0.85
Wait reduction	4.19	0.95	3.72	1.17	4.41	0.77	4.02	1.12	4.39	0.78
Ease of use	4.21	0.93	3.19	1.45	4.66	0.65	4.02	1.02	4.67	0.47
Simplicity	4.19	1.01	2.96	1.46	4.68	0.67	3.85	1.09	4.61	0.69
Overall	4.29	0.88	3.63	1.28	3.85	1.11	3.56	1.04	4.03	0.87

Table 23: Experience without Virtual Queues and Reservation/No Wait Services – Reason Why Not Used

Number of Times Used	*FASTPASS*		*FastPass+*		*Express/ Front of Line*		*Flash Pass*		*Fast Lane*	
	#	*%*	*#*	*%*	*#*	*%*	*#*	*%*	*#*	*%*
Cost	6	28.6%	9	8.3%	117	79.6%	107	67.3%	47	59.5%
Complexity	1	4.8%	3	2.8%	1	0.7%	5	3.1%	0	0%
Limited use	3	14.3%	3	2.8%	21	14.3%	17	10.7%	7	8.9%
Limited benefits	2	9.5%	1	0.9%	22	15%	19	11.9%	8	10.1%
Did not know about the service	3	14.3%	9	8.3%	10	6.8%	20	12.6%	14	17.7%
Was not available	9	42.9%	80	73.4%	--	--	--	--	--	--
Other	2	9.5%	11	10.1%	22	15%	32	20.1%	17	21.5%

Table 24: Experience without Virtual Queues and Reservation/No Wait Services – Factors to Make Use More Likely

Number of Times Used	*FASTPASS*		*FastPass+*		*Express/ Front of Line*		*Flash Pass*		*Fast Lane*	
	#	*%*	*#*	*%*	*#*	*%*	*#*	*%*	*#*	*%*
More flexibility	7	33.3%	13	11.9%	20	13.6%	33	20.8%	8	10.1%
More benefits	4	19%	6	5.5%	54	36.7%	61	38.4%	28	35.4%
Easier to use	2	9.5%	6	5.5%	7	4.8%	12	7.5%	6	7.6%
Was not available	7	33.3%	79	72.5%	--	--	--	--	--	--
Other	5	23.8%	12	11%	86	58.5%	85	53.5%	46	58.2%

*Note – "Was not available" was an option only for FASTPASS and FastPass+ because the systems differs between Disney parks and within the last twelve months, FastPass+ was still being tested and one system or the other may have been used on the day of the respondent's visit.

Beginning with usage, Disney's FASTPASS and FastPass+ services were the only services used by a majority of those who had attended the parks. This is very likely due to the fact that it is no extra cost to the guest. Universal Express/Front of Line was not far off, however, with about 41% of guests purchasing the system. Universal Express/Front of Line and Six Flags' Flash Pass were the most utilized by the guests once they had been purchased. Interesting to note is that Disney's FastPass+, the newer system, is used fewer times per guest on average than Disney's FASTPASS, the system it replaced. This could be due to the fact that guests must return to kiosks, which usually have lines themselves, to make any FastPass+ selections after the first three, as well as guests simply not knowing it is possible to get more than the initial three.

Disney's FASTPASS service had the best ratings for overall experience and cost, while Universal Express/Front of Line had the best for almost all other areas. The lowest overall experience rating was with Six Flags' Flash Pass, but this is due solely to cost, as Disney's FastPass+ had lower experience ratings in all categories except for cost and overall experience. Disney's FastPass+ system still had the second-lowest overall experience rating, however, with the cost of Universal Express/Front of Line and Cedar Fair's Fast Lane not harming the overall experience nearly as much as Flash Pass.

The most prevalent reason that the respondents indicated for not using one of the queuing services was cost. This was even true of the no-cost Disney's FASTPASS and FastPass+, however this was usually in conjunction with the guest not knowing about the service as well, which simply suggests a lack of information. There was some response to the "Limited Benefits" option to the paid-for services, but not enough to make a significant impact on results. Most of the "Other" responses as specified were either concerning low wait times when they visited

making the service unnecessary or they were with a group or special event and thus excluded from use. A few of the "Other" responses, however, took a fairly stark stance on the services with comments such as "Don't like segregating visitors into haves and have nots" and "Philosophical opposition." This suggests that they believe the system is either unfair or simply flawed by its own existence.

When asked what would have made them more likely to partake in queuing systems, the respondents generally agreed that more benefits and a lower cost would be necessary. Disney's FASTPASS was the only service where one of these was not the most popular response, which had "More Flexibility" as indicated. This is likely due to the fact that one can be assigned a certain FASTPASS for several hours before being able to get a new FASTPASS, and they are unable to change their minds once they get a FASTPASS. Similar to the previous question, some "Other" responses were very critical of the systems, with two saying of Disney's FastPass+, "Don't want to be tracked like cattle," and "nope, I will never use it – I'd rather stop visiting WDW." These were very select in number, though, and do not represent the consensus.

Theme Park and Queuing Attitudes

The final section of the questionnaire asked the respondents to rate a number of statements on a scale from 1 to 5, 1 being strongly disagree and 5 being strongly agree. These statements were made to assess the respondents' attitudes towards certain aspects of queuing and theme parks. The table on the following page presents the results from this section:

Table 25: Theme Park and Queuing Attitudes

Statement	*Average Rating*	*Standard Deviation*
Queues that are intricately themed are more enjoyable to wait in than those that are not.	4.37	0.82
I plan my visit for times when I think there will not be long waits.	4.35	0.98
I am more likely to tolerate waiting when I know about how long the wait will be.	4.31	0.84
Queues that offer entertainment of some type are more enjoyable to wait in than those that do not.	4.23	0.88
I am more likely to return to a park at which I experienced many attractions than one at which I experienced few.	3.95	1.16
I enjoy walking around theme parks without a particular path in mind.	3.88	1.19
I am able to visit more attractions with a virtual queuing system.	3.82	1.12
The presence of a virtual queueing system makes my visit more enjoyable.	3.6	1.12
Virtual queuing systems make average wait times longer.	3.38	1.3
The most difficult part of queuing is keeping children entertained.	3.22	1.22
I feel like those using a virtual queuing system when I am not have an unfair advantage.	2.77	1.42
I am more likely to visit a theme park that has a virtual queuing system than one that does not.	2.75	1.28
I am more likely to return to a park where I have used a virtual queuing system than one I have not.	2.73	1.1
I like to plan my entire visit to a park before I get there (e.g., what to do and when to do it).	2.65	1.29
I would be willing to spend more money than I did to partake in a virtual queuing system.	2.27	1.22a
I think attractions with shorter wait times are not as good as ones with high wait times.	2.00	1.09

None of the statements were particularly disagreeable, but several garnered agreement ratings over 4, placing them into the somewhat-strongly agree range. The highest of these was that respondents believe an intricately themed queue makes their wait more enjoyable. This was also the most uniformly agreed-upon statement, having the lowest standard deviation. Only 6 of

the 297 respondents stated that they disagreed with this statement. Close behind this statement for highest average agreement was that respondents plan their visits to theme parks during times that there will not be long waits. This statement had the most respondents indicate a strong agreement with 177, or nearly 60%, stating so.

Only 6 statements fell into the general disagreement range between neutral and somewhat disagree. The lowest of these was that respondents do not believe attractions with short wait times are not as good as ones with high wait times. This could be due to several factors, including some parks having generally lower wait times than others (e.g. regional parks compared to Disney) or simply a preference for ride types that generally have lower wait times (e.g., dark rides compared to roller coasters). Four of the disagreed-upon statements dealt directly with virtual queuing, the overall picture being that virtual queues are not necessary for the respondents to enjoy their visits to theme parks. Respondents built a consensus that they are no more likely to visit a park with a virtual queuing system than one that does not, and they are not willing to spend more than they did to partake in one. This even includes many of those who had only used Disney's free systems.

For those respondents with families, a couple noticeable differences are present than the respondents as a whole. They agreed much more that keeping children entertained is the most difficult part of queuing, with a 3.84 average compared to 3.22, as well as they plan their visits during times when they think there will not be long waits, with a 4.49 average compared to 4.35. The timing of their plans was the most highly agreeable statement for this group, with the statement concerning intricately themed queues falling a fairly distant third at 4.31. Second was that they are more willing to tolerate waiting when they know about how long the wait will be.

DISCUSSION

The combination of the existing research on guest satisfaction, theme parks and queues in theme parks with the results from this study's questionnaire lead to some insights to the effect of theme park queues on guest satisfaction and the results this satisfaction can have on the theme park. The population as represented by this questionnaire share some attitudes toward queuing but differ on others. Some of these differences cannot be controlled by the theme parks, those based on age or presence of children for example, but some can be affected by changing the guests' expectations of a visit. For example, there has been speculation in the media about the tracking abilities of the MagicBands that are an integral part of MyMagic+ and FastPass+ (Dockterman, 2014). These feelings were mirrored by one of the questionnaire respondents who refused to use FastPass+ because they remarked they did not want to be "tracked like cattle". The differences in guest opinions on queues and queuing-systems is where the problems for theme parks arise. These can be broken down into two main categories: the in-queue experience and the existence and cost of queuing systems.

In-Queue Experience

The experience of a guest waiting in a queue is something that should be tightly controlled and regulated by a theme park to ensure that they are comfortable and informed at all points during the wait. The results of the questionnaire and existing research provide some insights as to what parks could do to improve the experience as it is.

The first attribute of queues that can have a dynamic effect on the guests is technology, whose use may be initiated by the guest at their sole discretion or suggested by the park. The

second most likely activity for a guest to take part in while waiting in a queue according to the questionnaire is to use their smartphones. As the ability to share and connect via mobile devices increases, this likelihood will continue to rise. Parks should be encouraging their use as they will help pass the time. According to Dickson, Ford and Laval, "unoccupied time feels longer than occupied time" (2005, p. 60). A simple way to encourage their use is to offer free Wi-Fi to guests in the parks. This has already been done by Walt Disney World and Universal Orlando, in conjunction with releasing smartphone apps that give wait time information, allow the guest to make dining reservations and more. In this way, any guest with a smartphone may track the wait time of the queue that they are already in in order to diminish the effects of the perceived inconsistency of posted times outside the queue.

Technology may also be included in the queue at the parks' initiative to provide experiences to help occupy the time of waiting. This has been done for some time already in theme parks by placing TV monitors throughout the queue that play something related to the ride, such as a backstory, or something unrelated to the ride such as popular music videos. Disney, however, has been introducing intricately-themed interactive elements to some of their busiest queues. The most recent to the time of writing was an addition to the Peter Pan's Flight queue at Magic Kingdom that allows guests to travel through the home of the Darlings and interact with shadows projected onto a wall (Bevil, 2015).

The in-queue experience is also dependent on a number of factors other than technology as well. Dickson, Ford and Laval state that the comfort levels of guests impact perceived waiting time similarly to their ability to stay occupied, which the questionnaire corroborates (2005; See Table 19: Queue Atmospheric Conditions). Respondents indicated that being outdoors and/or in

a loud environment make a queue more difficult to wait in, while being indoors, having background music and a themed environment (not necessarily with interactivity) makes a queue easier to wait in. Baker and Cameron even found that warmer colors made a queue generally more uncomfortable to wait in (1996). The comfort level of the guests in a queue cannot always be completely controlled by the park, however, and also depends on factors such as loud children, other guests' hygiene, and the weather.

Existence and Cost of Queuing Systems

An area in which there is some stark differences in the opinions of the questionnaire respondents and other information gathered is in the area of the existence and cost of queuing systems themselves. This could be due to a lack of knowledge about the topic, a desire for simplicity, or more complex reasons such as personal experiences and involvement in the systems.

There was a wide array of views collected on the existence of virtual queues and reservation systems. The majority of respondents stated that they were fairly indifferent to their existence the majority of the time, as they would not be more likely to choose or return to a park that had a queuing system compared to one that did not. There were, however, more extreme views as well. One respondent stated for every queuing system on the questionnaire that they possessed a "philosophical objection" to their existence, and another expressed their dislike of guests being segregated into separate groups based on a queuing system. On the other hand, Steve Brown of accesso Technology Group and Peter Rødbro of Entertainment Booking Concepts believe that queuing systems are an eventuality that will come to define the theme park experience (personal communication, April, 8 2014; personal communication, July 11, 2014).

Steve Brown stated that eventually there will be no waiting for attractions at all in theme parks due to queuing systems. Peter Rødbro took this a step further and said that said systems will become an expected part of the theme park experience.

The financial cost of queuing systems is also where there are divides in the opinions of the same two groups, however this one may be viewed as necessary for the successful function of the queuing systems. Both Brown and Rødbro expressed that queuing systems are an increasingly viable way for parks to increase revenues. Brown said that in the current market, a $3 per capita revenue from a queuing system is a very achievable target for a theme park to aim for (personal communication, April 8, 2014). Rødbro also mentioned however, that eventually these revenues will be included in the overall ticket price due to the systems becoming a basic part of the experience, much how FASTPASS and FastPass+ costs are covered by ticket prices (personal communication, July 11, 2014). While respondents to the questionnaire agreed with each other that the cost of paid-for queuing systems was the main reason why they did not use it, this is an integral part of the theory behind them. If the cost was lowered in order to sell it to more guests, the waits for the premium queue would increase at a similar wait. It is up to the parks to decide how they want to price the systems based on this relationship.

Other "costs" may be attributed to queuing systems as well, however the positive or negative effects of these costs may be interpreted by those using the systems. For instance, respondents stated that they generally enjoy walking around parks without a particular path in mind, but that they also are more likely to return to a park in which they experienced more attractions. A reservation system inherently limits a guest's ability to meander through the park doing whatever they please, but it also has the ability to increase the number of attractions they

are able to experience. Peter Rødbro provides an explanation for this shift in theme park practices from a marketing perspective, stating that women are inherent planners as compared to men and that women (usually as mothers) are the ones to plan visits to theme parks in the first place, thus making a reservation system more accepted than a virtual queue which is more spontaneous. He backs up his assertions stating that with his product, Adventure Resource Planner, 70% of attraction reservations are made by women (personal communication, July 13, 2014). These statistics begin to show that while many are still wary about reservation systems as evidenced by the questionnaire's finding that they have an overall experience rating than most virtual queues or no-wait services, they have a theoretical backing that has begun to manifest itself into quantifiable results.

POTENTIAL FUTURE RESEARCH

While this thesis presents a wide range of research relating to queues in theme parks, there are still a number of topics that could not be addressed. The topics that were addressed could also be looked into more closely to gain a deeper understanding of the forces at work. Either of these areas of potential work could be used for a separate research topic or they could all be used to add to this thesis to create a larger body of work.

One of the main topics that this work does not cover is the direct relationship between queuing systems and guest satisfaction. Many indirect relationships were presented based on past research, but the questionnaire itself did not address actual guest satisfaction with the various parts of the systems. A few of the referenced works dealt with guest satisfaction relating to topics such as loyalty, arousal and employee satisfaction, but very little was mentioned of queues and almost nothing on the direct relationship between satisfaction and queuing systems (Davis & Heineke, 1998; Jones & Peppiatt, 1996; Lewis & Clacher, 2001). The most accurate way of determining these relationships is to interview guests who have used the system immediately after their visit and/or during their visit to discover any issues that arose because of it, yet this is made difficult because of getting permission from the parks to do research inside their gates.

The questionnaire was used because access to guests in the parks was not granted, and for this reason it had to be very generalized and able to analyze experiences respondents had in the past, which they may or may not remember all the details of. With more immediate access to respondents after their encounters with theme parks and queuing systems, the questionnaire

would have been able to analyze more intricately the feelings and attitudes of the respondents. The questionnaire could be tailored to a number of different aspects of virtual queuing systems, including their cost, overall value, effectiveness, potential guest marginalization and more, but including them all within this study would have made the questionnaire a tedious endeavor for the respondents to complete.

With greater access to guests within the parks and more immediately after experiences, along with conducting post-visit interviews of guests, the queuing experience in theme parks may be more accurately defined. This will not only increase the quality of results, but increase the representativeness of the population. Because the questionnaire's majority of respondents originated from theme park blogs, they may be assumed to be at least somewhat knowledgeable about theme parks and interested in their workings. In-park research would allow a greater representation of those who are simply on vacation or at the park for a special occasion. This is essential to future research on the topic if accurate results are desired.

CONCLUSION

Queue lines in theme parks today are an inevitability. From waiting to buy a ticket to enter to waiting to buy an ice cream to waiting to ride the giant roller coaster, guests have acclimated themselves to expecting a line. Technology and recent trends, however, have begun to wear away the acceptance of waiting for experiences of new generations. The immediacy of information via the internet has led to a desire for the immediacy of non-virtual goods as well. Theme parks and amusement parks have seen this and have started to implement systems by which guests may ensure themselves a level of immediacy in some experiences. These systems do not come without a price, however, as evidenced by some of the research conducted herein. Future research is suggested in order to determine how the theme park-going public adapts themselves to these new technologies and systems in the parks.

The ultimate goal in any theme park experience is for the guest to be satisfied enough with their experience that they want to return. Queue lines are not the only source of dissatisfaction in theme parks by any means, but they are an opportunity for parks to decrease dissatisfaction in unique and creative ways that may even lead to greater satisfaction than if there had been no queue at all. If the park wishes to use queues as a revenue source, which is a viable option in the present day according to the findings of this questionnaire, they must do so with tact and respect for both the guests who do purchase the service and those who do not as well. If a park offers a queuing system for no extra fee, they must do so with an understanding of all of the guests in order to balance the benefits between different groups.

APPENDIX A: SURVEY USED TO EVALUATE PERCEPTIONS AND ATTITUDES TOWARD QUEUING

Attitudes Towards Queuing

For the purposes of this survey, a "theme park" constitutes a permanent establishment that offers a large number of attractions to entertain visitors including rides and shows. A "visit" is any time spent at a theme park during one day. If multiple consecutive days were spent at a park, consider them separate visits. A "virtual queuing system" is any system a park has in place that allows a guest to bypass the normal queue line, not including those for disabled guests.

I. Demographics

a. Age? (*<18, 18-24, 25-34, 35-44, 45-54, 55+*)

b. Currently married?

c. Children? (*If yes, how many? [1, 2-3, 4+]*)

d. In what country do you currently reside? (*US, UK, other [specify]*)

II. Theme Park Background

a. How many times in the past twelve months have you visited a theme park? (*0, 1-2, 3-5, 6-10, 11-20, 21+*)

b. Which of the following theme parks have you been to in the past 12 months? (*List all Disney, Universal, SeaWorld, Cedar Fair, Six Flags, Merlin, HFE, other [specify])*

c. In the past twelve months, have you owned a seasonal/annual pass to a theme park? (*If yes, where?*)

d. In the past twelve months, have you been employed at a theme park? (*If yes, where?*)

e. With whom do you normally visit theme parks? (*Family, friends, other [specify]*)

f. On average, what portion of the day do you stay when visiting a theme park? (*Entire, most, about half, less than half*)

g. What time of day do you typically arrive at a theme park? (*Opening-12pm, 12pm-3pm, 3pm-6pm, After 6pm*)

h. Please rate the following factors that go into choosing a theme park to visit on a scale of 1 to 5 (1 being extremely unimportant, 5 being extremely important). (*Proximity to home, total cost of visit, presence of roller coasters/thrill rides, immersive theming, attractions for children, food and beverage options, positive word-of-mouth*)

III. General Queuing

a. What percentage of your visit at theme parks do you estimate you spend waiting in line? (*0-20%, 21-40%, 41-60%, 61-80%, 81-100%*)

b. What is the longest that you would willingly wait for an attraction you consider average? (*0-15min, 16-30min, 31-60min, 61-90min, 91min+*)

c. What is the longest that you would willingly wait for an attraction you consider popular/exciting? (*0-30min, 31-60min, 61-90min, 91-120min, 121min+*)

d. Do you believe estimated wait times posted outside of attractions are accurate? (*Yes they are accurate, No they are consistently too high, No they are consistently too low, No they are not consistent*)

e. If available, how likely are you to utilize a "Single Rider" line? (*Very Likely, Somewhat Likely, Neutral, Somewhat Unlikely, Very Unlikely*)

f. Please rate your likelihood of participating in the following activities while waiting in a queue on a scale from 1 to 5 (1 being extremely unlikely, 5 being extremely likely). (*Interacting with your party, Using a Smartphone, Interacting with guests around you, Utilizing in-queue entertainment, People-watching, Planning the rest of your day*)

g. Please rate the following on their impact on making a queue either easier or more difficult to wait in on a scale from 1 to 5 (1 being much easier, 5 being much more difficult). (*Themed surroundings/environment, Interactive elements, In-queue games, TV monitors, Indoors, Outdoors, Presence of music, Loud atmosphere, Ability to see attraction, Presence of estimated wait times*)

IV. Virtual Queues

For each of the following systems: Disney's FASTPASS, Disney's FastPass+, Universal Express/Front of Line, Six Flags' Flash Pass, Cedar Fair's Fast Lane:

a. Have you been to a [location] park and utilized their [system] system? (*I have visited a [location] park and HAVE utilized [system], I have visited a [location] park and HAVE NOT utilized [system], I have not visited a [location] park*)

i. For each "I have visited a [location] and HAVE utilized [system]" marked in IV.a.:

1. About how many times per visit did you utilize the system? (*0-2, 3-5, 6-10, 11+*)

2. Please rate your experience with the system in the following areas on a scale of 1 to 5 (1 being poor, 5 being excellent). (*Flexibility,*

Cost, Number of attractions available, Amount by which waits were reduced, Ease of use, Overall value)

ii. For each "I have visited a [location] park and HAVE NOT utilized [system]" marked in IV.a.:

1. Why did you not use [system]? (*Cost, Complexity, Limited use, Limited benefits, Didn't know about it, Other* [*specify*])

a. For Disney's FASTPASS and Disney's FastPass+, include "*It was not available during my visit"* option

2. Which of the following would have made you more likely to use the system? (*More flexibility of use, More benefits, Easier to use, Other*[*specify*])

V. Conclusion

a. Rate each of the following statements on a scale from 1 to 5 (1 being strongly disagree, 5 being strongly agree).

i. The presence of a virtual queuing system makes my visit more enjoyable.

ii. I am able to experience more attractions with a virtual queuing system.

iii. I am more likely to visit a park that has a virtual queuing system than one that does not.

iv. I feel like those using a virtual queuing system when I am not have an unfair advantage.

v. I would be willing to spend more money than I did to partake in a virtual queuing system.

vi. Virtual queuing systems make average wait times longer.

vii. I plan my visits during times when I think there will not be long waits.

viii. I am more likely to return to a park that I have used a virtual queuing system at than one that I have not.

ix. I think attractions with shorter wait times are not as good as ones with high wait times.

x. I am more likely to return to a park that I experienced many attractions at than one at which I experienced few.

xi. Queues that offer entertainment of some type are more enjoyable to wait in than those that do not.

xii. Queues that are intricately themed are more enjoyable to wait in than those that are not.

xiii. I am more likely to tolerate waiting when I know about how long the wait will be.

xiv. The most difficult part of queuing is keeping children entertained.

xv. I like to plan my entire visit before I get there (e.g., what to do and when to do it).

xvi. I enjoy walking around theme parks without a particular path in mind.

APPENDIX B: TRANSCRIPT FROM INTERVIEW WITH PETER RØDBRO

Transcript from Interview with Peter Rødbro: (minor spelling, grammatical changes made)

July 11, 2014:

1) Where did the idea for ARP (Adventure Resource Planner) originate, and how did it lead to the current product offering?

I got the idea one Saturday morning in the summertime, maybe because we were talking about going to a park with the kids. Skipped, however the trip because I did not want to spend a lot of money and time to get to a park and then stand in line 50% of the time. That is simple not a acceptable business model, when you have the internet to help you and your business and at the same time improve your business strongly. That I think Disney have seen and why they have invested so heavily in MyMagic+ and FastPass+. For them I believe it is a strategically necessity. Get rid of the queues or die. The Internet is killing everything and Disney is smart and have learned from what happened to the whole media industry. Because the ignored the Internet instead of exploited it

2) Do you see ARP as being more suited to a park with specific characteristics or a system that could be implemented anywhere?

Anywhere

3) What are some challenges unique to bringing a reservation system into theme parks?

No practical or operational issues, only the willingness to do "change management" I may of course be biased here.

4) Will paid-for queuing technologies continue to be a viable revenue source for parks or will it become expected as a basic part of the experience?

I think it will become expected as a basic part of the experience and at the same time increase the overall profit considerably.

July 13, 2014:

1) How will a growth in reservation system use effect the ability to be spontaneous in theme parks?

Good question. In practice not at all, because you will not allow 100% of the combined capacity in a park to be reserved. So those who do reserve are happy and those who like to go spontaneous around the park can do that as usual, but may of course have to stand in line. If for example 50% of capacity is reserved for scheduling and 50% for standby, the wait will also be shorter in the standby line because the reservation system increases the productivity. ARP can be configured online to fit any split from 100% to 1% per attraction or combined.

In general how do you define spontaneous? A) Let's ride this ride, it looks fantastic? Or b) spontaneous is what order we ride the attractions or walk the park today?
The fact is that even in Orlando parks more than 50% are repeat visitors and in local and regional parks the ratio is 80-90% or more. I mean one shall relate the spontaneity issue in this context. I mean even if you are a first time visitor to a park, but have been in other parks, the difference is not that great, as there are more or less only about 10 ride categories: roller coasters, flume rides and so on.

2) Do you see annual/seasonal passes to parks being devalued by reservation systems because of the hindrance they put on last-minute flexibility and spontaneity?

No, that is a question about what rights you give to a pass holder. The system can be configured in many ways. And you can configure at least our system in a way that the guests can/shall reserve one ride at a time, if the park believes that it's the best one size fits all way of doing it. Basically there are 2 types of human beings; planners and not planners. I don't know the split, but assume more than 50% are planners and know that the most important decision maker for a park to reach – the mother/women are definitely planners. We have analyzed across clients and 70% of pre-bookings are made by women.

3) How do you predict stand-by queues will be effected by an expansion of reservation systems? (E.g. Will their wait times increase, will they eventually be unnecessary, etc.)

No the wait time will not be longer for stand by queues.

4) How will guest mindsets need to change as reservation systems become more prevalent? Will they need to look at the park in a different way than before?

The planners will love it and the non-planners may perhaps change a bit.

5) What are some of the downfalls of implementing a reservation system in a park today?

Sorry, but I don't see any and I am pretty sure if there were any The Master of the Universe Disney would not have implemented FastPass+

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