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MASTER'S THESIS

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TITLE:

Digital ordering – will it remain a valuable asset for the service industry after the pandemic?

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Abstract

The purpose of this thesis was to explore how QR-codes have affected both guest experiences, and how it affects daily operations in the service industry. The Five Aspect Meal Model (Gustafsson et al., 2006) was reviewed in-depth, supported by other scholars (Hansen et al., 2005), to understand elements that influences guest experiences. An exploratory research design was considered the right approach, and the primary data was collected through semi-structured interviews with twelve informants working in the service industry in Stavanger. Additionally, insight from one of Norway's largest companies that provides digital solutions to the service industry was given to the author, which included a professional research towards guests' experiences and opinions on the use of QR-codes.

The data was thematically analyzed, using the Five Aspect Meal Model to structure the interview guide and the findings. The data analysis showed that the aspects related to interactions (*The Meeting*) and managerial tasks (*The Management Control System*) were the most affected by the digital change. Further, it was found that the service establishment's concept and venue capacity were factors which significantly affected the informants' experiences. Larger places that usually provides table-service should be able to increase efficiency and reduce labor costs with digital service, especially if the products sold are commonly known and the need of staff's attention is low. Contrary, the thesis concludes that smaller establishments focused on personal interactions were more negative towards QR-codes as it decreased the value of their total offering.

Lastly, the thesis concludes that QR-codes will remain a part of the service industry, but not at the levels experienced during the pandemic. Restauranters and bar managers are optimistic about digital transformation, but it needs to fit the establishment's concept.

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Foreword

After two instructive years attending the University of Stavanger, I am finally presenting my thesis to finalize my Master's Degree in Service Leadership in International Business. My thesis regards the use of QR-codes to order and pay in the service industry. Digital service became normal during the pandemic, due to the government required table-service, but has remain at some service establishments. Therefore, the phenomenon should be highly relevant to people in the service industry, scholars within the field of Meal Management, and in general for all scholars in Hospitality Management.

First, I would like to thank my supervisor, Jinghua Xie, for constructive feedback and guidance throughout the semester. I would also like to thank my family for the continued support; my friends for both motivating me, and taking my mind of the thesis when needed; and my employer for giving me the chance to combine writing this thesis with a new, challenging position.

Last, but not least, I would like to thank the informants for making time in their busy schedules to help me with this research project. This paper would not have been possible without you, and I feel so grateful for having such a great network of "colleagues" in the city of Stavanger. Thank you for your time, and thank you for your hospitality.

Without further ado, I wish you a good reading.

Stavanger, June 10th

Mats Bakketun

Introduction

Today, Quick Response-codes (hereby QR) are everywhere. It has become a normal strategy within consumer marketing after the development of smart phones, and has in recent years entered the hospitality industry. Publications related to QR-codes reveal how they are applicable to almost everything, but Stratten (2013) argued that businesses needed to strategically plan how to implement into different businesses. The QR-codes used today, sold by companies like Favrit, Quickorder and Munu, provided a self-service system which uses digital menus accessed through QR-codes. In short, a guests scans the QR-code, register their table number, chooses their desired items, pays, and then the items are served. The companies' main selling point is increased efficiency for both guests and staff, which should lead to an increase in sales and also a decrease in labor costs.

The first introduction of digital service came to Norway in 2019, but there were few places interested. One could argue that the hospitality industry is very traditional, and there haven't been many changes over the last centuries: as a guest you enter, greeted by the staff, your order is taken, prepared, and consumed before settling the bill. Scholars within change management separates the causes of change, whether it is thoroughly and strategically planned or if it was caused by external factors (Gjelsvik, 2007). The Covid-19 pandemic changed all of our lives almost instantly, and in Norway the government changed rules and restrictions according to how many people were affected (Regjeringen, n.d.). March 12th 2020, the country entered lockdown, and for almost two years many industries experienced uncertainty due to government restrictions (Regjeringen, n.d.). The industries that was hit the hardest were those connecting people, without being viewed as critical for society. The hospitality industry continuously adapted to be able to operate under these restrictions with all of them limiting their ability to sell; examples of such restrictions were required table service of alcohol, a minimum of one meter distance between each guests, and reduced

opening hours (Regjeringen, n.d.). According to the industry, removing tables and shortening the opening hours was a simple task, but extremely damaging financially (Næringsliv Norge, 2021). Restaurants and bars reported that the revenue was more than halved instantly due to the restrictions. Moreover, the required table-service forced service establishments to increase labor costs to take and serve orders. This marks the start of the real entrance of QR-codes in the service industry.

As a result of the restrictions and the slow and planned reopening of society (Regjeringen, n.d.), managers were aware of a new digital solution which allowed guests to order by themselves via mobile phones. Lastly, the digital transformation in the service industry was probably caused by the pandemic and its restrictions, but what will happen when the restrictions are removed and people are again allowed to walk around and order directly from the bar?

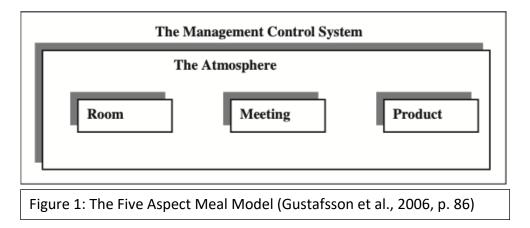The purpose of this thesis is to investigate the following research questions:

1. *How do QR-codes affect the overall guest experience?*
2. *How do QR-codes affect the daily operations in the service industry*?

Literature review

The scientific field of meal management is relatively new, and Scandinavian scholars like Inga-Britt Gustafsson and Kai Hansen are important contributors. The Five Aspect Meal Model (hereby FAMM) by Gustafsson et al. (2006) developed a tool for managers to improve and understand the complexity of a meal experience, while Hansen et al. (2005) investigated the different levels of importance related to guest experiences in an a la Carte restaurant. This thesis is structured around the FAMM, therefore the model will be explained in the following chapters. Additional literature, like Hansen et al. (2005) will be used to gain further insight into what elements effects guest experiences.

The Five Aspect Meal Model

Gustafsson (2002) first introduced the Five Aspect Meal Model in a paper aiming to expand interest into the field of meal science. Today, the model is an essential part of the curriculum at the Department of Restaurant and Culinary Arts at Örebro University in Sweden (Gustafsson et al., 2009). The scholars clarifies the five aspects as *The Room, The Meeting, The Product, The Management Control System,* and *The Atmosphere* (Gustafsson, 2002), and argue that a guest's experience of a meal is dependent on the entirety of these factors, which is consumed through all of the guest's senses (Gustafsson et al., 2006). Moreover, through several publications Gustafsson has underlined the importance of every detail related to how to operate a restaurant to increase guest satisfaction(Gustafsson, 2002; Gustaffson et al., 2006; Gustafsson et al., 2009), and the value of satisfied customers should be clear of to anyone working within the hospitality industry. To further explain the relation between these five factors, the elements themselves needs to be defined.

Figure 1: The Five Aspect Meal Model (Gustafsson et al., 2006, p. 86)

The Room:

Gustafsson (2002) explains that every meal takes place in a room, and even though the FAMM is centered around restaurants, meals could also take place in schools, at home, or even outside. Furthermore, the model aims to show ways to optimize the use of the room to increase guest satisfaction through skills related to architecture and interior (Gustafsson et al., 2006). Today, one could argue that almost all restaurants are operated with an understanding

of the importance of how the room looks. The term concept is often used by restauranters, as well as managers in other industry not limited to the hospitality industry. Hansen et al. (2005) explained that the furniture, colors, center and remote objects in the room could affect the total guest experience, and found that extreme and many different colors could possibly decrease the guests experience. Gustafsson et al. (2006) and Hansen et al. (2005) emphasizes the importance of understanding the connection between every item within the room, and how it works together with the rest of the service establishment.

The Meeting:

Next, *The Meeting* includes all interactions a guest encounters during the meal, which could be divided into two main categories: interactions with the staff, and interactions with other guests (Gustafsson et al., 2006). This aspect has developed through Gustafsson's research, as Gustafsson (2002) does not include the guest vs guest interactions. This could be because it is an aspect difficult to control for manager, but nonetheless it is definitely an important aspect of *The Meeting* (Gustafsson et al., 2006). Hansen et al. (2005) found that the company, meaning who the guest shared the meal with and the setting, was an important element that affects a guest's total meal experience. Therefore, it was concluded that guests' expectations and needs are directly related to the people they are sharing a meal with, and the study highlights the main difference between business and private gatherings (Hansen et al., 2005). Moreover, the study revelealed how conversations amongst the guests were heavily affected by staff's actions, i.e. if the waiter gains trust through personal relations or through adequate recommendations, it could be a topic of conversations within the company (Hansen et al., 2005). Furthermore, Hansen et al. (2005) shows that poor service could affect the overall mood of the group as it is being conversed.

According to the model, one needs an understanding of social psychology to understand all the different levels included in *The Meeting* (Gustafsson et al., 2006). The

service staff is usually in direct contact with customers throughout the meal, with tasks like presenting the menu, taking orders, delivering food and/or drinks, taking payment, and complaint handling. All of these situations will be different each day, due to the single, obvious reason: the guest. As mentioned, understanding people becomes important, and the staff needs to know how to deal with the guests' behavior. Gustafsson et al. (2006) explains that guests are allowed to act the way they want when eating out, with examples ranging from urbane to sophisticated. Additionally, waiters will encounter guests with less experience with going out, and the staff should be trained to help these guests instead of being rude and arrogant (Gustafsson et al., 2006). These examples highlights the variety of guests the service staff encounters, and even regular guests could have different behavior one day to another. Furthermore, other scholars have studied the importance of the interaction between the staff and guests, and Andersson & Mossberg (2004) concluded their research by highlighting that customers demand more than just their physiological needs. In short, their study proved that restaurants need to provide service which will meet customers psychological needs as well. One example of such could be the ability to provide a good recommendation, or even simpler if the interactions themselves felt rewarding to the customers despite the topic (c).

The Product:

Next, Gustafsson (2002) highlights the least surprising aspect related to guests' meal experiences: the food and beverages. The quality of the food being served needs to meet the customer's needs and expectations, but Gustafsson et al. (2006) offers additional insight into the importance of this aspect. First of all, the knowledge required to succeed in this area is related to both chefs and the service staff. Chefs needs theoretical knowledge related to the art of cooking (Gustafsson et al., 2006), as well as the technical skills to perform. Additionally, understanding food chemistry could raise the quality of the meals served, which eventually can increase guest satisfaction.

Second, the service staff's knowledge about pairing food and drinks is proven to be an important factor, as guests expects a good combination (Gustafsson et al., 2006). Meiselman (2000) found that if the recommendation was below the customer's expectations or if the menu was poorly composed, it could affect the overall satisfaction of the meal. This is supported by Hansen et al. (2005) who explained that a restaurant's core product includes how the menu is composed and recommendations from the staff. In short, Hansen et al. (2005) argues that an a la carte's core product is more than what is being consumed, which separates their model from Gustafsson's Five Aspect Meal Model (2002). Their findings regarding the guests' value of recommendations and knowledge is probably not groundbreaking to anyone in the service industry, but to argue it is a part of a restaurant's core product is exciting. The scientific field of marketing explains that a company's core product is not about the actual, physical product, but rather about the use, benefit or problem-solving service that the consumer is purchasing (Kaplan Financial, 2012). Therefore, Hansen et al. (2005) findings highlight how it is not only the tangible food and drinks which are important for guests, but the overall need for a great experience. One could argue this is apparent through the article, and similar to Gustafsson et al. (2006) the importance of a concept is emphasized repeatedly.

The Management Control System:

Furthermore, Gustafsson (2002) introduced the value of a well operated restaurant and emphasizes ways managers could increase this aspect. *The Management Control System* therefore includes elements like legal and economic aspects, rules related to handling food and alcoholic beverages, to the logistics in the kitchen and dining area(Gustafsson et al., 2006). Different types of service establishments will require different solutions regarding logistics, and Gustafsson et al. (2006) highlights that it is important for managers to understand all the aspects related to table service for a restaurant to function optimally.

Therefore, the logistics of an a la carte restaurant are extremely different from a restaurant which offers a buffet, as the daily operations for the staff will be different. As a result, Gustafsson et al. (2006) argues that even though *The Management Control System* operates backstage, and is less visible for guests, it could indirectly lead to dissatisfaction i.e. through a delay in receiving the bill. The Customer's Meal Experience Model (Hansen et al., 2005) does not include any elements similar to *The Management Control System*, which could be because it is in the customer points of view. Anyway, payment was mentioned as an encounter between guests and staff which could have a significant impact on the total guest experience (Hansen et al., 2005). Another study focused on payment concluded that mistakes and waiting on the bill were possible situations that would harm the total experience, and the study emphasized that as payment usually is the last part of the visit it should be of higher focus amongst restauranters (Hansen et al., 2004).

Lastly, it is concluded that "*the Management Control System* is a superior system that governs all the other aspects, such as room, product and meeting (Gustafsson et al., 2006, p. 89)". In other words, it is the managers who determines all of the other aspects, which underlines the scope of managerial tasks in the service industry.

The Atmosphere

Fifth, Gustafsson et al. (2006) defines an atmospheric restaurant as a place where guests feel comfortable, and this last aspects emphasizes on all the elements involved in creating a desired atmosphere for the guests. Similar to all previous factors, *The Atmosphere* should be different from one place to another depending on the concept. Gustafsson (2002) implicates that *The Atmosphere* is highly dependent on how the guests interacts with each other, but also how the skills and creativity by staff contribute. Later research found that guests use all five senses throughout a meal experience, and Hansen et al. (2005) explained that it is this entirety that makes up *The Atmosphere,* and that it is both included and

surrounding the other aspects. Gustafsson et al. (2006) explains how every single element related to a meal should be of interest for managers as everything needs to be aligned with the restaurant's concept. Furthermore, several studies emphasize that music can play an important role in creating an atmospheric restaurant, but again argues that managers need music related to the room, the meeting and the food and drinks (Gustafsson et al., 2006 ; Hansen et al., 2005). The FAMM concludes that the atmosphere, or the perception of the entirety of a meal, seems to be the product of both material and immaterial factors, or the balance of the two (Gustafsson et al., 2006), which is supported by Hansen et al. (2005, p.145) explanation: "the individual emotional total experience throughout the entire meal". One could argue that *The Atmosphere* is the aspect which best emphasizes the importance of a well-planned concept, which needs to evident in every aspect of a service establishment.

In conclusion, the Five Aspect Meal Model includes the many various aspects and elements related to increase guests' meal experience satisfaction from a manager's point of view. The importance of understanding how all of these factors interacts is essential for any place serving food and/or drinks, and managers could use this model as a tool (Gustafsson et al., 2006). The additional theoretical insight from Hansen et al. (2005) from a guests point of view provides a greater understanding of the FAMM. Finally, the five aspects: *The Room, The Meeting, The Product, The Atmosphere,* and *The Management Control System* will be used throughout this thesis to determine how ordering and paying digitally through QR-codes affects guests experiences, and the daily operations in the service industry.

QR-codes – How does it work?

Next, given the topic of the thesis, it is important to properly understand how this new technology works to gain full insight into how it affects the guest experience and the daily operations in the service industry. As a result of interviews with a senior manager, at one of

Norway's largest companies providing such digital service, I am able to present insight into how this phenomenon works.

In short, the companies provide technology which consists of elements ranging from self-service via digital menus, to more managerial tasks like working schedules and inventory revision. For this thesis, the most important elements are those related to daily operations like guests handling, i.e. taking orders, and the direct impact on daily routines for the on-floor staff meaning chefs, waiters, bartenders and runners. Therefore, the self-service, which is enables by QR-codes, is the main focus area. Establishments using such service will place QR-codes on every table with an assigned table number, which allows guests to order and pay simultaneously, before it is delivered by the staff. If done properly, the guests will have access to every single item the place can offer directly on their mobile phone. As the order is sent, a physical paper ticket will be printed for the staff, and additionally it will show on a tablet which staff operate. When the order is delivered, the staff marks the order as delivered on a tablet – and that is it. However, it is not always this easy, so the tablet also allows for features like refunds to handle guests complaints and mistakes. Most users of this service today now includes a free product which tells the staff a table needs assistance. This could be used both for simple questions about the menu, but also for complaints about the order already received.

Lastly, the digital service includes features related to financial tasks, and some of the providers has implemented other elements to enable restaurants/bars to solely use their systems for daily operations. The cost of these services vary depending on the provider, and also the size of the venue. Most customers will pay a monthly fee for the digital solutions plus a small percentage of sales. Today, some chains within the service industry has created their own versions of digital ordering, but the largest external providers in Norway are Favrite, Quickorder and Munu.

The Report:

Next, one of the aforementioned providers hired an external, professional research firm to analyze people's attitude towards digital solutions in the service industry. The survey had a total of 1053 respondents from a random sample, all aged above 16 years old, and from all across the country. The author has been given access to the report, and this chapter will present the study, and highlight some of the findings which will be compared and discussed related to the primary data collected through interviews with managers working in the hospitality industry later. The data was collected in November 2021, and the respondents were asked about their use of QR-codes in the last six months. The survey asked questions related to the respondents' demography: gender, age group, region, population of residing municipality, education, household's income, and personal income. Finally, two question and six statements regarding use of QR-codes and the respondents' attitude towards the service were measured:

- How many times have you used digital ordering at a service establishment in the last six months?

- Do you disagree (1) or agree (6) with the following statements:

    o I feel it is easy to order/pay food and drinks digitally.

    o I experience digital ordering reduces waiting time associated to ordering food and drinks.

    o I experience digital ordering reduces waiting time associated to payment.

    o I experience digital ordering improves the service time of food and drinks.

    o I experience digital ordering overall improves the customer service at service establishments.

    o Overall, I feel digital ordering improves the total guest experience at service establishments.

- If you could choose freely, would you prefer digital ordering or ordering via staff?

Next, the findings were weighted and analyzed based on the demographic data, to gain insight into whether there are significant differences in opinion depending on these variables.

The Report's Findings

First of all, the findings show that the majority of the respondents have used QR-codes to order and pay at service establishments in the last six months, but most of these (25%) have only used it 1-2 times. Additionally, there was a significant difference related to the respondent's age. Only 43% of people aged above 55 have used the service, compared to 82% of those under the age of 35. The report concludes that the characteristics of those who have used QR-codes the most are under the age of 44, lives in bigger cities, and has a high personal income.

Second, the report suggest that there are split opinions regarding whether or not digital ordering/paying improves the overall guest experience. The respondents agrees that it reduces waiting time related to payment, with a score of 5,1 out of 6. Similar to the amount of use of the service, people aged under 35 agrees more that QR-codes improves the overall experience as it shortens the waiting time of ordering, being served and the payment. Furthermore, men were found to be more positive towards using QR-codes than women, but are contrary found to be more negative towards the statements regarding reduced waiting time.

Third, the report indicates that people has a slight preference towards the traditional form of ordering and paying via staff. 38% prefers digital service, and of these the main characteristics are again related to age. The group of respondents who are significantly more positive towards QR-codes are those under the age of 35, those who have used the service 6-10 times in the last six months, and naturally those who agrees with the statements related to shorten waiting time for ordering, being served, and payment. On the other hand, the

characteristics of those who prefers traditional service are above the age of 45, and have only used the digital service 1-2 times the last six months.

To sum up, the findings conclude that age is a significant factor to guests' perception of QR-codes in the hospitality industry. Additionally, it is worth noting that there were significantly more respondents who have used digital service often in municipalities with higher population, especially those in Oslo and in Viken. The company lists all of its customers, meaning service establishments using QR-codes, on their website, and it is clear that they have a bigger reach in the cities. Finally, the research also suggest that people tend to be more positive towards the service the more they use it.

Methodology

The purpose of this chapter is to explain the research method used, and the reasoning behind it. Given the subject, an exploratory research design was found adequate to gain insight into how this new phenomenon affects the service industry. According to Krumsvik (2014) methodology includes every aspect of a study, and when done properly ensures validity and reliability of the research project. Validity and reliability are related to both the trustworthiness of the research and findings, and how factual the findings could be believed to be (Jacobsen, 2005; Krumsvik 2014). An exploratory research design calls for a qualitative approach, which means this project will study words instead of numbers (Jacobsen, 2005). Semi-structured interviews were used as collection method with 16 different people from the hospitality industry in Stavanger or Oslo. These interviews allowed for direct insight into mangers' experiences and opinions related to the phenomenon, which enables this study to explore the value of QR-codes to restaurant and bars.

Additionally, it is worth noting that the aforementioned report was used throughout the research paper. The aim was to be able to compare their findings with the primary data collected through interviews, and therefore the interview guide was made with similar words

and phrases. Preliminary interviews where held with representatives from the company to gain insight into their products and services, their experiences and their view on the future of both their company and the hospitality industry.

Lastly, it was believed prior to the data collection that the different aspects of FAMM would be affected differently. Therefore, the main hypothesis was that *The Meeting* would be affected greatly due to the reduced encounters between staff and guests. Additionally, it was expected an increase in managerial tasks related to the new, digital system.

Sample

The data was collected through interviews from 12 different interviews. The interviewees were all from different companies, and mostly in managerial positions. Table 1 presents further insight into demographic information about the sample, with notes related to the size of restaurant/bars and whether they have used/still uses digital solutions daily. Even though there are many different aspects to consider, the size of the venue is believed to have significant impact on the interviewees' experiences and opinions about QR-codes. Additionally, research was done prior to inviting participants; in other words, the sample was picked strategically to give best possible insight into the phenomenon's value to the industry. As mentioned, the venue space is important, but factors like clientele, the concept of the restaurant/bar and which type of sale of alcohol license were crucial in choosing the sample. In Norway, it is required to have a license to sell and/or serve alcoholic beverages, and most cities have different licenses depending on opening hours and the alcoholic percentage of the beverages being sold (Alkoholloven, 1989). In other words, the study wanted to include both regular bars and also nightclubs, as well as bars with different age requirements. The final sample was found through both personal contacts, and direct inquiry to bars/restaurants of interest. Johannessen et al. (2011) explains that diversity within the sample could be

beneficial in exploratory studies, hence why this sample ranges from people working in

international hotel chains to individual, family owned bars.

Table 1: Profile of the informants:

Informant	Position	Work Experience	Concept	Venue Capacity	Used QR-codes
1	Restaurant Manager	5-10	Hotel	500+	Yes
2	Bar Manager	10+	Cocktail Bar	60+ seats	Yes*
3	Bar Manager	20+	Bar	100+ seats	Yes*
4	General Manager	20+	Restaurant	200+	Yes
5	Waiter	5-10	Bar	100	Yes*
6	Bar Manager	10+	Bar	50	No
7	Bar Manager	20+	Restaurant/Bar	450+	Yes
8	Venue Manager	10+	Night Club	120	Yes
9	F&B Manager	10+	Hotel	1000+	Yes
10	Waiter	1-5	Restaurant	600	Yes
11	Bartender	5-10	Cocktail Bar	40	No
12	Bartender	1-5	Bar/Night Club	200	Yes*

* Informants have stopped using digital service since the removal of restrictions in Feb 2022

Interview Guide

Next, data collection through interviews require planning to ensure the validity and

reliability of the study (Kvale & Brinkmann, 2015). One step to increase the validity is

through an interview guide as this enables the interviewer to prepare questions, and also to

make a step-by-step manual on the interview. As mentioned, semi-structured interviews were

used, meaning that the interviewer allows to deviate from the interview guide when

necessary. One could argue this allows for a more fluent conversation between the researcher and the subject, and it was expected this would be beneficial given the acquaintance relationship between the researcher and most of the interviewees.

Furthermore, the purpose of the thesis was presented to the interviewees before the actual data collection. It was believed this was necessary to receive help as the thesis aims to explore ways to improve the use of QR-codes, which could benefit the interviewees themselves. Furthermore, the interview guide is included in the Appendix, and it clearly shows the connection to the Five Aspect Meal Model (Gustafsson, 2001).

Contrary to the interview guide used when interviewing managers in the hospitality industry, the preliminary interviews with the Senior Manager were done without any preparation. As mentioned, the company contributed with insight into their offerings, and explained features in details to improve the primary data collection with the final sample. Additionally, it was believed that this thesis should benefit both parties, as the data collection would probably support the company's experiences, and possible reveal some areas for improvement. The report provided from the company was determined to be an important asset for the thesis, as it could be compared and discussed with the interviewees experiences.

Data Collection

First of all, all interviewees were informed about their rights according to NSD's and UiS' guidelines, and signed an admission waiver at the start of the interview. Additionally, the respondents were also aware of the purpose of this thesis before the data collection started.

As mentioned, preliminary interviews were conducted to gain insight into the phenomenon, and even though I have personal experience with the use of QR-codes from work and as a guest, there was a need of a full understanding of what these companies actually deliver. Additionally, the report provided gave insight into elements to be included in

the interviews. After analyzing the report, and making the interview guide previously mentioned, interviews were held from April 7th to May 12th. Due to the guidelines for the Master's Thesis regarding handling personal data, it was decided not to record the interviews. Therefore, during the interviews notes were taken which the interviewee checked and approved after the interview. Even though the plan was for semi-structured interviews, the actual interviews were casual. The interviews turned into conversations which allowed the interviewee to share experiences and opinions on the matter. It is worth noting that even though the interviews could be characterized as casual, I believe this is the only way to collect proper data from this sample. To generalize, managers within bars and restaurants are rarely highly educated, and also extremely eager to talk. As a result, the topic of conversation could change rapidly, which made taking notes increasingly difficult. To ensure the reliability of my findings, I therefore went over my notes at the end of the interview, and sent copies of my finished, revised text for approval. An unexpected gain from this method was the additional comments provided when the interviewees approved the notes.

Data Analysis

Next, the quality of the analysis of the primary data collected is essential for the thesis' validity and reliability. The most common way to analyze data collected through interviews is through transcription and word analysis, often through digital programs which shows what words and phrases are mentioned significantly (Gripsrud et al., 2006). For this thesis, that was not possible due to the decision to limit the use of personal data. Therefore, the analysis will be based off the notes, and coded into different segments to compare the respondents answers. The Five Aspect Meal Model was used to divide the data thematically, as it was intended when the interview guide was written. One of the main advantages to this approach is to remove data unapplicable to the research questions (Christoffersen & Tufte, 2011).

The Quality of the Empirical Evidence

According to Malt & Tranøy (2021), the term empirical knowledge is related to data collected through systematic observations or investigations. Jacobsen (2005) explained that every study has to evaluate the quality of the method used, which is done through researching the study's validity and reliability. Therefore, the following subchapters will explain these terms, and discuss them according to strengths and weaknesses of the thesis.

Validity

First, there are many different aspects to validity, and scholars separates between internal and external validity (Jacobsen, 2005; Krumsvik, 2014). In short, internal validity is related to the data collection, and whether one could draw conclusion based on the findings (Krumsvik, 2014). In other words, if the findings actually reflects the reality. Contrary, external validity is related to how transferrable the findings are, meaning if one could generalize the findings (Jacobsen, 2005). Krumsvik (2014) emphasizes the importance of internal validity as there is no purpose to generalize meaningless information.

Second, there are aspects related to both internal and external validity that are essential to understand to perform a good study. Construct validity is arguably of higher importance in quantitative studies, as it related to operationalizing real life phenomena and making them measurable (Jacobsen, 2005); nevertheless Krumsvik (2014) explains that with a qualitative research design it is related to whether the study is measuring what it intended to do. Additionally, face validity is an important aspect, and also an easier one to evaluate. In short, face validity is evaluated on the basis of other scholars opinions on the study and its methods (Gripsrud et al., 2016), and often argued as relevant based on similar research. Therefore, one could argue that by applying a thematic data analysis based of the FAMM-model the construct validity strengthens. Moreover, similar studies of the service industry

(Hansen et al., 2005; Andersson & Mossberg, 2004) have used semi-structured interviews which strengthens the face validity.

Additionally, since interviews was chosen as data collection method it is important to understand aspects that could affect the thesis' validity during the interview process. Maxwell (2013) found that the researcher's own preferences and theories could heavily affect the research, and could be considered as a threat to the thesis. One could argue that strategically choosing the sample could increase the chance of such bias, as most of the interviewees have a friendly or acquaintance relationship to the author. On the other hand, as mentioned earlier, the subjects in the final sample was chosen to create a representative group of people in the hospitality industry, ranging from small bars to large hotel chains. Nevertheless, during the interviews the focus was to let the interviewees talk freely with as little interruptions necessary, to minimalize the researcher's ability to affect the findings.

Lastly, one could argue that the decision to minimize the use of personal data affects this thesis' validity. A tape recorder is typically used during interviews followed by an analysis of the transcripts, hence using notes increases the likelihood for mistakes or misinterpretations that could affect the validity (Kvale & Brinkmann, 2015). On the other hand, the notes taken during the interviews were approved by the interviewees to decrease the chance of any flaws. In short, it is believed that the study is of somewhat high validity into this new phenomenon mainly due to the semi-structured interview guide, and the focus on allowing the respondents to speak freely about their experiences.

Reliability

According to Jacobsen (2005), reliability relates to the credibility and trustworthiness of the study. Similar to the study's validity, the reliability could be weakened throughout the entire research process, but especially when the primary data is collected through interviews (Kvale & Brinkmann, 2015). One of the main concerns is the ability to remain neutral, and

not interfere and force the respondent's answers to better align the hypothesis (Johannesen et al., 2011). Therefore, the interview guide was constructed with open questions to better allow the interviewees to explain their experiences, and also reduce possible leading questions which could threaten the thesis' reliability. Kvale & Brinkmann (2015) explains that many scholars argues that research designs with a high reliability should be able to reproduced by other researchers and draw the same conclusions. To sum up, reliability relates to the credibility of the results, while validity determines whether an interview study investigates what it aimed to research (Kvale & Brinkmann, 2015).

Limitations

The main limitation related to the thesis is the size and diversity of the sample. All of the informants are located close to each other, and supported by the findings by the providers of digital solutions, one could argue that there are differences related to geographical factors. Given the time period of the thesis, and my own limited network located in Stavanger, this sample was found to be adequate.

Additionally, one could argue that the thesis should have investigated guest experiences directly via customers, but it was considered that the report's findings would be enough. Moreover, most research within the field of meal management is related to guests perceptions and opinions on the different aspects. As the purpose of this thesis was to investigate the implementation of a new, digital solution it was decided that collecting data from managers and staff would give the best results. However, further studies into this phenomenon should focus on guests' experiences after the pandemic.

Ethical considerations

As mentioned, the research project is registered and approved by the Norwegian Center of Research Data: reference 576526. Their guidelines for handling personal data was followed, and in accordance to UiS' recommendations the amount of personal data handled

was reduced. The informants remain anonymous, and the raw material from the data collection will be deleted according to NSD and UiS' rules.

Results

Next, this chapter will present the findings from the data analysis. Table 1 presented the sample, and highlighted some of the characteristics of the informants, and it is recommended to have it available while reading this chapter to easier understand the findings. The results will show that the type of service establishment, the informants role, and the total guest capacity were found to be significantly related to the interviewees experiences and opinions on digital service. Additionally, this chapter is constructed after the categories from the thematic analysis, which was based on the FAMM by Gustafsson et al. (2006). Furthermore, due the semi-structured interview guide, other topics became part of the conversations and are also included. These topics regards to the future of the industry and its use of technology.

The Room

First of all, the findings suggest that *The Room* is barely affected by the introduction of digital ordering. All of the informants explain that QR-codes are placed on each table, usually in the form of smaller signs, but that there are no other changes to the physical features of the service establishment. Most of the interviewees explains that they have changed the design of the QR-codes since the beginning, all with the intention to make it smaller. "To begin with, the QR-codes came in the size of an A4 piece of paper, which looked horrible especially on the smaller tables" (Informant 1). Informant 9 further explains: "We looked into ways to create more visible information about the QR-codes on large posters and with written text on blackboards in the bar, which allowed us to have smaller signs on each table". Further, Informant 4 reveals that the smaller signs has functional purposes in addition to being esthetically better.

Furthermore, a few of the informants emphasizes that they wanted to implement the QR-codes better to design of the service establishment. Informant 12 reveals they made the QR-codes in metal, which was permanently placed on each table. It was believed to both look better, but it additionally made it easier to clean. Today, with the increased knowledge amongst guest about digital ordering, other ways of implementing the QR-codes are possible:

> At first, we used smaller signs with information like everyone else to make it as easy as possible for the guests, but now we have created smaller stickers that we have placed on the table decorations. Today, we want to use the QR-codes as a supplement to our service, and therefore there is no longer a need for large pieces of paper laying around. (Informant 7)

The informants explained that the QR-codes became essential due to the restrictions, so many of them had no serious concern related to the esthetic when it was introduced:

> Honestly, I haven't thought much about it, but looking back I didn't use any time thinking about the design. We were given an example by the provider, printed out enough copies, and placed them on the tables. There were more urgent matters. (Informant 5)

> "There are many other factors related to how the restaurant looks that are significantly more important to both guests and staff than small signs on the tables. We quickly learned that by having standing signs they lasted longer, and needed less cleaning than those simply laid on the tables. (Informant 4)

The Meeting

Next, the personal interactions during a meal is known to be heavily related to the overall guest experience. The informants all agrees that there are differences between the interactions between guests and staff while using digital QR-codes compared to tradtional service. The findings show that "the actual need for interaction decreases, sometimes to the

extent where it is not necessary as both the order and payment is done digitally" (Informant 8). Informant 2 explains how different guests requires different attention:

> Guests that prefers quick service, with no regards for the service aspect, loves digital ordering. I believe it will remain a big part of the service industry, but it depends on the concept of the establishment. As a cocktail bar, half of the experience is the interactions with our bartenders talking about the drinks."

The informants explain that there were issues related to functionality in the beginning, which could lead to encounters with unsatisfied guests:

> "The restrictions almost forced us to implement this new service, and to be completely honest we had no prior knowledge on how it worked. Day by day we understood more, and could better explain the guests how to order through their phones." (Informant 3)

> "In my mind, people are pretty set in their own ways and when the guests were told to order digitally some showed clear dissatisfaction – sometimes even anger. I believe everyone realized this was just the way it is during the pandemic, and its restrictions, but especially older guests were unhappy with using their phones to order".
> (Informant 1)

Some of the informants further add that these issues would lead to interactions which already were negatively charged. Starting a visit with frustration is undesirable for all parties, and one of the informants explains that it could be time consuming helping guests order digitally.

> "Some guests would struggle with the QR-codes, and naturally ask for help. The problem was the restrictions which required table service, and also reduced the guests' mobility in the venue. The guest was only supposed to be moving from their table if they were going to the restroom. As a result, this could lead to

misunderstandings and interactions which could affect the overall guest experience

negatively." (Informant 9)

Contrary, one of the informants explains how they experienced introducing QR-codes before

the restrictions, meaning before they became a well-known phenomenon.

"We actually started in the summer of 2019, as one of the first places to do so in

Norway, and it was really cool to have this additional service. We focused on

explaining the guests that they could order digitally, and that it would often be quicker

than waiting for a server. In our experience, this was extremely popular because no

one was forced to use it. If you wanted to order directly from staff that was still

possible." (Informant 4)

Furthermore, payment is found to be an element of a meal which, when handled poorly, could

affect how guests perceive their entire visit. All of the informants agree that guests do not like

to wait for payment, a problem non-existent with the use of QR-codes:

"No one likes to wait to be allowed to leave, and that is essentially what one is doing

when waiting for the bill. I believe most guests favor a solution where you are free to

go whenever you want to" (Informant 10).

"Personally, taking payment is the part of my job that I dislike the most. Most of the

times it goes smoothly and you receive gratitude for the service provided, but on those

occasions there have been issues it is never comfortable." (Informant 8)

On the other hand, some informants reveals that when there are issues related to orders, the

use of QR-codes could make it more difficult to handle unsatisfied guests. As mentioned,

many of the informants underlines that explaining how it works to guests is time consuming.

Additionally, wrong orders will occur, but with digital ordering it will be the guest's fault:

"The guests order themselves, so it reduces the possible mistakes the staff can do. On

the other hand, it could lead to dissatisfied guests as they believe they have ordered

something they didn't. It could be frustrating trying to explain the guests that they might have ordered incorrectly on their phones, and we have experienced guests claiming it isn't their job to order food." (Informant 10)

Next, the informants are split in regards to the importance of these interactions between staff and guests. It is apparent that the concept of the establishment is a relevant factor here, but some informants provides insight into how it could be used to elevate the level of service.

"I believe that it all depends on what one is trying to achieve, and what one is selling. I don't want to order digitally at fine dining restaurants or at bars with superior knowledge, as I want to hear the staff's recommendations. " (Informant 11)

"Most of our guests come to enjoy a drink with friends, and given the products we serve the need for recommendations is small. On the other hand, I do believe that our guests enjoy interacting with the staff, but it is probably enough with the interactions at the table when the drinks are served. Additionally, the guests are allowed to remain seated and continue their conversations with the rest of the table." (Informant 6)

"Lately, we are only using QR-codes for ordering additional items like another round of drinks. This enables the guests to actively order without having to wait for staff, which have been very popular. Everything else is ordered through the waiters, which gives them the personal service we want to offer." (Informant 7).

The informants agree that QR-codes affects how the staff works, and it seems it could lead to a decreased focus on social interactions with guests. Actions have been taken by managers to increase interactions:

"I have noticed that my staff tend to ease off and relax more than I would have liked. In other words, some of the waiters pays less attention to each table now with QR-codes than they did before. I believe it is result of guests being able to order

themselves so the need for the waiter's attention is reduced, but I still want my staff to interact as much as possible with the guests." (Informant 4)

"We need to find ways to make QR-codes work well with the traditional service. Local beers is a focus of ours, and the waiters are reminded to suggest a second beverage when taking the first order, and then emphasize that they can order it through the QR-codes whenever if they want to." (Informant 7)

Furthermore, some of the informants are concerned that inexperienced staff will struggle if/when their employer decides to return to service without QR-codes:

"Working at a bar with QR-codes compared to a bar where the ordering is done across the counter, are to completely different jobs. The time and quietness the bartenders have had the past two years have been favorable for many. The lack of interactions allow new staff to take their time with orders in peace. No one hanging over the counter asking for an extra shot in the cocktail." (Informant 3)

Next, the informants had mixed opinions to what extent digital ordering affects their guests' interactions. All of the informants agreed that it varies from guest to guest, and it is clear how the different interviewees' workplaces affected their experience:

"I believe that most guests don't spend too much time talking about QR-codes today, but most guests would discuss it for a while during their first encounter. We have had guests discussing both the positive and negative sides about it, and naturally this could affect the mood amongst them." (Informant 7)

"One of the possible downsides of digital ordering is when larger groups wants to order together. I have experienced conversations amongst guests that were almost hostile because one took too long to decide. Obviously this could affect their view on the visit looking back at it." (Informant 12)

One of the informants highlight how positive reactions lead to a better guest experience, and increased sales:

"I remember we had a group of older women who struggled to order digitally. Even though they found it difficult, they were determined to manage by themselves, and in the end they found so fascinating and cool that they kept ordering beyond what they had plan just because it was fun." (Informant 4)

The Product

Furthermore, the findings related to *The Product* suggests that managers are very aware of the concept of their establishment. All of the informants implies that the theoretical definition is to concrete, and that especially personal service and atmosphere/location are factors that make up the product sold. Anyway, the informants explain how QR-codes did not affect the actual product (Informant 1), meaning the food and drinks, but emphasizes that the definition is outdated (Informant 2). A few of the informants explains that to be able to sell the best products, either its food or drinks, the recommendations given by the staff is essential:

"The staff is well trained in different types of beers, and as the QR-codes limited the possibility to explain the many options, it could lead to a guest experience that could have been improved. I believe that our knowledge is part of the product of this restaurant." (Informant 4)

"As a cocktail bar, the conversations with the staff is almost equally important as the cocktails. The guests wants to get recommendations depending on their preferred taste, spirit and so on. Additionally, it is one of the perks of working here – being able to tell the story about your creations." (Informant 2)

On the other hand, some of the informant reveal that their sales mix changed. Due to the visibility of all of the options, guests are more aware of their options:

"Before the pandemic we mostly sold draft beer, and the classic popular bottled ones. We didn't have a menu listing all of our products before, but now the guest get direct insight into what we store in our fridges. This led to an increase in bottled beer, and especially those who are not as common." (Informant 3)

In addition, one informant explains how they focused on the design of the digital menu to increase sales of different items:

"We hired professional photographers to take proper pictures of all of our cocktails. I can't prove that this is the reason for the increase in sales, but I believe it is. Not all guests are familiar with the different terms used by bartenders, and probably enjoys being able to view a picture of the cocktail." (Informant 7)

The findings also suggests that the informants working at larger places which focuses on sales in large quantities of simpler product are more positive towards QR-codes:

"We mostly sell beer, wine and simple mix drinks – meaning drinks with only two components. These are easy to prepare, needs no explanation, and the QR-codes allows us to do our job much faster. This reduces the guests waiting time, and I would argue that this is what makes this place popular. The guests are here to enjoy a normal beer with friends, and would go to other places for more advanced products."
(Informant 12)

The Atmosphere

Furthermore, the fourth aspect, *The Atmosphere,* was found to be of the least interest for this research, due to the connection with the pandemic. Similar to *The Room* there were no planned changes to the venue's tangible or intangible features, but the overall mood could be affected by digital ordering. It is apparent that the restrictions related to social distancing and required table service affected the *The Atmosphere* during the pandemic.

"Okay, so before we open up for guests, the venue would look, sound, feel and smell the exact same way as it did before the pandemic. Well, except for when we had to follow guidelines related to social distancing. Anyway, the one thing that changed is the mood in the venue." (Informant 5)

Many of the informants agrees that digital ordering creates less noise and interruptions, as people remained seated at their tables. Informant 4 explains that it reduces how much guests moves around in the venue, which could be interpreted as a distraction for some guests. Additionally, the QR-codes gives the guest an option to remain seated which reduces the physical queues, "which improves the atmosphere for both staff and guests: staff could move around more easily, and guests do not have to stand in line for another drink" (Informant 8). Contrary, the informants working at establishments with smaller capacity seem to agree that guests missed being able to order directly in the bar.

"We are a smaller bar with many guests coming in alone to meet other regulars. The restrictions forced us to seat these guests at different tables as it was no longer allowed to sit by the bar counter. This created an atmosphere that was completely different from how we want it to be." (Informant 6)

It is clear that many of the informants associate the atmosphere when using QR-codes with the restrictions. Most of the informants reveals that they have stopped using QR-codes after the removal of the restrictions, but the places who have continued praises how it benefits the total experience.

"Today, we allow guests to order through several channels which together creates an atmosphere which gives the guests options. There are undoubtedly people who would say that the atmosphere is better when one could remain seated and get service

whenever they want to. On the other hand, it could be the other way around and I believe it depends on the type of service establishment" (Informant 1).

The Management Control System

Lastly, *The Management Control System* was the aspect found to be the most affected by the digital change. All of the informants explains how it changed the daily routines for both staff and managers, and that the beginning was filled with new problems related to the digital system (Informant 5). Informant 9 explains that "it took a full work day to create the digital menu, as every product had to be included with the right price and allergies". The findings reveal that those who implemented QR-codes later benefitted from experiences from colleagues, and the constant improvement done by the providers (Informant 3).

Many of the informants working in bars explains how it divided the staff into different shifts:

"The biggest change was how it created new shifts for my staff. We were used to having the same tasks, with the only differences being what hours one worked. With digital ordering, it became clear that we needed bartenders and waiters. This was new to us, as we didn't have table service before the pandemic." (Informant 3)

"You would look at the schedule for the next month and hope to have mostly shifts as bartender. It was so much easier, as you had no interactions with guests. Simply make the orders and wait for the servers to bring it to the guests." (Informant 5)

"The waiters were left with all of the responsibility. They had to help guests who were unable to order, and also resolve issues with orders and payments. I know for a fact that some of my staff were unhappy with the situation as it was not the type of job they applied for." (Informant 3)

The findings suggests that there are mixed opinions on whether service establishments are able to reduce labor costs when using QR-codes. It is clear that it depends on whether the

place is used to table service, and also the capacity of the venue. The informants from the larger venues, especially the restaurants, share their positive experiences:

"With almost 200 seats outside, it is clear that we save hours using digital ordering. It is almost impossible to manage that area, without decreasing sales per work hour to a level where we almost don't make money, without QR-codes." (Informant 7)

"After the implementation of QR-codes, I would estimate that the restaurant saves 3-5 shifts every day. Before the pandemic, guests came to the bar to order and pay for their food and drinks, but today we don't need anyone working the register. We might have one bartender who has a responsibility to help those guests unable to order digitally, but that's it." (Informant 10)

Additionally, a few of the informants explain they are able to reduce labor costs for busy periods, or during special events. Informant 4 explains that during the summer, the restaurant is able to reduce daily labor costs with one or two full shifts, whereas Informant 1 explains that for large conference events and banquets the need for labor is reduced when they guests order drinks digitally.

On the other hand, some of the informants explains that they were unable to reduce labor costs, and a few even explains how the creation of new work tasks resulted in the opposite:

"We were not able to reduce the costs, no. On busy days we have two bartenders and a host, and with the QR-codes the need for staff didn't change. It just changed the tasks for the staff, and we could even need a waiter." (Informant 2)

"It didn't in any way enable us to save money on staff. Rather opposite, I believe we needed additional shifts on quiet days to manage digital ordering. This industry is quite unpredictable, especially the weekdays. You never know when that big group of business people is having their team building, or when a bus of tourists comes to try

local beers, or a class at the university has a celebration for finishing an exam. Therefore, we always needed two people at work, instead of the usual single bartender." (Informant 3)

Moreover, some of the informants in managerial positions explain the added administrative work related to QR-codes. The findings suggest that managers increased their workload to keep the menu updated, revise financial reports, and fix errors caused by the extra point of sale system.

"There are features with digital ordering that are amazing when done correctly, which ultimately should reduce the amount of mistakes. Storage control is one of those, which means that the digital menu is aware of how many items are left in stock. This feature removes the item when it is sold out, but requires that someone puts the information into the system. We have over 120 types of beer, but not large volumes of them all, so this obviously takes some time to manage." (Informant 4)

Furthermore, the informants reveal the lack of cooperation and communication between the system providing QR-codes and the original one. Usually, when the order and payment is done the money will transfer into the establishment's own bank account, but most places would like to have the sales in the same reports as the sales done through the staff.

"The system that provides ordering and payment through QR-codes are not communicating with the systems we already use. Therefore, at the end of each day we have to register all of the sales done via QR-codes manually. We have strict rules to follow in regards to inventory, so each item needs to be registered by themselves. This process adds to the daily tasks for my staff." (Informant 2)

"I know that different bars and restaurants have different routines, (…) we needed to add all sales done via QR-codes into the operating systems which we are controlled

by. I wish there was possible for the systems to communicate, or possibly if the hotel chain made their own version." (Informant 9)

The lack of communication is found to be frustrating for many of the informants, especially those with economic responsibilities. The managers explain that mistakes happen, and having an additional channel to manage is time consuming:

"The biggest problem with the lack of communication arises during service if we lose control over orders. Given the different channels, it could be difficult to keep track of which tables are paid through QR-codes, who has an open tab, and who paid directly in the bar. This a problem I understand is difficult, or at least expensive, to fix. I do believe that most big companies will make their own solution of digital ordering in the years to come." (Informant 2)

On the other hand, a few of the informants reveals that the major upside to digital ordering is the instant payment:

"It is impossible to run away from a check. Especially for our outdoor seating area this could be a problem, not only because of lost income but also the workload for the staff. It makes it more enjoyable to work when you don't have to worry about people leaving their bill – either if it is on purpose or not." (Informant 7)

Next, there seem to be areas related to functionality that could be easily improved by the suppliers. The service has only been around for a few years, and the informants explain that it has constantly evolved to improve both staffs' and guests' user experience. Anyway, some informants reveals other functionalities they would like to see introduced:

"Personally, I would like to see an option for delays on the order. This might sound strange, but as the tickets come separately this could reduce our efficiency for orders for large tables. For example, we have a table of eight people where everyone orders individually which results in eight different tickets in the bar. The bartender will start

making the first ticket, and then he could realize that order number 7 was the same, meaning he could have done all three orders simultaneously. Especially when making cocktails, it is preferable to make two cocktails at once, meaning in the same shaker or stirring glass." (Informant 2)

Informant 2 further explains that this delay could collect orders for the same table number, so everyone is served together. They argue that this should be beneficial for both guests and staff as it is optimal when the whole table are served at the same time. This is supported by other informants working in restaurants where the tickets also goes to the kitchen:

"We have had some frustration related to people at the same table being served at different times depending on the time it takes to prepare the food. If one guests order a steak, while the other orders a cold salad, then obviously the steak will come later than the salad unless they ordered together. A delay which collected tickets per table would solve some of these issues." (Informant 10)

On the other hand, some of the informants are opposed to the introduction of a delay. Many of the informants believe that this would create more frustration, especially for those guests who wants fast service, and that there are ways to work around this strategically:

"I have to disagree, but I understand how this could benefit some places. We focused on having a good dialogue between the waiters and the kitchen when new guests arrived. It is often as easy as informing the kitchen of how many they are, and then the kitchen would be prepared for that amount of orders." (Informant 4)

"It should be easy to understand that you start with those drinks that takes the longest to prepare. While you shake a drink, you could poor beers or find bottled products. I like to tell my staff to "work smart not hard"." (Informant 8)

Lastly, there have been introduced new versions of digital ordering in the past six months, that meant to involve traditional service. Informant 1 explains that the guests would be given

a QR-code from the waiter after they ordered, which would function as their open tab throughout the stay. The tab could be settled whenever the guests wanted to, or order additional items. A few of the informants have tried this service, all very optimistic at first, but they reveal some of the downsides and how it doesn't function properly during service.

> "I loved it when I first heard about this new function. It would allow us to take the guests first order, and still give them the opportunity to order another round or finish the bill whenever they wanted to. Unfortunately, the first problem occurred when the guests moved around in the venue. It wasn't possible to change the table number for the QR-code they were given, so the drinks would be delivered to the wrong guests as a result." (Informant 2)

In addition, one of the informants explains how the new project was aimed to be used at larger groups paying together. The intention was to use this service on bigger groups that required, or wanted, more attention than other guests. However, the informant explains how payment could become an issue:

> "Most people pay through Vipps when ordering online, or with their credit card information. We experienced that larger groups, often related to a business of some sort, wanted to pay with a company card. In my experience, you can't register a company card through Vipps, and to authorize online payment you would need a secondary authorization, like BankID. Not many people bring that for a business event on a night out. As a result, we had to register all the orders in our own register and take payment with our bank terminals. Again, if the systems communicated this wouldn't have been a problem." (Informant 4)

Additional Sales and Tips

One of the main arguments for using QR-codes is higher sales, and the providers claims that sales of complementary goods, like side orders and snacks, increases. The informants in this

study reveals that those who spent time designing the digital menu with suggestions of complementary products experienced higher sales than before:

> "Even though we train all of our staff to recommend certain drinks with certain products, we often forget or decide we don't have time to try and get that additional sale. With QR-codes, at check-out when ordering a beer you would always be asked if you wanted nuts. We have never sold more nuts than we did using digital service." (Informant 9)

> "The staff is well trained in giving recommendation of drinks to go with our food options, so it was nice to experience that this was still possible through QR-codes. The menu will give the same recommendation as our waiters, but will obviously not be able to answer questions about it." (Informant 7)

> "I believe that people get a different feeling for money when it is only numbers on a screen. This might sound stupid, but it almost feels like a video game, and I think people will order more than usual through phones. It is so easy to just tap that plus-sign and add that extra item to your order." (Informant 1)

In short, the findings suggests that the managers who made an effort in designing the digital menu with suggestions experienced increased sales. On the other hand, many informants reveal that the amount of tips received was heavily reduced.

> "When the guest pays for the order, he has to choose how much he wants to tip. In our menu, there were five options: 0%, 5%, 10%, 20% and a blank amount if the guests wanted to tip differently. Just to be completely clear, the amount of tips had to be filled in, and we experienced that most guests chose 0%. In my opinion, this makes sense for many guests as you are asked to tip for a product and service you have not yet received. You don't tip at fast food take-away place, do you?" (Informant 4).

Furthermore, all the informants who mentioned tips agreed that the total amount received through digital service was lower, but a few explains that it got better after guests used the service multiple times.

> "I believe that when guests ordered their second round, or third round, and so on, then they would tip like they would have done if they paid directly to a waiter. At that point they would be more comfortable tipping as they know what to expect." (Informant 8)

> "When we used QR-codes for big banquets we would often experience higher tips compared to before the pandemic. The QR-codes became an alternative for pre-purchased drink vouchers, who no one has ever tipped for - ever. I do believe that some of the guests would increase their normal tipping amount if the service already provided during the banquet dinner was good. A way of giving something personal back to the staff who have taken care of your dinner paid by your employer." (Informant 1)

The Future of Service

Next, only two of the twelve informants are currently employed at places who have never used QR-codes. The remaining ten informants reveal that only a minority are still using digital service on a regular basis. In fact, only three informants uses it daily, while another two uses it for special events. This suggests a significant decline in the use of QR-codes, and the findings suggests that the removal of government restrictions was the reason why it became popular.

- "We had to do table-service by law." (Informant 3)
- "Unnecessary to continue, (…) guests started to order in the bar." (Informant 2)

Informant 8 explains how the removal of restrictions made it possible to return to the establishment's concept, and how it affected the future use of QR-codes:

> "When the restrictions were gone, people were also allowed to walk around freely and dance. It was clear from the first day that QR-codes wouldn't work anymore, as it was impossible to walk through the dance floor with a tray full of drinks." (Informant 8)

On the other hand, Informants 4, 7 and 10 emphasizes how QR-codes will stay and continue to be an important asset. All of these places are large restaurant, which might be a factor.

> "We can never go back to not using QR-codes. It would require so many more waiters, and knowing how well it works today I don't see a reason to ever try that again. Our guests are used to ordering and paying in the bar before being served, which is still possible, but most guests enjoy being able to do so while seated at their table." (Informant 10)

Informants 4 and 7 manage places with large outdoor seating areas, which seems to be the main reason for continuing using QR-codes. They agree that going back would increase labor costs, but also make the work days for the staff unpleasant. "It is wonderful working outside knowing everyone has paid for what they are consuming. Never have to worry for a check being unpaid" (Informant 7). Informant 4 finishes his interview by claiming that finding ways to interpret digital solutions into traditional service is the future of the industry.

Furthermore, informants 1 and 9 explain how having it available is a great advantage, and the clear similarity between them is their workplace: large hotels with restaurant, bar and banquets/conference dinners. As mentioned earlier, the results show that QR-codes could ease the workload for bigger events, as well as increase sales. Additionally, Informant 9 explains that if there are unexpected absences amongst the staff, i.e. due to illness, QR-codes could be an useful asset: "It does reduce the quality of the service we provide, but in my experience people are understanding and would rather prefer to order themselves, than having to wait for the staff."

Lastly, all of the informants gave insight into their beliefs on QR-codes in the future. The findings indicates that the informants are positive to it for some places. Listed are some of the key words mentioned by some of the informants:

- "Larger places with simple products" (Informant 6)

- "Outdoor service" (Informant 12)

- "Experience related bars/restaurants, like bowling, sports bars and so on. Places where you don't want to miss the action." (Informant 9)

- "For special occasions with limited offerings, like May 17th. Guests understand it is busy, and most people just want something to drink." (Informant 11)

- "Airports. No one really expects service at airports, and we spend too much time in lines at airports already." (Informant 5)

These findings indicates that the future of the service industry involves digital ordering, at least for some places. A few of the informant also talked about what changes are needed for them to consider bringing back digital ordering. As mentioned, some tried a pilot project which involved the staff to a greater extent. Informant 2 explains that they are open to trying new versions, but that the functionality needs to be improved. Adding a terminal would help significantly, which is supported by Informant 4.

Discussion

This discussion will reveal how informants has a broader view on restaurants/bars than the theoretical approach with its aspects. The word concept was repeated throughout all interviews, and it is clear how different concepts works with QR-codes. The discussion will be the support for the conclusion drawn, which will answer the aforementioned research questions. This chapter will follow the same structure as previous chapters based on the Five Aspect Meal Model.

The Room

First, the aspect *The Room* was found to be the least affected by the implementation of digital ordering. Gustafsson et al. (2006) explains that a meal could take place at any place, and it is the physical surroundings that would create *The Room.* As mentioned, the results indicate that the QR-codes didn't affect this, but that many worked to create esthetically nice signs with the QR-codes. Cleanliness was mentioned by many of the informants, and given the rules and restrictions related to sanitizing during the pandemic, this is an understandable reason for making the signs smaller and moveable. Hansen et al. (2005) found that remote objects need to be align with the rest of the interior, and some of the informants revealed how they implemented the QR-codes more permanently on either decorative items (Informant 7) or directly on the tables (Informant 12).

The Meeting

Second, the findings seem to support the hypothesis that *The Meeting* would be the aspect most affected by the digitalization. The results show how it decreases the need for interactions between guests and staff, and how this could both benefit or harm the total guests experience. The findings indicates that the QR-codes could serve different purposes, and depending on these purposes managers need to implement new routines for the staff to ensure that the service provided is at a desired level.

Recommendations and explanation of the menu was found to be an important part of this aspect (Gustafsson et al, 2006 ; Hansen et al., 2005), and how the informants have handled this is of the highest interest. Properly constructed digital menus will enable recommendations to appear instantly after selecting an item (Informant 7), but the first guidance through the menu requires attention from waiters. The findings suggests that the places where recommendations are frequently requested, will interact more with the guests before ordering (Informant 4; Informant 9), compared to those who are more focused on large

sales (Informant 3; Informant 10). Furthermore, a few of the managers explain that as the guests order themselves, staff should be able to spend more time than normal following up on guests – from casual small talk, explaining the products and hopefully secure additional sales (Informant 4; Informant 9; Informant 2).

Hansen et al. (2004) found that payment is an important aspect of every meal experience, with many possible scenarios which could lead to an overall poor guest experience. This is supported by the results of the primary data collection, and the informants emphasize the benefits for both parties with pre-paid orders. First, the guests are able to leave whenever they want to without having to wait for staff, which is believed to be satisfactory for everyone according to the informants. Hansen et al. (2004) explain that waiting for the bill could lead to frustration, and some who be uncomfortable by leaving cash payment at the table before staff collected it. All of these issues are removed by digital pre-payment. These findings are also supported by the report, which found that 83% agreed that QR-codes reduced waiting time related to payment. On the other hand, when mistakes occur this could be more difficult to handle when the order is done digitally. Some of the informants reveal that it could be more difficult for guests to get attention, as the main job for the waiters is to serve. One could assume that this could cause frustration as well for the guests, and even though there is a free item in the menu which calls for staff this was found to be an issue (Informant 1; Informant 7).

Next, the customer vs customer interactions were found to be affected with digital service. Several informants explained that QR-codes allow the guests to remain seated and continue conversations when ordering via mobile phones, and that the interactions with staff could be seen as an interruption was therefore easily removed. Informant 3 believes that many guests would often go out to enjoy the company of the group more than the actual items purchased. Hence, QR-codes allow for more fluent conversations amongst the guests.

These findings supports Hansen et al. (2005) which emphasized the importance of the *company*, meaning the setting of the meal and who one shares it with.

Oppositely, there were some findings that indicate those guests who are negative towards using QR-codes could continue to converse about their perceived downsides of such service. One could assume that if an entire table are unsatisfied with digital ordering, then it becomes a topic of conversation which could further affect the guests' view of the entire experience. The findings show that the older guests are more likely to be negative with digital solutions, which could be a result of several factors. The obvious one is the older generations acceptance of new technology, which is found to be lower than young adults. The report concluded that age was a significant factor regarding guests' opinions towards digital service, and found that almost half of the respondents aged above 65 have never used QR-codes.

The Product

Similar to *The Room,* the findings indicate that *The Product* remains the same at most service establishments after the implementation of QR-codes, at least per the definition of Gustafsson et al. (2006). On the other hand, the further explanation by Hansen et al. (2005) about *the Core Product* – how it is more than just the items consumed, also related to service and expertise – supports the comments of those informants who claim the value of their offerings decreased when using QR-codes. The findings show that the service establishments with a larger focus on interactions, *The Meeting*, agree that it is heavily connected with *The Product.* Informant 3 explained how the staff are trained, and how they use their knowledge to improve the guests' experiences. This was supported by Informant 4 who revealed that being able to recommend different items, especially new items that could be unknown to many, is a huge part of why people visit their restaurant/bar.

On the other hand, many informants revealed that QR-codes changed the sales mix. In short, many places experienced increased sales in unpopular items, or even unknown to the

guests. The findings indicate that guests enjoy being able to browse through a service establishment's entire menu with all of their offerings. The companies who provides digital ordering has developed the design over time with catalogues which eases the process of entering new items to the menu for the managers, but also improves the customer experience. As a result, guests can see pictures and read descriptions of items. Informant 7 explained how they had taken this one step further by hiring a professional photographer to take pictures of all cocktails. According to the manager this increased sales of cocktails as guests were able to visualize how the cocktail would be.

Lastly, the data analysis implies that places with simpler products are more positive towards QR-codes. One could assume that establishments which sell commonly known products will require less focus on each guest, i.e. recommending products or explaining different items. In conclusion, there seem to be a clear line between the product and the guests' acceptance for digital ordering.

The Atmosphere

Next, the findings suggests that most of the informants struggle to separate the results of using QR-codes and the consequences of the many restrictions due to COVID-19. *The Atmosphere,* is an abstract aspect of guests' meal experiences which is determined by using all five senses (Gustafsson et al., 2006). As explained earlier, the findings suggest that there were almost no changes to the tangible or intangible items at the service establishments, other than the implementation of QR-codes on each table. On the other hand, the informants reveal that it changed the mood in the venue: "there were less noise as people didn't have to walk to the bar to order" (Informant 4), and Informant 8 explains that the removal of physical queues changes the entire atmosphere. Most of the participants only used QR-codes when they were legally mandated to perform table service of alcohol, which has to be viewed as something that affected the atmosphere. One could argue that the restrictions decreased the atmosphere

at every service establishment during the pandemic by the simple reason as to limiting peoples freedom. Guests were not allowed to walk alone freely, dance floors were illegal, and the opening hours were reduced (Regjeringen, n.d.). In short, the informants explain it was an extremely difficult time to run a restaurant, bar or night club. Therefore, when discussing digital service effects on the aspect *The Atmosphere,* one should probably focus on those informants who have used QR-codes before and after the pandemic and its restrictions. Informant 1 explains that digital ordering gives the guests options, which is more likely to meet more customer needs. In addition, it can remove bottlenecks in places with outdoor service, which is beneficial for all parties (Informant 7). Lastly, the other positives and negatives experiences discussed in the previous aspects will indirectly affect this aspect due to its definition: "the individual emotional total experience throughout the entire meal" (Hansen et al., 2005, p.145).

The Management Control System

Finally, Gustafsson et al. (2006) explained the importance how a service establishment is operated, and even though it is less visible for guests it will affect the overall guest experience of a meal. The findings clearly present new challenges to daily operations, and the many benefits with the digital change in the industry. Furthermore, the data analysis revealed the many issues when the service was first implemented, but the issues that have remained are of higher relevance to this thesis. First, the lack of communication between establishment's main operating system and the QR-codes seem to be the main reason for the issues. Both Informant 1 and 9 explains that the digital ordering service works well by itself, but is not designed to cooperate with the hotel chain's operating systems. As a result, they have to register and revise sales done through the external company so the financial reports sent from the main operating system is correct. Informant 3 adds that it would benefit them if the systems communicated better, but believes this would require the big digital payment

companies to create their own versions of the digital service, meaning those who already provides payment terminals. One could assume that the topic has been discussed within large organizations like hotel chains, as there are many companies who have created their own versions already. One of the largest restaurant chains in Norway, Egon, created their own platform (Egon, n.d.), and even though it could be expensive to make, one could assume they save money long term. Egon would not need to pay monthly fees to an external provider, nor a percentage of sales, and the sales would be reported to their systems the way they want to. Additionally, it allows the chain to design the menu with features align the restaurants' concepts.

As mentioned, one of the main selling points to use digital ordering is to increase efficiency and reduce labor costs. The findings show that the venue's capacity plays a significant role on whether this is true. In addition, it seems clear that service establishments without table service would only increase the need for labor as the scope of daily tasks expands. Therefore, the findings suggests that restaurants and bars who perform table service are the ones who could decrease labor costs, which makes up the majority of the costs in the service industry (Barrows et al., 2012). Contrary, the interviewees who work at places where guests would order and be served simultaneously explain that in addition to creating more work, it divided the staff based on their tasks. The findings implicate that this change was unwanted and could harm the staff's satisfaction (Informant 3), and ultimately performance (Informant 7).

Next, the increase in administrative tasks related to QR-codes was mentioned by all informants in managerial positions. The results present how managers spent days creating a digital menu, and routinely followed up to improve and fix flaws. Given the situation when QR-codes made its entrance to the service industry, one could argue it is natural that managers found it difficult in the beginning. The findings reveal that almost all of the

informants changed and adapted quickly depending on the government restrictions and therefore implemented QR codes; whereas Informant 4 reveals that it was a strategic and planned changed before the pandemic to increase efficiency in the outdoor service area. It is clear that managers, and their staff, needed learning time to optimize the new digital tools available.

Furthermore, this thesis focuses on the effects of QR-codes, hence the discussion should be of *The Management Control System* today with all the knowledge and experiences that the workers in the service industry already possesses. The findings reveal that digital ordering works well today, and that the continued process of improving the menus returns in better financial results. Informants reveal how sales have risen, especially of items that are traditionally unpopular, due to the accessibility through digital menus. Guests have experienced digital service, and been accustomed to the new way of ordering. As a result, the informants reveal it is functioning well, but there are some elements that managers want to include to further improve the service. Adding an option to delay orders that are part of the same table is one of those elements; both managers from bars and restaurants explain that this would remove some unsatisfied guests due to orders being served at different times (Informant 2; Informant 10). Furthermore, the findings indicate that small adjustments in the technology would improve the functionality of the service, as explained by Informant 2 about the possibility to change the table number on open tabs. Moreover, Informant 4 requests the opportunity to link open tabs from the digital system to a mobile payment terminal to increase flexibility regarding payment with bigger groups.

Additionally, the findings shows that the different providers have different features, like storage control. Informant 4 explained that even though it is time consuming to register the inventory at first, he believed it simplified his job in the long run. Informant 7 explained that their provider did not have this feature, although it had been requested. One could

imagine that the longer digital service exists, the more similar will the features be on the different platforms.

Finally, the managers explain that the reduced risk of people leaving their bill is a huge benefit. As mentioned, it eases the workload for the staff, but it also benefits the business financial. This is quite obvious, a business needs to receive payment for sales, but the service industry was traditionally in a position where the risk of unsettled bills were much higher compared to others. There are no alarms, and even with security there are logistical issues to how the security should be able to tell if someone has paid their bill. In short, one could argue this is one of the problems with the hospitality industry, because one of the measurements is guests satisfaction. Imagine if a guest had to show, or scan, the receipt to be able to leave a restaurant, similar to how it is done with self-checkout supermarkets. One could assume this could lead to unfortunate encounters between the staff and guests, and definitely not very hospitable ones – which is the service industry's main focus.

Additional Sales and Tips

Next, the findings revealed topics of interest outside of the Five Aspect Model, which needs further investigation. QR-codes are said to increase sales, and the findings reveal that those managers who focused on creating a digital menu with recommendations and add-ons support this statement. The findings suggest that there was an increase in sales of complimentary products, like snacks, due to the visibility in the digital menu at check-out. Most service establishments will traditionally use physical features to increase sales of this products, typically around the area where one would normally order, but the findings implies that adding it as an option for every bill is more efficient. Informant 9 explained that even though the staff is trained to focus on selling complimentary items, it is often forgotten or found unnecessary in busy periods during service.

In contrast, the findings indicate that the staff receives less tips when using QR-codes compared to traditional service. One could argue that this is fair, as the guests are cooperating in the process, and Informant 4 explains that it is unusual to pay tips in advance for a product and service. It is worth noting that the tipping culture in Norway is very different from many parts of the world; staff is paid on regular hourly/monthly basis, and tips received are viewed as a bonus for providing great service. Nevertheless, Informant 11 explained how tips is such a significant part of his monthly income, that a large decrease in tips would be a problem. On the other hand, a few of the informants explain that while the tips might be lower, or possibly non-existent. for the first round of service, many guests are tipping as normal on future orders. The informants employed at hotels explained that they experienced increased tips when using QR-codes, as it is an alternative to pre-purchased drink vouchers which they never receive tips for (Informant 1; Informant 9). In conclusion, the findings suggest that the total amount of tips received is reduced, but one could argue that this is understandable from both parties. Receiving tips in Norway requires service beyond the customers' expectation, and such service would likely still be rewarded via digital service.

The Future of Service

Finally, the informants revealed their thoughts about the future of the service industry, and to what extent digital solutions would be involved. Overall, the findings indicates that the informants agree that QR-codes will remain a part of the industry, but there are disagreements to how applicable it is to different concepts of service establishments. First, the capacity of the service establishment seem to be the biggest factor for businesses to choose a digital solution. It seems evident that establishments are able to increase efficiency and decrease labor to a greater extent the larger the venue. In addition, the findings implies that guests at larger places are more satisfied with table service, and one of the reason could be the actual physical effort it takes to order and receive another product. Informant 2

believed that most people value QR-codes because of how easy it is, and argued that most customers could be considered lazy when visiting bars or restaurants. Several of the informants explained that larger places, especially with outdoor seating should continue to use digital ordering. It is believed to create a better experience for guests, and it significantly eases the workload for the staff (Informant 12; Informant4; Informant 6). Today, there are fewer places who uses QR-codes daily compared to during the pandemic, but a common denominator for the informants who have continued is outdoor seating (Informant 4, Informant 7 and Informant 10). As discussed in previous chapters, one of the main benefits is the certainty of receiving payment.

Furthermore, some informants explained how QR-codes create flexibility at the workplace which benefits managers in daily operations. Informant 9 explained how one could use QR-codes to resolve situations when short staffed, whether it was due to unexpected illness amongst coworkers or for large bookings. This indicates additional value for managers, but requires knowledge about digital service. Moreover, Informant 1 believes digital ordering is a great asset for special occasions, like the Constitution Day, where most bars and restaurants serve guests far beyond their normal capacity. It is evident that QR-codes allows for more guests per worker, and while it does reduce the quality of the service this is by some considered beneficial.

Lastly, there were mixed opinions in regards to what types of establishments, within the service industry, that would be most positive towards using digital service in the future. In addition to places with outdoor seating, a few informants explained that places who sell experiences, in addition to food and drinks, should continue or try digital service. Informant 8 argued that bars and restaurants with activities like bowling, mini golf, or simply large screens showing sports or other cultural events, should implement QR-codes as "the guests does not want to miss the action".

Conclusion

Based on the literature review and the presentation and discussion of the data analysis, the conclusion will answer the aforementioned research questions:

1. *How does QR-codes affect the overall guest experience?*

2. *How does QR-codes affect the daily operations in the service industry*?

Additionally, the study's theoretical and practical contributions will be discussed; limitations of the study and recommendations for further research will be presented.

In order to investigate the research questions, a literature review was conducted which presented the Five Aspect Meal Model (Gustafsson et al., 2006) with additional literature related to guest experiences (Hansen et al., 2005; Hansen et al., 2004; Andersson & Mossberg, 2004). Moreover, insight and information related to digital ordering was provided directly from one of Norway's biggest providers of such service.

The FAMM was implemented into the thesis' structure, and formed the interview guide(Appendix 1). Moreover, semi-structured interviews were planned and executed with twelve participants working in the service industry in Stavanger, who were sampled through the author's network. The findings were noted, revised and approved by the interviewees, before the final statements were analyzed thematically.

Key Findings

The discussion of the data analysis revealed that two aspects were affected significantly by the implantation of digital ordering in the service industry. The findings show that *The Meeting* and *The Management Control System* changed, with positive and negative results within both aspects. First, the findings supported the hypothesis that encounters between staff and customers would reduce with the use of QR-codes, and the findings also highlighted that the context of the encounters changed. Establishments with a greater focus

on personal service seem to favor traditional service, hence why they have returned to traditional service after the pandemic. Contrary, places who focuses more on large sales, which requires less interaction, are found to be significantly more positive towards digital solutions. Next, *The Management Control System* were believed to be heavily affected as it created additional work for managers, and the findings proves this. To begin with, all the informants had a new system to learn, with its own routines and procedures, but the findings reveal that the amount of work it requires today is not so significant. One could argue that the time spent on additional administrative duties is justified given the increased efficiency and reduced labor cost. Furthermore, the data analysis show that the informants from privately owned business have fewer issues with the new tasks, compared to those from larger chains. Moreover, a few informants believed that larger nationwide companies would create their own versions of digital ordering to optimize functionality and save costs related to commission.

The discussion emphasized that digital ordering's negative effect on the aspects *The Room* and *The Atmosphere* were found to be caused by the pandemic's restrictions, while the positive changes could still be experienced today. The findings reveal that the biggest upside with digital ordering is that guests are able to remain seated throughout their visit, which results in less movement and noise from other guests. The removal of physical queues creates a better guest experience, and allows the staff more space to work. Lastly, align with Hansen et al. (2005) explanation that *The Product* could be more than just the tangible item served; the discussion revealed that service establishment focused on service found that the value of their offerings decreased. The informants with expertise explained that being able to share knowledge, and make recommendations based on dialogues with guests is a major part of their *Product*.

In conclusion, the thesis revealed that digital ordering will stay a part of the service industry, but not to the extent experienced during the pandemic. The discussion of positive and negative outcomes of such service divided the informants, and the report concluded that guests disagreed that digital ordering/paying improved the overall guest experience. I would like to conclude by emphasizing on the importance of concept, and whether a service establishment should implement digital solutions is dependent on their vision – what is our purpose, and what do we want to give our guests? Ultimately, this thesis found that QR-codes could increase both guests' and staff's experiences if done correctly, and align with a concept which can benefit for this additional service.

Contributions of the study

Theoretical Contributions

This thesis adds recent and modern information about how restaurants and bars are operated, which should be of interest to scholars within the field of Meal Management. The literature review consists of publications dated back to the 2000s, which could be viewed as somewhat out of date. The findings do to some extent challenge the theoretical breakdown of guests experiences; the informants explain that the aspects are more connected than Gustafsson et al. (2006) and emphasizes the focus on a concept that needs to be evident throughout every element of a service establishment.

Further, the hospitality industry is traditional, and one could argue the main elements/tasks of a meal experience has stayed the same for centuries, although with some technological advances. Anyway, digital ordering is a significant change, and its effects on daily operations and guests experiences needs to be understood.

Practical Contributions

At the start of this research project the purpose was to investigate how QR-codes effects guests experiences and the daily operations for staff. Additionally, I wanted to learn

more about this phenomenon, and to possible improve future versions of it. One implication of this paper could be improvements of digital service to increase functionality. The businesses who provides digital solutions to the service industry could gain insight into their customers' opinions about their product. Moreover, they are recommended features to include to improve functionality. Secondly, for the people employed in the service industry, this thesis could reveal opportunities to how increase efficiency when using QR-codes.

Limitations

The sample was strategically picked based on the author's network, but limited the final sample to people employed in Stavanger. The report suggests significant differences depending on the municipality's population. Additionally, the acquaintance relationship between the researcher and most of the sample led to an informal interview, which could be interpreted as a weakness; but I would argue it created a dialogue with openness which allowed for as much data collection as possible. However, transcribing the full interviews would have increased the research's validity and reliability.

Recommendations for future research

During the research process for this thesis the service industry have gone back and forth with government restrictions related to the pandemic. The findings showed that informants struggled to separate experiences related to QR-codes from the pandemic. Therefore, I would recommend further research into the phenomenon to get a clearer view of how digital service affects the industry. Additionally, the report that I was given access to was based on a survey conducted in November 2021, so one could assume that more people have been exposed to digital service, and perhaps peoples opinion have changed as well. Lastly, from a financial perspective it could be interesting to investigate if my findings related venue capacity are correct, and measure how many working hours one could save with different capacities.

Digital service entered bars and restaurants due to the pandemic, but I believe it will stay forever as long as it is continuously updated and improved according to the service industry's needs. As a result, it should be an interesting topic for scholars to investigate in the future.

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Appendix

Short introduction (10 minutes):

- Explain the purpose of the thesis, and why the informant was asked to participate

- Sign the admission waiver, and explain the informant's rights

- Briefly explain the Five Aspect Meal Model

- Proceed onto the topic. Ask the informant to tell a little about the service establishment, their role and relevant work experience.

Use of QR-codes (20 minutes):

- When did they implement it? Have they continued to use it?

- Which supplier?

- Has the use of QR-codes affected the daily operations?

    If yes, then ask for elaboration of these changes.

    Keywords: labor costs, daily tasks, managerial operations

    Separate *The Room, The Meeting, The Product, The Atmosphere* and *The Management Control System.*

- How have the guests reacted to the implementation of QR-codes?

    NB! Follow up on comments in regards to personal service, payment and waiting time.

Further investigation of the informants experiences and opinions (15 minutes):

- What are the positive and negative outcomes of using QR-codes for the guests?

- What are the positive and negative outcomes of using QR-codes for the staff/business?

    If the informant's workplace have stopped using QR-codes → reason behind it. Was it with the business' or guests' interest in mind?

- Other thoughts and experiences. What places does QR-codes fit perfectly for?

    This could be outside of the informants own workplace. Most have probably used it as guests.

Finish, and summarize (5-10 minutes):

- Go over the notes, double check findings of particular interest.

- Allow for questions and other comments.

- Thank for their time, and explain the next steps of the process (revision of notes).