

AN EXPLORATION OF ONLINE FOOD DELIVERY SERVICES AND
NEGATIVE ELECTRONIC WORD-OF-MOUTH BEHAVIOR

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DECLARATION OF ORIGINALITY

I, Deniz Kuter, certify that

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ABSTRACT

An Exploration of Online Food Delivery Services and Negative Electronic Word-of-Mouth Behavior

The current research aims to determine the antecedents of negative electronic word-of-mouth behavior in terms of posting ratings and reviews and posting on social media after a dissatisfactory online food delivery service encounter. Online food delivery services are a rising sector that has been getting attention in service marketing studies. A limited number of studies have investigated dissatisfaction with restaurant service after a negative online food delivery service and the consequent emotional and behavioral outcomes. This study also explores negative emotions, namely anger and regret, as outcomes of dissatisfaction and as antecedents of negative electronic word-of-mouth behavior.

An online survey has been distributed, and a final sample size of $n = 387$ has been reached after data screening. Analyses have been made using structural equation modeling. Results suggest that customers are dissatisfied with the restaurant after a negative service encounter with an online food delivery provider. The importance of the deliverymen as frontline employees has been underlined. In addition, findings show that dissatisfaction strongly influences anger and regret, which are antecedents for posting online ratings. This study contributes to the literature by filling this gap and providing theoretical and practical implications.

ÖZET

Çevrimiçi Yemek Dağıtım Hizmetlerinin ve Olumsuz Elektronik Ağızdan Ağıza İletişim Davranışının İncelenmesi

Mevcut araştırma, tatmin edici olmayan bir çevrimiçi yemek dağıtım hizmeti deneyiminin ardından puanlama yapma, yorum yazma ve sosyal medyada yayınlama açısından olumsuz elektronik ağızdan ağıza iletişim davranışının öncüllerini belirlemeyi amaçlamaktadır. Çevrimiçi yemek dağıtım hizmetleri yükselen bir sektördür ve hizmet pazarlaması çalışmalarının konusu olmuştur. Lakin, sınırlı sayıda çalışma olumsuz bir çevrimiçi yemek dağıtım hizmetinden sonra restoran hizmetinden memnuniyetsizliği ve bunun sonucunda ortaya çıkan duygusal ve davranışsal sonuçları araştırmıştır. Bu çalışma aynı zamanda, memnuniyetsizliğin sonuçları ve olumsuz elektronik ağızdan ağıza iletişim davranışının öncülleri olarak, olumsuz duygulardan öfke ve pişmanlık hislerini araştırmaktadır.

Bu amaç doğrultusunda, çevrimiçi anket toplanmıştır ve veri taranmasından sonra $n = 387$ nihai örneklem büyüklüğüne ulaşılmıştır. Hipotez testleri için yapısal eşitlik modellemesi gerçekleştirilmiştir. Sonuçlar, müşterilerin bir çevrimiçi yemek dağıtım sağlayıcısı aracılığıyla gerçekleşen olumsuz bir hizmet karşılaşmasından sonra restorandan tatminsizlik duyduklarını göstermektedir. Teslimatçıların, ön yüz çalışanlar olarak önemlerinin altı çizilmiştir. Ek olarak, bulgular memnuniyetsizliğin, çevrimiçi puanlama öncülleri olarak, öfke ve pişmanlık hislerini güçlü bir şekilde etkilediğini göstermektedir. Bu çalışma, bu konu hakkında teorik ve pratik çıkarımlar sağlayarak literatüre katkıda bulunmaktadır.

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ABBREVIATIONS

AVE	Average Variance Extracted
CFA	Confirmatory Factor Analysis
CR	Construct Reliability
EFA	Exploratory Factor Analysis
eWOM	Electronic Word-of-Mouth
KMO	Kaiser-Meyer-Olkin
MFDA	Mobile Food Delivery Application
NeWOM	Negative Electronic Word-of-Mouth
OFD	Online Food Delivery
SEM	Structural Equational Modeling
VIF	Variance Inflation Factor
WOM	Word-of-Mouth

CHAPTER 1

INTRODUCTION

1.1 Introduction

Since the early 2010s, we have been observing the growth of mobile food ordering, which has drastically altered the foodservice sector. Especially after COVID-19, these services entered the lives of many customers, offering a variety of restaurants at their fingertips with very little effort. However, many customers report publicly their negative experiences online, in the form of ratings, comments, reviews, etc. These behaviors influence customers' perceptions regarding the foodservice provider's quality.

The purpose of this study is to determine the motivating factors leading to negative electronic word-of-mouth after a dissatisfactory restaurant service encounter via online food delivery services for consumers. More specifically, this research aims to understand the negative emotions stimulated by the dissatisfactory service encounter and the response to the negative emotions in the form of negative electronic word-of-mouth communication.

1.2 Objectives of the study

Before making a purchase decision regarding a product or service, potential customers ask the opinions of their family, friends, and community members. Sometimes, they are exposed to comments regarding the firm unintentionally (Buttle, 1998). They might share their satisfactory or dissatisfactory experience unprompted. This interpersonal communication leaves a lasting impression in the potential customer's mind regarding the product or service. This word-of-mouth

communication affects purchase decisions (Tavitiyaman et al., 2022). Especially when customers experience extreme satisfaction or dissatisfaction, they are more likely to share it with other potential customers on the Internet.

Along with the rise of social media platforms (Instagram, Twitter, TikTok, Facebook, etc.) and user-generated review sites (Google Reviews, Şikayetvar.com), customers can easily communicate their satisfaction or dissatisfaction with other users of the platform. As technology sophistication increases, consumers engage more with these sites (T. (Christina) Zhang et al., 2017). Therefore, electronic word-of-mouth communications can reach a wider audience (Hornik et al., 2015). The hospitality sector is exposed to customer perception on the Internet, and the restaurant industry is one of the largest.

Today, many people opt for online food delivery services when ordering from restaurants, which has significantly increased since the COVID-19 pandemic (Al Amin et al., 2021; Dirsehan & Cankat, 2021). Customers are now able to choose from a variety of restaurants (Pigatto et al., 2017), and they read the reviews before choosing one (Sparks & Browning, 2011). Accordingly, they form an expectation of a service level, which they form prior to the service by reviewing the electronic word-of-mouth communications of other customers, such as reviews and ratings (Chen et al., 2022). Understanding why consumers are behaving the way they are and why they are posting electronic word-of-mouth is important for service recovery management (Gyung Kim et al., 2010).

This research will benefit the hospitality sector in general and the restaurant industry in particular. Since electronic word-of-mouth is an important post-service evaluation that has an effect on potential customers' level of expectation, understanding where negative comments come from emotionally can help managers

manage service recovery (Varela-Neira et al., 2008). Understanding customer behavior will help restaurant managers minimize service failures when customers are ordering online via applications.

Accordingly, the following research questions are explored in this study:

What are the factors that lead to negative electronic word-of-mouth after a dissatisfactory restaurant service via online food delivery services?

What are the main causes of dissatisfaction with the restaurant when ordering from online food delivery services?

Which service failures are attributed to the restaurant after a negative online food delivery service encounter?

Is the deliveryman a factor in customer dissatisfaction with the restaurant?

Do electronic word-of-mouth behaviors vary depending on which specific emotion is felt after a dissatisfying service?

Are consumers generally regretful or angry after a dissatisfying online food delivery service?

CHAPTER 2

LITERATURE REVIEW

2.1 Online food delivery services

Online food delivery (OFD) services are defined as “internet-based services through which customers can order food and get it delivered to their doorsteps” (Ray et al., 2019, p. 222) and operate in online-to-offline service markets (S. Zhang et al., 2019). Online meal delivery has been around since the early 2000s and is a rising sector, with a market size of \$300 billion as of 2022 (Statista, 2023d). This is also in part due to the COVID-19 pandemic, when customers became dependent on these services for meal and grocery deliveries during lockdowns, and the demand for these services has not decreased afterwards (Koay et al., 2022; Tsai et al., 2023).

OFD services have had a positive impact on the overall economy because they have created job opportunities for deliverymen and cloud/ghost kitchens (restaurants that do not have a dine-in setting and that only operate in the OFD sector) (Shroff et al., 2022). In the face of these developments in the sector, restaurants had to adapt themselves to these systems in order to survive the effects of the pandemic and the rise of OFD services and still continue to deliver their service via them to gain a competitive advantage (Tavitiyaman et al., 2022).

These online food delivery services act as an intermediary between customers and restaurants. They offer customers multiple options to choose from and compare from a variety of restaurants, some previously unknown to the customer (Pigatto et al., 2017). They have been proven to be important drivers for building restaurants’ brand satisfaction and loyalty (Dirsehan & Cankat, 2021), while also increasing their visibility (Pigatto et al., 2017).

However, these services have a spillover effect on restaurants; that is, the performance of the online food delivery service affects restaurant satisfaction, and customers were found to comment on the service from the main provider because they do not differentiate between services (Xu, 2021). Therefore, customers may engage in negative electronic word-of-mouth (NeWOM) after a negative service encounter with a restaurant due to the low performance of the online food delivery service provider.

2.1.1 Mobile food delivery applications

Mobile food delivery applications (MFDAs) are essentially intermediary service firms for meal producers, such as restaurants, that focus on orders and deliveries (Dirsehan & Cankat, 2021). Companies such as Yemeksepeti, GetirYemek, Fuudy, etc. are examples of Turkish MFDAs that fulfill customers' online orders and have them delivered to an offline setting, which would be their choice of address.

For the purposes of this research, negative OFD service encounters with MFDAs were chosen because customers worldwide are increasingly opting for these applications when ordering meals online: in 2020, the penetration rate of MFDAs in the OFD market in China was 42.4% (Statista, 2023b); in 2021, it was estimated that the number of mobile food delivery application users in the U.S. would reach 53.9 million by 2023 (Statista, 2021); in 2022, food and beverage ordering application downloads reached 717 million (Statista, 2023a). In 2022 alone, worldwide-operating MFDA Uber Eats generated \$11 billion in revenue globally (Statista, 2023c). MFDAs are also popular among Turkish consumers with strong local competitors, of which Yemeksepeti was found to be the most widely used application with over 10 million downloads (Dirsehan & Cankat, 2021).

Single-person households, which are usually university students or working professionals, were found to use MFDA more than multiple-person households (Cho et al., 2019), which could be because the moral obligation to prepare meals was found to be higher for married people (Roh & Park, 2019). MFDA are preferable because they are convenient in a way that they offer effortless time-saving transactions (Yeo et al., 2017) while also helping customers discover new restaurants (Pigatto et al., 2017). Ease-of-use features such as providing filtering options and features to track the order process and the quality of the information presented on the application, such as nutritional facts, accurate menu items, and online customer reviews, increase the intention to use an MFDA (Okumus et al., 2018; Ray et al., 2019; Rita et al., 2023). The possibility of posting an online rating or review was also found to be an important feature that enhanced the service (Alalwan, 2020).

Amongst MFDA attributes, collaborations with other online retailers that offer discounts or coupons, providing accurate information such as correct menu items and meal images, preferably posted by the customers, seamless transitions while the customer is navigating the application, and the visual design were found to be the most attractive features (Kapoor & Vij, 2018). Additionally, perceived fit between the task and the technology, social influence, and price-saving features were found to be determining factors in the reuse intention of a mobile food delivery service (Allah Pitchay et al., 2022; Bao & Zhu, 2022; Zhao & Bacao, 2020).

2.1.2 The online food delivery service encounter

Service encounters are defined broadly as the "period of time during which a consumer directly interacts with a service" (Shostack, 1985, p. 243). During this time, several factors affect customer judgment, which can differ across service

industries (Bitner et al., 1990), such as physical goods quality, service quality, and servicescape (Keillor et al., 2004), all of which are evaluated holistically by the customer (Lin & Mattila, 2010). Sometimes referred to as "brand meaning" in the service literature, the brand image of a service company is influenced primarily by the customer experience (Berry, 2000; O'Cass & Grace, 2004), thus affirming the customer-oriented concept that is the service experience (Padgett & Allen, 1997). Customers may attribute different meanings to a service's performance (Padgett & Allen, 1997), which could be emotional, symbolic, or functional (Espinosa et al., 2018).

Customer perceived value is a multidimensional concept that explains consumer post-purchase behavior (Sweeney & Soutar, 2001). According to service-dominant logic, customers attain value-in-use during the service, so value is generated from service encounters (Vargo & Lusch, 2004). Customer perceived value is an integral part of the service encounter (Sukhu et al., 2017); therefore, it has an impact on satisfaction with a service (Tavitiyaman et al., 2022) and service quality perceptions (Noone & Mattila, 2009). During these encounters, customers differentiate four dimensions of value (functional, emotional, social, and epistemic values), which influence online customer engagement behavior (T. Zhang et al., 2020).

In a restaurant service encounter, customers pay attention to the food quality, service quality, ambiance, and value when assessing their satisfaction level (Sukhu et al., 2017). Consumers also take into account hedonic value when assessing a restaurant's service, which leads to satisfaction and thus positive word-of-mouth (WOM) (Babin et al., 2005; E. H. Jeong & Jang, 2011).

In this research, a service encounter with online food delivery is defined as the period of time during which the customer interacts with the online food delivery service, from the initial ordering to its delivery and consumption. It consists of choosing what to order from the restaurant menu on the application or site, the delivery, the interaction with the deliveryman (which lasts for a considerably short period of time), and the consumption.

Customers consider delivery times in terms of reliability, assurance, price value, and food quality as the primary factors affecting the success of an online food delivery service (Annaraud & Berezina, 2020; Cheng et al., 2021; Saad, 2021). Food quality is determined by the restaurants based on the preferences of customers; that is, if the customers prefer delivery efficiency over food quality, restaurants will determine their food quality accordingly, or vice versa (He et al., 2019).

In a traditional setting, the restaurant has control over several important service encounter elements for customer satisfaction, such as the ambiance (Sukhu et al., 2017), other customers dining in the restaurant (Erkmen & Hancer, 2019; N. Kim & Lee, 2012), service encounter pace (Noone et al., 2009), and employee behaviors (Bitner, 1990; Bitner et al., 1990; Farrell et al., 2001). These circumstantial cues positively affect customers' service outcome attributions and their consequent post-service behavior (Byun & Jang, 2018). Customer experiences in a restaurant influence the brand image (Erkmen & Hancer, 2019), and environment, food quality, and price fairness are the primary factors that shape the experience (Jin et al., 2012).

During online food delivery, the restaurant is the main service provider, and mobile food delivery applications are the intermediaries. Customers interact with the restaurant through the application, but in this case, the restaurant has limited

influence on the encounter itself. The customer has a physical interaction only with the deliveryman, who could be an employee of the restaurant or the OFD service.

In the case of OFD service, the situational characteristics of where the food is going to be consumed cannot be controlled and will differ for every customer. These situational factors, such as physical and social surroundings, must be taken into consideration to explain customers' post-service behaviors (Belk, 1975). As a common antecedent state, customers will be hungry prior to ordering food, and the hungrier they are, the less they will care about the well-being of others and will be more likely to act selfishly (Li & Zhang, 2014). The restaurant has limited control over the delivery time as it depends on various external factors, such as traffic and weather conditions.

Since the service encounter is directly linked with service quality perception and customer satisfaction (Jayawardhena, 2010), these limitations become ever more important for restaurants that are using OFD services to deliver their services. These limitations may cause negative service encounters with customers, which may lead to dissatisfaction with the restaurant service due to the spillover effect (Xu, 2021), as customer attribution theory also suggests. While in the traditional restaurant setting, circumstantial cues that could be controlled by the restaurant were found to mitigate service failure attributions (Byun & Jang, 2018), during an OFD service encounter, the restaurant has no control over the situation. Therefore, service recovery management becomes more challenging.

2.1.3 Service quality and online food delivery

Parasuraman et al. (1988, p. 16) defined service quality as “a global judgement, or attitude, relating to the superiority of the service, whereas satisfaction is related to a

specific transaction.” Service quality is an essential element of the overall service encounter (Sukhu et al., 2017) and is directly related to customer satisfaction (Jayawardhena, 2010; Noone et al., 2009), positive service brand image (Erkmen & Hancer, 2019), and increased brand loyalty (Jin et al., 2012), with all of them increasing service brand equity (Berry, 2000). The level of service quality has behavioral and financial outcomes for the service provider, which pressures the firms to uphold a service quality standard (Zeithaml et al., 1996).

Due to the characteristics of services (service is a performance—*intangibility*; the service performance cannot be standardized—*heterogeneity*; a service can only be consumed at the same time it is produced—*inseparability*; services cannot be inventoried or returned—*perishability*), consumers are able to evaluate the service quality based on their comparison of prior service expectations, and they evaluate the whole service delivery process in the meantime (Parasuraman et al., 1985).

Since customer expectations form the basis of their service evaluation, service quality is essentially “the difference between customers’ expectations for service performance prior to the service encounter and their perceptions of the service received” (Asubonteng et al., 1996, p. 64). This difference between customers’ expected and perceived service forms the customer gap, and in order to close this gap, the gaps related to the service providers’ performance need to be closed (Parasuraman et al., 1985). The service quality gaps are described as follows (Hill & Alexander, 2017; Parasuraman et al., 1985; Zeithaml et al., 2018):

- The listening gap (gap 1): The service provider may not always fully comprehend the needs and desires of the customer. Knowing the customers’

priorities for a high-quality service closes this gap. Hence, listening to customers' concerns and conducting customer research are required.

- The service design and standards gap (gap 2): Understanding what is important to the customer and implementing it in service operations and processes could be challenging for service firms due to resource and market constraints. Hence, tools such as service blueprinting should be adopted to effectively close this gap.
- The service performance gap (gap 3): Even if the service procedures are clearly designed according to customers' needs, the frontline employees that deliver the service may be unable to fulfill the requirements. Due to the heterogeneity of services, the performance of service employees cannot be standardized. Hence, employees should be adequately trained in such a way that they clearly know their tasks and the appropriate behavior to display when faced with customer complaints.
- The communication gap (gap 4): The service providers' external communications in the form of advertising, sales, etc. create customer expectations. If the promised service does not match the perceived performance, this gap will widen. Accurate information should be provided to the customer prior to the service encounter so that the customer receives what they are promised.

- The customer gap (gap 5): External factors such as WOM communications regarding the service performance, personal situational factors, and prior experience with the service provider create expectations in the consumer regarding the service. If a discrepancy occurs between the expected and perceived service, this gap will widen, which in turn affects the overall perceived service quality.

Building upon these service gaps that effect customers' perceptions, Parasuraman et al. (1988) put forward the SERVQUAL scale which assesses perceived quality of a service based on five dimensions: *tangibles* (physical appearance of facilities, equipment, personnel, and other communication materials); *reliability* (service provider should be able to perform the promised service accurately and customers should be able to depend on it); *responsiveness* (willingness to respond to and help with customer concerns); *assurance* (the behavior and training of the frontline employees and the ability gain the trust and the confidence of the customer); *empathy* (service provider should be attentive to the customer and demonstrate individualized care) (Grigoroudis & Siskos, 2010; Zeithaml et al., 2018).

The SERVQUAL scale has been widely adopted in the service literature, and since then, the scale has been adapted to various services to meet current market needs (Asubonteng et al., 1996). Based on the five dimensions of SERVQUAL, Stevens et al. (1995) proposed the DINESERV scale to measure the perceived quality of restaurants' service. Not long after, Parasuraman et al. (2005) developed the E-S-QUAL scale to measure electronic services' quality based on *efficiency* (the website should be quickly and easily accessed and used), *fulfillment* (the website

should fulfill the order promise accurately), *system availability* (the web site should correctly function), and *privacy* (the web site should be safe and able to protect customers' private information). Along with the rise in popularity of smartphones and mobile commerce, E. Y. Huang et al. (2015) brought forward the M-S-QUAL scale to assess mobile service quality based on the three dimensions of E-S-QUAL (efficiency, fulfillment, and privacy), and on top of that, on *contact* (the ability to contact helpful personnel) and *responsiveness* (the efficiency of the return and guarantee policy).

Based on these measurement scales, C.-C. Cheng et al. (2021) introduced the OFD-SERV scale to measure OFD service quality dimensions derived from the service triangle theory, which are *reliability, maintenance of meal quality and hygiene, assurance, security, system operation* (which refers to how well the system functions), and *traceability* (which refers to tracking the order process). Using the OFD-SERV scale, Koay et al. (2022) demonstrated that assurance, maintenance of meal quality and hygiene, reliability, security, and system operation dimensions were important for customer satisfaction post-service, which increases customer loyalty.

Among these service quality scales, several quality dimensions appear to be more common than others for different service sectors, such as reliability and assurance. (Chowdhary & Prakash, 2007; Parasuraman et al., 1988). Reliability of a service provider is important for customers in several service types because when they perceive a service firm to be reliable, they expect service failures to be successfully recovered and that they will not reoccur (Blodgett et al., 1995). On the other hand, the level of assurance of a service provider is generally considered in terms of how efficient the service firm is regarding their performance (Folkes, 1984).

Customers' service quality evaluations are also strongly associated with brand consistency, which has a powerful influence on service brand image (Erkmen & Hancer, 2019; Sarker et al., 2019), which in turn has an impact on brand loyalty for restaurants as well (Jin et al., 2012; Xu, 2021). Food quality and employee behaviors were found to be important determinants of perceived service quality in foodservices (Johns & Tyas, 1996). Also, different dining motivations were found to have different influences on perceptions of restaurants: while food quality stood out when dining out was a substitute for cooking at home, the environment of the restaurant stood out on social occasions when dining in a restaurant (Jin et al., 2012).

Customers identified the interpersonal interaction with the service brand's employees as an important brand dimension that influenced their perceptions of the service quality (O'Cass & Grace, 2004; T. Zhang et al., 2020). Accordingly, restaurant service staff's performance has an undeniable impact on service evaluation (Bitner, 1990) and, therefore, the restaurant's brand image (Yi et al., 2018) and customer satisfaction (Kattara et al., 2008). Similarly, the restaurant's chef's image, who, as an employee of the restaurant, has an impact on the overall restaurant brand perception depending on their behavior (Brodie et al., 2009), also influences customers' emotions about the restaurant service (Peng et al., 2017).

2.2 Customer dissatisfaction with a service

The expectation disconfirmation theory posits that not meeting customer expectations of a service's performance and/or not keeping service performance promises causes customer dissatisfaction (Oliver, 1980). Customer dissatisfaction is defined as the "state of cognitive/affective discomfort caused by an insufficient return relative to the resources spent by the consumer at any stage of the

purchase/consumption process" (Fornell & Wernerfelt, 1987). Disconfirmation of the expectation has the most dominant influence on the affective basis of satisfaction, that is, positive or negative affect states felt by customers post-consumption (Oliver, 1993).

When customer expectations are not met, service failure occurs, and customers become disappointed (Zeelenberg & Pieters, 2004). Negative experiences brought about by service failures are the root of dissatisfaction and can have behavioral and financial repercussions (Jiang et al., 2010; Zeelenberg & Pieters, 2004; Zeithaml et al., 1996). These consequences are depicted in Figure 1 below. Favorable behavioral intentions refer to customers' repurchase intentions, loyalty, positive WOM, etc., and unfavorable behavioral intentions refer to customers' complaining behavior, switching intentions, negative WOM, etc.

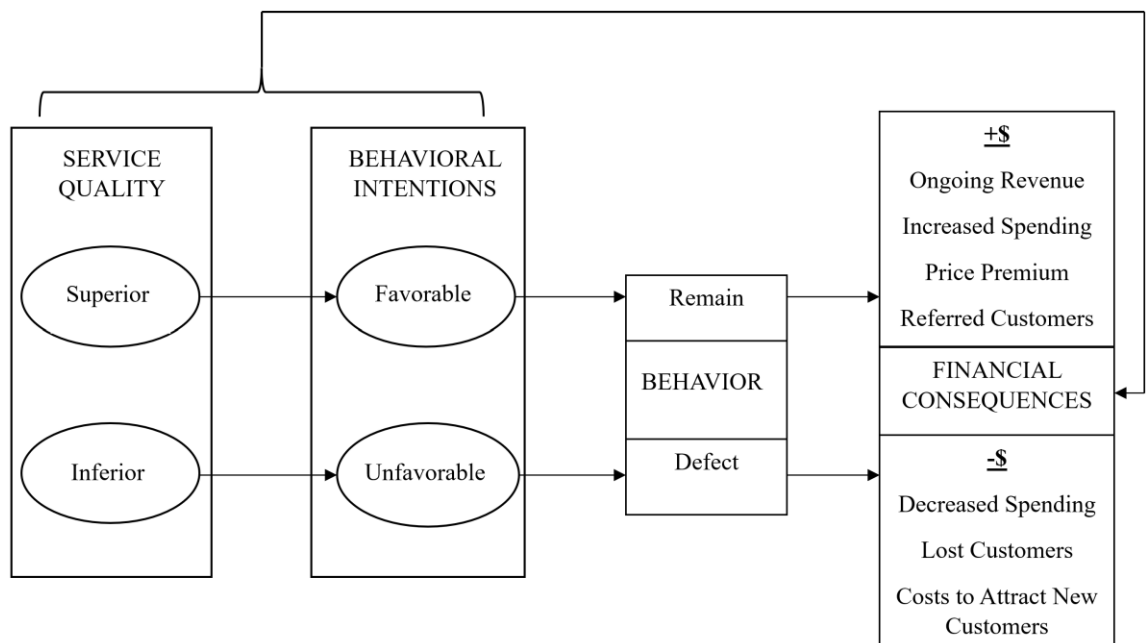


Figure 1. The behavioral and financial consequences of service quality
 Source: Zeithaml et al., 1996, p. 33

During a service encounter, several factors affect customer satisfaction, such as service employees' job satisfaction (Gil et al., 2008), perceived value in terms of price and service quality (Alalwan, 2020; Tavitiyaman et al., 2022), perceived control over the service process (Annaraud & Berezina, 2020), perceived justice in the case of a service failure (Varela-Neira et al., 2008), and perceived pace of the service encounter (Noone et al., 2009). Service quality is linked with customer satisfaction, which is related to word-of-mouth behavior (Babin et al., 2005), purchase intention (Tavitiyaman et al., 2022), and customer loyalty (Koay et al., 2022).

Customers form expectations regarding the service based on restaurant-generated cues such as food images and the right amount of information provided on the MFDA (Xu & Huang, 2019). When the images do not match, the information is too little or too much, or the information is inaccurate, customers may experience dissatisfaction. If an OFD experience is negative, customers' perceptions of the usefulness of the service provider are affected (Yeo et al., 2017).

2.2.1 Customer attribution theory

According to the customer attribution theory, when customer expectations are not met, customers will adopt an attributional approach to determine the party responsible for the service failure, which can be firm-related, self-related, or due to external situational variables (Folkes, 1984). These attributions are interpreted based on controllability and the stability of the service outcome (Weiner, 1985). Service failure attributions influence consequent service evaluations and, thus, emotions and behaviors (Baker & Kim, 2018). Although this attribution may not always be the true source of the failure, it will affect subsequent customer behavior nonetheless (Jiang

et al., 2010). Therefore, understanding customer attribution behaviors is important for effective service recovery management (A. Mattila & Patterson, 2004).

If the customer attributes the service failure to the service provider, customers will be dissatisfied with the firm, but if the customer attributes the failure to the employee's attitude, the dissatisfaction will be greater (Iglesias, 2009). This underlines the importance of service employees' performance during the service encounter, especially when the encounter is perceived as negative (Sichtmann & Micevski, 2018). Customer attributions of service success or failure were influenced by their perceptions of front-line employee behaviors and their efforts in recovery management (Folkes, 1984; A. Mattila & Patterson, 2004). Frontline service employees should encourage customers to raise their concerns regarding the service, and they need to be trained and empowered to handle customer complaints (J. H. Kim & Chen, 2010), even if they are false attributions (Z. (Joy) Huang & Miao, 2016).

In a restaurant setting, the speed of service recovery positively affects customers' attributions in terms of controllability and the stability of the cause of the service failure (Wirtz & Mattila, 2004). Customers are likely to evaluate a restaurant's service performance negatively if they perceive that the restaurant could have prevented the failure and that it is likely to reoccur (W.-H. Huang et al., 2010). Customers' attributional behaviors also guide their service quality perceptions of food, price, and restaurant image in general (Noone & Mattila, 2009; Tse et al., 2002).

Casual service failure attributions influence post-service behaviors in a restaurant context, such as engaging in negative WOM (A. S. Mattila & Ro, 2008). Especially when customers attribute the service failure to the restaurant and perceive

it as controllable or stable, they are more likely to respond negatively (Iglesias, 2009). Even if the customer attributes the fault to external causes, they may still hold the firm responsible and not defend the service brand's image (Baker & Kim, 2018; Saleh, 2022). Moreover, if the customer found more fault in themselves regarding the service failure, they were less likely to engage in NeWOM via social media (Balaji et al., 2015).

2.2.2 Consumer complaint theory

Dissatisfaction is an emotion (Hunt, 1991), and it influences complaint behavior along with other attitudes and intentions (Bearden & Teel, 1983). Responses to dissatisfaction, which is a result of disconfirmed expectations (Oliver, 1980), may vary according to personality traits and socio-economic variables (Best & Andreasen, 1977). They can also be classified as exit (consumers refuse to make future purchases and switch brands), loyalty (consumers take no action), and voice (consumers may complain to personal connections and/or to the organization) (Hirschman, 1970). Consumers may seek redress, complain, or communicate the problems without seeking redress and discontinue usage (Bearden & Teel, 1983; Day, 1980). As an indirect outcome of dissatisfaction (Singh & Pandya, 1991), customers may verbally communicate their emotional state to the seller, stop future purchases without any communication, or retaliate in a manner that will hurt the business, such as by engaging in negative WOM (Hunt, 1991). Possible subsequent actions after a state of dissatisfaction are shown in Figure 2 below.

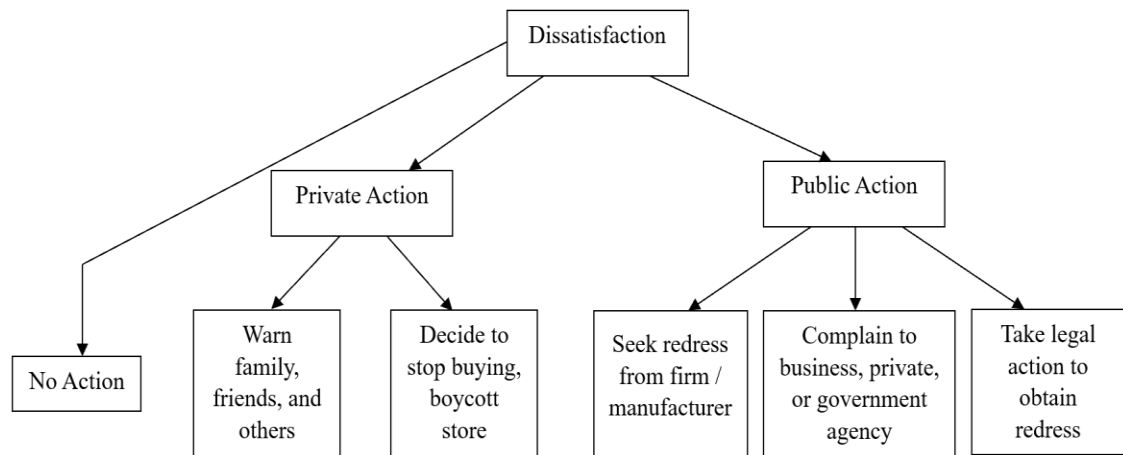


Figure 2. Consumer complaint behavior
Source: Bearden & Teel, 1983, p. 22

Consumers' complaint behavior differs depending on various factors, such as the perceived likelihood of success in seeking redress, whether the consumer has a positive or negative attitude towards complaining, and the level of intensity of the dissatisfaction (Blodgett et al., 1995; Singh & Pandya, 1991). In the restaurant setting, depending on customers' involvement with the experience and if complaining is deemed to be worth the trouble, customers will voice their dissatisfaction regarding the service performance (J. H. Kim & Chen, 2010). Cultural orientations, reactions to technology-based service failures, and past experiences with the service provider play a moderating role in customers' responses (Gyung Kim et al., 2010). If managed correctly, customer complaints may reduce advertising costs because, since present customers will be retained, there will be no need to attract new customers, and therefore customers should be encouraged to voice their dissatisfaction (Fornell & Wernerfelt, 1987).

Customers may engage in different complaining behaviors, such as negative WOM, depending on the negative emotion generated by the service failure (Gyung Kim et al., 2010; Zeelenberg & Pieters, 2004). When customers experience intense

anger after a service failure, they are more likely to complain about their dissatisfaction (Sánchez-García & Currás-Pérez, 2011). The magnitude and nature of the dissatisfaction from the service failure, to whom customers attributed the fault, and whether the failure was controllable or not influence negative WOM (Bearden & Teel, 1983; Blodgett et al., 1995; Maute & Forrester, 1993). If customers perceive that they have experienced a high level of unfairness and that there is a high chance of the firm responding to the complaint, they are more likely to publicly complain regarding the service failure (Balaji et al., 2015).

2.3 Negative electronic word-of-mouth

WOM is a form of interpersonal, informal, and consumer-to-consumer communication (Whyte, 1954), and it is one of the most important information sources for the potential customer during the purchase decision process (Kozinets et al., 2010; Litvin et al., 2008). Arndt (1967, p. 3) defined WOM as "(...) oral, person-to-person communication between a receiver and a communicator whom the receiver perceives as non-commercial, concerning a brand, a product, or a service." WOM marketing consists of utilizing this interpersonal influence that may come from informants, recommenders, or, in other words, opinion leaders who have and can exert their influence (Katz & Lazarsfeld, 1955; Webster, 1970), guiding consumers' purchasing intentions (Park et al., 2007). Dichter (1966) underlined the importance of being a friend of the customer in terms of offering trust and confidence in the product. Market information is exchanged between consumers, and it influences customer behavior (Chu & Kim, 2011).

Westbrook (1987, p. 261) considered WOM a transmission and defined it as "informal communications directed at other consumers about ownership, usage, or

characteristics of particular goods and services and/or sellers.” Buttle (1998) characterized WOM by five characteristics: *valence* (customers may communicate positive or negative WOM depending on their service or product evaluation); *focus* (management should also focus on organizational and employee WOM); *timing* (WOM can either be an important information source pre-purchase or a transmission of the experience post-purchase); *solicitation* (customers may not always initiate the WOM but may come across it without actively seeking it); and *intervention* (while WOM communications can be spontaneous, WOM is a powerful marketing tool that companies make an effort to manage). Litvin et al. (2008) added that the independence and credibility of the source were important WOM characteristics. Personal sources of information are more relied on and trusted by consumers than commercial sources (Mangold et al., 1987).

WOM is the transmission of experiences and an exchange of thoughts and information regarding the product or service among independent consumers who are not commercial representatives (Ismagilova et al., 2017). If the experience with the product or service is negative and it has not been successfully recovered by the organization, WOM communication may have a negative valence (Buttle, 1998). Such negative WOM behavior is found to be much more influential than positive WOM (Arndt, 1967) and is disseminated much wider (Hornik et al., 2015). Negative WOM may be detrimental to the organization if the service is not successfully recovered (Chen et al., 2022). On that account, negative WOM behavior as a consequence of firm-caused failures should be investigated (Philp & Ashworth, 2020). Understanding the reasons behind negative WOM behavior is pivotal for service recovery management (Gyung Kim et al., 2010).

Richins (1984, p. 697) defines negative WOM as "interpersonal communication among consumers concerning a marketing organization or product that denigrates the object of the communication." Negative WOM is classified as a dissatisfaction response characterized by customer complaining behavior (Maute & Forrester, 1993; Singh, 1990). This behavior has certain goals: regulating and expressing the emotion felt; seeking advice, entertainment, and revenge; warning others and strengthening interpersonal relationships; and managing others' impressions of oneself (Hennig-Thurau et al., 2004; Sundaram et al., 1998; Wetzer et al., 2007). These goals can be categorized as destructive or constructive, self-focused or other-focused negative WOM (Wetzer et al., 2007).

2.3.1 Electronic word-of-mouth

As the Internet and social media became an inherent part of consumers' daily lives, they became the main source of information for services (Sparks & Browning, 2011). Not dissimilar from traditional WOM (Kimmel & Kitchen, 2014), electronic WOM (eWOM) is a statement made by former, actual, or potential customers about products and services that is diffused via the Internet (Hennig-Thurau et al., 2004). Similarly, Litvin et al. (2008, p. 461) define eWOM as "all informal communications directed at consumers through Internet-based technology related to the usage or characteristics of particular goods and services, or their sellers." Consumers perceive eWOM as an accurate, reliable, and sometimes enjoyable source of information (Berezan et al., 2015). The credibility of an online source such as an online review site is affected by the post-purchase evaluations of customers, which have an effect on their intention to revisit the review site (Hsieh & Li, 2020).

One of the main differences between traditional WOM and eWOM is the rate of diffusion (Cheung & Thadani, 2012). Especially when it is negatively valanced, eWOM is diffused much faster and wider than traditional WOM (Hornik et al., 2015), and that may even turn into ‘online firestorms’ (Pfeffer et al., 2014). It is also important to emphasize that eWOM communication on engagement platforms is much less private and more accessible (Hennig-Thurau et al., 2004; Kozinets et al., 2010). Additionally, the Internet provides a sharing platform where senders and receivers can remain anonymous (Boo & Kim, 2013), and source credibility matters for potential customers reading the eWOM (Hsieh & Li, 2020).

There are four types of eWOM based on the level of interactivity between consumers and the type of communication (Xia et al., 2009). When the level of interaction is low and an individual transmits information to a large group, this type of eWOM is called *one-to-many* (Weisfeld-Spolter et al., 2014). These are text-based online reviews of a product or service. When the level of interaction is low but the collective evaluation of a product or service by a certain group of people is computed via computers and presented to the receiver, this is called *many-to-one*. Average ratings, average stars, number of votes and comments, etc. are all many-to-one types of eWOM. When the level of interactivity is high and there is individual communication between two parties, this type of eWOM is called *one-to-one*. They are dyad-based, private communications between two consumers. Lastly, when the level of interaction is high and there is a lot of collective communication among many participants, this type of eWOM is called *many-to-many* (Hoffman & Novak, 1996). These are discussion forums where there is continuous discussion and engagement (Zaraket, 2020). These four types of eWOM are summarized in Figure 3 below.

<div style="border: 1px solid black; padding: 5px; display: inline-block;">Communication</div>	Collective	Many-to-one (computed by computer) Overall Average ratings (A-D) Number of Votes Number of Downloads	Many-to-many (highly involved) Discussion forum Wiki ListServ
	Individual	One-to-many (text based) Descriptive Product Reviews Blogs	One-to-one (dyad based and private) Email Instant messaging
		Low	High
		<div style="border: 1px solid black; padding: 5px; display: inline-block;">Level of C2C Interactivity</div>	

Figure 3. Types of eWOM communications

Source: Weisfeld-Spolter et al., 2014

In support of eWOM types, there are different mediums for each eWOM type that organizations can use to manage customer eWOM (Litvin et al., 2008). One-to-one mediums, such as emails and instant messaging, enable customers to communicate with each other or with the organization privately. Companies can send e-newsletters, bulletin boards, and other offerings that will be perceived on an emotional level and that will encourage engagement. Companies can also use one-to-many mediums such as websites to share positive evaluations, share information, and create desire by creating a community of satisfied customers. Online review sites should be monitored for service recovery management, and opinion leaders can be incentivized to share their experiences. The typology of eWOM channels is depicted in Figure 4 below.

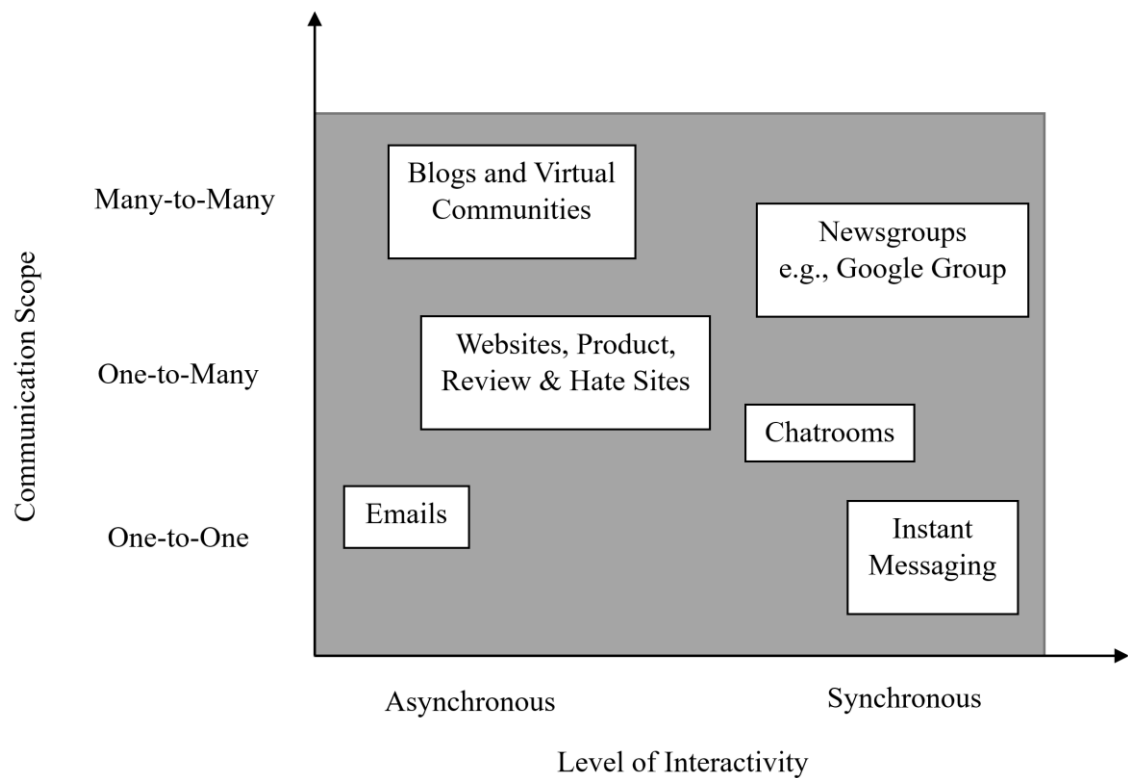


Figure 4. Typology of eWOM channels
 Source: Litvin et al., 2008, p. 462

2.3.2 Engaging in negative electronic word-of-mouth

In the literature, negative WOM has been closely related to dissatisfaction and has been repeatedly characterized as a consumer complaint behavior (Asugman, 1998; Babin et al., 2005; Hunt, 1991; Maute & Forrester, 1993; Richins, 1984; Singh, 1990; Yang, 2017; Yen & Tang, 2015). However, not all dissatisfied customers engage in negative WOM. This is because negative WOM behavior may be the outcome of many different motives and situational characteristics (Hornik et al., 2015; J. H. Kim & Chen, 2010). The personality of consumers also plays a role: customers who have a higher regard for themselves and who have more self-confidence were more likely to spread negative WOM (Boo & Kim, 2013; J. H. Kim

& Chen, 2010). Negative WOM may be detrimental to the organization if the service is not successfully recovered (Chen et al., 2022).

Technological sophistication enhances eWOM behavior (T. (Christina) Zhang et al., 2017), and consumers who have engaged in any form of eWOM behavior before are more likely to engage in NeWOM after a service failure (Boo & Kim, 2013). This is important for service recovery management as Gen Y and the upcoming generations are more technologically savvy than their predecessors, which suggests a possible increase in eWOM activity.

Emotions also play an important role as motivation to engage in negative WOM. According to the appraisal theory of emotions, emotions are the result of the evaluation and interpretation of the contrast between the actual state and the desired state (Bagozzi et al., 1999). Dissatisfaction from a disconfirmation of service expectations triggers affective processes, an array of negative emotions depending on customers' attribution of the fault (Machleit & Eroglu, 2000; Saleh, 2022; Sánchez-García & Currás-Pérez, 2011). Emotions have a mediating role in this dissatisfaction and post-service behavior relationship (Sánchez-García & Currás-Pérez, 2011). These emotions have individual influences on post-purchase behaviors, such as negative WOM (Zeelenberg & Pieters, 2004). This is related to the need to reduce the inner tension due to service failure by sharing experiences (Dichter, 1966; Litvin et al., 2008; Westbrook, 1987). Emotions also influence customer loyalty in the foodservice sector (Peng et al., 2017).

Notably, emotions are experienced differently in strength and intensity amongst individuals, which is coined affect intensity (Larsen & Diener, 1987), which affects the attitudes and behaviors of customers (Elen et al., 2013). Since the intensity of the emotions felt affects customers' perceptions of service recovery

attempts, identifying and understanding them would benefit service recovery management (Varela-Neira et al., 2008). An appraisal of emotions is outlined in Table 1 below.

Table 1. Roseman’s (1991, p. 193) Appraisal Theory of Emotions

	Circumstance Caused	Positive Emotions Motive-Consistent		Negative Emotions Motive-Inconsistent		
		Appetitive	Aversive	Appetitive	Aversive	
Agency	Unexpected	Surprise				
	Uncertain	Hope		Fear		Weak
	Certain	Joy	Relief	Sadness	Distress, Disgust	
	Uncertain	Hope		Frustration		Strong
	Certain	Joy	Relief			
	Other-caused	Liking		Dislike		Weak
	Uncertain			Anger		Strong
	Certain					
	Uncertain					
	Certain	Pride		Shame, Guilt		Weak
	Self-caused			Regret		Strong
	Uncertain					
	Certain					
	Uncertain	Pride		Regret		Strong
	Certain					

Source: Bagozzi et al., 1999, p. 186

Loyal customers will become brand advocates, and customers with a positive attitude towards a brand that has a positive image are more likely to engage in positive WOM marketing to promote the brand (Y.-C. Huang, 2022; Morrison & Crane, 2007). However, long-term, loyal customers will be less motivated to engage in positive WOM than newer customers (Ranaweera & Menon, 2013).

Coincidentally, they were found to be more motivated to spread powerful negative WOM if they were intensely dissatisfied with the service or product (Ranaweera & Menon, 2013). This underlines the importance of reliability in service quality.

Customers desire to be able to rely on the service provider’s promise of delivering the same quality in every encounter (Bitner, 1995; Zeithaml et al., 2018).

Furthermore, consumers who thought that the problem was controllable and who perceived that they had a chance of success in redressing were found to be more likely to engage in negative WOM (Blodgett et al., 1995). Also, if a customer previously spread eWOM intentionally, they were found to be more likely to engage in NeWOM after a dissatisfactory experience because they are more familiar with the medium (Boo & Kim, 2013).

One of the main outcomes of NeWOM is that it affects purchasing and revisiting intentions for those who read and process the eWOM (Foroudi et al., 2021; Tavitiyaman et al., 2022). Customers are more likely to rely on eWOM behavior prior to purchasing an unknown product or brand (Arndt, 1967; Hennig-Thurau et al., 2004; Y.-C. Huang, 2022). If a product is popularly reviewed, the customer is more likely to purchase it (Park et al., 2007). Customers' attitudes towards the brand are also affected by eWOM, which ultimately affects brand reputation and future revenues (Chen et al., 2022; Kudeshia & Kumar, 2017). These are important findings for eWOM communications for newly established brands and products that were recently introduced to the market.

CHAPTER 3

HYPOTHESES DEVELOPMENT

3.1 Conceptual model

While the effect of OFD service quality on customer satisfaction has been studied in previous literature (Koay et al., 2022), research on customer dissatisfaction after a negative OFD service encounter and its influence on negative emotions and subsequent NeWOM behavior has been limited. This research aims to build upon the existing literature, resting on the service triangle, customer attribution, and customer engagement theories, with a focus on the interactive marketing part of the triangle, customer attribution of the service failure to the restaurant, and the sharing dimension of customer engagement.

According to the service triangle philosophy, the contact between frontline employees and consumers is critical (Gronroos, 1978; Thomas, 1978). In the case of online food delivery companies, customers are primarily in contact with the deliveryman and not with the restaurant itself. The behaviors of the front-line employees have been strongly linked with customer satisfaction (Kattara et al., 2008), which can also have an impact on the restaurant's brand image (Jin et al., 2012). Interactive marketing refers to keeping the service promise during the service encounter, which is pivotal for customer service evaluations post-service (Bitner, 1995). This underlines the importance of the interaction between the deliveryman and the customer from the restaurant's perspective. With this focus in mind, some OFD service quality factors (security and system operation) have not been considered in this study because they are related to external marketing (Cheng et al., 2021).

As specified by the customer attribution theory, customers may hold the service provider responsible for the service failure if they perceive that the problem was preventable (Folkes, 1984; W.-H. Huang et al., 2010; Weiner, 1985). Based on their previous service experiences and other situational variables, customers may form some expectations, and their attributions of the service failure may differ accordingly (Asubonteng et al., 1996; Jiang et al., 2010). Customers are generally more inclined to blame the service provider, even if they attribute the service failure to external variables (Baker & Kim, 2018). Additionally, when customers attribute the responsibility to the service firm, complaining behaviors such as negative WOM are triggered (W.-H. Huang et al., 2010; Richins, 1984). While customer fault attributions in the context of online food delivery service failures have not been investigated in the literature, several findings suggest that the performance of the OFD service has a spillover effect on restaurant service evaluation (Xu, 2021). Therefore, after a negative service encounter via online food delivery services, customers may attribute the service failure to the restaurant and engage in NeWOM.

Customer engagement theory puts forward that WOM activity is essentially a customer engagement behavior as a result of several motivational drivers, including satisfaction with a service and consequent emotions. (Harmeling et al., 2017; Mangold et al., 1999; van Doorn et al., 2010). In this regard, the role of regret and anger in dissatisfactory OFD service encounters should be studied, as they have been found to be two of the most influential antecedent negative emotions of NeWOM behavior (Sánchez-García & Currás-Pérez, 2011). In addition, the moderating effects of altruism and venting negative feelings on regret and anger are examined, respectively, because they have been previously linked in the literature with these

emotions and subsequent engagement as NeWOM (Wetzer et al., 2007). This analysis may provide further insights on the matter.

Among many NeWOM behaviors, behaviors related to the sharing dimension of consumer engagement have been chosen because OFD systems usually enable customers to evaluate their service with ratings and reviews on the page of the restaurant, and sharing on social media is very easy and common nowadays. Posting online ratings and reviews is characterized under the sharing dimension of customer engagement (T. Zhang et al., 2020), and sharing experiences online is characterized as an eWOM activity (Hu & Kim, 2018). The Internet has also made it easy for customers to vent their feelings after dissatisfactory service, which can be destructive if not managed (Chen et al., 2022).

It is thought in this research that customers may attribute service failures predominantly to the restaurant, even if it was not their fault, and share them on the system platform or on their social media, possibly influencing potential customers' purchase decisions (Kudeshia & Kumar, 2017; Tavitiyaman et al., 2022).

Deriving from this theoretical background, the conceptual model shown in Figure 5 below has been formed.

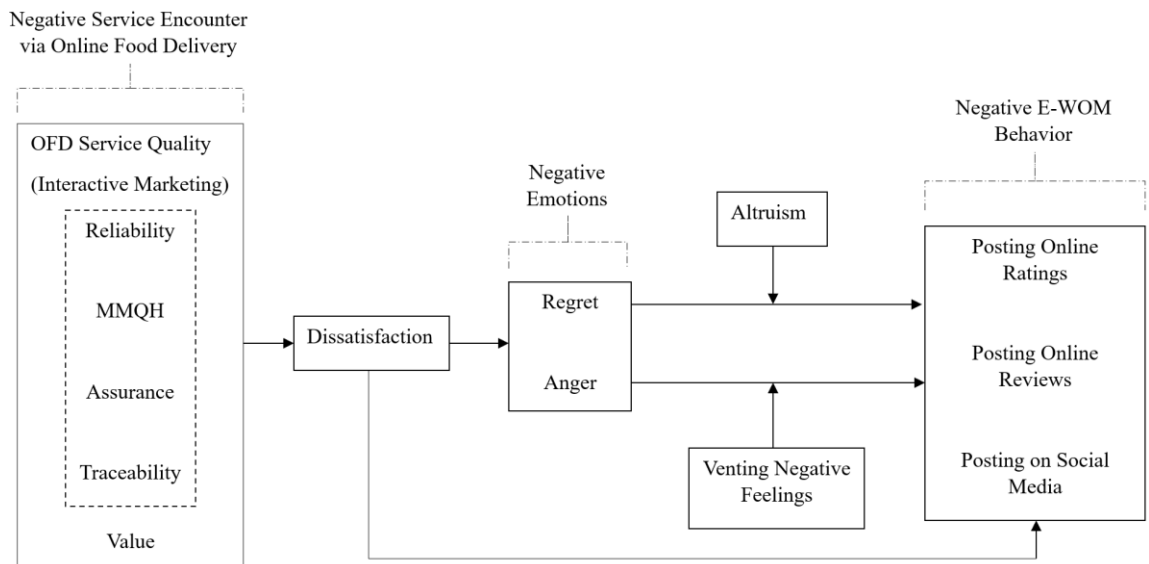


Figure 5. The conceptual model

3.2 The relationship between negative online food delivery service encounters and negative electronic word-of-mouth

This study examines the connection between negative OFD service encounters and NeWOM in light of these theories. Based on the conceptual model, hypotheses have been developed. Further reasoning for the development of these hypotheses is explained. For the full list of hypotheses, please refer to Appendix A.

3.2.1 The relationship between negative service encounters with an online food delivery service and dissatisfaction with the restaurant service

This research not only takes the OFD service quality into consideration but also the service encounter since, in a traditional restaurant setting, customers are generally satisfied or dissatisfied due to several factors (Sukhu et al., 2017). With that in mind, the value-for-money dimension and situational variables have been taken into consideration when discussing the results as they are important antecedents of

satisfaction from a service encounter (Belk, 1975; Tavitiyaman et al., 2022).

Therefore, the following relationship is hypothesized:

H1: Negative service encounters with an online food delivery service influence dissatisfaction with the restaurant's service.

The OFD service encounter consists of several important elements. Included in this study are the OFD service quality elements that correspond with the interactive marketing aspect of the service triangle in terms of interaction between the deliveryman and the customer (Cheng et al., 2021) and the perceived value for money of the service encounter with the restaurant (Sukhu et al., 2017).

3.2.1.1 Reliability

The reliability of a service refers to consistent and dependable performance in every encounter (Parasuraman et al., 1988). In an OFD service, the customer will rely on the deliveryman to provide an accurate and correct delivery (Cheng et al., 2021). Reliability has been found to have an influence on customer satisfaction in an OFD service encounter (Koay et al., 2022). Thus, the following hypothesis is suggested:

H1A: Reliability of the online food delivery service influences dissatisfaction with the restaurant's service.

3.2.1.2 Maintenance of meal quality and hygiene

Food quality is an important determinant of customer satisfaction in restaurant service encounters (Jin et al., 2012; Tavitiyaman et al., 2022). In an OFD service

encounter, food quality gains more importance for restaurant service evaluation (He et al., 2019), as restaurants have limited control over the whole encounter. Hygiene is also an important element of service quality, and ever since the pandemic, it has gained more importance (M. Jeong et al., 2022). Customers expect a level of food and hygiene quality to be maintained during the delivery process. Thus, the following hypothesis is suggested:

H1B: Maintenance of meal quality and hygiene of the online food delivery service influence dissatisfaction with the restaurant's service.

3.2.1.3 Assurance

Assurance of a service refers to the competence and behaviors of the service employee (Parasuraman et al., 1988), such as possessing the necessary knowledge and manners that emit confidence. During the OFD service, customers should be assured that the deliveryman will keep his promise to deliver their order correctly, so that they can trust the service provider (Cheng et al., 2021). The delivery pace should also be timely (Noone et al., 2009). Assurance of an OFD service has been found to have a positive influence on customer satisfaction (Koay et al., 2022). Thus, the following hypothesis is suggested:

H1C: Level of assurance of the online food delivery service influences dissatisfaction with the restaurant's service.

3.2.1.4 Traceability

Being able to track the food delivery order has been found to increase customer satisfaction (Koay et al., 2022). Cheng et al. (2021, p. 12) define traceability of the OFD service as “the ability to know the delivery progress and location during the OFD service.” Many home delivery services use tracking technologies to let the customer know where their order is (Chou & Lu, 2009). Online tracking is an attractive and innovative feature for customers, and it increases their intention to reuse an OFD service (Alalwan, 2020). Thus, the following hypothesis is suggested:

H1D: Traceability of the online food delivery service influences dissatisfaction with the restaurant service.

3.2.1.5 Value

For the purposes of this research, the price/value for money attribute of the functional value will be taken into consideration (Sukhu et al., 2017). The functional value of a service refers to the expected performance and the service’s capacity to fulfill the expectation (L. Zhang et al., 2020). Price is an important indicator of restaurant service value. Since higher prices create higher expectations for service performance, customer satisfaction is affected (Yi et al., 2018). Value for money also has a significant effect on NeWOM activity (J. Kim & Hwang, 2022). Thus, the following hypothesis is suggested:

H1E: Value of the service encounter with the restaurant via online food delivery services influences dissatisfaction with the restaurant’s service.

3.2.2 The relationship between dissatisfaction with the restaurant service and negative emotional outcomes

Service encounters act as a stimulus that creates positive or negative emotions in the consumer, depending on the evaluation of the service quality (Jang & Namkung, 2009; Peng et al., 2017). When the service expectation is not met, service failure occurs, and customers may feel negative emotions afterwards (Tan et al., 2021). Negative emotions stemming from service failures include regret, disappointment, shame, sadness, anger, fear, disgust, embarrassment, distress, frustration, etc. (Harrison-Walker, 2019; Machleit & Eroglu, 2000; Wetzer et al., 2007; Zeelenberg & Pieters, 2004). When dissatisfaction from a service failure stimulates a negative emotion, consumers want to reduce the negative feeling and restore psychological equilibrium, and they may engage in NeWOM if the negative feeling is strong enough (Yen & Tang, 2015). Therefore, the following relationship is hypothesized:

H2: Dissatisfaction with the restaurant's service influences negative emotions.

According to the specific emotions approach, different negative emotions produce different behavioral consequences when customers respond to a service failure (Zeelenberg & Pieters, 2004). Among many negative emotions, regret and anger were found to be the most influential emotions that lead to NeWOM (Sánchez-García & Currás-Pérez, 2011; Wen et al., 2018; Zeelenberg & Pieters, 2004). Customers feel regret post-service when they believe they could have had a better experience if they had chosen another service provider (Zeelenberg & Pieters, 2004). Anger is experienced when customers attribute the fault of the service failure to

external factors that could have been controlled by the service provider (Sánchez-García & Currás-Pérez, 2011). Thus, the following hypotheses are suggested:

H2A: Dissatisfaction with the restaurant's service influences anger.

H2B: Dissatisfaction with the restaurant's service influences regret.

3.2.3 Antecedents of negative electronic word-of-mouth behavior after a service failure

Satisfaction is a determinant of WOM behavior, and if a consumer is dissatisfied with a service, they will engage in negative WOM (Asugman, 1998). Considering the restaurant sector, high satisfaction generated from a positive experience has been found to motivate consumers to spread positive eWOM (Yang, 2017). However, if consumers are dissatisfied after a service encounter, they are more likely to engage in NeWOM (Sukhu et al., 2017). Customers may engage in various eWOM behaviors post-service, such as posting ratings and writing reviews, depending on their perceived value from the service (S. N. Zhang et al., 2021). Therefore, the following relationships are hypothesized:

H3: Dissatisfaction with the restaurant's service influences negative electronic word-of-mouth behavior.

H3A: Dissatisfaction with the restaurant's service influences posting online ratings.

H3B: Dissatisfaction with the restaurant's service influences posting online reviews.

H3C: Dissatisfaction with the restaurant's service influences posting on social media.

Customer engagement with a firm also depends on emotions such as pleasure, arousal, and dominance after a positive service evaluation (Blasco-Arcas et al., 2016). If there is a severe service failure, however, customers may act in order to reduce negative emotions such as anger and regret (Harrison-Walker, 2019). These intense negative emotions produce different behavioral outcomes (Sánchez-García & Currás-Pérez, 2011; Zeelenberg & Pieters, 2004). Negative emotions directly influence behavioral intentions in a service setting, such as the intention to switch brands or engage in negative WOM (Liu & Jang, 2009). Customers are more likely to exhibit negative WOM behavior if they are disappointed, angry, regretful, and frustrated with the service's performance (Harrison-Walker, 2019; Tan et al., 2021; Wetzer et al., 2007). Therefore, the following relationship is hypothesized:

H4: Negative emotions due to service failure influence negative electronic word-of-mouth behavior.

To manage NeWOM effectively, managers need to know the specific motivations and emotions behind the behavior (Wetzer et al., 2007). Anger and regret have been found to be significant emotions that determine post-service behaviors such as negative WOM (Harrison-Walker, 2019). Knowing what emotion lies behind the behavior is pivotal because the service provider should be able to address the specific emotion when communicating with the customer to reduce the

intensity (Bitner, 1990; Harrison-Walker, 2019; Zeelenberg & Pieters, 2004). Thus, the following hypotheses are suggested:

H4A: Anger due to service failure influences posting online ratings.

H4B: Anger due to service failure influences posting online reviews.

H4C: Anger due to service failure influences posting on social media

H4D: Regret due to service failure influences posting online ratings.

H4E: Regret due to service failure influences posting online reviews.

H4F: Regret due to service failure influences posting on social media.

3.2.4 Moderation effect of altruism

Besides these main hypotheses, gaining insights on the effect of other knowledge-sharing factors that lead to eWOM behavior is also investigated, such as altruism (Yang, 2017). Some consumers posted NeWOM in order to prevent others from experiencing the same dissatisfactory service (Cheung & Lee, 2012; Hu & Kim, 2018), and this was found to be one of the main motivators of NeWOM (Hanks et al., 2022; Yen & Tang, 2015). Regretful consumers have constructive goals for spreading negative WOM (Asugman, 1998), such as warning other potential customers (Wetzer et al., 2007). Altruism is thought to moderate the relationship between the feeling of regret after a negative service encounter and NeWOM because regret is related to self-blame and might influence altruism (Lönqvist et al., 2006; Lu et al., 2022; Sánchez-García & Currás-Pérez, 2011). Thus, the following hypotheses will be tested:

H5: Altruism moderates the relationship between regret and negative electronic word-of-mouth behavior.

H5A: Altruism moderates the relationship between regret and posting online ratings.

H5B: Altruism moderates the relationship between regret and posting online reviews.

H5C: Altruism moderates the relationship between regret and posting on social media.

3.2.5 Moderation effect of venting negative feelings

Anger felt after a dissatisfactory service is generally related to firm-blame (Sánchez-García & Currás-Pérez, 2011). After a service failure, depending on the severity of the failure, customers may try to vent their feelings in order to get the service provider's attention (Sarkar Sengupta et al., 2015). Angry customers have destructive goals for spreading negative WOM, such as venting their negative feelings to damage the service provider (Wetzer et al., 2007). Therefore, for angry customers, venting negative feelings becomes a common motivator (Yen & Tang, 2015). Customers may desire revenge from the firm to reduce cognitive dissonance (Fu et al., 2015; Wen et al., 2018). Thus, the following hypotheses are suggested:

H6: Venting negative feelings moderates the relationship between anger and negative electronic word-of-mouth behavior.

H6A: Venting negative feelings moderates the relationship between anger and posting online ratings.

H6A: Venting negative feelings moderates the relationship between anger and posting online reviews.

H6A: Venting negative feelings moderates the relationship between anger and posting on social media.

CHAPTER 4

METHODOLOGY

4.1 Research design

A descriptive study has been carried out in order to explore customers' NeWOM behavior after a dissatisfactory online food delivery service, the antecedents of this behavior, and the relationships between the constructs. The target population of this study is Turkish customers above the age of 18 who have experienced a dissatisfactory online food delivery service and whose orders have been delivered to them. The online survey method has been chosen as an appropriate data-gathering tool because online surveys enable the researcher to reach a wider respondent group and collect more candid responses due to the anonymity of online surveys (Malhotra, 2019). While respondents' technological skills could be a limitation for online surveys (Malhotra, 2019), since the respondents for this study were chosen based on their previous online food delivery service experience and therefore have a technological background, this limitation is not a problem. Before data collection, ethics approval has been obtained (see Appendix B).

4.1.1 Measurement instruments

Measures for the survey have been adapted from valid and reliable scales in the literature. More specifically, measurement tools for interactive marketing aspects of online food delivery service quality, value for money, dissatisfaction, anger, regret, altruism, venting negative feelings, posting online ratings, posting online reviews, and posting on social media have been adapted for the purposes of this research. In total, 48 items were adapted for the current study.

The OFD-SERV scale has been developed by Cheng et al. (2021) based on previous well-established service quality scales. All items of OFD-SERV were reported to have a Cronbach's alpha (α) value higher than 0.7 and factor loadings higher than 0.5. Furthermore, all dimensions were reported to have a construct reliability (CR) value higher than 0.7 and an average variance extracted (AVE) value higher than 0.5. The items were measured using a Likert 5-point scale.

Cheng et al. (2021) differentiate service quality dimensions based on whether they refer to the interactive marketing concept or the external marketing concept. In this research, only the dimensions that refer to the interactive marketing aspect of OFD services (seven-item reliability, six-item maintenance of meal quality and hygiene, six-item assurance, and three-item traceability scales) were adapted, and dimensions that refer to the external marketing aspect (security and system operation) were left out. Koay et al. (2022) also separate these dimensions and test them individually when assessing the relationship between these OFD service quality dimensions and customer satisfaction.

The three-item value-for-money scale has been adapted from Sukhu et al. (2017), who reported a Cronbach's α of 0.872, a CR of 0.869, and an AVE of 0.691. This scale was chosen for measuring the perceived value for money of an OFD service construct because it focuses on the restaurant's service. Sukhu et al. (2017) utilize this scale in the context of a negative service encounter with other dimensions, which are food quality, service quality, and ambiance. In this research, the value-for-money construct has been explored together with the interactive OFD service quality scales under the negative online food delivery service encounter context. The items were measured using a Likert 5-point scale.

The three-item dissatisfaction, anger, and regret scales were adapted from Sánchez-García & Currás-Pérez (2011). They have used these scales to assess unsatisfactory experiences with hotels and restaurants. In the case of dissatisfactory restaurant services, they have reported Cronbach's α of 0.77, 0.77, and 0.88; CR of 0.78, 0.77, and 0.89; and AVE of 0.56, 0.53, and 0.72 for dissatisfaction, anger, and regret, respectively. The items were measured using a Likert 7-point scale.

The four-item altruism (negative) and venting negative feelings scales were adapted from Hu & Kim (2018), with a reported Cronbach's α of 0.79 and 0.83; CR of 0.85 and 0.84; and AVE of 0.59 and 0.57, respectively. They have used these constructs in order to assess customers' eWOM behavior in a service context. The items were measured using a Likert 7-point scale.

The three-item online rating and online review scales were adapted from T. Zhang et al. (2020), who used them to assess post-service behaviors of customers in the context of several service encounters, encounters with restaurants included. Cronbach's α of 0.95 and 0.87; CR of 0.949 and 0.906; and AVE of 0.862 and 0.763, respectively, have been reported.

The three-item scale regarding posting on social media has been adapted from T. (Christina) Zhang et al. (2017), who focused on dining experiences in restaurants and post-service eWOM behaviors of customers on social networking sites. A Cronbach's α of 0.73 and an AVE of 0.541 have been reported. Since posting online ratings, posting online reviews, and posting on social media could be characterized as NeWOM behaviors (Hu & Kim, 2018; S. N. Zhang et al., 2021), this study adapts these scales as NeWOM behaviors post-service.

4.1.2 Questionnaire design

The scale items have been adapted to current research with little modification and are measured on a 5-point Likert scale. Then, they have been translated into Turkish from English and checked by a bilingual. To ensure the clarity and comprehensibility of the translated items and other survey questions, the survey was pretested with 15 participants following the convenience sampling method. Participants were Turkish consumers who had had a dissatisfactory online food delivery service that they could recall, and they were above the age of 18. Their feedback was taken into consideration, and minor modifications were made regarding the wording of the statements. For the final version of the questionnaire, see Appendix C (for the English version).

4.2 Data collection and sampling

After finalizing the survey statements based on the pretest, the final questionnaire was distributed online following the snowball sampling method (Malhotra, 2019). The online questionnaire was created via Google Forms, which enables several constraints that prohibit respondents from missing or skipping any questions. Data was collected during a ten-day period between April 13 and April 23, 2023. In total, 430 people filled out the survey. Four responses were excluded because they had not ordered via an OFD service, and 33 responses were excluded because their orders had not been delivered, which is out of the scope of this study. Therefore, a final sample of 393 was reached.

CHAPTER 5

DATA ANALYSIS AND FINDINGS

5.1 Data screening

Before conducting statistical analyses, data should be examined for missing values, outliers, and other assumptions (Hair et al., 2019). No missing value is reported in this study because respondents were prohibited from skipping any questions via Google Forms. Other than missing values, data has been examined for distribution characteristics, outliers, and multicollinearity, which are necessary assumptions of multivariate analysis (Tabachnick & Fidell, 2013). The data has been examined using IBM SPSS Statistics Software Version 27.

5.1.1 Normality test

For any multivariate analysis, the data should have a normal distribution (Hair et al., 2019). In order to confirm that the variables are distributed normally, kurtosis and skewness measures have been examined. Kurtosis is used to describe the height of the distribution, whether it is peaked or flat, and skewness is used to describe the symmetry of the distribution, whether it is unbalanced or not (Tabachnick & Fidell, 2013). For the current data, the value for skewness is found to be ranged between ± 0.5 and the value for kurtosis is found to be ranged between ± 1.0 , as shown in Table 2. In addition to these values, normal probability plots (p-p) of variables were examined. Scores did not significantly deviate from the diagonal line. This signifies that, together with the kurtosis and skewness values, the data is normally distributed. Therefore, it can be assumed that the current data is fit for multivariate analysis (Hair et al., 2019).

Table 2. Skewness and Kurtosis Values for Distribution Normality

Scale	Skewness	Kurtosis
MMQH	.306	-.437
Reliability	-.411	.410
Assurance	-.238	-.024
Traceability	-.196	-.126
Value	.136	-.694
Dissatisfaction	-.325	-.405
Anger	-.201	-.361
Regret	-.266	-.926
Posting Online Ratings	-.293	-.952
Posting Online Reviews	.085	-.872
Posting on Social Media	.431	-.739
Altruism	-.353	-.780
Venting Negative Feelings	.241	-.881

5.1.2 Outliers

Before conducting analyses, data should be screened for observations that are extraordinarily different from other observations and might distort findings, in other words, outliers (Hair et al., 2019).

In order to identify univariate outliers, which are extraordinary values on one single variable (Tabachnick & Fidell, 2013), the data is first computed into z-scores (standardized values) (Hair et al., 2019). The minimum and maximum z-scores for each scale are shown in Table 3. They are found to be within the acceptable threshold of ± 3.0 (Hair et al., 2019). Hence, no univariate outlier is detected.

Table 3. Z-Scores for Univariate Outlier Detection

Scales (z-scores)	Minimum	Maximum
Z-score (MMQH)	-1.83709	2.37781
Z-score (Reliability)	-2.82640	1.97992
Z-score (Assurance)	-2.62168	2.06159
Z-score (Traceability)	-2.41782	2.23814
Z-score (Value)	-1.59077	2.15092
Z-score (Dissatisfaction)	-2.39316	1.50938
Z-score (Anger)	-2.17347	1.76735
Z-score (Regret)	-1.95984	1.45829
Z-score (Online Rating)	-2.12965	1.31106
Z-score (Online Review)	-1.79146	1.77784
Z-score (Social Media)	-1.20429	2.21706
Z-score (Altruism)	-1.90333	1.56369
Z-score (Vent)	-1.42156	2.02970

In order to identify multivariate outliers, which are a combination of extraordinary values on multiple variables (Tabachnick & Fidell, 2013), Mahalanobis distance (D^2) is calculated by dividing it by the number of variables (df). Based on a $p \leq 0.001$ level of significance, six observations were found to be multivariate outliers according to the threshold value of 3 (Hair et al., 2019). After examination of R^2 values, these observations were found to be influential outliers, and therefore excluded from the study. After the deletion of multivariate outliers, a sample of 387 remained.

5.1.3 Multicollinearity

Multicollinearity refers to high correlation values between independent variables, which can weaken the analysis due to redundancy (Tabachnick & Fidell, 2013). In order to detect any multicollinearity among independent variables, tolerance and

variation inflation factors (VIF) can be examined. Tolerance values refer to how much of the variable is unexplained by other independent variables, and VIF is its' inverse (Hair et al., 2019). Therefore, since tolerance values are above 0.5 and VIF factors are under 5.0, as shown in Table 4, no issues regarding multicollinearity have been detected.

Table 4. Tolerance Values and VIF Factors for Multicollinearity

	Tolerance	VIF		Tolerance	VIF		Tolerance	VIF	
Reliability	.571	1.752	Traceability	.788	1.269	MMQH	.835	1.198	
Assurance	.524	1.908	Value	.769	1.301	Reliability	.556	1.798	
Traceability	.698	1.433	MMQH	.806	1.241	Assurance	.533	1.876	
Value	.783	1.277	Reliability	.658	1.520	Traceability	.702	1.425	
Dependent Variable: MMQH			Dependent Variable: Assurance			Dependent Variable: Value			
	Tolerance		VIF			Tolerance		VIF	
Assurance	.634		1.578		Value	.758		1.319	
Traceability	.714		1.401		MMQH	.804		1.244	
Value	.773		1.294		Reliability	.555		1.802	
MMQH	.845		1.183		Assurance	.590		1.694	
Dependent Variable: Reliability				Dependent Variable: Traceability					

5.2 Sample characteristics

430 people voluntarily participated in the survey. After the data screening, a final sample of 387 was found to be suitable for further analysis. The majority of the sample was aged between 26 and 35 (n = 141, 36.4%), was female (n = 215, 55.6%), was employed (n = 264, 68.2%), had an undergraduate level of education (n = 213,

55.0%), was not married (n = 285, 60.7%), had two members in their households (n = 130, 33.6%), had a total individual income between 10,001 and 20,000 TL (n = 98, 25.3%), and had a total household income greater than 40,000 TL (n = 190, 49.1%).

A more detailed descriptive analysis of the sample is presented in Table 5.

Table 5. Descriptive Analysis of the Sample

Age	n	%	Household Members	n	%
18 – 25	78	20.2	1	63	16.3
26 – 35	141	36.4	2	130	33.6
36 – 45	60	15.5	3	108	27.9
46 – 55	57	14.7	4	71	18.3
56 – 65	50	12.9	5 ≤	15	3.9
66 ≤	1	.3			
Total	387	100.0	Total	387	100.0
Occupation	n	%	Education Level	n	%
Student	67	17.3	High school	44	11.4
Employed	264	68.2	Vocational	25	6.5
Retired	36	9.3	Undergraduate	213	55.0
Not specified	20	5.2	Graduate	105	27.1
Total	387	100.0	Total	387	100.0
Individual Income	n	%	Household Income	n	%
< 10,000 TL	69	17.8	< 10,000 TL	16	4.1
10,000 TL – 20,000 TL	98	25.3	10,000 TL – 20,000 TL	62	16.0
20,001 TL – 30,000 TL	85	22.0	20,001 TL – 30,000 TL	59	15.2
30,001 TL – 40,000 TL	44	11.4	30,001 TL – 40,000 TL	60	15.5
40,000 TL <	91	23.5	40,000 TL <	190	4.1
Total	387	100.0	Total	387	100.0
Gender	n	%	Marital State	n	%
Male	169	43.7	Married	152	39.3
Female	215	55.6	Not married	285	60.7
Not specified	3	.8			
Total	387	100.0	Total	387	100.0

The majority of the sample ordered meals via online food delivery services once or twice a week (n = 120, 31.0%). Other frequencies of usage for online food delivery applications are shown in Table 6. In addition, it is observed that mostly people ordered via online food delivery applications for themselves at home (n = 254, 65.6%), for their families and friends at home (n = 167, 43.2%), for themselves at work or school (n = 84, 21.7%), and for coworkers and friends at work or school (n = 59, 15.2%). The most used online food delivery application was Yemeksepeti (n = 293, 75.7%), followed by GetirYemek (n = 173, 44.7%), Trendyol Yemek (n = 158, 40.8%), applications of restaurants (n = 59, 15.3%), Fuudy (n = 18, 4.7%), Tıkla Gelsin (n = 6, 1.6%), and Migros Yemek (n = 5, 1.3%).

Table 6. Frequency of Use of OFD Services

Frequency of Use	Frequency	Percent
Every meal	2	.5
Every day	20	5.2
5-6 times a week	26	6.7
3-4 times a week	49	12.7
1-2 times a week	120	31.0
Once every two weeks	52	13.4
Once every three weeks	24	6.2
Once a month	74	19.1
Less frequently	20	5.2
Total	387	100.0

Respondents were also asked about the details of the negative online food delivery service that they could recall. Most of the time, people encountered more than one problem, and the main issues were related to late deliveries (n = 103,

26.6%), receiving the wrong order (n = 80, 20.7%), poor meal quality (n = 72, 18.6%), missing order items (n = 61, 15.7%), poor packaging (n = 46, 11.9%), high delivery fees (n = 25, 6.5%), poor customer service (n = 9, 2.3%), and payment issues (n = 6, 1.6%). The majority of the sample ordered pizza (n = 96, 24.8%) via Yemeksepeti (n = 188, 48.6%), with an order size for one person (n = 149, 38.5%), for themselves at home (n = 218, 56.3%), and paid less than 200 TL (n = 185, 47.8%). Interestingly, the majority of the sample reported on an incident that happened 1 to 2 months ago (n = 96, 24.8%), followed by 3 to 6 months and more than 6 months (both n = 69, 17.8%), 1 to 2 weeks (n = 67, 17.3%), 3 to 4 weeks (n = 60, 15.5%), and less than a week ago (n = 26, 6.7%). 53.0% (n = 205) of the orders were delivered by the online food delivery service's deliveryman. 70% of the time, people had ordered from the restaurant with an online food delivery application before, and 52.2% had never been physically to the restaurant. Other details regarding the negative experience are shown in Table 7 below.

When asked to whom customers attributed the responsibility of the issue, 53.2% of the sample (n = 206) fully held the restaurant responsible. 42.4% (n = 164) and 41.3% (n = 160) of the sample held neither the deliveryman nor the online food delivery service responsible, respectively. 31.3% (n = 121) of the sample would rate the service one star out of five (one being the worst), and 33.6% (n = 130) would rate the service only two stars. Regarding their post-service behavior, the sample posted an online rating (n = 169, 43.7%), posted an online review (n = 127, 32.8%), engaged in negative WOM (n = 102, 26.4%), called the restaurant (n = 78, 20.2%), called the online food delivery service provider (n = 77, 19.9%), posted on social media (n = 11, 2.8%), and did nothing (n = 93, 24%).

Table 7. Details of the Negative OFD Service Encounter

Ordered Dish	Frequency	Percent	Application	Frequency	Percent
Pizza	96	24.8	GetirYemek	69	17.8
Hamburger	87	22.5	Yemeksepeti	188	48.6
Doner / Kebap	61	15.8	TrendyolYemek	74	19.1
Chicken	33	8.5	Tıkla Gelsin	3	.8
Lahmacun	22	5.7	Restaurant's Apps	49	12.7
Dessert	19	4.9	Migros Yemek	4	1.0
Salad	8	2.1			
Pide	7	1.8			
Multiple dishes	40	10.3			
Other	14	3.6			
Total	387	100.0	Total	387	100.0
Price Paid	Frequency	Percent	Order Size	Frequency	Percent
< 200 TL	185	47.8	1 person	149	38.5
200 – 400 TL	148	38.2	2 people	125	32.3
401 – 600 TL	24	6.2	3 people	54	14.0
601 – 800 TL	18	4.7	4 people	38	9.8
800 TL <	12	3.1	5 ≤	21	5.4
Total	387	100.0	Total	387	100.0
Situation				Frequency	Percent
For themselves at home				218	56.3
For their families and friends at home				112	28.9
For themselves at work or school				38	9.8
For coworkers and friends at work or school				18	4.7
Other				4	1.0
Total				387	100.0

5.3 Reliability analysis

For reliability, Cronbach's alpha values of variables will be measured. Cronbach's alpha is a measurement for the internal consistency and stability of scales (Cronbach, 1951). Higher values in the range of 0.0 to 1.0 indicate higher reliabilities, and a minimum threshold of 0.70 is recommended (Hair et al., 2019).

Scales for OFD service quality—interactive marketing ($\alpha = .891$, $n = 22$), value ($\alpha = .850$, $n = 3$), dissatisfaction ($\alpha = .812$, $n = 3$), anger ($\alpha = .826$, $n = 3$), regret ($\alpha = .942$, $n = 3$), venting negative feelings ($\alpha = .900$, $n = 4$), altruism ($\alpha = .883$, $n = 4$),

posting on social media ($\alpha = .856$, $n = 3$), and posting online ratings ($\alpha = .849$, $n = 3$), all reported a high value of Cronbach's alpha above the minimum acceptable level, indicating that these scales are highly reliable. On the posting online reviews scale, a Cronbach's α of .695 is reported, which is below the recommended threshold. Table 8 depicts the item-total statistics of the posting online reviews scale.

Table 8. Item-Total Statistics for Posting Online Reviews

Item Code	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
RW1	5.52	7.240	.344	.784
RW2	6.22	4.685	.634	.429
RW3	6.27	5.168	.581	.508

Based on the values specified in Table 8, deleting item RW1 would increase the Cronbach's alpha value to .784, which is higher than the acceptable level. Therefore, item RW1 has been eliminated from further analyses, and the posting online reviews scale is determined to be internally consistent ($\alpha = .784$, $n = 2$).

5.4 Exploratory factor analysis

For assessing the unidimensionality of the scales and the underlying relationships among scale variables, Exploratory Factor Analysis (EFA) is employed (Hair et al., 2019). Scale items that are strongly related to a dimension are desired to load on a single factor, which reflects unidimensionality. Based on the current study's sample size of 387 and the number of variables amounting to 50, a minimum factor loading of 0.5 and above will be considered significant.

Before conducting EFA, it should be assessed whether the data is appropriate for factor analysis. For this purpose, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett’s test of sphericity for significance are used in this study. The KMO value should be greater than the threshold of 0.60, and Bartlett’s should be significant (Tabachnick & Fidell, 2013). If data is deemed appropriate for factor analysis based on these measures, the principal components method will be used for the extraction of Eigenvalues and the total variance explained. Factors that report Eigenvalues greater than 1.0 will be considered significant. Lastly, the VARIMAX rotation method will be used for clearly distinguishing factor loadings and improving interpretations by simplifying the factor structure.

5.4.1 OFD service quality—interactive marketing scale

The OFD service quality scale has been developed by Cheng et al. (2021), and recently Koay et al. (2022) utilized the scale in their study, which demonstrated unidimensionality. For the current study, the dimensionality of the 22-item OFD Service Quality—Interactive Marketing scale is assessed with EFA. Table 9 depicts the KMO and Bartlett’s test results, which demonstrate that the data is appropriate for factor analysis.

Table 9. KMO and Bartlett's Test for OFD Service Quality—Interactive Marketing

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.881
Bartlett's Test of Sphericity	Approx. Chi-Square	4289.968
	df	231
	Sig.	.000

Five factors reported an Eigenvalue higher than 1.0, explaining cumulatively 64% of the OFD service quality—interactive marketing. Eigenvalues and total variance explained are depicted in Table 10.

Table 10. Total Variance Explained for OFD Service Quality—Interactive Marketing

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.095	32.249	32.249	7.095	32.249	32.249
2	2.939	13.359	45.608	2.939	13.359	45.608
3	1.456	6.619	52.227	1.456	6.619	52.227
4	1.421	6.461	58.688	1.421	6.461	58.688
5	1.247	5.668	64.356	1.247	5.668	64.356

These findings are in contrast with previous research, as the OFD service quality—interactive marketing dimension was explained by four factors: reliability, maintenance of meal quality and hygiene, assurance, and traceability. To interpret these factor loadings, a rotated component matrix is used, as shown in Appendix D. Items MQ6 and AS6 did not significantly load on any component, and RL5 loaded on multiple components. Therefore, these items were excluded from further analysis. Furthermore, several items that were meant for measuring assurance loaded on Reliability and Traceability dimensions. Also, a fifth dimension is detected, relating to the problem-solving skills of the deliveryman. Therefore, this dimension will be labeled “Responsiveness.” Responsiveness is a dimension in service quality research related to helping customers solve their problems and address their requests

(Parasuraman et al., 1988) and is characterized as an important source of satisfaction (Johnston, 1995).

5.4.2 Value scale

For the 3-item Value scale adapted from Sukhu et al. (2017), KMO and Bartlett’s test results showed that the sample data was appropriate for EFA (see Table 11). All items demonstrated significant factor loadings on one single component, with a reported Eigenvalue of 2.309, explaining 76.97% of the total variance. Therefore, all items were retained for further analysis.

Table 11. KMO and Bartlett's Test for Value

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.724
Bartlett's Test of Sphericity	Approx. Chi-Square	504.914
	df	3
	Sig.	.000

5.4.3 Dissatisfaction scale

KMO and Bartlett’s test showed the 3-item Dissatisfaction scale adapted from Sánchez-García & Currás-Pérez (2011) was fit for EFA (see Table 12). Only one component with an Eigenvalue greater than 1.0 (2.186) was observed, which explained 72.87% of the total variance, meaning that all items loaded on one single factor. Therefore, the scale was deemed unidimensional, and all items were retained for further analysis.

Table 12. KMO and Bartlett's Test for Dissatisfaction

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.697
Bartlett's Test of Sphericity	Approx. Chi-Square	405.430
	df	3
	Sig.	.000

5.4.4 Anger scale

The 3-item Anger scale adapted from Sánchez-García & Currás-Pérez (2011) was found to be suitable for EFA following the KMO and Bartlett's test, as shown in Table 13. The factor analysis extracted one single component with an Eigenvalue of 2.237, which explained 74.57% of the total variance. As a result, all items were kept for further analysis.

Table 13. KMO and Bartlett's Test for Anger

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.664
Bartlett's Test of Sphericity	Approx. Chi-Square	518.884
	df	3
	Sig.	.000

5.4.5 Regret scale

For the 3-item Regret scale adapted from Sánchez-García & Currás-Pérez (2011), KMO and Bartlett's test results show a good fit for EFA (see Table 14). Following EFA, a single factor structure was formed where all factors loaded on one single component that had an Eigenvalue of 2.688 and that explained 89.60% of the total variance. Therefore, all items were kept in the following analyses.

Table 14. KMO and Bartlett's Test for Regret

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.756
Bartlett's Test of Sphericity	Approx. Chi-Square	1087.101
	df	3
	Sig.	.000

5.4.6 Venting negative feelings scale

Following KMO and Bartlett's test results for the 4-item Venting Negative Feelings scale, as adapted from Hu & Kim (2018), EFA was found to be befitting (see Table 15). The results from principal component analysis demonstrated a single factor structure where the only component with an Eigenvalue greater than 1 (3.083) also explained 77.07% of the total variance. As a result, all items were used in subsequent analyses.

Table 15. KMO and Bartlett's Test for Venting Negative Feelings

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.826
Bartlett's Test of Sphericity	Approx. Chi-Square	977.799
	df	6
	Sig.	.000

5.4.7 Altruism scale

The 4-item Altruism scale, adapted from Hu & Kim (2018), demonstrated unidimensionality. KMO and Bartlett's test results demonstrate that EFA was suitable for this measurement, as shown in Table 16. All factors are loaded on one single component, which is reported to have an Eigenvalue of 2.977 and to explain 74.43% of the total variance. Thus, all items were retained for future analyses.

Table 16. KMO and Bartlett's Test for Altruism

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.776
Bartlett's Test of Sphericity	Approx. Chi-Square	959.759
	df	6
	Sig.	.000

5.4.8 Posting on social media scale

Adapted from T. (Christina) Zhang et al. (2017), the 3-item Posting on Social Media scale was found to be fit for EFA (see Table 17). A single-factor structure is observed where the component that explains 77.72% of the total variance possesses an Eigenvalue of 2.331. Therefore, all items were included in further analyses.

Table 17. KMO and Bartlett's Test for Posting on Social Media

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.685
Bartlett's Test of Sphericity	Approx. Chi-Square	576.711
	df	3
	Sig.	.000

5.4.9 Posting online ratings scale

The 3-item Posting Online Ratings scale adapted from T. Zhang et al. (2020) demonstrated conformity for EFA after KMO and Bartlett's test results (see Table 18). All factors are observed to load on one single component with an Eigenvalue of 2.321 and a 77.373% explanation of the total variance. As a result, all items were utilized for the following analyses.

Table 18. KMO and Bartlett's Test for Posting Online Ratings

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.674
Bartlett's Test of Sphericity	Approx. Chi-Square	561.574
	df	3
	Sig.	.000

5.4.10 Posting online reviews scale

Following reliability analysis, item RW1 was extracted from the 3-item posting online reviews scale that was adapted from T. Zhang et al. (2020) due to a low Cronbach's alpha value (see Table 8). For the remaining two items, KMO and Bartlett's test were used to assess whether EFA was appropriate. As shown in Table 19, the KMO value is below the acceptable level of 0.6. Therefore, EFA could not be conducted for this scale, and the remaining two items were excluded from further analysis. Consequently, H3B, H4B, H4E, H5B, and H6B could not be tested.

Table 19. KMO and Bartlett's Test for Posting Online Reviews

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
Bartlett's Test of Sphericity	Approx. Chi-Square	206.936
	df	1
	Sig.	.000

5.5 Structural equational modeling

Structural Equational Modeling (SEM) is a confirmatory multivariate analysis technique with the purpose of testing and confirming the underlying theory of a research model (Hair et al., 2019). It is based on multiple regression analyses and allows simultaneous testing of relationships between multiple independent and

dependent variables (Tabachnick & Fidell, 2013). SEM consists of two steps: validation of the measurement model through Confirmatory Factor Analysis (CFA) and testing of the structural model.

IBM SPSS AMOS Software Version 27 was used for SEM analyses.

5.5.1 Confirmatory factor analysis

With EFA, the unidimensionality of the measures used in this study was established. In order to confirm the convergent and discriminant validity of the measurement model, CFA will be used, building upon the measurement theory. CFA is helpful in determining to what extent measured variables represent theoretical constructs, or, in other words, latent factors (Hair et al., 2019).

Following EFA results, Reliability, MMQH, Traceability, Value, Dissatisfaction, Anger, Regret, Posting on Social Media (Social), and Posting Online Ratings (Rating) were included in CFA. Due to the three-indicator rule (Hair et al., 2019), the Assurance and Responsiveness dimensions extracted from EFA were not taken into consideration for SEM because they only had two indicators. Therefore, H1C could not be tested.

A total of 33 items was tested with CFA. First, it was checked whether any item had a lower factor loading than the minimum threshold of 0.50 (Hair et al., 2019). Accordingly, item TR1 (*the deliveryman voluntarily informed expected delivery time*) was omitted due to a low factor loading of 0.396. The remaining factor loadings are shown in Table 20 below.

Table 20. Factor Loadings for the CFA Model

Latent Constructs	Indicator Variables	Factor Loadings	Latent Constructs	Indicator Variables	Factor Loadings
Reliability	RL3	.659	Dissatisfaction	D2	.682
	RL2	.780		D1	.753
	RL4	.842		D3	.876
	RL7	.817	Anger	AN2	.944
	AS1	.590		AN1	.818
	AS5	.693		AN3	.712
MMQH	MQ2	.906	Regret	RE2	.947
	MQ1	.926		RE1	.939
	MQ3	.785		RE3	.872
	MQ4	.620	Social	SM2	.943
	MQ5	.703		SM1	.687
Traceability	TR2	.518	Rating	SM3	.828
	AS3	.543		RA2	.780
	TR3	.689		RA1	.727
Value	V2	.876	Rating	RA3	.950
	V1	.749			
	V3	.801			

Additionally, Hair et al. (2019) indicate that within-construct error covariances could be established if the modification index is higher than 4.0 and if it is supported by theory in order to generate a better model fit. Consequently, covariances between e26 and e28, e12 and e15, e9 and e10, and between e7 and e8 were added to the model based on their modification indices, which were all reported to be higher than 10.0.

Finally, the finalized measurement model should have a good fit; that is, the underlying theoretical structure of the model should be able to represent or fit the reality as suggested by the data (Hair et al., 2019). The model fit indices for the current CFA model were reported as $\chi^2/df = 2.358$ (with $\chi^2 = 999.625$ and 424

degrees of freedom, $p < 0.001$), along with RMSEA = 0.059, CFI = 0.927, and TLI = 0.915. The generally acceptable thresholds for these widely reported goodness-of-fit indices are $\chi^2/df < 3$, RMSEA < 0.07 , CFI > 0.92 , and TLI > 0.92 (Hair et al., 2019). Thusly, it is concluded that the model achieved represents a good fit. The final version of the measurement model after CFA is shown in Figure 6 below.

Based on the final version of the CFA model, construct validity should be established, which would indicate the accuracy of the measurement model (Hair et al., 2019). In order to establish construct validity, convergent validity among the measures should be assessed first. CR and AVE are indicators of convergent validity. When CR is ≥ 0.7 and AVE is ≥ 0.5 , it is estimated that construct validity is established (Hair et al., 2019). CR and AVE values for current constructs are shown in Table 21 below. Consequently, Traceability has been removed from further analysis due to low CR (0.610) and AVE (0.346) values. Therefore, H1D could not be tested. Based on the remaining CR and AVE values, it is determined that the measurement model exhibits convergent validity.

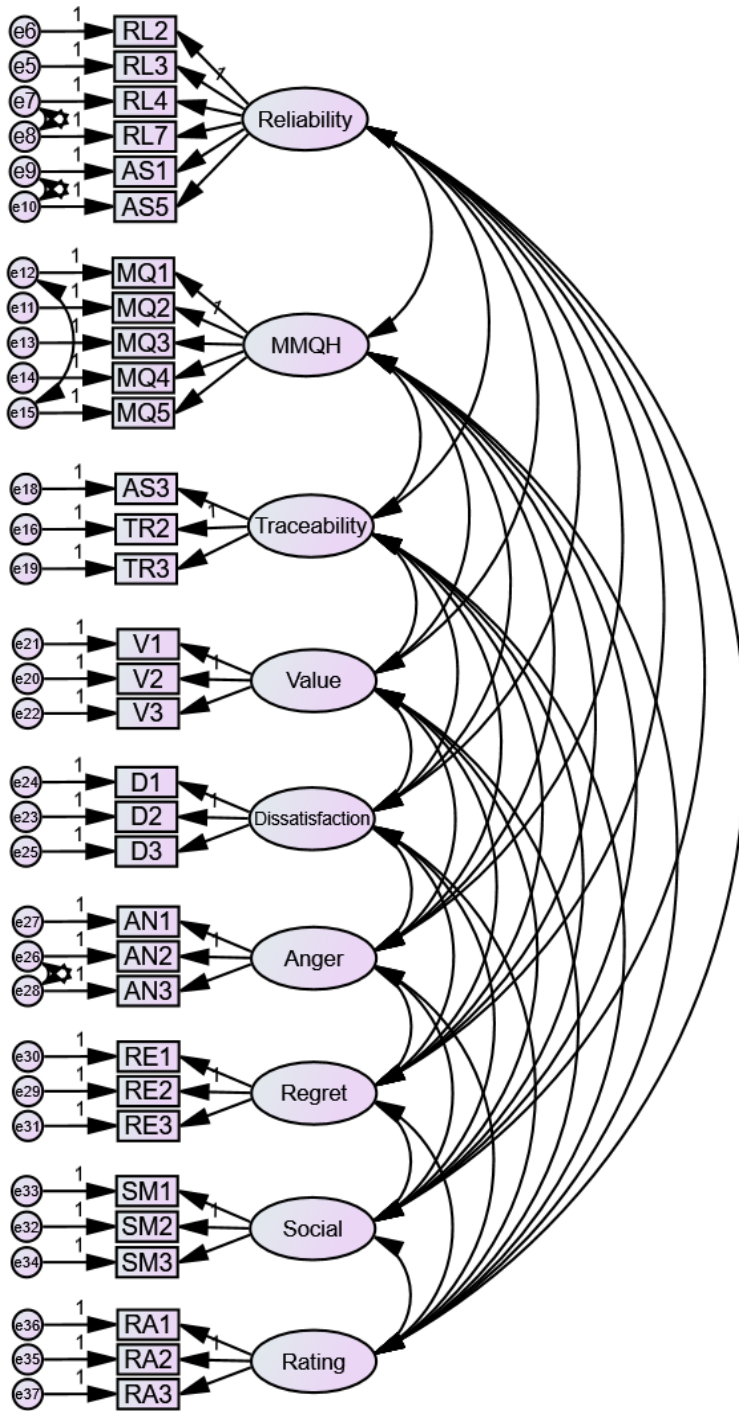


Figure 6. Measurement model after CFA

Table 21. Convergent Validity Analysis

Constructs	CR (≥ 0.7)	AVE (≥ 0.5)
Reliability	.875	.541
MMQH	.895	.635
Traceability	.610	.346
Value	.851	.657
Dissatisfaction	.816	.600
Anger	.868	.689
Regret	.943	.846
Posting on Social Media	.864	.682
Posting Online Ratings	.863	.680

The discriminant validity of the model is analyzed using the Fornell-Larcker criterion, that is, the square root of the AVE of a single construct should be higher than its correlation with another construct (Fornell & Larcker, 1981). Discriminant analysis results are shown in Table 22 below. It is observed that the square root of Dissatisfaction's AVE is slightly smaller than its correlation with Anger while the square root of Anger's AVE is higher than its correlation with Dissatisfaction. Therefore, it is accepted that the measurement model exhibits discriminant validity and, consequently, construct validity.

Table 22. Discriminant Validity Analysis

Constructs	Regret	Anger	Social	Rating	Value	MMQH	Dissatisfaction	Reliability
Regret	0,920							
Anger	0,792	0,830						
Social	0,214	0,253	0,826					
Rating	0,398	0,395	0,285	0,825				
Value	-0,321	-0,242	-0,065	-0,067	0,810			
MMQH	-0,390	-0,421	-0,158	-0,150	0,360	0,797		
Dissatisfaction	0,742	0,792	0,226	0,322	-0,315	-0,522	0,774	
Reliability	-0,003	0,017	-0,063	0,072	0,468	0,347	0,040	0,736

5.5.2 Structural model and hypotheses testing

As construct validity is established, the measurement model is validated, and the structural model can be tested, where the nature and magnitude of the structural relationships between the constructs are measured (Hair et al., 2019). Based on the outcomes of the CFA, the structural model was generated (see Figure 7). The model demonstrated a good fit with $\chi^2/df = 2.287$ (with $\chi^2 = 820.948$ and 359 degrees of freedom, $p < 0.001$), along with RMSEA = 0.058, CFI = 0.938, and TLI = 0.930.

Since goodness-of-fit indices are higher than acceptable levels, no modifications are required, and hypotheses can be tested. The results of the hypothesis testing are shown in Table 23 below. Perceived value for money significantly influences dissatisfaction with the restaurant ($-0.294, p < 0.001$); that is, when perceived value decreases, dissatisfaction increases, supporting H1E. A similar result was found for H1B, as MMQH significantly influences dissatisfaction with the restaurant ($-0.529, p < 0.001$). Reliability was also found to positively influence dissatisfaction with the restaurant ($0.349, p < 0.001$), supporting H1A. Dissatisfaction was found to positively influence anger ($0.860, p < 0.001$) and regret ($0.818, p < 0.001$), supporting H3. Neither dissatisfaction, anger, nor regret were found to significantly influence posting on social media. While no significant influence of dissatisfaction with the restaurant on posting online ratings was found, anger ($0.257, p < 0.05$) and regret ($0.267, p < 0.05$) significantly influenced posting online ratings, supporting H4A and H4D while also suggesting mediation. When direct and indirect effects are examined, it is observed that the mediated effect of dissatisfaction with the restaurant on posting online ratings is .439, with a total effect of .360.

Squared multiple correlations (R^2) for variances in dependent variables indicated that 37.7% of dissatisfaction, 66.9% of regret, 74.0% of anger, 17.0% of

posting online ratings, and 0.6% of posting on social media are predicted as a result of the SEM analysis.

Table 23. Path Coefficients and Hypotheses Test Results

Hypotheses		Path Coefficients	<i>p</i> -value	Status
H1E	Dissatisfaction <--- Value	-.294	< 0.001	Supported
H1B	Dissatisfaction <--- MMQH	-.529	< 0.001	Supported
H1A	Dissatisfaction <--- Reliability	.349	< 0.001	Supported
H2A	Anger <--- Dissatisfaction	.860	< 0.001	Supported
H2B	Regret <--- Dissatisfaction	.818	< 0.001	Supported
H3C	Social <--- Dissatisfaction	.080	.675	Not supported
H3A	Rating <--- Dissatisfaction	-.079	.664	Not supported
H4C	Social <--- Anger	.156	.242	Not supported
H4A	Rating <--- Anger	.257	.047	Supported
H4F	Social <--- Regret	.029	.796	Not supported
H4D	Rating <--- Regret	.267	.013	Supported

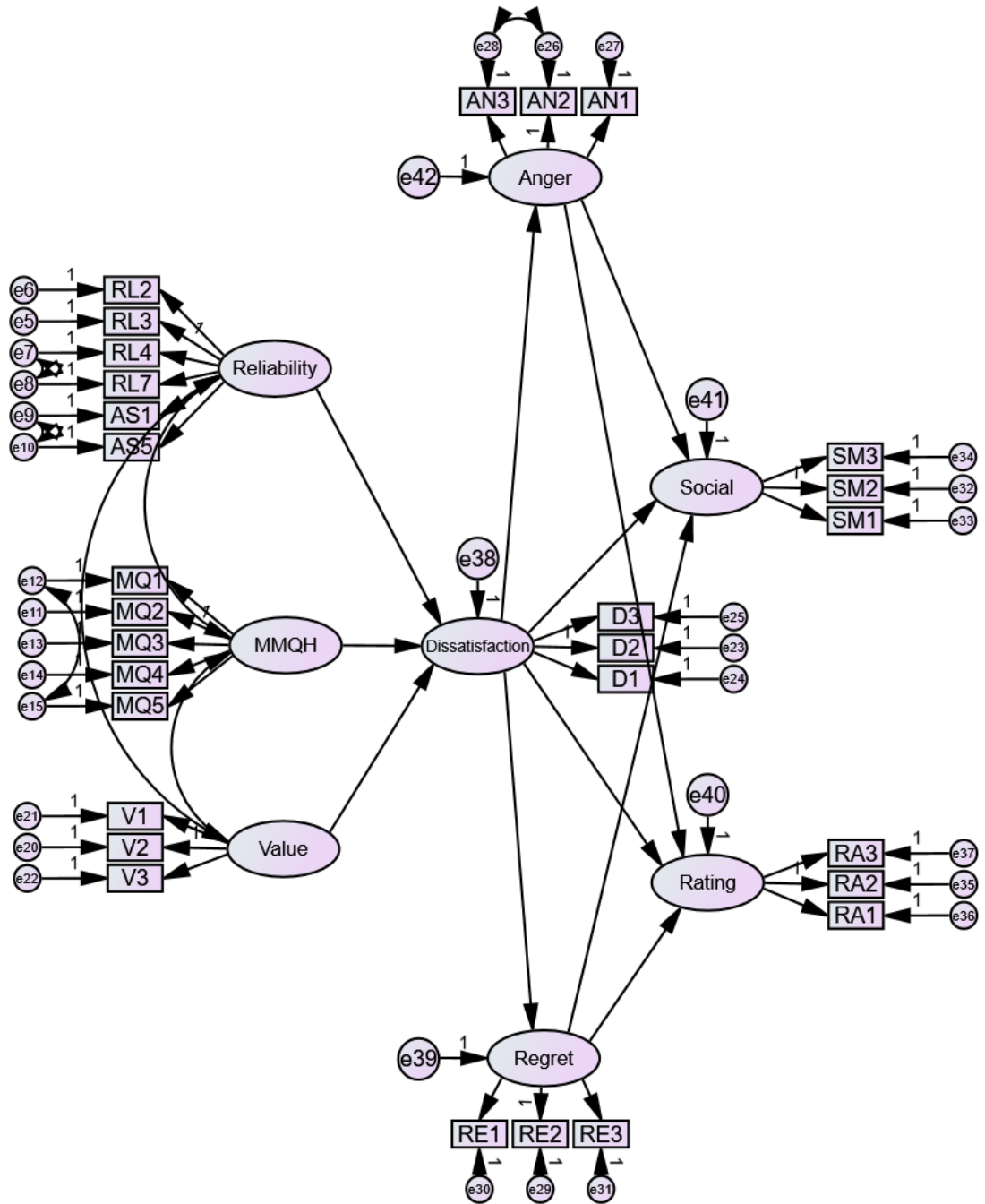


Figure 7. The structural model

5.6 Moderation analysis

As the relationship between negative emotions after a dissatisfactory service (anger and regret) and NeWOM behavior (posting online ratings and posting on social media) is established with SEM analysis, the moderation effects of Altruism and Venting Negative Feelings on these relationships can be assessed. Moderator effects have been analyzed with IBM SPSS Statistics Software Version 27, following the guidelines suggested by Hair et al. (2019).

As a first step, correlations between independent and moderator variables have been checked for multicollinearity. Correlations with values higher than 0.7 would indicate a problem of multicollinearity (Tabachnick & Fidell, 2013). In order to make interpretation easier and eliminate multicollinearity, standardized (centered) values will be taken into consideration during the regression analysis. An interaction term will be computed between the standardized independent variable and the moderator. Finally, using regression analysis, the change in R^2 between the unmoderated and moderated relationships will be examined, and it will be determined whether the interaction effect is significant or not. As a result of the regression analysis, tolerance and VIF values will be checked to establish the absence of multicollinearity.

Assumptions of regression were also checked based on the residual analysis (Hair et al. 2019). While standardized residuals were observed to closely follow the diagonal line on the p-p plot, scores on the scatterplots indicated that the regression models were weak. While the moderating effects are examined, the results do not indicate strong significance. For the scatter plots, please refer to Appendix E.

5.6.1 Moderating effect of altruism

First, the correlation between regret and altruism is examined (see Table 24). Since the correlation value is below 0.7, multicollinearity might not be an issue.

Nonetheless, values are standardized, the interaction term between regret and altruism can be computed, and regression analysis will be executed. Henceforth, this interaction term will be named *Regret x Altruism*.

Table 24. Correlation Between Regret and Altruism

		Regret	Altruism
Regret	Pearson Correlation	1	.413**
	Sig. (2-tailed)		.000
	N	387	387
Altruism	Pearson Correlation	.413**	1
	Sig. (2-tailed)	.000	
	N	387	387
**. Correlation is significant at the 0.01 level (2-tailed)			

5.6.1.1 Posting online ratings

In order to assess the moderation effect of altruism on the relationship between regret and posting online ratings, the change in R^2 is examined. The results of the regression analysis are shown in Table 25 below. The interaction effect has been found to be significant at the $p < 0.05$ level, signifying a moderating effect of altruism on the relationship between regret and posting online ratings. Also, based on R^2 values, it is determined that 26.9% of the variance in posting online ratings can be explained by this moderation.

Table 25. Change in R^2 for the Effect of Altruism on Posting Online Ratings

Predictors	R	R^2	ΔR^2	Sig. ΔF
Regret, Altruism	.504	.254	.254	.000
Regret, Altruism, Regret x Altruism	.519	.269	.015	.005

For estimating how altruism moderates this relationship, beta coefficients should be examined. As shown in Table 26, a positive Beta coefficient of .144 indicates that altruism has a significant positive moderation effect on the relationship between regret and posting online ratings. The standardized Beta coefficient of .127 indicates that Altruism only slightly strengthens this moderator relationship.

Table 26. Coefficients for Moderation Effect of Altruism on Posting Online Ratings

Predictor	Beta	STD Beta	Sig.
Regret x Altruism	.144	.127	.005

Lastly, tolerance and VIF values indicate that there is no multicollinearity with posting online ratings as the dependent variable (see Table 27).

Table 27. Collinearity Statistics for Regret x Altruism on Posting Online Ratings

Independent Variables	Tolerance	VIF
Regret	.827	1.209
Altruism	.806	1.240
Regret x Altruism	.956	1.046

5.6.1.2 Posting on social media

The change in R^2 is examined to determine the moderation effect of altruism on the relationship between regret and posting on social media. The results of the regression

analysis are shown in Table 28 below. The interaction effect has been found not to be significant. Therefore, no moderating effect of altruism on the relationship between regret and posting on social media was found.

Table 28. Change in R² for the Effect of Altruism on Posting on Social Media

Predictors	R	R ²	ΔR ²	Sig. ΔF
Regret, Altruism	.339	.115	.115	.000
Regret, Altruism, Regret x Altruism	.340	.115	.000	.705

5.6.2 Moderating effect of venting negative feelings

Before conducting regression analysis, correlations between anger and venting negative feelings should be assessed (see Table 29). While the correlation value is observed to be smaller than 0.7, values are standardized to simplify the interpretation of the results. The interaction term between anger and venting negative feelings (VNF) is computed for regression analysis. Henceforth, this interaction term will be named *Anger x VNF*.

Table 29. Correlation Between Anger and Venting Negative Feelings

		Anger	VNF
Anger	Pearson Correlation	1	.632**
	Sig. (2-tailed)		.000
	N	387	387
VNF	Pearson Correlation	.632**	1
	Sig. (2-tailed)	.000	
	N	387	387
**. Correlation is significant at the 0.01 level (2-tailed)			

5.6.2.1 Posting online ratings

The moderation effect of venting negative feelings on the relationship between anger and posting online ratings is examined by observing the change in R^2 . The results of the regression analysis are shown in Table 30 below. The interaction effect has been found not to be significant.

Table 30. Change in R^2 for the Effect of VNF on Posting Online Ratings

Predictors	R	R^2	ΔR^2	Sig. ΔF
Anger, VNF	.448	.200	.200	.000
Anger, VNF, Anger x VNF	.448	.200	.000	.877

5.6.2.2 Posting on social media

Based on the results of the regression analysis (see Table 31), the change in R^2 is examined to determine the moderation effect of venting negative feelings on the relationship between anger and posting on social media. The interaction effect is observed to be significant at the $p < 0.05$ level. Therefore, the moderation effect of venting negative feelings on the relationship between anger and posting on social media is suggested. R^2 values also indicate that 17.6% of the variance in posting on social media can be explained by this moderation.

Table 31. Change in R^2 for the Effect of VNF on Posting on Social Media

Predictors	R	R^2	ΔR^2	Sig. ΔF
Anger, VNF	.403	.163	.163	.000
Anger, VNF, Anger x VNF	.420	.176	.013	.013

For estimating how the relationship between anger and posting on social media is moderated by venting negative feelings, beta coefficients should be

examined. As shown in Table 32, a negative Beta coefficient of -.133 indicates that venting negative feelings has a significant negative moderation effect on this relationship. The standardized Beta coefficient of -.117 indicates that venting negative feelings actually weakens this relationship.

Table 32. Coefficients for Moderation Effect of VNF on Posting on Social Media

Predictor	Beta	STD Beta	Sig.
Anger x VNF	-.133	-.117	.013

Lastly, tolerance and VIF values indicate that there is no multicollinearity with posting on social media as the dependent variable (see Table 33).

Table 33. Collinearity Statistics for Anger x VNF on Posting on Social Medias

Independent Variables	Tolerance	VIF
Anger	.600	1.667
VNF	.589	1.699
Anger x VNF	.976	1.025

CHAPTER 6

DISCUSSION AND CONCLUSION

6.1 Overview of results

Research on OFD service encounters is relatively new. It gained importance, especially with the COVID-19 pandemic, as customers heavily opted for online food ordering for safety measures. While the OFD service quality dimensions that affect customer satisfaction have been established (Cheng et al., 2021; Koay et al., 2022), research on their effects on dissatisfaction has been limited. Also, as previous research suggested, customers' attribution of the OFD service performance to that of the restaurant's is examined (Xu, 2021). This research sheds light on this issue by investigating which OFD service quality dimensions in a negative service encounter influence dissatisfaction with the restaurant. For this reason, OFD service quality dimensions that refer to the interaction between the deliveryman, the frontline employee, and the customer are investigated. Consequential emotions regarding dissatisfaction with the restaurant are also examined to determine the potential causes of NeWOM engagement. Overall, the findings support the conceptual model proposed in this research.

Results demonstrate that the reliability of the deliveryman, the maintenance of meal quality and hygiene after delivery, and the value for money offered by the restaurant significantly affected dissatisfaction with the restaurant service. When perceived value decreased and meal and hygiene qualities deteriorated, dissatisfaction with the restaurant's service increased.

Interestingly, results indicated that when customers' reliability of the deliveryman increased (mostly in terms of behavior), customer dissatisfaction with

the restaurant increased as well. This could be related to customers' attribution of the fault to the firm, which they tend to do when the reason for the service failure is ambiguous (Baker & Kim, 2018; Folkes, 1984). The majority of the sample also (n = 206, %53.2) reported that they perceived the restaurant to be fully responsible while attributing less responsibility to the OFD service provider and the deliveryman. When customers perceive that the deliveryman was reliable, they do not blame him for their problems and consequently blame the restaurant more for the fault.

In line with previous research, dissatisfaction with the restaurant's service strongly influenced anger towards the restaurant and regret for choosing that restaurant (Sánchez-García & Currás-Pérez, 2011; Zeelenberg & Pieters, 2004). In turn, these emotions significantly influenced the posting of online ratings of the restaurant's service. This finding implies that customers' postings of online ratings are emotional responses. Research had suggested that customers were more likely to engage in NeWOM activities following a service failure (Harrison-Walker, 2019; Wetzer et al., 2007).

While dissatisfaction led to regret and anger, which led to posting online ratings, no significant relationship was detected between dissatisfaction and posting on social media, contrasting with the previous research (Sukhu et al., 2017). This finding suggests the mediation effect of regret and anger. These negative emotions were found to increase the effect of dissatisfaction on posting online ratings. However, none of these constructs influenced posting on social media.

6.2 Limitations and further research

Neither dissatisfaction, anger, nor regret had a significant influence on postings on social media regarding the service failure. One possible explanation for this could be

the level of customer involvement. The majority of the sample had ordered food with a price less than 200 TL (n = 185, 47.8%), suggesting low involvement. Higher levels of involvement have been linked with higher levels of customer engagement (Pansari & Kumar, 2017). Further research should investigate what factors motivate or demotivate customers to post on social media regarding their negative experiences, such as technological savviness, ease-of-use of the applications, community-related motivations, and cautiousness in self-presentation on social media (Alalwan, 2020; Munar & Jacobsen, 2014; Seidman, 2013; T. (Christina) Zhang et al., 2017).

Future research should also focus on why reliability positively affects dissatisfaction with restaurant service. Besides customers' attribution bias, cultural differences might affect this relationship. It is important to note that customer attributional behaviors are found to vary depending on cultural orientations due to different sensitivities to situational variables (A. Mattila & Patterson, 2004). For example, customers were found to attribute the success of the service delivery outcome to the employees' performance when there was a cultural similarity between the customer and the front-line employee (Sichtmann & Micevski, 2018). Qualitative research could explore customers' perceptions of the role of the deliveryman in the OFD service encounter, and cross-cultural studies are encouraged.

Further research could also focus on how previous experiences with the restaurant affect customers' attributions of service failure in the context of OFD. The majority of the current sample had reported a previous experience with the restaurant (n = 271, 70%), and 52.2% (n = 202) had never been physically to the restaurant before. The differences in customer attributions based on their previous experiences with the service provider could be extensively examined.

In this research, while the moderating effects of knowledge sharing factors on the relationship between negative emotions and NeWOM behavior were investigated using regression, the model showed weakness. Even though the results of the regression suggested that altruistic people who experience regret for choosing the restaurant may post online ratings more than people who are not altruistic, and when angry customers highly desire to vent their negative feelings, their likelihood to post on social media decreases, these relationships should be further examined in order to be fully established.

In addition, other emotional outcomes of dissatisfaction could be investigated. Shame, guilt, and frustration are other strong emotions felt after a service failure, along with affect intensity, that act as an antecedent to negative WOM behavior (Harrison-Walker, 2019; Wetzer et al., 2007; Zeelenberg & Pieters, 2004). Other behavioral outcomes could be explored as well, such as switching and purchasing intentions (Tavitiyaman et al., 2022).

Finally, the results of the EFA indicate a potential fifth dimension of the interactive marketing concept of OFD service quality: *responsiveness*. Responsiveness is a service quality dimension that is related to the helpfulness of the employees when customers are faced with an issue (Parasuraman et al., 1988), and in the OFD context, it is related to the problem-solving skills of the deliveryman. Also, factors of the assurance dimension load on reliability and traceability, suggesting that they represent similar concepts. The OFD-SERV scale should be refined through further research.

6.3 Practical implications

Effective service recovery is important, and knowing the underlying emotions regarding customers' NeWOM is an essential step (Gyung Kim et al., 2010; Varela-Neira et al., 2008). Restaurants should routinely check their ratings and reviews and make the necessary corrections. The current sample reported that the main issues they had encountered were late deliveries. One possible solution to this is to reduce the delivery range.

Also, findings suggest that customers rely on the deliveryman during their OFD service. These deliverymen should be able to clearly and sincerely explain the problems faced with the order to the customer to mitigate the severity of the failure (A. Mattila & Patterson, 2004). They should be trained by the restaurant in handling customers' problems (Wirtz & Mattila, 2004). Restaurants should strengthen their interactive marketing by educating their frontline employees, and therefore they should prefer dispatching deliveries with their own, trained employees.

The main reasons customers use OFD services are convenience and the variety of meal options (Alalwan, 2020). These services should focus on providing a seamless and easy journey on their applications and adding a variety of restaurants to their portfolios. They should also allow ratings and feedback regarding their services so that they can improve their quality. OFD services should also consider their delivery fees, as some customers may find them highly priced.

APPENDIX A

LIST OF HYPOTHESES

HYPOTHESES	
Hypothesis 1	Negative service encounters with an online food delivery service influence dissatisfaction with the restaurant's service
H1A	Reliability of the online food delivery service influences dissatisfaction with the restaurant's service.
H1B	Maintenance of meal quality and hygiene of the online food delivery service influences dissatisfaction with the restaurant's service.
H1C	Level of assurance of the online food delivery service influences dissatisfaction with the restaurant's service.
H1D	Traceability of the online food delivery service influences dissatisfaction with the restaurant's service.
H1E	Value of the service encounter with the restaurant via online food delivery services influences dissatisfaction with the restaurant's service
Hypothesis 2	Dissatisfaction with the restaurant's service influences negative emotions.
H2A	Dissatisfaction with the restaurant's service influences anger.
H2B	Dissatisfaction with the restaurant's service influences regret.
Hypothesis 3	Dissatisfaction with the restaurant's service influences negative electronic word-of-mouth behavior.
H3A	Dissatisfaction with the restaurant's service influences posting online ratings.
H3B	Dissatisfaction with the restaurant's service influences posting online reviews.
H3C	Dissatisfaction with the restaurant's service influences posting on social media.
Hypothesis 4	Negative emotions due to service failure influence negative electronic word-of-mouth behavior.
H4A	Anger due service failure influences posting online ratings.
H4B	Anger due to service failure influences posting online reviews.
H4C	Anger due to service failure influences posting on social media.
H4D	Regret due to service failure influences posting online ratings.
H4E	Regret due to service failure influences posting online reviews.
H4F	Regret due to service failure influences posting on social media.
Hypothesis 5	Altruism moderates the relationship between regret and negative electronic word-of-mouth behavior.
H5A	Altruism moderates the relationship between regret and posting online ratings.
H5B	Altruism moderates the relationship between regret and posting online reviews.
H5C	Altruism moderates the relationship between regret and posting on social media.
Hypothesis 6	Venting negative feelings moderates the relationship between anger and negative electronic word-of-mouth behavior.
H6A	Venting negative feelings moderates the relationship between anger and posting online ratings.
H6B	Venting negative feelings moderates the relationship between anger and posting online reviews.
H6C	Venting negative feelings moderates the relationship between anger and posting on social media.

APPENDIX B

ETHICS COMMITTEE APPROVAL

Evrak Tarih ve Sayısı: 12.04.2023-122524

T.C.
BOĞAZİÇİ ÜNİVERSİTESİ
SOSYAL VE BEŞERİ BİLİMLER YÜKSEK LİSANS VE DOKTORA TEZLERİ ETİK İNCELEME
KOMİSYONU
TOPLANTI KARAR TUTANAĞI

Toplantı Sayısı : 43
Toplantı Tarihi : 12.04.2023
Toplantı Saati : 14:00
Toplantı Yeri : Zoom Sanal Toplantı
Bulunanlar : Prof. Dr. Feyza Çorapçı, Doç.Dr. Arhan S. Ertan, Dr. Öğr. Üyesi Yasemin Sohtorik İlkmen,
Dr. Öğr. Üyesi Ayşegül Metindoğan
Bulunmayanlar : Doç. Dr. Senem Yıldız

Deniz Kuter
İşletme

Sayın Araştırmacı,

"An Exploration of Online Food Delivery Services and Negative Electronic Word-of-Mount Behavior" başlıklı projeniz ile ilgili olarak yaptığımız SBB-EAK 2023/29 sayılı başvuru komisyonumuz tarafından 12 Nisan 2023 tarihli toplantıda incelenmiş ve uygun bulunmuştur.

Bu karar üyelerin toplantıya çevrimiçi olarak katılımı ve oy birliği ile alınmıştır. Onay mektubu üye ve raporör olarak Yasemin Sohtorik İlkmen tarafından toplantıya katılan bütün üyeler adına e-imzalanmıştır.

Saygılarımızla, bilgilerinizi rica ederiz.

Dr. Öğr. Üyesi Yasemin
SOHTORİK İLKMEN
Öğretim Üyesi

e-imzalıdır
Dr. Öğr. Üyesi Yasemin Sohtorik
İlkmen
Öğretim Üyesi
Raporör

SOBETİK 43 12.04.2023

Bu belge, güvenli elektronik imza ile imzalanmıştır.

APPENDIX C
QUESTIONNAIRE IN ENGLISH

Dear participant,

This survey is carried out for the master's thesis study conducted within the scope of Boğaziçi University Business Administration Master's program in order to reveal the relationship between online food delivery service quality and negative electronic word-of-mouth behavior regarding the restaurants providing the service and the mediating role of the negative feelings felt after the experience. This study aims to understand the negative emotions experienced by consumers after a negative online food ordering service experience and the negative electronic word-of-mouth behavior mediated by these feelings. For this purpose, if you agree to answer this survey, you will be asked 29 questions, 8 of which are demographic. It will take you approximately 10 minutes to answer the questionnaire.

Participation in the survey is voluntary, and your answers will remain anonymous. Only the researcher and the thesis advisor have access to the survey data for educational purposes. Your data will not be shared with other parties. Responses to the survey cannot be matched with the respondent because any personally identifiable data (e.g., name, surname, postal address, national ID number, etc.) will not be collected. The collected data can be used for further research. If you decide to participate in this survey, you may stop at any time. By not completing the survey, your answers will not be saved. There are no known risks involved in participating in this survey. No payment or compensation will be made to the participants.

If you have any questions about this thesis, please contact researcher Deniz Kuter and thesis advisor Prof. Gülден Asugman. If you have any questions about

your rights as a research participant, please contact the Social and Human Sciences Master's and Doctoral Thesis Ethics Review Commission (SOBETİK).

Thank you very much for your valuable contribution to the study by answering the questionnaire. When you have finished answering the questionnaire, please do not forget to press the "Send" button. This survey is about a recent bad online food ordering experience. If you cannot think of such an experience, please end the survey here.

Online Food Ordering Applications: These are online applications that act as an intermediary between customers and restaurants and provide food ordering services through mobile technology. Ex: GetirYemek, Yemeksepeti, etc.

Negative Electronic Word of Mouth Communication: Behaviors customers may engage in after negative experiences, such as online scoring, commenting, sharing on social media, etc. for various reasons.

1. On average, how often do you use online food ordering apps?

- Every meal
- Every day
- 5-6 days a week
- 3-4 days a week
- 1-2 days a week
- Once every two weeks
- Once every three weeks
- Once a month
- Other: (open-ended)

2. In which situations do you usually order food online? Please tick each case that applies to you.

- For myself at home For my friends and social circle at home
 For myself at work/school For my friends and social circle at
work/school
 Other: (open-ended)

3. Which online food ordering applications are you most frequently using? Please tick no more than three.

- GetirYemek Yemeksepeti Trendyol Yemek
 Fuudy TıklaGelsin Restaurant's applications
 Other: (open-ended)

Please answer the following questions based on your recent bad online food ordering experience:

4. Can you briefly describe the major issues in your bad online food ordering experience?: (open-ended)

5. What did you order? (Ex: Pizza, Breakfast, Doner, Dessert, etc.): (open-ended)

6. Which online food ordering app did you order through?

- GetirYemek Yemeksepeti Trendyol Yemek
 Fuudy Tıkla Gelsin Restaurant's applications
 Other: (open-ended)

7. What situation were you in when you ordered?
- For myself at home For my friends and social circle at home
- For myself at work/school For my friends and social circle at work/school
- Other: (open-ended)
8. How many people did you order for? Please specify with numbers: (open-ended)
9. How much did you pay, approximately?
- Less than 200 TL 200 – 400 TL
- 401 – 600 TL 601 – 800 TL
- More than 800 TL
10. Who delivered your order?
- Restaurant's deliveryman Application's deliveryman
- My order was not delivered
11. Have you ordered from this restaurant that you have had a negative experience with before through an intermediary application?
- Yes No
12. Have you ever been to this restaurant that you have had a negative experience with before through an intermediary application?
- Yes No

13. Approximately how long has it been since you had this bad experience?

- Less than a week 1 - 2 Weeks 3 - 4 Weeks
 1 - 2 Months 3 - 6 Months More than 6

14. Who do you think was responsible for your bad online food ordering experience?

1: Was not responsible at all – 5: Was fully responsible

a. How responsible was the restaurant?

- 1 2 3 4 5

b. How responsible was the deliveryman?

- 1 2 3 4 5

c. How responsible was the application?

- 1 2 3 4 5

15. The following statements are intended to measure your online food ordering experience: Please mark the answer that best fits you, taking into account your bad ordering experience that you reviewed in the first section.

	Very Dissatisfying	Dissatisfying	Not sure	Satisfying	Very Satisfying
The food flavor after delivery					
The food exquisite after delivery					
The smell of the dish after delivery					
The food temperature after delivery					
Maintain the appearance of meals					
The OFD service process met the hygiene requirements (e.g., deliveryman wore gloves to deliver meals, etc.)					

	Totally Disagree	Disagree	Neither Agree nor Disagree	Agree	Totally Agree
The deliveryman could correct errors quickly.					
The deliveryman's uniform was clean and tidy.					
The delivery box was clean and tidy					
The deliveryman's words and behaviors were respectful.					
Correct bills or details were provided.					
The deliveryman could help solve my problems.					
The deliveryman was kind and polite during the meal delivery.					
The deliveryman kept his promise to deliver once the order was accepted.					
The deliveryman delivered the food according to the order.					
The deliveryman delivered the meal quickly.					
The meal and its quantity were correct.					
The deliveryman was well trained and experienced.					
The OFD operator's delivery charge was reasonable.					
The deliveryman voluntarily informed expected deliver time.					
I could know the delivery progress through the system.					
The deliveryman clearly knew the place where the meal was going to be delivered.					
The restaurant offered good value for the price.					
The restaurant served appropriate portion size according to the industry standards.					
The food was reasonably priced according to the industry standards.					

16. The following statements are intended to measure your dissatisfaction with your bad online food ordering experience: Please mark the answer that best fits you, taking into account your bad ordering experience that you reviewed in the first section.

	Totally Disagree	Disagree	Neither Agree nor Disagree	Agree	Totally Agree
On the whole, I was dissatisfied with my experience with that service.					
Overall, my negative experiences outweighed my positive experiences.					
In general, I was unhappy with the hotel/restaurant.					

20. The following statements are intended to measure your negative electronic word-of-mouth behavior about your bad online food ordering experience. Please mark the answer that best fits you.

	Totally Disagree	Disagree	Neither Agree nor Disagree	Agree	Totally Agree
I would have liked to post an online rating for this service experience.	1	2	3	4	5
I rated this service experience online.					
I am most likely to post a rating for this service experience.					
If I had a useful idea on how to improve service, I will let the company/brand know through online platforms.					
When I received bad service from this restaurant, I commented about it online.					
When I experienced the problem, I let this restaurant know about it through online platforms.					
I shared this bad service experience online via social networking sites and mobile technology.					
I told my friends on social networking sites and mobile technology about my disappointment with the negative service experience.					
I let my friends know via social networking sites and mobile technology about this bad service provider.					

21. The following statements are intended to measure your level of thinking about others and letting go of bad feelings after a bad online food ordering experience. Please mark the answer that best fits you.

	Totally Disagree	Disagree	Neither Agree nor Disagree	Agree	Totally Agree
I wanted to express my anger about the negative experience I had.					
I wanted to warn others.					
Such bad service providers should be punished.					
I wanted to vent my negative feelings.					
I wanted to save others from having the same negative experience as me					
Other people could see my negative experience with this hotel					
I wanted to correct the hotel to save other people					
I wanted to help the hotel to improve services					

DEMOGRAPHIC QUESTIONS

This is the last part of the survey. Please answer the demographic questions and complete the survey.

22. Gender: (open-ended)

23. Age: 18-25 26-35 36-45 46-55 56-65 66 and above

24. Occupation:

- Government officer Private sector employee Retired
 Merchant Student Housewife
 Independent Other: (open-ended)

25. Last education level you have completed:

- No level High school and before
 Vocational Undergraduate
 Graduate (Master's / PhD)

26. Marital status: Married Not married

27. How many people live in your household, including you? Please specify with numbers: (open ended)

28. Which of the following ranges fits your individual total monthly income?

Less than 10.000 TL 10.000 – 20.000 TL

20.001 – 30.000 TL 30.001 – 40.000 TL

More than 40.001 TL

29. Which of the following ranges fits your household's total monthly income?

Less than 10.000 TL 10.000 – 20.000 TL

20.001 – 30.000 TL 30.001 – 40.000 TL

More than 40.001 TL

THANK YOU FOR YOUR PARTICIPATION.

APPENDIX D

ROTATED COMPONENT MATRIX

Item Code	Components				
	Reliability	MMQH	Traceability	Assurance	Responsiveness
RL4	.862				
RL7	.844				
RL2	.740				
RL3	.644				
AS1	.550				
AS5	.522				
MQ2		.888			
MQ1		.869			
MQ3		.835			
MQ5		.755			
MQ4		.706			
MQ6					
AS3			.730		
TR2			.651		
TR3			.515		
TR1			.507		
AS4				.862	
AS2				.797	
RL5	.523			.524	
AS6					
RL6					.725
RL1					.712

APPENDIX E
RESIDUAL SCATTERPLOTS

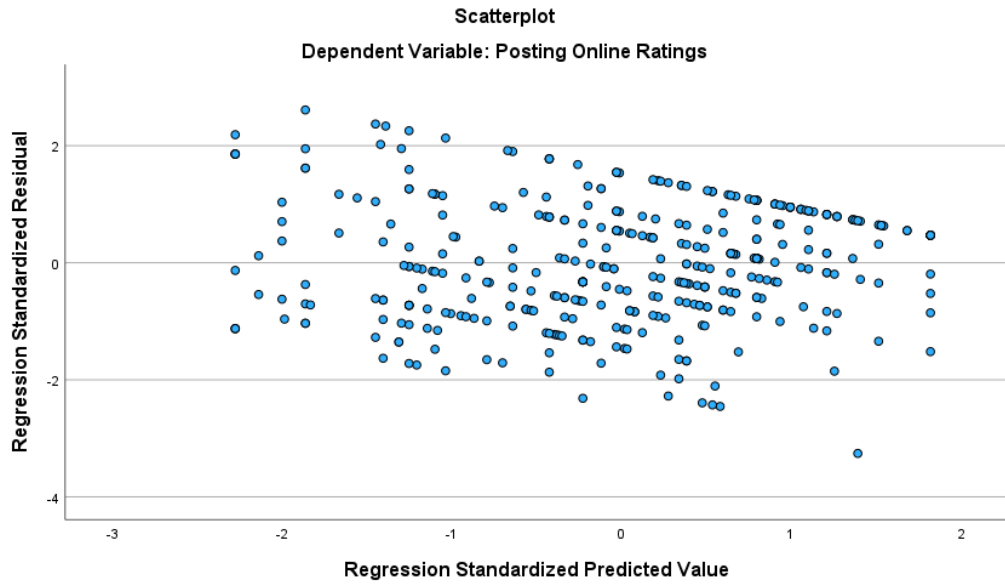


Figure E8. Residual scatterplot for posting online ratings

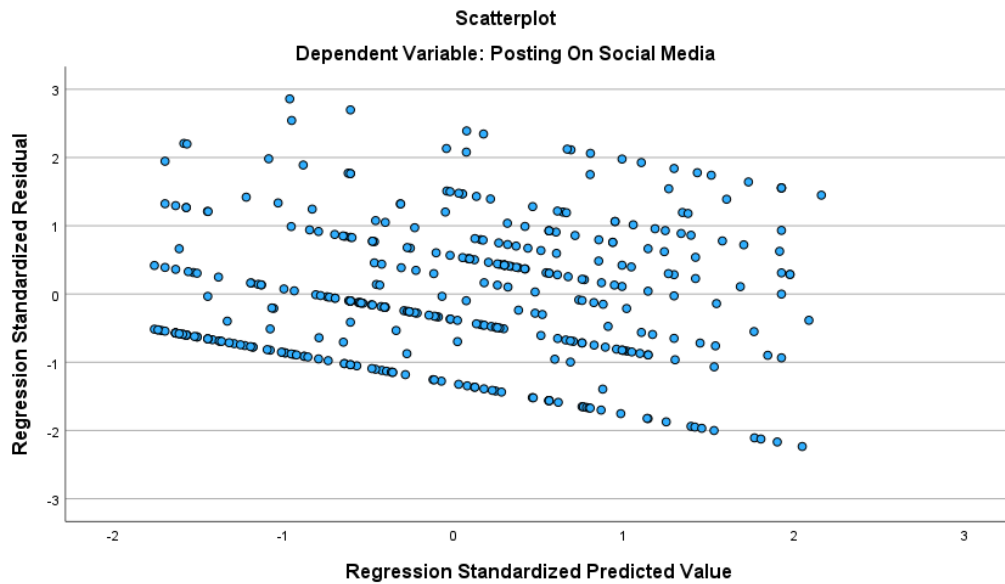


Figure E9. Residual scatterplot for posting on social media

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