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Article

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MARKETING | RESEARCH ARTICLE

Gauging customers' negative disconfirmation in online post-purchase behaviour: The moderating role of service recovery

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Abstract: Negative disconfirmation will usually lead to switching behaviour and attenuate customers' repurchase intentions, a behaviour that will undercut businesses' profitability. Limited research discussed post-purchase behaviour, in general, and how to retain aggrieved customers during the online shopping experience, in particular. This study investigates the observed behavioural outcome of Malaysian customers in online shopping with regard to customers' future buying decisions who faced disconfirmation during the pandemic. Specifically, this study aims to examine service recovery as a moderator that can potentially alleviate the adverse effect of negative disconfirmation on repurchase intention and switching intention. Online questionnaires were distributed. 331 valid data were collected from customers using Smart PLS 3.3.2. The results showed that negative

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PUBLIC INTEREST STATEMENT

Keeping and developing good relationships with existing customers is one of the business's core strategies. Though precautions are always taken to create a good relationship with customers, yet problems and complaints are bound to occur. Proper handling of service failure and service recovery is vital to maintaining customer satisfaction and loyalty. It is more likely that a customer repurchase a product if he is satisfied with service recovery. Satisfaction with the recovery process is not necessarily a reliable predictor of how effective the recovery process is. Responding to customer complaints instantly and including customers in the service recovery process are two ways for service providers to improve cost-effective service recovery in the event of failure. Customers do not always require monetary compensation; in some cases, simply apologising or providing an explanation can be sufficient to satisfy angry customers. Instead of relying just on traditional service recovery approaches, interactive service recovery mechanisms should be implemented.

disconfirmation is negatively associated with repurchase intention and positively affects the switching intention. The moderating effect of service recovery demonstrated a significant positive impact on switching and repurchase intention. The empirical findings will enrich the literature on service recovery, consumer behaviour, and service management, and provide suggestions for webstores in terms of customers' engagement that can apt recovery response process after customers' complaints. Lastly, limitations and future directions are discussed for scholarly attention.

Subjects: Services Marketing; Internet / Digital Marketing / e-Marketing; Retail Marketing

Keywords: Online shopping; negative disconfirmation; repurchase intention; switching intention; service recovery

1. Introduction

The global pandemic has rapidly changed the way consumers behave. The switch to the digital platform was expected where the pandemic has escalated the adoption momentum. Today, online shopping has gained tremendous attention (Mason et al., 2021). Coupled with technological advancement, online shopping has become one of the leading channels for customers to purchase products and services (Bilgihan et al., 2016; Liao et al., 2007), especially among young people, who are more inclined toward online shopping (Mokhtar et al., 2020). According to Naseri (2021), about 80 per cent of Malaysian customers are involved in online shopping. The outbreak of the Covid-19 epidemic has made 73 per cent of Malaysians more optimistic about online buying (Jaafar, 2020), due to the many restrictions on movement control orders and compliance with standard operating procedures (SOP). The Malaysian government is also promoting e-commerce through several initiatives and programs. For example, "Making digital tangible" is one of the initiatives of the Malaysian government's e-commerce program, which intends to help Malaysian firms to transition from offline to online (Naseri, 2021).

Online shopping, on the one hand, has several advantages; however, it also creates challenges for the webstores in meeting the customers' expectations. The high volume of orders could result in many negative disconfirmation issues, i.e. delivery delays, out-of-stock, wrong items delivered etc. (Shamim et al., 2021). Satisfaction/dissatisfaction is directly linked with disconfirmation (Oliver, 1977). Satisfaction is derived from positive disconfirmation, while dissatisfaction stems from negative disconfirmation (Chen et al., 2018; Zamani & Pouloudi, 2021) where negative disconfirmation has a more significant impact than positive disconfirmation (Kesharwani et al., 2021; Nishant et al., 2019). Negative disconfirmation impacts the customers negatively, and they tend to switch (Gillison & Reynolds, 2018), which leads to lowered repurchase intention (Mazhar et al., 2020; Tsai et al., 2016). Online businesses are entirely different from offline businesses (Sarkar & Das, 2017). In offline shopping, customers can speak to the manager in case of any service failure. The service provider can also give an explanation, renders an apology or offer compensation. Contrariwise, in an online webstore, the service provider can only provide service recovery when a customer complaints to the webstore. Furthermore, it takes time to address the problem and provide compensation that also affects the customers' post-purchase behaviour. In an online platform, quick response is a key factor to retain customers, which is an oversight in prior research. We believe that customers could have received service recovery in the form of compensation such as product or service exchanges or monetary compensation, but customers anticipate more than these compensations after a negative disconfirmation on virtual platforms like webstores, as sellers and products sold in the online platform could be indifferent during initial encounter.

Customer complaints play a crucial role in improving the services of webstore. Prior studies showed that resolving the customer's issues is not only helpful to retain them but also give

a chance to service provider to improve their services (Mapunda & Mramba, 2018; Stevens et al., 2018). However, only half of the complainants received an apology and expression of sympathy (Rosenmayer et al., 2018). Different from the offline platform, webstores must respond quickly and maintain constant interaction with customers to survive (Siddique et al., 2021). Negative disconfirmation is when the customer did not get the service as per the expectations and tried to switch to another service provider. The expectation disconfirmation theory guides that when the customer receives services as per his expectation, he would be satisfied or vice versa. Prior research considers compensation as service recovery to retain customers (Costantino et al., 2013). Monetary or non-monetary compensation might be suitable for offline businesses. Literature suggests that service recovery impacts customer satisfaction, loyalty, and future intentions (Du et al., 2010; Komunda & Osarenkhoe, 2012; Osarenkhoe & Komunda, 2013). Can this be applied to the substitutable webstores (with many similar choices)? In every business, encountering problems as part of daily operations is unavoidable, it could be major or minor problems (Balaji et al., 2017; Sengupta et al., 2015). According to Maher and Sobh (2014), businesses may lose seventy percent of their customers after providing service recovery as a result of decreased customer communication. If a customer is unhappy with the webstore's services, they may also be dissatisfied with service recovery (Tarofder et al., 2016). Therefore, a question arises: What measures should a webstore adopt to reduce the negative disconfirmation and increase the repurchase intention? This study aims to uncover the problem that is still not addressed in literature in the context of online shopping. How can the customer be retained in such a competitive and digital environment?

Service recovery is thought to be a powerful technique for retaining existing customers, which is given in the form of compensation such as product or service exchanges or monetary compensation. Customers anticipate more than compensation after a negative disconfirmation on virtual platforms like webstores. A comprehensive service recovery process is needed to alter the customer behaviour from switching toward repurchase. The current study argues that compensation combined with responsiveness and contact is a more effective strategy to retain customers. Customer retention necessitates constant interaction and prompt responses, as well as compensation. The current study was conducted on customers who are used to purchasing through online shopping channels. This study will be helpful for customers and webstores as well. Webstore will be aware of customers' expectations and provide service recovery accordingly. Customers will engage in the service recovery process and receive services as per their expectations.

The remainder of the paper is structured as follows. Comprehensive literature is drawn to support the hypotheses of the study. A detailed methodology illustrating the suitable research design is proposed. Detailed analyses are performed to validate the proposed research hypotheses of the study. A detailed discussion highlighting both theoretical and managerial implications of the study, and finally, limitations and directions for future research are discussed to conclude the study.

2. Literature review

This section starts with the discussion on service failure in online shopping and the effect of service recovery on switching and repurchase intention. Theoretical support for expectancy-confirmation theory was given. Previous literature is also presented in this section.

2.1. Expectancy-disconfirmation theory

The expectation-disconfirmation theory (EDT) or expectancy-confirmation theory (ECT) describes that customers compare perceived performance to their expectations (Rust & Oliver, 1994). According to the expectation-disconfirmation paradigm, when the customer receives services that exceed his expectations is positively disconfirmed (better than expected) if the performance of the product/services meets expectations is confirmed (as expected), and if the customer receives less than his expectations is negatively disconfirmed (worse than expected). When a customer's expectations for service are not met, they experience negative service

disconfirmation (Bell & Zemke, 1987). This expectation-disconfirmation paradigm is also applicable in the context of service recovery. According to the expectation disconfirmation model, customers' satisfaction plays a vital role in customers' post-purchase behaviour. In contrast, dissatisfaction is directly linked to the discrepancy between a product or service's pre-purchase expectations and its subsequent performance (Liao et al., 2007; Nam et al., 2020; J. Zhang et al., 2022).

Product/service performance expectations are based on a variety of service promises, including price, tangibles, and intangibles, and these expectations vary from customer to customer (Zeithaml et al., 1993). Customer expectations and feelings are shaped in part by the quality of interactions with employees, the store's physical environment, and the product or service itself (Cronin et al., 2000; Pizzi et al., 2020; Siswati & Widiana, 2021). For instance, as a business class passenger, a customer in an airline has much higher expectations than an economy passenger would have. (Engdaw, 2020; S. W. Liu et al., 2013). Even though both passengers fly the same airline, their expectations are quite different. Similarly, customers' expectations for service recovery differ from one another. Negative emotions are formed when a customer's expectations are far higher than the actual services received, which leads to product/service switching and negative WOM (Lee et al., 2020; Liang et al., 2018).

Researchers have used the EDT or ECT to explain satisfaction and behaviour in a variety of domains, including information systems (Venkatesh & Goyal, 2010), consumer behaviour, and service quality (Kettinger & Lee, 2005; Siswati & Widiana, 2021) as well as post-purchase behaviour (repurchase intention and complaining) of customers (Dabholkar et al., 2000; Oliver, 1980). However, prior research has overlooked the impact of disconfirmation of services on customers' post-purchase behaviour in the presence of moderating effect of service recovery. The number of parameters that affect service recovery performance was the topic of previous studies. Among these are service failure type and recovery characteristics (Gelbrich et al., 2015; Maxham & Netemeyer, 2002; Surachartkumtonkun et al., 2013), societal comparisons (Bonifield & Cole, 2008), culture and causal explanation (Schoefer & Diamantopoulos, 2009) and affective commitment (Evanschitzky et al., 2011). Notably, some consideration has been paid to the justice and fairness of the service recovery process (Siu et al., 2013; Tax et al., 1998) and perceived betrayal (Grégoire & Fisher, 2008).

Customers could encounter service disconfirmation many times during their online shopping experience. According to the expectation-disconfirmation model, customers' post-purchase behaviour is directly dependent on satisfaction, which is affected by the disconfirmation of service (Liao et al., 2007). Negative disconfirmation leads customers towards "switching," thus, eliminating the repurchase intention. Based on the expectancy theory, current research proposed that when a customer encounters an incident that is negatively disconfirmed resulted in switching behaviour. A customer who experienced service recovery could behave differently from those who did not, in terms of repurchase behaviour from the same webstore.

2.2. Service disconfirmation in online shopping

Online shopping is a process of selling and buying services and products through the internet (Mokhtar et al., 2020). On the one hand, online shopping is convenient, time-saving, and cost-saving. Contrariwise, customers cannot judge the physical quality and appearance of the product. On some occasions, negative reviews from customers show that customer does not get the product as per their expectations. As a result, when there are negative reviews, online shopping often ends up with webstores failing to provide products/services per customers' expectations (Tsai et al., 2016). The drawback is that when products received are below customers' expectations, it will reduce satisfaction, which could lead to switching behaviour (Tsai et al., 2016).

During the pandemic, with the shift from offline to online store purchases, some webstores are not well prepared for such a surprising order hike; thus, a sudden increase in orders has brought a big challenge for them in fulfilling the customers' demand. The heavy traffic has also caused

delays in transportation (could be due to COVID-19 or the system and inventory of the webstore or the availability of working staff), leading to a service failure in fulfilling orders or logistic issues. For instance, delivery failure (delivery later than promised, wrong item delivered or damaged items delivered), system failure (navigational problem, insufficient product information), product quality failure (poor product quality), website security failure (credit card fraud, sharing personal information to e-retailers), payment problems (payment overcharged, confusing purchasing process) and customer support failure (poor communication, unfair return policies; Ghalandari & Technology, 2013; Holloway et al., 2005; Kuo & Wu, 2012).

The disconfirmation construct is the perceived difference between the expectations of customers and what they receive. Customer satisfaction is directly proportional to the repurchase intention. Customers evaluate the performance of the product/ service in the light of their pre-purchase expectations (formulated as $Disconfirmation = Performance - Expectations$) (Liao et al., 2007). If a customer does not get services as per their expectations, he might stop purchasing from that webstore. The variance in the customers' expectations regarding the performance of a product results in either positive or negative disconfirmation for the same product. Customers form expectations based on their experience (Bae et al., 2018) and reviews given by other customers on the website. Customers use their freedom to speak in favour or against the products. Based on online reviews, customers set the expectation in their minds, and when they do not get services as per their expectations, they might be dissatisfied with that specific webstore.

2.3. Switching intentions

Switching is defined as “replacing or exchanging the current service provider with another service provider” (Bansal & Taylor, 1999). Switching is the polar opposite of loyalty. Loyalty is “a deeply held commitment to rebuy or patronize a preferred product/service consistently in future” (Oliver, 1999). Loyalty focuses on positive aspects of webstores, whereas switching focuses on negative aspects of webstore that lead customers to exit (Singh et al., 2020). In the service industry, switching behaviour could be frequent, as most service providers provide the same or similar products and services. Because of the search costs associated with identifying new customers, start-up costs associated with setting up new accounts, and time spent by customer service and technical support personnel in initiating new customers to the service, acquiring new customers is more expensive than retaining existing customers (Fan & Suh, 2014). In addition to the costs of replacing customers who make their purchases elsewhere, the original webstore also loses the potential future advantages of those customers if they remain loyal. Therefore, the webstores need to retain their customers and make them loyal. According to previous studies, buyers will also frequently switch between brick-and-mortar retailers (K. Z. Zhang et al., 2008). In other words, switching might occur whether it is an offline retail store or an online webstore. In online shopping, customers have more choices, and customers can switch to other webstore with a single click. Currently, customers have many options to fulfil their necessities, but switching behaviour is harmful to webstores (Istanbuluoglu et al., 2017). The literature argues that attracting new customers is five to eight times more expensive than retaining new customers (Wu & Huang, 2015). Negative service disconfirmation is one of the significant factors that affect switching intentions (Pieters et al., 2019). Literature shows that if the service provider offers service recovery to the customers after a service failure, it will remove dissatisfaction and make the customer loyal, otherwise vice versa. Negative disconfirmation or service failure is directly linked with the switching behaviour of the customer. It is common for people to switch their purchases because of readily available alternatives.

2.4. Repurchase intentions

Repurchase intention is the derivative behaviour of customers' loyalty. Customers' service experience defines satisfaction or dissatisfaction after purchasing it, which subsequently changes the customers' future behaviour (Kotler, 2003). Delivering a positive customer experience becomes even more critical when the market is oversaturated. Repurchase intent is positively associated with customer satisfaction (Liang et al., 2018). Customers who are satisfied with a product or service are more likely to

continue using it or purchase it in the future (Chang et al., 2018). If the customer is satisfied with the service, they will be more likely to repurchase or vice versa (Asghar Ali et al., 2021). Profit maximization remains the main objective of various organizations (Azhar Ali et al., 2021; Jan et al., 2021a). They try to make their customers loyal and retain them to attain this objective. Currently, researchers are more focusing on customers' anti-consumption behaviours (Curina et al., 2020). Anti-consumption behaviour explains the impact of negative emotions evoked by service disconfirmation and their influence on loyalty, repurchase intention, and frequency of use (Jayasimha et al., 2017; Zarantonello et al., 2018). From a managerial perspective, service providers must effectively deal with customers' negative disconfirmation issues. It directly or indirectly affects customers' repurchase intention (Ashraf et al., 2020). Different service recovery strategies in traditional markets are used to improve customer repurchase intention. But in online shopping, customers' behaviour towards webstores is different. Customers put an extra effort to launch a complaint to the webstore, courier the product back to the webstore, wait for long queues due to SOPs at courier points, and wait for the service provider's response. In such circumstances, customers invest the value of time and expect more than actual damage to their product. If customers did not get service recovery as per his/her expectations, they will not repurchase from that webstore.

2.5. Role of service recovery

Service failures are inevitable in online shopping, where high involvement of technology might cause less performance. But if these failures are not appropriately addressed, they will result in negative disconfirmation, leading to dissatisfaction, switching behaviour, and negative word of mouth (Awa et al., 2021; Azemi et al., 2020; Michel & Coughlan, 2009; Nam et al., 2020). Comprehensive service recovery brings the angry customers back and makes them loyal. Customers get more furious when they do not get their expected compensation from the webstore against their loss. They hold a grudge against the webstore for a long time and do not purchase again from the webstore (Mazhar & Ting, 2021). Available alternatives are also a big threat to webstores.

Competitive service environments have made it harder for a firm to reattract dissatisfied consumers or to develop an effective strategy for service recovery (Migacz et al., 2017). A customer's power to choose the best alternative product or service increases in a market with greater competition. Previous studies have discovered that there has been an increase in interest in service recovery because service disconfirmation frequently results in customer switching. As a general rule, the primary rule of service provision should be to do things properly and error-free. Wilson et al. (2016) have developed different strategies for satisfying customers to help marketers act quickly, encourage and track complaints, treat customers fairly, cultivate relations with customers, and explain.

When negative service disconfirmation occurs, it becomes essential for the webstore to recover dissatisfied customers to minimize financial and reputational loss. Providing service recovery to dissatisfied/complaining customers is an opportunity for retailers to model customers' perceptions of their brand (Holloway et al., 2005). The literature revealed that poor service recovery was offered to customers. For example, some online retailers respond to only half of the complaints they receive, and in response to those complaints, they just ask apology or empathy (Rosenmayer et al., 2018). Based on the above literature still, there are problems with service recovery strategies, and companies are losing their customers. Online retailers must be careful about customers' complaints and their expectations regarding service recovery.

2.6. Hypotheses development

In this section, the hypotheses will be developed regarding the relationship between disconfirmation and customer intent and the moderating effect of service recovery.

2.6.1. Effect of negative disconfirmation on switching intention and repurchase intention

Following EDT, customers may switch to a webstore if their existing service fails to meet their needs (Oliver, 1977, 1980). Given that many empirical switching studies incorporate satisfaction

into their study models, satisfaction does play an essential part in shaping switching intention (Liang et al., 2018; Siddiqi et al., 2020). Maintaining and attracting profitable consumers is critical to any company's long-term sustainability (Jan et al., 2021b, 2019). According to the EDT, satisfaction is the most critical factor in predicting whether or not the existing service will be continued (Oliver, 1980). The negative association between satisfaction and switching intention has been widely stated in the switching context (Althonayan et al., 2015; Bansal et al., 2005). Consumers are delighted when their present service provider meets their expectations, and satisfied customers are more inclined to stick with their current platform (Oliver, 1999; Zeithaml et al., 1996). As a result, positively disconfirmed customers are unlikely to switch to another platform (Hsu, 2014). Negatively disconfirmed customers, on the other hand, are individuals whose expectations or demands are not met by the service provider (Hsu, 2014). They tend to switch to another service provider to get their requirements met. Consequently, disconfirmation (positive/negative) is categorized as one of the factors that motivate people to leave or retain their present service provider (Bansal et al., 2005). In an offline setting, customers might have fewer alternatives due to geographical constraints but in online shopping, customers have many alternative webstores that are offering more or less similar products and services. Therefore, in online shopping customers are more inclined towards switching. Based on the above discussion the following hypothesis is proposed:

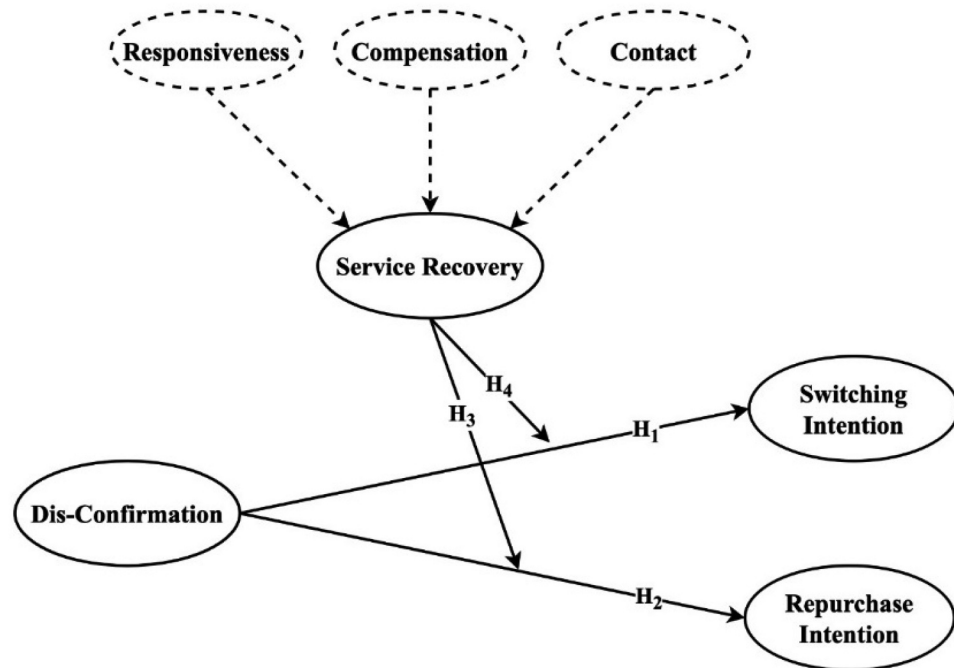
H1: Negative disconfirmation positively influences the customers switching intentions in an online context.

H2: Negative disconfirmation negatively influences customers' repurchase intentions in an online context.

2.6.2. *Moderating role of service recovery*

The ultimate purpose of service recovery is to appease angry customers by taking appropriate steps to mitigate the likelihood of customer relationships being harmed because of service failures. Thus, proper service recovery is vital in converting angry consumers into satisfied customers and preserving strong customer relationships (Cheng et al., 2008; Y. Liu et al., 2019). To put it another way, the immediate goal of service recovery operations is to move customers from dissatisfaction to delight and, more significantly, to build strong customer relationships (Lu et al., 2020). When it comes to online service recovery, giving customers a choice of recovery solutions can boost recovery satisfaction and overall service provider satisfaction (Cheng et al., 2008). Customers may show an even more profound devotion to the company after a service fault has been satisfactorily resolved than if no problem had happened (Ha & Jang, 2009). This claimed that properly handled complaints could help restore customer happiness while reinforcing positive word-of-mouth marketing. They can also help to form customer relationships, increase buy behaviour, lower acquisition costs, and eventually assure customer patronage. Furthermore, comprehensive service recovery can improve consumer perceptions of service quality, lead to positive word of mouth communication, promote customer happiness, and create customer relationships and loyalty if it is done correctly (Abd Rashid et al., 2014). If an online service failure cannot be eliminated, firms may benefit from better customer satisfaction and retention by knowing the process and effectiveness of complaint processing and service recovery (Tseng, 2021). Prior research has investigated service recovery, but few have considered it a moderator (Kuo et al., 2013). For instance, researchers have discovered that service recovery acts as a moderator between service quality and customer pleasure in the tourism industry. However, if the relationship between the components is moderated by service recovery, it stands to reason that it might also moderate the association between disconfirmation and customer future intention. Therefore, based on the previous studies, the following hypothesis is proposed, see (Figure 1):

Figure 1. Conceptual framework.



H3: Quick Service recovery strengthens the relationship between disconfirmation and repurchase intention.

H4: Quick Service recovery weakens the relationship between disconfirmation and switching intention.

3. Methodology

Our study employs a cross-sectional approach to data collection. The questionnaire is divided into two sections. A nominal scale was utilized in the initial section of the questionnaire to gather basic information from respondents. The second part of the questionnaire consists of the construct of variables to measure respondents' behavioural intentions followed by service disconfirmation and service recovery. Each concept was measured using a five-point Likert scale ranging from one (strongly disagree) to five (strongly agree). The measurement items are listed in the annexure to this document. Basic information such as gender, nationality, age, and education was gathered to understand better the characteristics of those who answered the survey questions. Everything was assessed using a single questionnaire using a nominal scale that measured all the qualities. A single test administered on a nominal scale was used to determine all the respondents' characteristics.

The second part of the questionnaire consists of variable constructs adapted from literature. The measurement of disconfirmation was measured with a 4-item scale adapted from (Liao et al., 2017). Behavioural intentions were measured with repurchase intention and switching intention constructs, which were adapted from (Jeon et al., 2017) and (Nikbin et al., 2012), respectively. The moderator in this research was measured with constructs of responsiveness, compensation, and contact with 4-items, 5-items, and 5-items respectively adapted from (Parasuraman et al., 2005), see [Appendix A](#) for the study's instrument.

A quantitative research approach was conducted using an online survey questionnaire method through Google forms (Sekaran & Bougie, 2016). The population of this research comprised customers who purchased goods/services online. Convenience sampling was used to collect data for this research due to the impossibility of getting the complete list of those customers who encountered negative service disconfirmation and then received service recovery. Moreover, the eligibility criteria for the respondents ensured that they have encountered service failure during their online shopping experience. A service failure occurs when a customer believes that the website attributes, transaction method, delivery procedure, or product by itself are not as expected (Shafiee & Bazargan, 2018). Our target respondents should have received service recovery from the webstore so that a clear behavioural trend can be depicted from the collected data. Due to Covid-19 and lockdown, it was challenging to collect data from customers personally. Google forms were used to collect data. Since convenience sampling was utilized to collect data, the respondents were approached online via different social media channels, especially those customers who post negative feedback on webstores. The respondents were asked to fill out the questionnaire based on their recent online shopping experience. A brief description was given to the target audience regarding the current study, and the benefits of the research that might be helpful for the webstore, which would be ultimately beneficial for the customers as well. Data were collected from 18 May 2021 to 4 June 2021. The majority of the Malaysian population is Muslim and Eid-ul-Fitr is a religious celebration (celebrated in the 2nd week of May), therefore, this was the best time for data collection because the webstores have reported their highest sales during the festivals.

4. Data collection and analysis

4.1. Respondent's characteristics

A total of 450 questionnaires were distributed. Among 353 received responses, only 331 responses were valid and considered for analysis. More than half of the respondents of this study were male (62.2 percent), whereas female participants were 37.8 percent only. Similarly, most respondents were 21–30 years (52.3 percent). In contrast, the respondents of age more than 60 years were very few (i.e., 1.8 percent of the total respondents). Based on education level, master's degree holders respond to this survey with the highest percentage, followed by bachelor's degree holders. Moreover, 81.6 percent of participants were Malay, and 18.4 percent were of other nationalities. The findings in Table 1, present the characteristics of the respondents in detail.

Table 1. Respondent's characteristics

Criteria	Description	Frequency	Percentage (%)
Gender	Male	206	62.2
	Female	125	37.8
Age	Below 20 years	61	18.4
	21–30 years	173	52.3
	31–40 years	51	15.4
	41–50 years	24	7.3
	51–60 years	16	4.8
	Above 60 years	6	1.8
Highest Education Level	Certificate	27	8.2
	Diploma	48	14.5
	Bachelor	108	32.6
	Master	125	37.8
	Ph.D.	23	6.9
Nationality	Malay	270	81.6
	Other	61	18.4

4.2. Common method variance (CMV)

In the current study, the data were collected in a single sitting by using a 5-point Likert scale, which may give rise to common method bias (Yüksel, 2017). Harman's single factor method and correlation matrix procedure were applied as statistical remedies to assess the common method variance in the data. In Harman's single factor method, principal component analysis with varimax rotation was run in SPSS 25 by following the recommendation of (Podsakoff et al., 2003). Finding reveals that a single factor emerges in 26.72 percent of the co-variance, which is well below the norm of 50 percent as suggested by Podsakoff et al. (2003), showing that there is no CMV issue in the data. Furthermore, a correlation matrix procedure was also employed to validate the finding. For this purpose, latent variables' correlation was computed using Smart PLS 3.3.3. The results presented in Table 3 show that the correlation among all latent variables is less than 0.90 (Bagozzi et al., 1991); thereby confirming that there is no issue of common method variance in this study.

4.3. Measurement model analysis

The assessment of the measurement model is the first step in Smart PLS analysis. The service recovery constructs are being treated as a second-order formative construct in this study. Therefore, a two-stage approach was used to evaluate the measurement model. At this stage I, factor loading, Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE) for all first-order constructs was measured. Besides, being rather a conservativeness of Cronbach's alpha and too liberal nature of composite reliability (CR), Dijkstra's reliability of coefficient (ρ_A) was also examined as recommended by (Hair et al., 2021). Referring to Table 2, all constructs met the threshold criterion for Cronbach's alpha ($\alpha \geq 0.70$), Dijkstra reliability coefficient ($\rho_A \geq 0.70$), composite reliability ($CR \geq 0.70$), and average variance extracted ($AVE \geq 0.50$); hence qualify the composite reliability and convergent validity of the scale (Hair et al., 2021). Similarly, factor loading of all first-order constructs was exceeded 0.708 reliability criteria except SI3 (Hair et al., 2021). However, this item was retained due to its absolute importance. Next to this, multi-collinearity was evaluated through the variance inflation factor. It explains the degree of increase in the standard error due to the collinearity issue. The results presented in Table 2 show that the VIF of all items is within the limit (i.e., below 3); suggesting that there is no Collinearity issue among constructs (Hair et al., 2021). At the end of stage I, the HTMT ratio was assessed to determine the difference of a construct from others that are under study. Based on the results tabulated in Table 3, it is shown that all values are less than 0.85, indicating that the discriminant validity threshold is met (Hair et al., 2021).

At stage II, convergent validity, indicator collinearity, statistical significance, and relevance of the indicator weights were evaluated for second-order formative construct by following the recommendations of (Hair et al., 2021) in three steps. First, convergent validity was assessed through redundancy analysis, which correlates formatively measured construct and signal global item construct (Chin, 1998). Analysis reveals a correlation of 0.808, which is higher than 0.70, indicating sufficient convergent validity of the formatively measured construct. Second, the VIF of the second-order formative construct was also assessed to check the multicollinearity issue. Hair et al. (2021) recommend a VIF value close to 3 and lower. Findings in Table 2 show that VIF values of formatively measured construct are below 3, meaning that collinearity is not an issue for second-order formative construct. Finally, a bootstrapping procedure with a 5000 subsamples size was applied to assess the statistical significance of weights and relevance of first-order constructs for second-order formative constructs. The summary of results reported at the bottom of Table 2 shows that all first-order constructs have a significant relative contribution to second-order formative constructs. As such, it can be concluded that the measurement model was validated.

4.4. Structural model analysis

The structural model was evaluated following measurement model validation to test the statistical significance of path coefficients, explanatory power, predictive relevance, and their effect sizes. A bootstrapping with 5000 iterations was carried out to test the significance of proposed

Table 2. Measurement model

Stage I: Results of the assessment of the measurement model for first-order reflective constructs

First-order constructs	Code	FL	VIF	α	pA	CR	AVE
Disconfirmation				0.785	0.794	0.861	0.607
	DC1	0.808	1.558				
	DC2	0.790	1.552				
	DC3	0.732	1.472				
	DC4	0.785	1.614				
Repurchase Intention				0.910	0.914	0.930	0.689
	RP1	0.831	2.341				
	RP2	0.858	2.539				
	RP3	0.830	2.218				
	RP4	0.819	2.344				
	RP5	0.822	2.361				
	RP6	0.821	2.279				
Switching Intention				0.769	0.788	0.850	0.588
	SI1	0.806	1.561				
	SI2	0.813	1.562				
	SI3	0.699	1.419				
	SI4	0.743	1.474				
Responsiveness				0.775	0.781	0.855	0.596
	Resp.1	0.797	1.490				
	Resp.2	0.762	1.526				
	Resp.3	0.743	1.439				
	Resp.4	0.786	1.582				
Compensation				0.908	0.909	0.932	0.732
	Comp.1	0.847	2.415				
	Comp.2	0.852	2.485				
	Comp.3	0.856	2.493				
	Comp.4	0.876	2.846				
	Comp.5	0.846	2.535				
Contact				0.830	0.834	0.880	0.596
	Cont.1	0.791	1.745				
	Cont.2	0.709	1.451				
	Cont.3	0.813	1.820				
	Cont.4	0.766	1.669				
	Cont.5	0.777	1.710				

Stage II: Results of the assessment of the measurement model after generating second-order formative constructs

Second-order construct	Relationship	VIF	Weight	Mean	S.D	t-value	p-value
Service recovery	RESP -> SR	1.518	0.330	0.330	0.019	17.241	0.000
	COMP -> SR	1.331	0.549	0.548	0.023	23.386	0.000
	CONT -> SR	1.316	0.388	0.386	0.021	18.808	0.000

FL = Factor loading, VIF = Variance inflation factor, α = Cronbach's alpha, pA = Dijkstra reliability coefficient, CR = Composite reliability, AVE = Average variance extracted, RESP = Responsiveness, COMP = Compensation, CONT = Contact, SR = Service recovery

Table 3. Discriminant validity

Construct	COMP	CONT	DC	RESP	RP	SI
COMP						
CONT	0.387					
DC	0.573	0.497				
RESP	0.563	0.586	0.613			
RP	0.101	0.076	0.434	0.065		
SI	0.375	0.442	0.265	0.467	0.113	

HTMT values Best at 0.85 or lower and good at 0.90

COMP = Compensation, CONT = Contact, DC = Disconfirmation, RESP = Responsiveness, RP = repurchase Intention, SI = Switching Intention

relationships. Besides, a default two-stage approach was used to measure the moderating effect of service recovery on the repurchase and switching intentions by following the recommendation of Chin et al. (2003). It offers much flexibility over other approaches such as orthogonalization and the product indicator approach when the moderator is formatively measured (Becker et al., 2018; Chin et al., 2003). Moreover, the most recent research by Hair et al. (2021) recommends using this approach to create the interaction terms. As shown in Table 4, all four hypothesized relationships are statistically significant. Disconfirmation is negatively related to repurchase intention (H1: $\beta = -0.375$, $p = 0.000$) and positively related to switching intention (H2: $\beta = 0.224$, $p = 0.000$). However, when service recovery is introduced as a moderator between disconfirmation and repurchase intention, it positively moderates this relationship (H3: $\beta = 0.105$, $p = 0.028$). Likewise, service recovery was found as a negative moderator between disconfirmation and switching intention (H4: $\beta = -0.127$, $p = 0.005$). In addition, effect sizes (f^2) were also calculated. The general guidelines by Cohen (1988) recommend values of 0.02 for small, 0.15 for medium, and 0.35 for large effect size. We conclude that all paths have small to medium effect sizes, see, Table 4.

Further, the explanatory power of dependent variables by the independent variables was assessed using the coefficient of determination. The R^2 values in Table 5 indicate that a variance of 18.7 percent and 21.8 percent in repurchase intention and switching intention could be explained by the independent variable (i.e., disconfirmation in this case), respectively, which shows a moderate explanatory power of the model. Similarly, a blindfolding procedure was used to assess the predictive relevance of this study. Findings in Table 5 reveal that Q^2 values are less than 0.25, which indicates there is low predictive relevance in this study (Hair et al., 2021). Besides, PLS Predict was also used to validate the predictive relevance of the study. Findings in Table 6 show that all values of Q^2_{predict} are more than zero, and the relationship PLS-SEM ($\text{RMSE} \leq \text{LM}(\text{RMSE})$) holds for the majority of indicators, which is indicative of predictive power of medium size (Shmueli et al., 2019). Shmueli et al. (2019) further suggested that PLS-SEM-RMSE values should be lower than LM-RMSE for all items of the dependent variable (e.g., repurchase intention and switching intention), if all values are in the negative range, it shows a high prediction. Whereas, if half of the items are in the negative range, it shows medium prediction or else it shows low prediction upon getting the negative value in one item. Our findings in Table 6 showed that maximum items are in negative range, hence demonstrating the high out-of-sample prediction.

5. Discussion

Customers' future intentions (e.g., repurchase and switching intention) play a paramount role in the survival of any business in an online context. Negative disconfirmation affects customers, repurchase intention, and switching to another option. Services below the customers' expectations are considered a service failure that a comprehensive service recovery could recover. Service recovery is a powerful tool to retain existing customers (Alzoubi et al., 2020). Service recovery is

Table 4. Hypotheses testing

Hypothesis	Relationship	Beta value	Mean	S.D	t-values	p-values	95% CI		Decision	f ²
							LL	UL		
H1	DC → RP	-0.375	-0.381	0.044	8.532	0.000	-0.439	-0.292	Accepted	0.164
H2	DC → SI	0.224	0.238	0.055	4.093	0.000	0.126	0.302	Accepted	0.053
H3	DC*SR → RP	0.105	0.100	0.055	1.914	0.028	0.022	0.205	Accepted	0.015
H4	DC*SR → SI	-0.127	-0.128	0.049	2.589	0.005	-0.212	-0.049	Accepted	0.023

DC = Disconfirmation, RP = Repurchase intention, SI = Switching intention, S.D = Standard deviation, CI = Confidence interval, LL = Lower limit, UL = Upper limit

Table 5. Predictive relevance and coefficient of determination

Variable	Coefficient of Determination	Predictive Relevance
	R ²	Q ²
RP	0.187	0.122
SI	0.218	0.115

RP = Repurchase intention, SI = Switching intention

Table 6. PLS Predict (High predictive power)

Indicator	Q ² _predict	PLS-SEM (RMSE)	LM (RMSE)	PLS(RMSE)— LM(RMSE)
RP1	0.077	1.146	1.149	−0.003
RP2	0.109	1.217	1.225	−0.008
RP3	0.111	1.166	1.171	−0.005
RP4	0.046	1.192	1.196	−0.004
RP5	0.076	1.178	1.187	−0.009
RP6	0.111	1.153	1.163	−0.01
SI1	0.035	1.024	1.030	−0.006
SI2	0.013	0.983	0.983	0
SI4	0.033	1.021	1.026	−0.005

PLS-SEM = partial least square-structural equation modelling, LM = linear modelling, RMSE = root mean square error

given to the customers in the form of compensation such as exchange of product or service and monetary compensation (Roy et al., 2022). In virtual platforms such as webstores, the customers expect more than compensation after negative disconfirmation. Only half of the complainants received a response in the form of an apology and empathy (Rosenmayer et al., 2018). Quick response and continuous contact with the customer are crucial for the survival of webstores. Another study also indicated that 70% of customers lost after service recovery only due to less contact with customers (Maher & Sobh, 2014). If a customer is dissatisfied with the services of a webstore, s/he might be dissatisfied with service recovery (Tarofder et al., 2016). So continuous contact and quick response combined with compensation are necessary for customer retention.

Customers respond differently to their expectations in online shopping than in offline shopping, which is confirmed by this study within the context of service recovery. Only apology as service recovery provided to customers or apology with compensation significantly affects customers' satisfaction with service recovery and future purchasing (Jung & Seock, 2017). The prior research has not yet been able to conclude capable of generating a consensus about the effect of webstores' responsiveness and continuous contact with the customer during the whole process of service rendering. Our study augments the understanding of service recovery and attempts to bridge the gaps existing in the previous literature with the help of empirical analysis.

The results confirmed that the negative disconfirmation affects the switching positively and the repurchase intention negatively. The customers who did not receive services as per their expectations and negatively disconfirmed tended not to repurchase from the same webstore and switched to other available options. This is the first research, incorporating contact and responsiveness as dimensions of service recovery to test its moderating effect in a virtual environment. Customers feel comfortable when they receive a quick response from the service provider. Also, customers take it as an honour for them when the webstore makes continuous contact throughout the purchase process. In most of the previous studies, researchers' main focus was on justice theory, and they discussed different dimensions of justice theory in the context of service recovery (Migacz et al., 2018; Zou & Migacz, 2020). The results of this study revealed that the critical issue in the

literature on service recovery is that there is a lack of empirical evidence to support the dimensions of “responsiveness” and “contact” in the context of online shopping. Furthermore, this study found that customers do not satisfy only with the monetary compensation. They need monetary compensation as per their expectations and a quick resolution to their complaints. The sense of engagement of customers for the betterment of service gives pleasure and honour to customers.

The results suggest that the webstore’s “responsiveness” towards customers’ concerns and “contact” with customers combined with traditional service recovery methods can help the webstore retain customers. It will reduce the switching intention and increase the repurchase intention. The online webstores should deliver effective services, including after-sales services, product warranty services, and increasing response time on customers’ complaints and queries. It is complicated to know the customer’s expectations in a virtual environment (absence of face-to-face interaction).

6. Theoretical implications

This study provides a vital theoretical contribution to the existing body of knowledge by providing empirical evidence which displays the relative effect of different aspects of service recovery in online shopping. This study explores two new dimensions so far not used in the context of service recovery coupled with monetary compensation. The new approach suggested by the study advocates consideration of different industries for future research regarding service recovery. By adding empirical evidence to the literature, which already exists, regarding the moderating effect of service recovery, this study attempts to curtail the theoretical ambiguity since it seeks to demonstrate the context-specific features of service recovery. Prior studies regarding service recovery provided varying results. Research shows a positive correlation between service recovery and performance (Maxham, 2001; Noone, 2012), some show the opposite (Noone, 2012) and provide empirical evidence that over-compensation is ineffective (Boshoff, 2012).

When a consumer has already experienced negative disconfirmation, this study is the first to examine the consequences of service recovery elements on their future intentions, making it a significant conceptual addition. According to the findings, there are boundary conditions for the relationship between webstore response and recovery performance, which allows for the development of a more exciting theory about the dynamic effects of service recovery and the exploration of a wide range of moral aspects of service disconfirmation, recovery strategy, and subsequent performance. This study is one of the few to provide empirical evidence of the significant influence of service recovery on customers’ behavioural judgments during the pandemic, thus contributing to the disconfirmation and service recovery literature. By identifying certain instances in which consumer satisfaction with recovery does not translate into repurchase intention, the current study contributes to the existing body of knowledge.

7. Practical implications

This study’s findings have significant management implications. Practitioners should handle recovery following consumers’ expectations to get the best results. This study has discovered consumers’ reactions to the service recovery after a negative disconfirmation. Meeting rather than exceeding client expectations (rather than exceeding expectations) leads to better outcomes, higher satisfaction, fewer negative word-of-mouth, and an improved likelihood of repurchasing, as evidenced by the findings of this study. In other words, while monetary offers that surpass expectations are more expensive, they produce less favourable reactions than expected compensation, implying that financial compensation that exceeds expectations is a waste of company resources. If the primary goal of practitioners is to retain customers, then recovery that meets expectations will serve just as well as recovery that exceeds expectations. Exceeding expectations (as opposed to meeting expectations) is more effective in online purchases, for practitioners looking to lessen the adverse effects of WOM. This study showed that practitioners must thoroughly comprehend the desired recovery and consumers’ involvement in the recovery process to execute a recovery plan successfully, which differs between customers of various categories and cultural backgrounds.

According to the literature on expectancy-confirmation, satisfaction and behavioural intention are positively linked (De Matos et al., 2012). The more satisfied you are with the recovery, the more likely you will rebuy the product. Recovery satisfaction may not always be a reliable predictor of how effective the recovery process is (Chen et al., 2018). It is imperative that practitioners monitor the recovery process, evaluate additional downstream variables such as negative word-of-mouth, and maintain regular contact with customers to obtain more reliable results than simply considering whether customers are satisfied with the recovery process. Service providers should develop a more cost-effective service recovery strategy by responding to customer complaints quickly and engaging the customers in service recovery. The existing literature implies that the conventional service recovery approaches are not universally applicable to different types of service settings (Levesque & McDougall, 2000; Mattila, 2001); therefore, service recovery should be altered as per the specific situation. The first step to satisfying customers should be a prompt response to their complaints and then offering them a service recovery by knowing their expectations. It is unnecessary all the time that customers to demand monetary compensation; sometimes they are just satisfied by apologizing or giving an explanation that becomes the cause of disconfirmation. Webstores should adopt more interactive service recovery strategies rather than rely only on traditional service recovery methods. For example, when a webstore receives a complaint from a customer. Webstore representatives should contact the customers and get information about the failure in service and ask from a customer how the issue can be resolved what his expectation from the webstore are. In this case, a webstore might get two benefits; Firstly, a customer might be satisfied with the explanation of representative on failure, or a minimum financial compensation as compared to a standard compensation policy. Secondly, the webstore's contact with the customer will give a feeling of honour to the customer and he will be happy to receive compensation as per his expectations. In this way, the customer will be satisfied as well as he will repurchase from the same webstore in the future. The managers should devise strategies to engage the customers to strengthen the bond between the customer and the seller. This practice will help the manager know customers' expectations and help attract new customers. The webstores need to augment their credibility not only for retaining alienated customers but also to attract new customers by using the existing customer base as a marketing asset. Webstore and customer communication help the former to enhance their service performance.

8. Limitation and future research

Despite its contribution, this study is also subject to limitations. Firstly, though our findings are relevant in the context of service recovery, they might exhibit limited transferability in other contexts. Online shopping and offline shopping contexts are different. Therefore, we encourage further research to be carried out by involving other aspects of online shopping and comparing it with offline shopping to generalize the results. Secondly, our study is based only on the Malaysian context, which further may raise questions about the generalizability of the results. Cultural, societal, situational, and personal influences customers' behaviour. Consumers' shopping behaviour varies across cultures (Hollebeek, 2018). The study design presented in this paper should also be tested in other cultural and economic contexts. Thirdly, this study used cross-sectional data for the results. In this study, online customers report their observations regarding their service failure and service recovery experience. Therefore, we recommend that a longitudinal study be carried out to test the consumer in the long run after getting service recovery.

After delivering service recovery, this study looked at two outcome variables: switching intention and repurchase intention. A crucial point that has yet to be answered is whether the findings of this study can be translated into actual repurchase behaviour. The existing literature suggests that the process linking consumer satisfaction to behaviour is exceedingly complex (Bolton & Lemon, 1999); notably, for low-involvement products, intermediary links between reported purchase intentions and actual purchase behaviour are not always stable (Morrison, 1979). Therefore, future studies should investigate the effects of service recovery on actual repurchase behaviour. It's worth noting that the term "service recovery" in this study applies to both psychological and financial compensation. One key question is how consumers react to psychological treatment

versus recovery involving psychological and financial rewards. Monetary compensation, no matter how substantial or planned, restricts a company's cash flow, whereas psychological recovery does not cause a financial loss; therefore, it may be a better performance measure that needs more research.

8.1. Conclusion

Implementing a service recovery procedure followed by a negative disconfirmation in an online setting might be problematic. A complicated value chain and the lack of actual human connection are hurdled to interact with customers. A comprehensive service recovery strategy is a vital tool to retain angry customers. Webstores should rely on financial compensation, and sometimes it does not matter to customers. Webstores should mainly focus on their response to customers' complaints and try to know customers' expectations. In the online context, customers are concerned with; customer service problems, website-related problems, transactional problems, and privacy assurance. Therefore, webstores should proactively improve these services and resolve ethical issues (sharing customer personal details) involved in online shopping.

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correction

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Annexure A: Study's questionnaire

Disconfirmation

The webstore provided quality goods and services compared to your prior expectations.

The webstore provided benefits corresponding to its price compared to your prior expectations.

The webstore fulfilled your needs and objectives compared to your prior expectations.

The webstore was better overall compared to your prior expectations.

Service Recovery

Responsiveness

The webstore provides me with convenient options for returning items.

This webstore handles product returns well.

This webstore tells me what to do if my transaction is not processed.

This webstore takes care of my problems during the usage of the website.

Compensation

This webstore compensates me for the problems it creates.

The webstore compensates me when my order does not arrive on time.

This webstore picks up items from my home when I want to return them.

The return policy is easy to follow.

The return policy is fast.

Contact

The webstore provides quick response on call.

The webstore has a customer service representative available online.

The webstore offers the ability to speak directly if there is a problem.

The webstore provides prompt responses.

The webstore is enthusiastic to solve my problem.

Repurchase Intention

If I could, I would like to continue using the webstore to purchase products.

I will likely continue to purchase products from the webstore in the future.

I intend to continue purchasing products from the webstore in the future.

Switching Intention

I intend to switch webstore.

Next time I shall need the services of another webstore.

I would not continue to have service from my current webstore.



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