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## **Insights into managerial responses to repeat customers: The moderating role of social influence and revisit intention**

### **Purpose**

Repeat customers play an important role in the restaurant sector. Previous studies have confirmed the positive effect of managerial responses on customer relationship management. However, the practice of managerial response strategies toward repeat customers in the restaurant sector remains unclear. This study attempts to fill this critical gap and explore how social influence and the revisit intention of customers affect the responding behavior of restaurant managers.

### **Design/methodology/approach**

This study collects information from 251,944 customer reviews and managerial responses from 1,272 restaurants on Yelp (a leading restaurant review website around the world) and builds four econometric models (with restaurant and monthly fixed effects) to test the research hypotheses empirically.

### **Findings**

The empirical results show that restaurant managers are less likely to respond to reviews posted by repeat customers (10% lower than that of new customers). This effect is moderated by customer social influence, which entails that repeat customers with great social influence are more likely to receive managerial responses. Moreover, reviews from repeat customers who have had a longer time since their last consumption are also more likely to receive managerial responses.

### **Originality**

This study is among the first attempts to examine empirically how restaurant managers respond to reviews generated by repeat customers in real business practice and reveals what drives such activities from the perspectives of social influence and revisit intention.

### **Practical implications**

The results present implications for restaurant managers in business practice regarding managerial response. Managers should take advantage of platform designs and tools (i.e., customer relationship management programs to keep track of repeat customers) to locate repeat customers and avoid the potential negative effects caused by their selected response strategies.

**Keywords:** Managerial response; Repeat customer; Social influence; Revisit intention; Yelp

## 1. Introduction

Repeat-customer relationship management is significant to managers in their efforts to increase business reputation, popularity, and performance (Ryu & Han, 2011; Chua et al., 2017; Hu et al., 2019). Restaurants rely heavily on repeat customers to bring stable revenue and form a loyal basis of customers (Matzler et al., 2019). Moreover, reviews from repeat customers are perceived as one of the most trustworthy, helpful, and often-sought sources of information (Oppermann, 2000), thus gaining more popularity and providing greater influence in the market of experience goods (Yoon & Uysal, 2005; Ryu & Han, 2011; Yan, Wang, & Chau, 2015). However, as experiences accumulate, repeat customers tend to form higher expectations and perceive services more sensitively; such expectations and perceptions lead to a higher possibility of consumption disappointment and negative evaluations (McKercher & Wong, 2004), which may result in negative word-of-mouth (WOM) and repeat-customer exits. In some online booking platforms (e.g., Yelp.com), the unique display of revisiting reviews along with previous reviews further amplifies the electronic word-of-mouth (eWOM) effect of repeat customers (see Figure 1), thus providing stronger incentives for service providers to take a proactive approach to managerial responses to manage reviews from repeat customers and retain them.

Managerial responses, which is a convenient channel to interact with customer reviews and (re)shape customer behaviors, have been developed to intervene with the effects of customer eWOM and improve the repeat-customer relationship (Proserpio & Zervas, 2017; Wang & Chaudhry, 2018; Chang et al., 2020). On the one hand, service providers can utilize managerial responses to influence the generation and diffusion of customer eWOM and its effect among potential consumers, especially when targeting influential reviewers in a community (Xie et al., 2017; Li, Cui, & Peng, 2017; Lui et al., 2018; Wang et al., 2020). On the other hand, managerial responses can help service providers to improve customer satisfaction in a timely manner and encourage repeat patronage; thus, these changes reinforce customer loyalty and customer relationship (Gu & Ye, 2014; Chen et al., 2019), especially in the context of service failure (Cai & Qu, 2018).

However, despite managerial responses being identified as an effective method for achieving the goals of repeat-customer eWOM intervention, repeat-customer relationship management, and repeat consumption, limited resources and budget constraints present great challenges to managers (Wang et al., 2020). Managers have to adopt selective response strategies and target to whom and which review(s) to respond (Park & Allen, 2013; Wang et al., 2020) from the group of repeat customers. Abundant research has extensively investigated whether and how managers respond to online reviews, while the actual response behavior to repeat customers remains unclear. To fill this gap, this study sets out to reveal the practice of managerial responses to online reviews from repeat customers in the restaurant sector, whose mechanism depends on repeat-customer social influence and revisit intention.

First, the power of repeat customers with greater social influence in the community lies in their ability to aggravate the diffusion of eWOM among a wider audience and generate a stronger effect on their followers (Ku, Wei, & Hsiao, 2012; Zhao et al., 2018). In this case, prioritizing responses to influential repeat customers is more beneficial for managers to reinforce the management of eWOM and its positive effect further, which are associated closely

with business reputation and online sales. Hence, we utilize the number of followers (Lee, Hosanagar, & Tan, 2015; Wang, Zhang, & Hann, 2018; Pan et al., 2018; Ke, Liu, & Brass, 2020) and the volume of reviews posted (Park & Nicolau, 2015; Kwok & Xie, 2016; Sunder et al., 2019) of a customer to measure their social influence and explore the moderating effects of social influence on the responding behavior to repeat customers.

Second, the intention of customer revisit and the degree of customer loyalty decrease and even disappear as time progresses (Oppermann, 1997, 1998; Assaker et al., 2011), thereby implying a higher likelihood of customer exits and revenue shrinkage. In addition, the cost of losing a repeat customer and/or enticing a new customer is larger than that of retaining one (Lau & McKercher, 2004). In this situation, conducting appropriate responses can signal managers' care for repeat customers, encourage their re-consumption, and further strengthen repeat-customer connection (Knox & van Oest, 2014), which benefit and improve the relationship between the business and the repeat customer. Therefore, we exploit the time interval between successive visits to capture the temporal changes in the revisit intention of repeat customers. We further investigate how managers react to reviews from repeat customers once they observe that they re-evaluated (revisited) after a long time since their last consumption.

In sum, this study attempts to explore the actual responding behavior of managers toward online reviews from repeat customers and the underlying mechanism behind such activities in the restaurant sector by answering the following questions:

*RQ1.* How do restaurant managers respond to online reviews from repeat customers?

*RQ2.* How do social influence and the revisit intention of customers affect the responding behaviors of restaurant managers?

To answer the above questions, we build four econometric models with a dataset containing the information from 251,944 customer reviews and managerial responses. This study is an early attempt to examine empirically how restaurant managers respond to online reviews from repeat customers, thus extending the hospitality literature on the practice of managerial responses. This work also reveals the role of repeat customers' characteristics (i.e., social influence and revisit intention) in the adjustment of managerial response strategies, thus filling a critical gap in the literature on the underlying mechanism of managerial responses. The findings provide significant implications for restaurant operators and managers in their business practice.

The paper continues with an overview of the literature on managerial response. Then, we develop the research hypotheses. In the next section, the research context, data collection, variables, and econometric models are presented. Finally, the empirical results and robustness analysis are reported and discussed, followed by a summary of the main findings and their implications for theory and business practice.

## **2. Theoretical framework and hypothesis development**

### *2.1. Literature review on managerial responses*

Given the tremendous influence of online reviews on online sales and business success, service providers are motivated to invest a variety of resources and efforts to manage their

customer reviews and online reputation (Kwok et al., 2017; Serkan & Dincer, 2019; Salehi-Esfahani et al., 2022). Managerial responses are regarded as a valuable tool for publicly communicating and replying to customer reviews on online booking platforms in hospitality and tourism (Pantelidis, 2010; Lee & Cranage, 2014; Gu & Ye, 2014). However, recent studies revealed that a large proportion of service providers lack awareness of the value of managerial responses and continue to adopt non-response strategies (Liu et al., 2015). Furthermore, most reviews receive no responses, especially negative ones (Lappas et al., 2016). Considering the efficiency of conducting managerial responses, service providers have diverse practices in utilizing and customizing managerial responses to achieve the corresponding goals under budget constraints (Mate et al., 2019; Park & Allen, 2013; Zhang et al., 2022). Chen et al. (2019) claimed that the target and style of online managerial responses are much more nuanced in practice. Therefore, to understand the practice of managerial responses better, a growing literature has focused on two main issues: assessing its effect/effectiveness and investigating its underlying drivers.

First, the previous literature has demonstrated that the presence of managerial responses may affect customer satisfaction (Lee & Cranage, 2014), trust (Sparks et al., 2016), loyalty (Pantelidis, 2010), engagement (Li, Cui, & Peng, 2017; Liu et al., 2020), retainment (Gannon et al., 2022), repurchase intention (Knox & van Oest, 2014), and subsequent evaluations (Wang & Chaudhry, 2018; Xu & Zhao, 2022). Accordingly, these responses help managers enhance long-term customer relationship, improve online reputation and sale performance, and intervene with the eWOM of customer reviews (Xie et al., 2014; Kumar et al., 2018; Olson & Ho, 2020; Palese et al., 2021). On the one hand, managers can reinforce the positive effects of positive reviews by expressing appreciation for the compliments in their responses (Jones, 1966; Kwok & Xie, 2016). On the other hand, responding to negative reviews with efforts to service recovery can restore customer satisfaction and loyalty and further mitigate their negative effects (Lee & Cranage, 2012; Xie et al., 2014; Olson & Ho, 2020). Additionally, apart from influencing customers who receive or observe the responses, the response behavior of managers may also affect the followers of these customers (e.g., relatives, friends, and colleagues) in terms of purchasing decisions, posting motivations, and evaluating behaviors (Proserpio & Zervas, 2017; Kumar et al., 2018; Kwok et al., 2017). Undoubtedly, managerial responses have been commonly recognized as a powerful and effective tool for online reputation management.

Second, managerial response strategies can be categorized into three types: non-response, full response, and selective response strategy (Wang et al., 2020). Given the costly nature and inefficiency of full-response strategies, extensive studies on targeted responses have examined how managers respond to customers (Loo et al., 2021). Such studies have found that managers care more about influential customers (reviews) (Hu et al., 2018; Wang et al., 2020). However, the question of whether and how managers respond to reviews from repeat customers, especially influential ones (i.e., those with a large number of followers), remains unexplored. Driven by different factors, managers will adjust their response strategies and select different reviews and/or customers to respond. Prior studies have identified that many drivers influence the adoption and customization of managers' responding behaviors, including management situations (e.g., rating fluctuation and crisis management) (Xu et al., 2020; Li et al., 2021), response to goals (e.g., recover service failure) (Lee & Cranage, 2014; Salehi-Esfahani et al.,

2022), product characteristics (e.g., hotel class/category) (Xie et al., 2017), and review attributes (e.g., review type, rating, and visibility) (Liu & Law, 2018). For example, managers tend to cope with product-related complaints when suffering from a negative shock to customer ratings (Serkan & Dincer, 2019).

Previous studies have mainly focused on how managerial responses affect customer satisfaction and the factors that may influence managers' responding behaviors. For example, Xu and Zhao (2022) examined how the linguistic characteristics of managerial responses impact repeat customers' satisfaction. Yet, limited research has been done regarding how restaurant managers respond to reviews posted by repeat customers and what characteristics of repeat customers (e.g., social influence and revisit intention) may drive managers to adjust their responding behaviors. On the one hand, research has shown that social influence, which can be assessed via the number of followers of a customer, affects readers' perception and the reputation of a restaurant in online communities (Cheng & Ho, 2015). On the other hand, the change of revisit intention can be observed from a temporal perspective and exert a certain influence on the performance of a restaurant. To address these research gaps, we develop the following hypotheses.

## *2.2. Managerial response strategy to repeat customers*

Managerial responses are utilized as an effective strategy to help restaurants recover from service failure and restore customer satisfaction (Chevalier, Dover, & Mayzlin, 2018). However, close monitoring to respond to customer reviews in a timely manner is so costly that restaurants have to balance the benefits and costs before conducting actual response behaviors (Peteraf, 1993; Li, Cui, & Peng, 2017; Xu et al., 2020). In practice, a large number of managers are motivated to adopt selective response strategies because the targeted response management has been found to not only influence restaurant performance positively and maintain prospective revisiting customers but also reduce costs, especially that of human resources (Liu et al., 2015). Hence, business managers tend to target their responses to specific customer segments (Proserpio & Zervas, 2017) and determine who and/or which reviews need a response (Park & Allen, 2013). However, not all targeted strategies work as expected (Pantelidis, 2010). Gu and Ye (2014) pointed out that even though such approaches help increase the later satisfaction of customers who are unsatisfied with their experience, online managerial responses do not affect the subsequent ratings posted by repeat customers after their re-visitation (Chen et al., 2019).

Repeat customers, especially those with multiple repeat visitations, are perceived as a stable and valuable market segment for restaurant revenue (Reichheld & Schefter, 2000; The National Restaurant Association, 2012). Compared with new customers, repeat customers have a higher tendency to return due to five antecedents: risk reduction for information asymmetry in alternative destinations, risk reduction from meeting people with common interests, emotional attachment to a particular destination, deeper re-exploration of a destination, and exposure of a satisfying experience to others (Gitelson & Crompton, 1984). In this case, revisit behaviors imply that managers can retain re-visitors with fewer efforts and costs. Furthermore, the unique prior experiences drive repeat customers to expect more, perceive more sensitively (Pan et al., 2022), and become trickier to satisfy (Kivela, Inbakaran, & Reece, 2000). Thus, restoring their satisfaction through responses is more difficult and requires considerable

resources. New customers with low dissatisfaction are more likely to recover from managers' proactive responses because they have less familiarity and fewer experiences (Jang and Kim, 2022). From this perspective, the benefit of managerial responses to new customers would exceed the cost. Moreover, managers may intuitively treat re-consumption behavior as a signal of positive attitudes and perceptions of previous consumption(s) from repeat customers (Oppermann, 2000). Hence, repeat customers, as a small proportion of customers, could be easily skipped among the overwhelming number of reviews when restaurant managers respond to online reviews. Thus, we propose the following hypothesis:

H1. Reviews posted by repeat customers of a restaurant are less likely to receive managerial responses compared with new customers.

### *2.3. Moderating effect of customer social influence*

Customers with more friends (followers) are perceived as more influential in a community, especially in a situation where e-commerce platforms provide social network services to identify and access friend reviews (Lee, Hosanagar, & Tan, 2015; Pan et al., 2018). Online friendship ties could be formed and enhanced on the basis of shared personal interests, goals, and ideas through electronic communication and interactions (Ridings & Gefen, 2006; Moretti, 2011; Ke, Liu, & Brass, 2020). According to social influence theory, users can diffuse information on personal consumption experiences to friends, which may drive their ties closer and develop similar preferences, attitudes, values, and behaviors, thus resulting in trust and frequent interactions (Book et al., 2016; McPherson et al., 2001). In contrast to strangers' reviews, friend reviews are a more trustworthy source of information and receive higher priority for reference when making decisions (Pantelidis, 2010). Prior studies have pointed out that the number of friends that a reviewer has represents his/her reputation because peers are more willing to make friends with contributors of useful reviews (Racherla & Friske, 2012). Furthermore, reviews posted by reputable reviewers are perceived to be more helpful (Liu & Park, 2015).

Considering the role of trust (Pan et al., 2018), the herd effect (Lee, Hosanagar, & Tan, 2015), the homophily effect, and the social influence effect (Wang, Zhang, & Hann, 2018), an individual's evaluations of a restaurant cast strong influence on their friends' intention to visit because friends' recommendations are known to be better and more credible than those of others (Pan et al., 2018). Ke, Liu, and Brass (2020) found that friend reviews also exert positive effects on the quality of subsequent reviews provided by users, particularly by less-experienced ones, based on pure altruism and competitive altruism theories.

Apart from the above positive effect of social influence, reviews from a customer with more friends are evidently a double-edged sword: the stronger the eWOM effect is, the larger the potential threat to damage restaurant reputation and reduce revenue will be. The negative consequences of complaints and dissatisfaction are aggravated when users' reviews, particularly negative reviews, are observed by a large potential audience (i.e., the number of online friends) and lack appropriate managerial responses. The consequent revenue lost and the subsequent recovery cost will also be greater. Under this situation, restaurants are motivated to conduct managerial responses to repeat customers' reviews to erode the negative influence

and control the diffusion of the negative evaluations among a large potential audience once they determine that repeat customers have many friends that are easy to observe (see Figure 1). Thus, we develop the following hypothesis:

H2a. Reviews posted by repeat customers of a restaurant who have more friends in the community are more likely to receive managerial responses.

Faced with a colossal amount of information, customers tend to seek reliable and useful information from reviewers who have more experience or expertise before making purchase decisions (Lascu, Bearden, & Rose, 1995; Gilly et al., 1998). As a proxy for the level of reviewer experience and expertise, the overall number of reviews posted has been considered one of the most significant parameters to measure a reviewer's trustworthiness and the perceived usefulness of his/her reviews (Dellarocas, 2003; Park & Nicolau, 2015; Liu & Park, 2015; Kwok & Xie, 2016). That is, more reviews posted imply that the reviewer is more engaged in sharing opinions and more likely to provide helpful information (Ku, Wei, & Hsiao, 2012). Thus, potential consumers trust them rather than novice reviewers (Zhu & Zhang, 2010; Ludwig et al., 2013; Agnihotri & Bhattacharya, 2016). Moreover, according to opinion-leader theory (Chan & Misra, 1990), experienced users tend to be opinion-leaders in the online community and may have more followers (Hennig-Thurau & Walsh, 2003). In this regard, posting managerial responses to these reviews can amplify the positive effect of a managerial response.

The number of reviews that a user has written to share his/her consumption experience is closely associated with his/her online visibility (exposure) in the community. Thus, reviewers with more reviews have a greater chance of being observed in the community than those with fewer reviews (Kwok & Xie, 2016), thereby increasing the possibility to expose a restaurant evaluated by him/her to other potential consumers. The exposure effect makes restaurants more likely to be chosen and further influences their reputation and business image. Hence, managers need to be strategic in targeting influential customers who have posted many reviews, particularly in the situation where restaurants have limited resources and budget to conduct managerial responses. Research has shown that not all reviews (customers) can connect to a wide audience and generate an important eWOM effect (e.g., Kwok & Xie, 2016; Liu & Law, 2018). Thus, managers need to prioritize influential reviews when responding to customer reviews. We expect that restaurant managers are more likely to respond to repeat customers with greater social influence and hypothesize the following:

H2b. Reviews posted by repeat customers of a restaurant who posted more reviews in the community are more likely to receive managerial responses.

#### *2.4. Reaction to the time interval between successive visits*

Even though repeat customers are relatively stable, whether repeat customers would revisit the same service provider or hold their permanent loyalty to the same service cannot be guaranteed (Bowen & Chen, 2001; Barber et al., 2011). According to the theory of recency-frequency-monetary value, customers who pay more recently and more frequently for a product

or service tend to repurchase (Hughes, 1995), while their intention to consume repeatedly will decrease as time progresses (Jang & Feng, 2007; Assaker et al., 2011). In the specific case of tourist destination, Oppermann (1997, 1998) claimed that the strength of revisit intention to a destination that has been visited decreases over time and will eventually die out at a certain point. These findings are reinforced by the study of Chen, Ji, and Funk (2014), which examined the temporal effect on revisit intention. As the time interval between successive visits to a restaurant becomes longer, the possibility of customer return will be lower, and the level of customer loyalty will drop. Particularly in an intensively competitive market, customers have plenty of choices (Dutta et al., 2007) and may switch to alternatives regardless of whether their experiences have been satisfactory (Shen et al., 2021; Akarsu et al., 2022).

From the perspective of managers and marketers, the cost of losing repeat customers is huge (Reichheld & Sasser, 1990; The National Restaurant Association, 2012; Yan et al., 2022). Identifying repeat customers whose revisit intention may decay from a time viewpoint (Jang & Feng, 2007) and accordingly allocating resources and efforts to reacquire those potentially lost customers can bring great profits (Kumar et al., 2015). Therefore, restaurant managers should pay more attention to the potential changes in the revisit intention of repeat customers over time (Oppermann, 2000; Jang & Feng, 2007), especially to repeat customers who returned after a long time since the last visit. Appropriate managerial responses can effectively improve customer satisfaction, encourage repeat patronage, and reinforce repeat-customer loyalty (Salehi-Esfahani et al., 2022; Xu & Zhao, 2022). That is, managers are more likely to interact with repeat customers once they observe that a repeat customer has revisited after a long time since their last consumption. Thus, we develop the following hypothesis:

H3. Reviews posted by repeat customers of a restaurant who repurchased after a longer time are more likely to receive managerial responses.

The conceptual framework of this study is presented in Figure 1.

**Figure 1.** Conceptual framework.

### **3. Data and methodology**

#### *3.1. Research context and data collection*

We collected data from Yelp.com, one of the largest and most dominant restaurant review websites around the world. As of December 31, 2021, Yelp had over 102 million unique visitors and received almost 244.4 million consumer reviews worldwide (U.S. Securities and Exchange Commission, 2022). A Nielsen survey showed that customers rank Yelp as the most trustworthy and most influential platform compared with other online platforms (Yelp, 2019). Restaurant reviews on Yelp, being the focus of extensive studies (Salehi-Esfahani and Kang, 2019; Kwon et al., 2021), are considered reliable sources and offer a treasury of big data (Yang et al., 2017; Zukin et al., 2017).

The web design of Yelp provides a unique research context for this study to explore managers' response behavior toward repeat customers. First, to show reviews from repeat

customers, Yelp.com allows repeat customers to post an updated review above his/her previous review after re-consumption with the same restaurant (see Figure 1). Managers and potential consumers can directly observe whether a review is posted by a repeat customer. Second, Yelp.com provides the function of a social network service, wherein users can submit requests to make friends with peers. Users can also easily visit their friends in the online community and assess the recent activities (reviews) of their friends (See Figure 2a) (Lee et al., 2015; Pan et al., 2018). More importantly, friend reviews are highlighted above other reviews on the business page of a restaurant (Ke, Liu, & Brass, 2020). Figure 2b shows that if a user is reading the reviews of a restaurant to make an informed booking decision, the reviews posted by his/her friends on this restaurant are highlighted and displayed at the top of the review list. Third, the number of friends that a user has and the number of reviews posted by a user are displayed just above his/her review, which can be viewed by the manager of a restaurant when responding to customer reviews.

This study aims to investigate the practice and mechanism regarding how restaurant managers respond to reviews posted by repeat customers. To achieve this goal, we develop a Python-based crawler to collect information from reviews and reviewers as well as managerial responses for each restaurant listed on Yelp.com in New York City. For example, the crawler can collect data regarding the rating and length of a review, the number of photos uploaded in a review, the posting date of each review, the membership length with Yelp of each reviewer, the number of friends of each reviewer, and the posting date of each managerial response. We also obtain information on the restaurant type (i.e., Chinese, Italian, Japanese, Mexican, and Thailand identified by Yelp) of each restaurant. The sample period is from January 2015 to December 2019 because the samples after 2020 are largely affected by COVID-19. We remove the observations with missing data and construct a dataset with 251,944 reviews from 1,272 restaurants that adopted managerial response.

**Figure 2.** Example of a repeat visit on Yelp.

**Figure 3.** Examples of friend reviews on Yelp.

### 3.2. Variables

The dependent variable used in this study is managerial response (*MR*), a dummy variable that is set to 1 if a customer review received a managerial response. Figure 1 shows that Yelp identifies the reviews posted after re-consumptions of the same restaurant. Thus, on the basis of this information, we construct the dummy variable *Repeat* as the independent variable of interest to denote whether the reviewer is a repeat customer of a restaurant (1=Yes; 0=No).

To test H2, two moderators are introduced to measure the social influence of a customer. *UserFriend* indexes the number of friends that a user has on Yelp, and *UserReview* denotes the number of reviews that a user has posted on Yelp. To test H3, another explanatory variable *Interval* is utilized to denote the temporal changes in the revisit intention of repeat customers, which is measured by the time interval (days) between a repeat customer's successive visits to the same restaurant. Other reviewer characteristics and review attributes may also influence the responding behavior of restaurant managers, which are used as control variables. For example,

*Rating*, *Length*, and *Photo* refer to the rating score of a review, the length of a review, and the number of photos uploaded in the review, respectively. *Membership* indicates a user's membership length with Yelp. Table 1 presents the descriptions of the main variables used in this study.

**Table 1.** Description of variables.

### 3.3. Econometric models

We employ the following econometric models to test the three hypotheses proposed in Section 3. In Models (1–4),  $i, j$ , and  $k$  denote reviewer, restaurant, and the review sequence of reviewer  $i$  with restaurant  $j$ , respectively.  $\mu_j$ ,  $\nu_m$ , and  $\xi_{ijk}$  stand for restaurant fixed effect, month fixed effect, and idiosyncratic error term, respectively.

$$MR_{ijk} = \beta_0 + \beta_1 Repeat_{ijk} + \beta_2 Controls_{ijk} + \mu_j + \nu_m + \xi_{ijk}, \quad (1)$$

$$MR_{ijk} = \beta_0 + \beta_1 Repeat_{ijk} + \beta_2 Repeat_{ijk} \cdot Ln(UserFriend_{ijk}) + \beta_3 Ln(UserFriend_{ijk}) + \beta_4 Controls_{ijk} + \mu_j + \nu_m + \xi_{ijk}, \quad (2)$$

$$MR_{ijk} = \beta_0 + \beta_1 Repeat_{ijk} + \beta_2 Repeat_{ijk} \cdot Ln(UserReview_{ijk}) + \beta_3 Ln(UserReview_{ijk}) + \beta_4 Controls_{ijk} + \mu_j + \nu_m + \xi_{ijk}, \quad (3)$$

$$MR_{ijk} = \beta_0 + \beta_1 Ln(Interval_{ijk}) + \beta_4 Controls_{ijk} + \mu_j + \nu_m + \xi_{ijk}. \quad (4)$$

Model (1) is utilized to test H1 on whether managers care less about repeat customers when responding to customer reviews.  $\beta_1$  captures this effect and is expected to be negative and significant if H1 is supported. To examine whether managers pay more attention to repeat customers with greater social influence, we expand Model (1) by introducing two measures of customer social influence and their interaction terms with *Repeat* into Models (2) and (3), respectively.  $\beta_2$  measures the moderating effect of repeat customers' social influence on managerial responses as stated in H2a and H2b. This variable should be positively significant if H2a and H2b are supported. To investigate further whether managers prioritize responses to repeat customers whose time intervals between sequential visits are longer than those of others, we add *Interval* as another independent variable of interest in Model 4 and expect  $\beta_1$  to be positive and significant if H3 is supported. We also control for restaurant ID-fixed effect and month-fixed effect in Models (1–4) to account for the heterogeneity across restaurants and the time-variant factors.

## 4. Results and discussion

### 4.1. Descriptive statistics

Table 2 presents the descriptive statistics of the variables used in this study. The proportion of customer reviews that received managerial responses in the whole sample is 18.1%, and 3.3% are identified as repeat visits. The average time interval between repeat

customers' successive visits is about 342 days, thus indicating that customers tend to revisit the same restaurant after a relatively long time. The average number of a user's friends and reviews is about 121 and 106, respectively. The average rating score is about 4.0. The average length of reviews and the average number of photos uploaded in a review is 94 and 0.7, respectively, which suggest that many customers like to post positive reviews without photos. In addition, the average length of customers' membership with Yelp is about 47 months since registration.

**Table 2.** Summary statistics.

#### 4.2. Estimation results

Table 3 reports the estimation results of Models (1–4) on the response behaviors of restaurant managers toward repeat customers. In Column 1, the coefficient (-0.10\*\*\*) of *MR* is negative and significant at the 0.01 level, which suggests that the probability that managers respond to reviews posted by repeat customers decreases by 10%. That is, restaurant managers allocate less attention to repeat customers when responding to customer reviews. Hence, H1 is supported. Restaurant managers may perceive re-consumptions as a positive signal from repeat customers in terms of their perceptions of service/product quality. They may consider responding to new customers rather than repeat customers to be more beneficial.

**Table 3.** Estimation results of managerial responses to repeat customers.

Models (2–3) are utilized to examine the moderating effect of customer social influence on managerial responses to repeat customers. The estimation results are reported in Columns 2–3. The coefficients of the interaction terms in Models (2–3) are significantly positive, thus indicating that repeat customers with greater social influence in the community are more likely to receive managerial responses. Hence, although repeat customers are less likely to be responded to, as verified in H1, restaurant managers prefer responding to those with a greater number of friends or reviews that can reach a wider potential audience. Therefore, H2a and H2b are supported.

Finally, we utilize Model (4) to explore how managers react to reviews from repeat customers who re-consumed the same service after a long interval from their last experience. Column 4 shows that the coefficient (0.0080\*\*\*) of *Interval* is positive and significant at the 0.01 level, thus indicating that reviews posted by repeat customers with a longer time since their last consumptions are more likely to receive managerial responses. That is, the longer a repeat customer returned to the same restaurant since his/her last consumption, the higher the possibility that the manager will interact with him/her via a managerial response. Therefore, H3 is supported. Table 4 presents the summary of the findings.

**Table 4.** Summary of Findings.

#### 4.3. Robustness check

We conduct two series of empirical analyses to check the robustness of our main results in Section 5.2. First, our sample has five types of restaurants (i.e., Chinese, Italian, Japanese, Mexican, and Thailand), and their distinct cultural background may result in diverse practices in managerial responses to improve business reputation and customer relationship. To address this concern, we ran Model (1) for each restaurant type to examine whether managers' responding behavior toward repeat customers differs across different types of restaurants. Table 5 shows that the coefficients of *Repeat* are statistically significant and negative. Moreover, managers of Thai restaurants (-0.1291\*\*\*) are least likely to respond to reviews posted by repeat customers, followed by managers of Chinese (-0.1187\*\*\*), Italian (-0.0962\*\*\*), Mexican (-0.0820\*\*\*), and Japanese (-0.0811\*\*\*) restaurants. Therefore, our result that managers pay less attention to repeat customers when responding to customer reviews is robust.

Second, considering the time effect on managers' response behavior, we conduct comparison analyses for each year to investigate whether the response strategies of managers toward repeat customers change over time. Column 1 in Table 6 shows that the sign and significance of *Repeat* remain highly consistent across different years, thus indicating the robustness of our main result. We also observe that managers are less likely to respond to repeat customers, which has become more evident in recent years.

**Table 5.** Robustness check by restaurant type.

**Table 6.** Robustness check by year.

## **5. Conclusion and implications**

### *5.1. Conclusion*

The importance of repeat customers for restaurant survival and success has been verified in extant research (The National Restaurant Association, 2012; Oppermann, 2000). Such studies emphasize that restaurant managers should effectively amplify their eWOM intervention behaviors, implement customer-orientation strategies, and encourage repeat patronage (Kwok & Xie, 2016; Liu & Law, 2018). The current study is one of the first attempts to examine empirically how restaurant managers respond to reviews from repeat customers and what drives such managerial responses. We find that reviews posted by repeat customers are less likely to receive managerial responses. Such a preference of restaurant managers may arise from their perceptions of revisiting behavior and the costs of satisfying repeat customers. First, revisiting behavior is perceived as a positive signal of attitudes and satisfaction from repeat customers (Oppermann, 2000). Second, repeat customers are more experienced and more difficult to satisfy than new customers (Kivela, Inbakaran, & Reece, 2000). Thus, under budget constraints, reviews posted by repeat customers, as a small proportion of customers, may be easily skipped among the overwhelming reviews in the restaurant sector.

We further explore the underlying mechanism behind managerial responses toward repeat customers from the perspective of social influence and revisit intention. As Xu et al. (2020) pointed out, managers attempt to change their response strategies when they perceive the potential reputation threat or performance damage, particularly in the situation where the potentially negative effects will be more salient and severe. Thus, we first investigate the

moderating effect of social influence on managerial responses to repeat customers. The results show that reviews posted by repeat customers with greater social influence are more likely to receive managerial responses. This finding indicates that the power of social influence of repeat customers triggers managerial responses because influential customers capture a larger online audience (potential consumers) and thereby exert a greater effect on product diffusion and word-of-mouth seeding (Libai et al., 2013; Hu et al., 2018; Nejad et al., 2015). Moreover, research has shown that revisit intention may have been lost or is becoming lost as time passes (Oppermann 1997, 1998; Jang & Feng, 2007). Thus, managers may invest resources to maintain repeat customers. Our empirical result suggests that reviews posted by repeat customers who revisited the same restaurant after a long time are more likely to receive managerial responses, thus indicating that the potential decay of revisit intention motivates managers to conduct responses. Our findings provide theoretical and practical insights into managerial responses in the context of restaurant review platforms.

## *5.2. Theoretical implications*

First, related studies on managerial responses have mainly been conducted from the perspective of review features (e.g., review valance) (Lee & Cranage, 2014) and product characteristics (e.g., product category) (Liang et al., 2021) rather than customer segments (i.e., new customers versus repeat customers). We extend the literature on managerial responses by focusing on repeat customers, which are commonly perceived as a profitable market segment that needs to be prioritized in the restaurant sector (Ryu & Han, 2011). Specifically, this study differs from previous research on managerial responses, as it differentiates the reviewers between one-off consumption customers and repeat customers and reveals the practice of managerial responses to reviews from repeat customers. The empirical results indicate that reviews posted by repeat customers rather than new customers are less likely to receive managerial responses, thereby highlighting managers' different treatments to customer reviews. This finding provides new evidence from the perspective of market segmentation (new customers versus repeat customers) in which managers adopt selective responses in the restaurant sector.

Second, this study sheds light on the power of social influence in inducing managerial responses, which has not been documented in prior studies. Deriving from previous literature on social influence and opinion leaders (Racherla & Friske, 2012; Lee, Hosanagar, & Tan, 2015; Sunder et al., 2019), two dimensions (i.e., the number of friends and the number of reviews) are introduced in this work to measure the magnitude of the social influence of a customer. Our results indicate that although repeat customers are less likely to receive managerial responses, those with more friends or reviews are more likely to attract managers' attention. These findings are consistent with prior studies that influential reviews (reviewers) receive high priority when managers respond to customer reviews (Liu & Law, 2018). This study is among the first to provide empirical evidence on the moderating effect of social influence on managers' reactions to repeat customers, thus contributing to the understanding of selective response strategies in real business practice.

Third, we further reveal that the temporal changes of customers' revisit intention provoke managerial responses to repeat customers. The longer the time interval between a customer's

current and last consumption is, the less intention he/she will have to revisit the same service provider. Under this situation, managerial responses are more necessary and beneficial in enhancing customer relationships and encouraging repeat patronage. Using the time interval between successive visits of a customer to measure revisit intention over time also provides a novel proxy of revisit intention. This work is an early attempt to uncover the adjustment in managerial responses from the perspective of customer revisit intention.

### *5.3. Managerial implications*

According to The National Restaurant Association (2012), more than a half of sales in the restaurant industry are generated by repeat customers. However, repeat visits are not a guarantee of customer loyalty or satisfaction (Oppermann, 2000). Hence, managers should be aware of the importance of repeat customers and develop a long-term customer relationship. First, restaurant managers should take advantage of the platform design to locate repeat customers, set up their own repeat-customer lists, and beef up this directory with detailed information by integrating with customers' personal profile on Yelp. Second, restaurant managers need to cultivate a well-trained customer support team to keep track of repeat customers' reviews and interact with them in a timely and effective manner through personalized managerial response, thus making them feel considered, valued, and appreciated. Engaging with repeat customers online is a signal of customer-centric culture, which may exert positive effects in attracting new customers and retaining current ones.

Although this study reveals the practical adjustment of managerial responses toward repeat customers when responding to those with greater social influence, restaurant managers should consider the potential downsides and risks of this behavior. The perceived justice of customers to managerial responses exerts certain effects on their emotions, WOM spread, and revisit intention. Particularly, customers receiving managerial responses tend to revisit and spread positive WOM (Cai & Qu, 2017), while the ones that did not receive managerial responses perceive unfairness or discrimination (Gu & Ye, 2014). Therefore, managers should reconsider their managerial response strategies in real business practice to avoid potentially negative effects.

Moreover, a longer time interval between successive visits implies a lower stickiness of repeat customers toward a restaurant. Hence, restaurant managers should identify appropriate time intervals before the revisit intention of customers vanishes and take action (e.g., connect with them via Yelp, e-mail, or telephone and provide incentives for their return) to stay in touch and encourage their re-patronage. In addition, repeat customers are more familiar with a restaurant and can more easily notice quality deficiencies than new customers (McKercher & Wong, 2004). As such, their feedback is valuable for direct service improvement. Therefore, managers should make good use of reviews posted by repeat customers. For example, feedback from repeat customers with low satisfaction can be used to improve the emphasized disappointing areas directly. Meanwhile, positive reviews, particularly those that repeatedly express compliments (e.g., staff service), can be utilized to set up rewards.

### *5.3. Limitations and future research*

This study has certain limitations that can be explored in future research. First, we have only utilized the number of friends and the number of reviews posted to measure the social influence of a customer. Other dimensions, such as the social status of a customer in an online community, the customer's familiarity with local cuisines, and the sociodemographic information of a customer can be considered in future research. Second, the characteristics and role of restaurant managers may affect the responding behavior of a restaurant, which has not been examined in our study. Hence, future research can classify the type of managerial response by restaurant and explore the effect of manager characteristics on their responding behavior through questionnaires or interviews.

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**Table 1.** Description of variables.

Variable	Description
<b>Dependent variable</b>	
<i>MR</i>	A dummy variable to denote whether a review received a managerial response (1=Yes; 0=No).
<b>Independent variables</b>	
<i>Repeat</i>	A dummy variable to indicate whether a reviewer is a repeat customer for a given restaurant (1=Yes; 0=No).
<i>Interval</i>	The time interval between a customer's successive visits to the same restaurant.
<b>Moderators</b>	
<i>UserFriend</i>	Number of friends that a user has on Yelp.
<i>UserReview</i>	Number of reviews a user has posted on Yelp.
<b>Control variables</b>	
<i>Rating</i>	Rating score of a review.
<i>Length</i>	Length of a review.
<i>Photo</i>	Number of photos uploaded in a review.
<i>Membership</i>	A user's membership length with Yelp at the posting date of a review.

**Table 2.** Summary statistics.

Variables	Observations	Mean	Min.	Max.
<i>MR</i>	251,944	0.181	0	1
<i>Repeat</i>	251,944	0.033	1	1
<i>Interval</i>	19,382	342.484	1	3967
<i>UserFriend</i>	251,944	121.045	0	5,000
<i>UserReview</i>	251,944	105.896	1	13,115
<i>Rating</i>	251,944	3.967	1	5
<i>Length</i>	251,944	93.936	1	1,002
<i>Photo</i>	251,944	0.728	0	24
<i>Membership</i>	251,944	46.851	0	174

**Table 3.** Estimation results of managerial responses to repeat customers.

Variables	Model (1) <i>MR</i>	Model (2) <i>MR</i>	Model (3) <i>MR</i>	Model (4) <i>MR</i>
<i>Repeat</i>	-0.0989*** (0.0035)	-0.1117*** (0.0058)	-0.1295*** (0.0096)	
<i>Ln(UserFriend)</i>		-0.0002 (0.0003)		
<i>Repeat × Ln(UserFriend)</i>		0.0044*** (0.0016)		
<i>Ln(UserReview)</i>			-0.0004 (0.0005)	
<i>Repeat × Ln(UserReview)</i>			0.0079*** (0.0023)	
<i>Ln(Interval)</i>				0.0080*** (0.0020)
<i>Rating</i>	-0.0262*** (0.0006)	-0.0262*** (0.0006)	-0.0262*** (0.0006)	-0.0124*** (0.0027)
<i>Length</i>	0.0001*** (0.0000)	0.0001*** (0.0000)	0.0001*** (0.0000)	0.0001*** (0.0000)
<i>Photo</i>	-0.0009** (0.0004)	-0.0009** (0.0004)	-0.0008** (0.0004)	-0.0027* (0.0014)
<i>Membership</i>	0.0001*** (0.0000)	0.0001*** (0.0000)	0.0001*** (0.0000)	-0.0002 (0.0001)
Constant	0.2766*** (0.0028)	0.2770*** (0.0028)	0.2776*** (0.0029)	0.0967*** (0.0155)
Restaurant ID FE	YES	YES	YES	YES
Month FE	YES	YES	YES	YES
Observations	251,944	251,944	251,944	8,137
Prob>F	0.0000	0.0000	0.0000	0.0000
R-squared	0.4032	0.4032	0.4032	0.2255

*Notes.* Robust standard errors are reported in parentheses. \*, \*\*, and \*\*\* represent significance at the 10%, 5%, and 1% levels, respectively.

**Table 4. Summary of findings.**

Hypothesis	Description	Result
H1	Reviews posted by repeat customers of a restaurant are less likely to receive managerial responses in comparison with new customers.	Supported
H2a	Reviews posted by repeat customers of a restaurant who had more friends in the community are more likely to receive managerial responses.	Supported
H2b	Reviews posted by repeat customers of a restaurant who posted more reviews in the community are more likely to receive managerial responses.	Supported
H3.	Reviews posted by repeat customers of a restaurant who repurchased after a longer time are more likely to receive managerial responses.	Supported

**Table 5.** Robustness check by restaurant type.

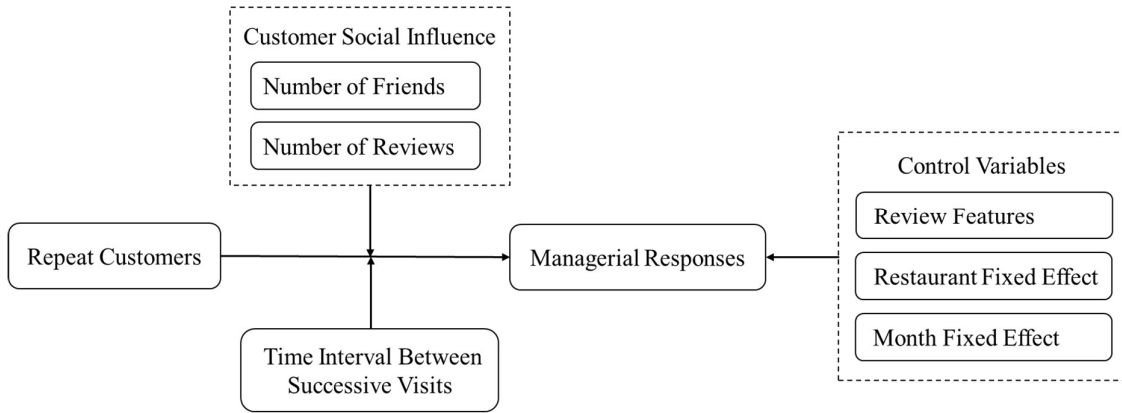
Restaurant Type Variables	Thailand <i>MR</i>	Chinese <i>MR</i>	Italian <i>MR</i>	Mexican <i>MR</i>	Japanese <i>MR</i>
<i>Repeat</i>	-0.1291*** (0.0096)	-0.1187*** (0.0101)	-0.0962*** (0.0060)	-0.0820*** (0.0077)	-0.0811*** (0.0076)
<i>Rating</i>	-0.0163*** (0.0015)	-0.0423*** (0.0015)	-0.0269*** (0.0010)	-0.0135*** (0.0012)	-0.0328*** (0.0013)
<i>Length</i>	0.0001*** (0.0000)	0.0001*** (0.0000)	0.0001*** (0.0000)	0.0001*** (0.0000)	0.0001*** (0.0000)
<i>Photo</i>	-0.0022** (0.0011)	0.0003 (0.0009)	0.0006 (0.0007)	-0.0027*** (0.0010)	-0.0008 (0.0007)
<i>Membership</i>	0.0001 (0.0001)	0.0002*** (0.0000)	0.0001*** (0.0000)	0.0001 (0.0000)	0.0001*** (0.0000)
Constant	0.2950*** (0.0075)	0.3649*** (0.0072)	0.2739*** (0.0051)	0.1977*** (0.0058)	0.2755*** (0.0063)
Restaurant ID FE	YES	YES	YES	YES	YES
Month FE	YES	YES	YES	YES	YES
Observations	37,810	39,593	74,279	50,090	50,172
Prob>F	0.0000	0.0000	0.0000	0.0000	0.0000
R-squared	0.4302	0.4579	0.3955	0.3203	0.4049

*Notes.* Robust standard errors are reported in parentheses. \*, \*\*, and \*\*\* represent significance at the 10%, 5%, and 1% levels, respectively.

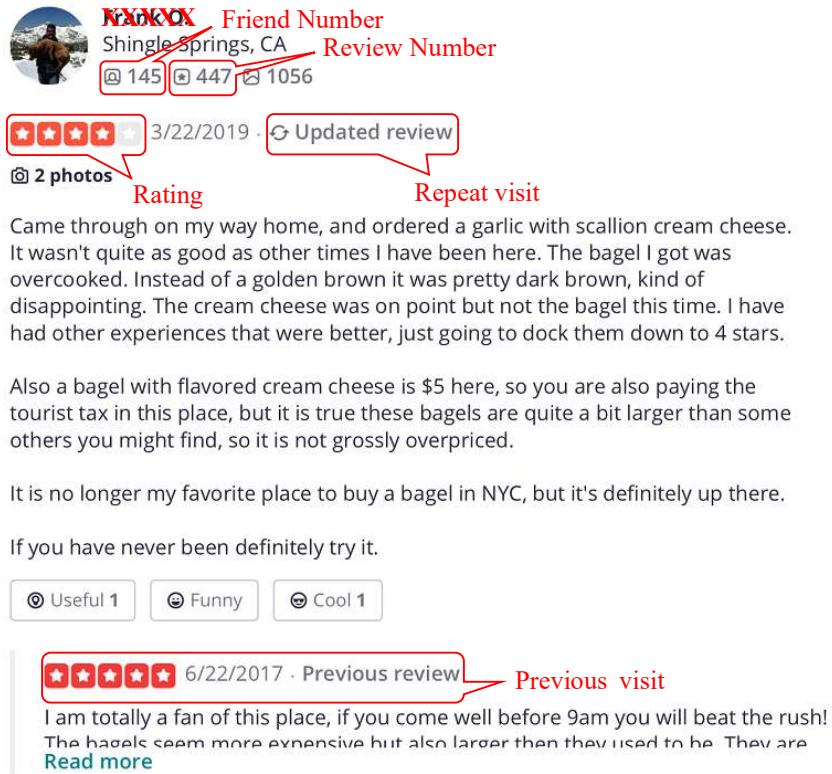
**Table 6.** Robustness check by year.

Year	2015	2016	2017	2018	2019
Variables	<i>MR</i>	<i>MR</i>	<i>MR</i>	<i>MR</i>	<i>MR</i>
<i>Repeat</i>	-0.0738*** (0.0105)	-0.0865*** (0.0085)	-0.0783*** (0.0086)	-0.1146*** (0.0071)	-0.1126*** (0.0066)
<i>Rating</i>	-0.0533*** (0.0016)	-0.0436*** (0.0014)	-0.0286*** (0.0012)	-0.0174*** (0.0010)	-0.0217*** (0.0010)
<i>Length</i>	0.0000** (0.0000)	0.0001*** (0.0000)	0.0001*** (0.0000)	0.0000*** (0.0000)	0.0001*** (0.0000)
<i>Photo</i>	0.0025** (0.0012)	0.0018* (0.0010)	-0.0014* (0.0008)	-0.0011* (0.0006)	-0.0005 (0.0006)
<i>Membership</i>	0.0004*** (0.0001)	0.0003*** (0.0001)	0.0001** (0.0000)	0.0001*** (0.0000)	0.0001** (0.0000)
Constant	0.3364*** (0.0077)	0.3016*** (0.0067)	0.2695*** (0.0058)	0.2779*** (0.0049)	0.2785*** (0.0050)
Restaurant ID FE	YES	YES	YES	YES	YES
Month FE	YES	YES	YES	YES	YES
Observations	27,120	37,649	48,616	63,631	74,898
Prob>F	0.0000	0.0000	0.0000	0.0000	0.0000
R-squared	0.4667	0.3904	0.4803	0.6595	0.5519

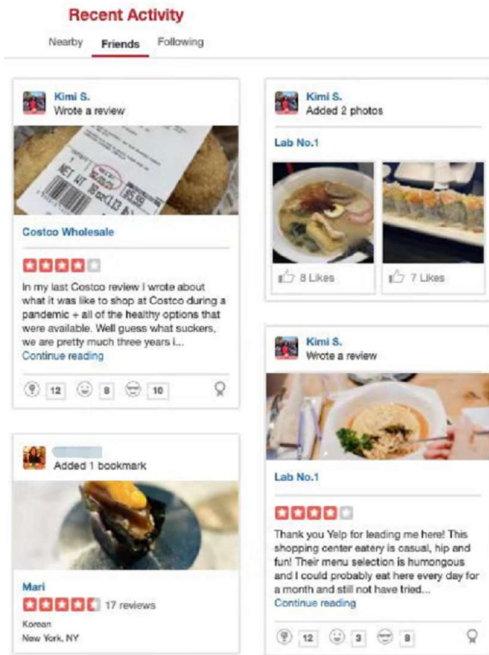
*Notes.* Robust standard errors are reported in parentheses. \*, \*\*, and \*\*\* represent significance at the 10%, 5%, and 1% levels, respectively.



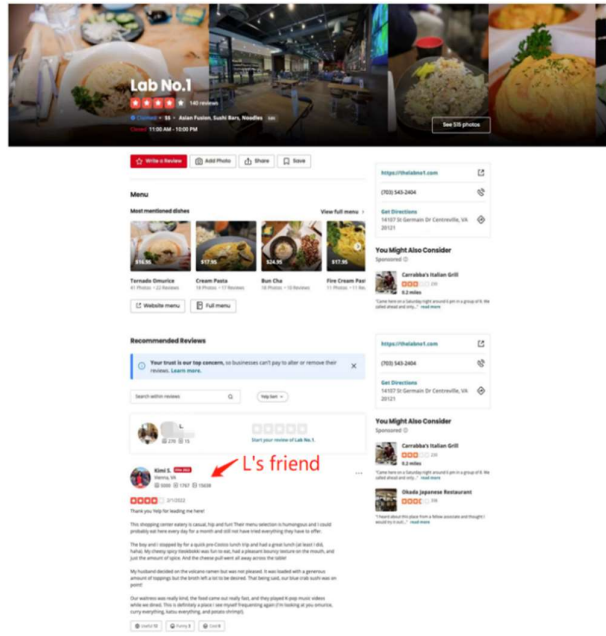
**Figure 1.** Conceptual framework.



**Figure 2.** Example of a repeat visit on Yelp.



(a) Friend review feeds on a private homepage



(b) Friend review featured on a business page

Figure 3. Examples of friend reviews on Yelp.