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Exploring the moderators and causal process of trust transfer in online-to-offline commerce

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ABSTRACT

This study attempted to explore the boundary conditions of trust transfer in the online-to-offline commerce context, which is overlooked in prior research. In Study 1, cross-sectional data were collected from 417 consumers to examine the research model. In Study 2, to confirm causality of trust transfer, longitudinal data were collected and analyzed using a cross-lagged panel model. Results indicated that trust in the intermediary platform positively influences trust in the user community, which further positively influences trust in the focal merchant. Perceived effectiveness of dispute resolution strengthens the impact of trust in the intermediary platform on trust in the focal merchant, while perceived effectiveness of the feedback mechanisms strengthens the impact of trust in the user community on trust in the focal merchant. From a theoretical perspective, this study extends insights into trust transfer theory by identifying the boundary conditions of trust transfer. From a practical perspective, it informs intermediary platforms on how to manage dispute resolution and feedback mechanisms effectively to succeed in online-to-offline commerce. It also helps merchants in selecting the most effective intermediary platforms with which to cooperate.

1. Introduction

In recent years, online-to-offline commerce increased rapidly due to the development of mobile technologies (Xu, 2017). Online-to-offline commerce refers to "the use of online channels to drive offline sales and redemption, or offline purchasing propelled by the web" (Fitzgerald, 2012). Online-to-offline commerce platforms are popular across many countries, such as productreview.com in Australia, openrice.com in Hong Kong SAR, and dianping.com in China (He, Cheng, Dong, & Wang, 2016; Phang, Tan, Sutanto, Magagna, & Lu, 2014). Online-to-offline commerce is seen as an extension of the business-to-consumer (B2C) e-business model, which gives priority to localized life service products, such as catering, fitness, tickets, beauty salons, and car rentals (He et al., 2016; Hwang & Kim, 2018). Since emerging in the e-marketplace, this particular form of e-commerce has been warmly embraced by numerous merchants providing service products, especially small-sized merchants who are unable to provide multi-channel promotion because of financial restrictions (Xiao, Guo, & D'Ambra, 2018). In Korea, the dominant mobile instant message service applications of KakaoTalk and Line have launched online-to-offline services on their mobile platforms (Hwang & Kim, 2018). In China, total online-to-offline commerce revenue reached CNY 999.2 billion in 2017 (approximately USD 153.7 billon), an increase of 71.5% compared with 2016 (Analysis International, 2018).

Despite the growing popularity of online-to-offline commerce, consumers complain more in online-to-offline commerce than in other e-business areas. As shown in a report by China Electronic Commerce Research Center (CECRC) (2017), 21.19% of the complaints in e-commerce were from online-to-offline commerce in 2017, although revenue from online-to-offline commerce accounted for only 5.5% of the total e-commerce revenue in China (iResearch, 2017). Most complaints concern merchants in online-to-offline commerce (CECRC, 2017), for several reasons. First, most merchants on online-to-offline platforms are small vendors who are incapable of providing a high level of service quality to customers and thus fail to meet customer expectations (Du & Tang, 2014; iResearch, 2017). Second, recognizing the effect of online reviews on sales, some merchants hire individuals or public relations firms to disseminate biased or fake positive opinions about online-to-offline platforms to attract consumers (Li, Li, Yen, & Zhang, 2016). Consumer discontent and a fundamental lack of trust in merchants are regarded as critical barriers to the growth of online-to-offline commerce (Zhang, 2014).

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Among mechanisms to build trust (McKnight, Kacmar, & Choudhury, 2003), research has demonstrated that the mechanism that works best depends on the context (Wang, Shen, & Sun, 2013). A unique feature of online-to-offline commerce is that three parties (intermediary platforms, merchants, and consumers) and two channels (online and offline) are involved simultaneously (Du & Tang, 2014). Payments are made online to intermediary platforms but the consumption of a service takes place offline in merchants' physical stores. In addition, consumers largely depend on other consumers' reviews on the intermediary platforms to make decisions (Tsai, Wang, Lin, & Choub, 2015; Zhang, Zhao, Cheung, & Lee, 2014). In this situation, intermediary platforms and users in the community play important roles in building trust in merchants. Therefore, we attempt to build trust in merchants from a trust transfer perspective and propose that consumers' trust in the intermediary platform and community of users can influence trust in merchants, which, in turn, triggers repurchase intention.

Trust transfer has been confirmed in different research contexts as an effective mechanism to establish and improve trust (Kuan & Bock, 2007; Yang, Chen, & Wei, 2015); however, most studies have ignored the boundary conditions under which the trust transfer occurs. Delgado-Marquez, Hurtado-Torres, and Aragon-Correa (2012) proposed that the trust transfer process is moderated by trustors' expectations. Chen, Huang, Davison, and Hua (2015) investigated the boundary conditions of trust transfer and found that the perceived effectiveness of e-commerce institutional mechanisms and the perceived website quality of the seller can moderate the trust transfer from intermediary platforms to sellers on the platform in the consumer-to-consumer (C2C) context. However, these factors cannot be applied to the online-to-offline commerce context since intermediary platforms provide a uniform template for merchants to provide information to consumers (iResearch, 2017), resulting in merchants having nearly identical website quality. Consequently, the boundary conditions of the trust transfer process may be context specific. A few recent studies (Gefen & Pavlou, 2012) have called for research to investigate the various boundary conditions of the trust transfer process. Hence, the aim of this study was to explore the boundary conditions of trust transfer in the online-to-offline commerce context.

From a practical perspective, a complete understanding of the boundary conditions of trust transfer has the potential to guide intermediary platform operators and merchants in online-to-offline commerce in fine-tuning their trust-building strategies. In the highly competitive e-commerce environment, while consumer trust is increasingly important in consumer decision making, empirical studies have revealed that the presence of trust in the source alone may not be sufficient for triggering trust in the target (Chen et al., 2015; Friend, Johnson, & Sohi, 2018). Therefore, further understanding of the conditions of trust transfer is essential to inform intermediary platform operators in online-to-offline commerce about how to efficiently build trust with customers, and thereby succeed in the e-marketplace. For merchants in online-to-offline commerce, an understanding of trust transfer moderators can help them effectively select the appropriate intermediary platforms to cooperate with.

From a theoretical perspective, this study is among the first to investigate trust-building mechanisms in the online-to-offline commerce context, thereby expanding understanding of the phenomenon of interest. We show that consumers' trust in the focal merchant can be built through trust in the intermediary platform and trust in the user community, based on the trust transfer mechanism. Moreover, we extend insights into trust transfer theory by identifying the boundary conditions of trust transfer in online-to-offline commerce. We find that the perceived effectiveness of dispute resolution (PEDR) positively moderates the impact of trust in the intermediary platform on trust in the focal merchant, while the perceived effectiveness of feedback mechanisms (PEFM) positively moderates the impact of trust in the user community on trust in the focal merchant.

2. Literature review

2.1. Online-to-offline commerce

Rampell (2010) first proposed the concept of "online-to-offline commerce", considering that it "finds consumers online and brings them into real world stores, a combination of payment model and foot traffic generator for merchants, as well as a discovery mechanism for consumers that create offline purchases." Fitzgerald (2012) further defined online-to-offline commerce as a way to "use the online and mobile [channels] to drive offline local sales or redemption. More simply put, it is offline purchasing propelled by the web." In essence, online-to-offline commerce brings offline business activities to Internet platforms and uses these platforms to promote traditional offline businesses.

In online-to-offline commerce, three parties are involved in the transaction process: intermediary platforms, merchants providing offline services, and consumers (Hwang & Kim, 2018; iResearch, 2016). The merchants' information—including location, product/service details, operating time, and other consumers' reviews—is provided on the intermediary platform. If consumers are interested in a particular merchant, they can enjoy the services/products in the merchants' physical stores but make payments online through the intermediary platform (Pan, Wu, & Olson, 2017). The electronic discount coupons are also available on the intermediary platform. Consumers can buy in advance and use them in the merchants' physical store according to the conditions of usage (Xu, 2017).

Online-to-offline commerce differs from normal online shopping in two respects. First, while products in normal online shopping are physical products that need to be delivered via logistics, products in online-to-offline commerce are mainly service products—consumers need to enter the store to receive services/products (iResearch, 2016; Xu, 2017). It is thus regarded as a location-based e-business model (Xu, 2017). Second, as merchants in online-to-offline commerce mainly provide service products (Xu, 2017), it is difficult for consumers to judge the quality of a product/service based on the information provided on intermediary platforms. Consumers thus rely more on other consumers' reviews to evaluate product/service quality (He et al., 2016). It is also difficult for consumers to refund or exchange products/services if they are not satisfied with those offered by merchants.

2.2. Trust and trust transfer theory

Trust here is the trustor's belief that the trustee will fulfill the trustor's expectations by exhibiting attributes of integrity, ability, and benevolence (Mayer, Davis, & Schoorman, 1995). More specifically, it is defined as "the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party" (Mayer et al., 1995, p.712). Trust is then regarded as important for minimizing the risks and uncertainties between two parties during the transaction process (Hung, Chen, & Lin, 2015). Researchers have argued that a trade between two parties will not be successful if there is insufficient trust, especially in the e-commerce environment, where risks and uncertainties are extremely high (McKnight, Cummings, & Chervany, 1998). Therefore, to facilitate successful transactions in e-commerce, the various stakeholders (e.g., intermediary platforms and sellers) should employ strategies to produce trust in buyers.

The trust transfer process can help build trust in the online environment (Wang et al., 2013). It is defined as a cognitive process whereby an individual's trust in an unknown entity or a new context can be derived from the individual's trust in a familiar entity or context through the association between them (Kim, 2008; Stewart, 2003). Research has classified trust transfer into intra-channel trust transfer and inter-channel trust transfer (Lee, Kang, & McKnight, 2007).

Intra-channel trust transfer refers to the transfer of trust between related entities in the same channel (Lin, Lu, Wang, & Wei, 2011). For instance, Stewart (2003, 2006) found that consumer trust in an unfamiliar business-to-consumer (B2C) website can be derived from a trusted B2C website through hyperlinks. Hong and Cho (2011) demonstrated that trustworthiness in the intermediary e-marketplace plays a critical role in determining the extent to which consumers trust sellers in the e-marketplace.

Inter-channel trust transfer refers to the transfer of trust in one entity in one context be transferred to a related (or the same) entity in another context (Lin et al., 2011). For instance, Belanche, Casalo, Flavian, and Schepers (2014) found that individuals' trust in public administration significantly influences their trust in public e-service. Wang et al. (2013) found that individuals' trust in electronic word-of-mouth services can be transferred from the web context to the mobile context.

Although trust transfer has been confirmed in the literature (see Appendix A), there are two research gaps in both theory and methodology. In terms of theory, few studies have considered the conditions under which trust transfer occurs. Delgado-Marquez et al. (2012) demonstrated that trust transfer among multiple agents is a dynamic process and trustors' expectations have a moderating effect on the trust transfer process. Chen et al. (2015) found that trust transfer from the intermediary platform to sellers on the platform is moderated by the perceived effectiveness of e-commerce institutional mechanisms and perceived website quality of the seller in the C2C context. They called for research to explore more boundary conditions of trust transfer in e-commerce. This study aims to respond to this call by exploring the boundary conditions of trust transfer among different entities in the online-to-offline context.

In terms of methodology, according to Appendix A, studies examining the trust transfer process have mainly utilized cross-sectional data to verify the associations among different targets of trust (Wang et al., 2013). Causality among variables in the trust transfer process remains unknown. Previous research has failed to successfully examine causality for two reasons. First, although methods for examining causality, such as Cross-Lagged Panel Model (CLPM), have been developed and applied in social psychology research, it is still a new analytical approach for researchers in e-commerce. Previous research has relied on experimental methods to examine causal relationships in the trust transfer process (e.g., Delgado-Marquez et al., 2012), which lack external validity (Antonakis, Bendahan, Jacquart, & Lalive, 2010). Survey methods with causal inference capability, such as CLPM, are optimal for resolving this problem. Because of the novelty of CLPM, previous research on trust transfer has not realized its usefulness. Second, a longitudinal approach based on CLPM has strict requirements for research design and data quality, which increase the difficulty of data collection. It is challenging to collect repeated data. Recruitment and retention of participants for longitudinal research is difficult because of the substantial demands of completing surveys (Bolger, Davis, & Rafaeli, 2003). There is also the considerable burden placed on participants by frequent reporting of the same survey (Beal, 2015). Some participants quit the research or skip questions because of the high demands associated with completing surveys. This often results in large amounts of missing data and reduces the quality of data, rendering the data unanalyzable. Because of the novelty of CLPM and the difficulty of longitudinal data collection, previous research has rarely applied CLPM to examine the causal process of trust transfer. Thus, this study aims to employ longitudinal data to examine causality among variables in the trust transfer process.

3. Hypothesis development

The research model developed in this study is shown in Fig. 1. We first examined trust transfer among intermediary platforms, user communities, and merchants in online-to-offline commerce based on trust transfer theory. We then examined how PEDR and PEFM moderate the trust transfer process. As the relationship between trust and repurchase intention is extensively confirmed in the literature, we included repurchase intention in the model as the dependent variable to replicate the relationship between trust and repurchase intention. The following sections elaborate on the theory base and develop the hypotheses in the research model.

3.1. Trust transfer

Trust in the intermediary platform refers to consumers' beliefs about the platform's attributes of integrity, benevolence, and competence (McKnight & Chervany, 2001). Trust in the user community refers to "an individual's willingness to rely on the reviews, actions, and decisions of other users on the platform" (Sollner, Hoffmann, & Leimeister, 2016, p.277). In online-to-offline commerce, consumers can not only search for information and make transactions on the intermediary platform, but also share information with other users (Pan et al., 2017; Xu, 2017). As proposed in trust transfer theory, an individual's trust in an unknown entity can be derived from a familiar entity if the two entities are associated with each other (Stewart, 2003). Thus, we infer that consumers' trust in the user community can be derived from their trust in the intermediary platform. This is because if an individual believes that the intermediary platform is reliable, they may infer that other users on the intermediary platform are governed by the rules of the platform to avoid opportunistic behavior (Hung et al., 2015). Consumers may then believe that the information shared by other users in a given community can be trusted. Based on above discussion, we propose the following hypothesis:

H1. Trust in the intermediary platform has a positive effect on trust in the user community.

Trust in the focal merchant refers to consumers' beliefs about the particular merchant's attributes of integrity, benevolence, and competence (McKnight & Chervany, 2001). As introduced earlier, online-to-offline commerce requires consumers to accept the products/services in the merchant's physical store while making transactions and payments through an intermediary platform (Pan et al., 2017). Therefore, risks and uncertainties arise, not only from the intermediary platforms, but also from the merchants offering the product/service offline. Based on trust transfer theory, we expect that consumers' trust can be transferred to merchants from two sources: the intermediary platform and users in the community. Specifically, if consumers believe that an intermediary platform is reliable, they are more likely to believe that the platform has implemented strict rules to manage offline merchants with whom they cooperate, which helps consumers to avoid opportunistic behavior of merchants (Xiao, Mi, Zhang, & Ma, 2017). In addition, in online communities, consumers largely rely on other users' reviews, recommendations, and behaviors to infer the trustworthiness of unknown entities (Reimer & Benkenstein, 2016). Thus, if consumers trust the users in a community, they are more likely to trust the focal merchant because the merchant will do his/her best to achieve positive e-word-of-mouth in the online community. In summary, we propose the following hypotheses:

H2. Trust in the intermediary platform has a positive effect on trust in the focal merchant.

H3. Trust in the user community has a positive effect on trust in the focal merchant.

3.2. Perceived effectiveness of dispute resolution

PEDR refers to buyers' belief that the dispute resolution services offered by an intermediary platform can redress their complaints or disputes with merchants in accordance with their expectations (Lu,

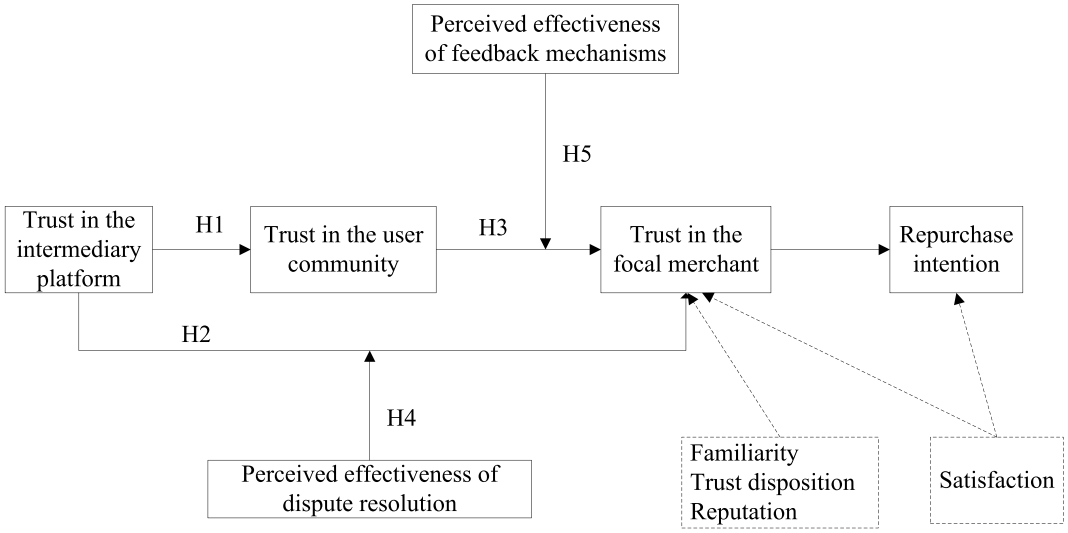

Fig. 1. The research model.

Zeng, & Fan, 2016). Disputes between consumers and merchants occur frequently in online-to-offline commerce. For instance, consumers frequently complain that merchants charge extra when consumers enjoy the service offline with coupons (Du & Tang, 2014), that service quality does not accord with the information on the intermediary platform (Du & Tang, 2014), and that merchants set strict rules (e.g., coupon cannot be used on weekends or holidays) for consumption (CECRC, 2017). Since the products offered by merchants in online-to-offline commerce are often service products (e.g., catering and spa) (Xu, 2017), it is difficult for consumers to judge the products' quality before consumption. However, it is impossible for consumers to return or exchange the goods after consumption. Thus, effective dispute resolution schemes are crucial for intermediary platforms to succeed in online-to-offline commerce.

As proposed earlier, consumers' trust in an intermediary platform can be transferred to merchants cooperating with that platform because of the association between the two (Gefen & Pavlou, 2012; Stewart, 2003). We propose that this trust transfer process may be influenced by the dispute resolution scheme offered by the intermediary platform. When PEDR is high, the relationship between trust in the intermediary platform and trust in the focal merchant should be strengthened, given that an effective scheme can minimize the risks involved (Lu et al., 2016). Specifically, when PEDR is high, consumers' confidence in the transaction process can be enhanced because an effective dispute resolution mechanism can protect them against potential risks or losses (Lu et al., 2016). In this situation, consumers are more likely to have the positive perception that all merchants on the platform are connected to the positive processes of the platform and thus do not behave opportunistically. In addition, consumers may think that even if they are cheated by a merchant, the intermediary platform will effectively resolve the dispute and compensate them for any losses. This implies that consumers will not need to evaluate all merchants on an intermediary platform because of high trust in the platform itself (Chen et al., 2015).

In contrast, when PEDR is low, consumers will perceive a high level of risk associated with the transaction process. In this instance, the transfer process of trust in the intermediary platform to trust in the focal merchant can be interrupted due to uncertainty and risk (Lu et al., 2016). Ineffective dispute resolution induces buyers to search for and collect additional information to infer merchants' trustworthiness—for instance, concerning merchants' reputations or friends' recommendations—rather than relying on their trust in the intermediary platform. Consequently, the impact of trust in the intermediary platform on trust in the focal merchant depends on the condition of buyers' PEDR. We therefore hypothesize as follows:

H4. PEDR positively moderates the impact of trust in the intermediary platform on trust in the focal merchant.

3.3. Perceived effectiveness of feedback mechanisms

Pavlou and Gefen (2004) defined PEFM as consumers' belief that a feedback mechanism adopted by an online marketplace can accurately and objectively reflect merchant quality. Feedback mechanisms accumulate the information (e.g., recommendations) generated by buyers, which can effectively indicate the merchants' past performance (Gefen & Pavlou, 2012). Feedback technologies have been widely adopted by e-commerce websites, such as Amazon, Taobao, and numerous intermediary platforms in online-to-offline commerce (Lu et al., 2016). Prior research has demonstrated that feedback mechanisms can significantly influence consumers' perceptions, attitudes, and behaviors (Ha, 2004).

In B2C and C2C e-commerce, each seller has its own website that can be used by consumers to judge its trustworthiness (Chen et al., 2015). However, in online-to-offline commerce, the intermediary platform provides a uniform template for merchants to publish their information (iResearch, 2017). Thus, consumers have to rely on the intermediary platform and other buyers' comments and behavior to judge the trustworthiness of unknown merchants. Many merchants become involved in deceptive activities, including hiring individuals or public relations companies to post fake reviews on online platforms when they realize the effect of positive online reviews on sales (Ahuja, Michels, Walker, & Weissbuch, 2007; Carl, 2006; Zhang, Ko, & Carpenter, 2016). To protect consumers' interests, some intermediary platforms (e.g., Taobao) apply methods to detect deceptive comments and impose penalties on sellers involved in such activities (Zhang, Bian, & Zhu, 2013). Thus, the effectiveness of feedback mechanisms is important in the online-to-offline commerce context.

We propose that PEFM may influence the impact of trust in the user community on trust in the focal merchant. When PEFM is high, consumers can rely on reviews and comments proposed by other users in the community to judge the trustworthiness of a merchant (Amblee & Bui, 2011). That is, the trust transfer from user community to merchant is likely to be effective only if consumers believe that feedback technologies are accurate and credible, and have not been manipulated by human agents (Pavlou & Gefen, 2004). However, when consumers perceive that an intermediary platform has not installed strategies to ensure an effective feedback mechanism, they may realize that the possibility of being deceived by online reviews is relatively high. Thus, they have to rely on other signals to judge the trustworthiness of

merchants, rather than other users in the community. Accordingly, we hypothesize that:

H5. PEFM positively moderates the impact of trust in the user community on trust in the focal merchant.

4. Study 1: methodology

4.1. Research setting

We selected dianping.com, the largest online-to-offline platform in Mainland China, as the research context from which to collect data. Dianping.com is the leading online-to-offline platform in China that helps promote traditional offline businesses. Various services provided by offline merchants are offered on dianping.com, covering catering, health, beauty salons, film/attraction tickets, hotel services, and entertainment, which are typical services frequently sought by consumers in an offline environment. Each merchant has a homepage on dianping.com. The merchants' information—including location, product/service details, operating time, coupons, and reviews and ratings by consumers—is provided on these homepages. On the platform, consumers can browse the merchants by location, service categories, rating scores, price, and discount rate. The platform also makes recommendations to consumers based on their browsing history and buying traits.

Dianping.com was selected for data collection for several reasons. First, it is the most popular online-to-offline platform in China, with a large number of active users. As of the third quarter of 2015, the platform had > 200 million active users and monthly visits approached 20 billion. Second, the number of merchants cooperating with dianping.com exceeds 20 million, covering > 2500 cities in China and > 800 cities outside China, such as New York, Paris, and London.[1] Third, dianping.com has adopted feedback technologies. Consumers can post text comments and photographs relevant to a merchant on that merchant's homepage. Finally, dianping.com has an affiliated forum through which consumers can share their experiences and merchants can organize promotional activities. Therefore, it is appropriate to use dianping.com as the data collection site to investigate the phenomenon of online-to-offline commerce.

4.2. Measures

Constructs were measured by adopting reliable and valid scales from previous research (Galves, 2009; Pavlou & Gefen, 2004; Sollner et al., 2016) to ensure validity and reliability for the study. Minor changes were made to adapt scales to the online-to-offline research context. A five-point Likert scale was employed to measure all items. A pilot study was conducted using a convenience sample to ensure the questions were easy to understand. The instrument items we used are shown in Appendix B.

Since the data were collected in Mainland China, we applied a back-translation strategy. Specifically, two bilingual researchers were involved in the back-translation process. The first researcher translated the English version of survey into Chinese. The second researcher translated the Chinese survey back into English. Finally, the translated English version was used to compare with the original English version. We did not find any substantial difference between the translated English survey and the original English survey, indicating that the translation captured the meaning of all items.

4.3. Control variables

Studies have indicated that consumers' trust is influenced by trust disposition (Lee & Turban, 2001), familiarity (Kim, Ferrin, & Rao, 2008), reputation (Campo, Pardo, & Perlines, 2014; Eastlick, Lotz, & Warrington, 2006), and satisfaction (Fang et al., 2014). Repurchase intention is frequently influenced by consumer satisfaction (Chang & Chen, 2008). In line with the literature, we considered trust disposition, familiarity, merchant reputation, and satisfaction as control variables.

4.4. Sample and data collection

We conducted an online survey to collect the data. The survey was designed on sojump.com, a professional and free online survey website employed frequently for research in China (e.g. Tang & Zhang, 2016). We used sojump.com's charged sample services to collect the data. In total, 417 valid responses were collected.

Respondents were asked to complete the questionnaire based on their most recent shopping experience on dianping.com. To ensure that all participants had shopping experience with online-to-offline commerce, a screening question asking whether they had shopping experience on dianping.com was included in the survey. We deleted the responses that provided the same answer for all measurement items to maximize validity of the survey results. Table 1 summarizes the demographic characteristics of the sample: 40.8% were males and 59.2% were females. More than half (65%) of the respondents were aged between 26 and 35 and 78.4% had a bachelor degree.

4.5. Data analysis technique

The PLS was adopted for data analysis for two reasons. First, PLS is a particularly effective approach to test causal models with relatively complicated relationships based on empirical data (Ringle, Sarstedt, & Straub, 2012), which is suitable for the current study. Second, the product indicator method developed by Kenny and Judd (1984) for a moderation effect test was implemented in PLS by Chin, Marcolin, and Newsted (2003). PLS allows us to estimate the moderation effect, measurement model, and structural model simultaneously in one operation. Therefore, PLS is suitable for the current study and SmartPLS 2.0 software was adopted for data analysis.

5. Study 1: results

5.1. Measurement model

We assessed the convergent validity and discriminant validity of the measurement model. The model exhibited convergent validity according to three criteria. First, the loadings of all indicators were above the required 0.70 (Table 3). Second, the composite reliability (CR) values were all over the threshold of 0.70 (Table 2). Finally, the average variance extracted (AVE) estimates were all above the minimum

Table 1
Respondents' demographic profiles (N = 417).

Measure	Items	Frequency	Percent
Gender	Male	170	40.8
	Female	247	59.2
Age	18–25	48	11.5
	26–35	271	65.0
	36–45	71	17.0
	Above 45	27	6.5
Highest education level	High school or below	6	1.4
	Some college	48	11.5
	Bachelor's degree	327	78.4
	Master's degree or above	36	8.6
Average monthly income (RMB)	Less than 1,000	9	2.2
	1,000–3,000	31	7.4
	3,001–5,000	115	27.6
	5,001–8,000	178	42.7
	More than 8,000	84	20.1

[1] www.dianping.com/aboutus.

Table 2
Correlations among constructs.

	CR	AVE	TIP	TUC	TM	PEFM	PEDR	RI	FM	RE	TD	SA
TIP	0.89	0.67	**0.82**									
TUC	0.85	0.66	0.43	**0.81**								
TM	0.89	0.63	0.62	0.56	**0.79**							
PEFM	0.88	0.64	0.68	0.46	0.57	**0.80**						
PEDR	0.88	0.64	0.57	0.50	0.56	0.22	**0.80**					
RI	0.87	0.70	0.49	0.41	0.64	0.61	0.55	**0.83**				
FM	0.87	0.68	0.49	0.35	0.53	0.47	0.46	0.61	**0.83**			
RE	0.88	0.71	0.56	0.35	0.61	0.54	0.49	0.59	0.63	**0.84**		
TD	0.89	0.68	0.23	0.24	0.29	0.22	0.21	0.20	0.14	0.21	**0.82**	
SA	0.87	0.68	0.58	0.42	0.61	0.61	0.48	0.67	0.49	0.67	0.19	**0.83**

Note1: TIP = Trust in the intermediary platform; TUC = Trust in the user community; TM = Trust in the focal merchant; PEFM = Perceived effectiveness of feedback mechanisms; PEDR = Perceived effectiveness of dispute resolution; RI = Repurchase intention; FM = Familiarity; RE = Reputation; TD = Trust disposition; SA = Satisfaction.
Note2: The bold numbers in the diagonal row are the square roots of the AVE.

requirement of 0.50 (Table 2) (Chin, 1998; Fornell & Larcker, 1981). Overall, the results indicate satisfactory convergent validity.

To evaluate discriminant validity, we used multiple techniques. First, we inspected the correlation matrix in Table 2 and found that the square root of the AVE for each construct was greater than the correlations between that construct and others (Chin, 1998). Second, we checked the cross-loading in Table 3 and found that all of the items loaded well onto their own construct and poorly on other constructs. Third, we analyzed the Heterotrait–Monotrait Ratio (HTMT), a new criterion for testing discriminant validity in variance-based SEMs proposed by Henseler, Ringle, and Sarstedt (2015). The results in Table 4 confirmed discriminant validity, as all HTMT values were below the threshold of 0.90 (Henseler et al., 2015; Voorhees, Brady, Calantone, & Ramirez, 2015). In summary, these test results suggest good discriminant validity.

We used two approaches to assess the common method variance. First, we performed Harman's one-factor test (Podsakoff & Organ, 1986). The results showed that the most significant factor explained only 36.16% of the variance, below the critical value of 50%. Second, we adopted the procedures proposed by Liang, Saraf, Hu, and Xue (2007) by including a common method factor whose indicators included all the principal constructs' indicators in the research model. We then calculated each indicator's variances substantively explained by the principal construct and by the method. Results (see Table 5) showed that the average indicator's substantive variance was 0.674, and the average method-based variance was 0.004. Thus, we concluded that common method bias was not a serious concern in this study.

Table 3
Loadings and cross-loadings.

	TIP	TUC	TM	PEFM	PEDR	RI	FM	RE	TD	SA
TIP1	***0.77***	0.32	0.50	0.54	0.43	0.51	0.38	0.43	0.15	0.45
TIP2	***0.83***	0.33	0.54	0.56	0.50	0.51	0.44	0.49	0.20	0.52
TIP3	***0.79***	0.36	0.47	0.53	0.45	0.46	0.38	0.46	0.21	0.50
TIP4	***0.86***	0.38	0.50	0.57	0.49	0.50	0.41	0.44	0.20	0.44
TUC1	0.38	***0.83***	0.46	0.38	0.40	0.32	0.24	0.26	0.21	0.33
TUC2	0.32	***0.81***	0.46	0.36	0.41	0.35	0.33	0.33	0.22	0.37
TUC3	0.34	***0.80***	0.46	0.39	0.40	0.33	0.28	0.27	0.17	0.32
TM1	0.50	0.45	***0.84***	0.49	0.43	0.50	0.41	0.52	0.23	0.53
TM2	0.46	0.46	***0.76***	0.39	0.47	0.47	0.41	0.44	0.22	0.48
TM3	0.54	0.47	***0.80***	0.48	0.48	0.54	0.44	0.50	0.27	0.49
TM4	0.48	0.46	***0.81***	0.47	0.43	0.51	0.43	0.51	0.22	0.48
TM5	0.46	0.40	***0.75***	0.43	0.39	0.49	0.41	0.43	0.22	0.44
PEFM1	0.54	0.37	0.47	***0.78***	0.39	0.48	0.35	0.44	0.15	0.49
PEFM2	0.52	0.37	0.44	***0.78***	0.44	0.48	0.38	0.44	0.20	0.49
PEFM3	0.56	0.40	0.45	***0.80***	0.43	0.48	0.35	0.37	0.19	0.44
PEFM4	0.54	0.35	0.47	***0.84***	0.46	0.51	0.41	0.46	0.18	0.54
PEDR1	0.47	0.41	0.46	0.46	***0.82***	0.45	0.42	0.41	0.18	0.36
PEDR2	0.44	0.39	0.45	0.41	***0.80***	0.47	0.32	0.39	0.15	0.44
PEDR3	0.48	0.41	0.46	0.45	***0.81***	0.43	0.38	0.40	0.19	0.40
PEDR4	0.43	0.39	0.41	0.38	***0.78***	0.40	0.35	0.37	0.16	0.32
RI1	0.48	0.37	0.51	0.49	0.48	***0.84***	0.49	0.47	0.15	0.55
RI2	0.52	0.35	0.55	0.50	0.47	***0.83***	0.52	0.50	0.22	0.56
RI3	0.51	0.31	0.53	0.53	0.43	***0.83***	0.50	0.50	0.13	0.57
FM1	0.41	0.27	0.40	0.39	0.35	0.46	***0.80***	0.52	0.16	0.36
FM2	0.42	0.32	0.47	0.41	0.40	0.54	***0.84***	0.53	0.10	0.43
FM3	0.40	0.28	0.44	0.37	0.38	0.49	***0.84***	0.51	0.09	0.41
RE1	0.48	0.29	0.48	0.48	0.40	0.51	0.53	***0.83***	0.18	0.48
RE2	0.50	0.32	0.55	0.48	0.43	0.53	0.56	***0.87***	0.17	0.57
RE3	0.42	0.28	0.50	0.40	0.41	0.45	0.50	***0.83***	0.18	0.51
TD1	0.17	0.21	0.20	0.16	0.18	0.10	0.03	0.12	***0.79***	0.13
TD2	0.19	0.17	0.24	0.15	0.16	0.17	0.11	0.16	***0.85***	0.14
TD3	0.21	0.24	0.26	0.21	0.21	0.19	0.19	0.20	***0.83***	0.16
TD4	0.20	0.17	0.26	0.20	0.16	0.19	0.10	0.18	***0.82***	0.20
SA1	0.53	0.40	0.55	0.55	0.45	0.58	0.48	0.56	0.14	***0.82***
SA2	0.45	0.29	0.47	0.48	0.35	0.52	0.33	0.46	0.18	***0.81***
SA3	0.47	0.34	0.51	0.49	0.38	0.55	0.38	0.50	0.16	***0.85***

Note: TIP = Trust in the intermediary platform; TUC = Trust in the user community; TM = Trust in the focal merchant; PEFM = Perceived effectiveness of feedback mechanisms; PEDR = Perceived effectiveness of dispute resolution; RI = Repurchase intention; FM = Familiarity; RE = Reputation; TD = Trust disposition; SA = Satisfaction.
The bold and underlined numbers are the loadings of each item.

5.2. Structural model

As shown in Fig. 2, the significance of all paths was estimated by applying a bootstrapping procedure with 1000 replications. Results showed that 18.4% of the variance in trust in the user community was

Table 4
Heterotrait–monotrait ratio (HTMT).

	TIP	TUC	TM	PEFM	PEDR	RI	FM	RE	TD	SA
TIP										
TUC	0.55									
TM	0.73	0.72								
PEFM	0.82	0.60	0.69							
PEDR	0.69	0.63	0.67	0.65						
RI	0.75	0.54	0.78	0.76	0.69					
FM	0.62	0.47	0.65	0.59	0.58	0.78				
RE	0.68	0.46	0.73	0.66	0.61	0.74	0.80			
TD	0.28	0.31	0.34	0.27	0.26	0.24	0.17	0.25		
SA	0.73	0.56	0.76	0.77	0.60	0.86	0.63	0.78	0.24	

Note: TIP = Trust in the intermediary platform; TUC = Trust in the user community; TM = Trust in the focal merchant; PEFM = Perceived effectiveness of feedback mechanisms; PEDR = Perceived effectiveness of dispute resolution; RI = Repurchase intention; FM = Familiarity; RE = Reputation; TD = Trust disposition; SA = Satisfaction.

Table 5
Common method bias analysis.

Construct	Indicator	Substantive factor loading (R1)	$R1^2$	Method factor loading (R2)	$R2^2$
Trust in the intermediary platform	TIP1	0.746**	0.557	0.029	0.001
	TIP2	0.792**	0.627	0.051	0.003
	TIP3	0.798**	0.637	−0.001	0.000
	TIP4	0.922**	0.850	−0.075	0.006
Trust in the user community	TUC1	0.837**	0.701	0.021	0.000
	TUC2	0.791**	0.626	0.024	0.001
	TUC3	0.799**	0.638	−0.003	0.000
Trust in the focal merchant	TM1	0.890**	0.792	−0.058	0.003
	TM2	0.774**	0.599	−0.010	0.000
	TM3	0.776**	0.602	−0.032	0.001
	TM4	0.685**	0.469	0.126*	0.016
	TM5	0.831**	0.691	−0.032	0.001
Perceived effectiveness of feedback mechanisms	PEFM1	0.740**	0.548	0.036	0.001
	PEFM2	0.774**	0.599	0.018	0.000
	PEFM3	0.831**	0.691	−0.035	0.001
	PEFM4	0.856**	0.733	−0.016	0.000
Perceived effectiveness of dispute resolution	PEDR1	0.792**	0.627	0.029	0.001
	PEDR2	0.803**	0.645	−0.002	0.000
	PEDR3	0.774**	0.599	0.040	0.002
	PEDR4	0.840**	0.706	−0.070	0.005
Repurchase intention	RI1	0.906**	0.821	−0.068	0.005
	RI2	0.788**	0.621	0.052	0.003
	RI3	0.807**	0.651	0.018	0.000
Familiarity	FM1	0.832**	0.692	−0.026	0.001
	FM2	0.791**	0.626	0.052	0.003
	FM3	0.856**	0.733	−0.027	0.001
Reputation	RE1	0.950**	0.903	−0.109**	0.012
	RE2	0.818**	0.669	0.062	0.004
	RE3	0.950**	0.903	−0.109**	0.012
Trust disposition	TD1	0.828**	0.686	−0.042	0.002
	TD2	0.860**	0.740	−0.024	0.001
	TD3	0.803**	0.645	0.047	0.002
	TD4	0.804**	0.646	0.018	0.000
Satisfaction	SA1	0.678**	0.460	0.167**	0.028
	SA2	0.859**	0.738	−0.100*	0.010
	SA3	0.902**	0.814	−0.068	0.005
Average		0.819	0.674	−0.003	0.004

* $p < 0.05$.
** $p < 0.01$.

explained and 63.9% of the variance in trust in the focal merchant was explained.

As shown in the results, trust in the intermediary platform is significantly related to trust in the user community (β = 0.43, $p < 0.01$) and trust in the focal merchant (β = 0.18, $p < 0.01$), which supports H1 and H2. Trust in the user community is positively related to trust in the focal merchant (β = 0.23, $p < 0.01$), which supports H3. Trust in the intermediary platform (β = 0.22, $p < 0.01$) and trust in the focal merchant (β = 0.26, $p < 0.01$) are positively related to repurchase intention at the particular merchant, whereas trust in the user community had no significant impact on repurchase intention at the particular merchant.

Among the control variables, familiarity (β = 0.10, $p < 0.05$), reputation (β = 0.19, $p < 0.01$), and satisfaction (β = 0.18, $p < 0.01$) were found to have a positive relationship with trust in the focal merchant, while trust disposition was found to have no significant relationship with trust in the focal merchant. In addition, satisfaction was also shown to significantly influence repurchase intention at the particular merchant (β = 0.37, $p < 0.01$).

5.3. Moderation analysis

Using the PLS-product indicator approach proposed by Chin et al. (2003), we tested the moderating effect of PEDR and PEFM. The outcomes revealed that PEDR significantly and positively moderated the relationship between trust in the intermediary platform and trust in the focal merchant (β = 0.11, $p < 0.01$), while PEFM positively and significantly moderated the relationship between trust in the user community and trust in the focal merchant (β = 0.11, $p < 0.05$), supporting H4 and H5.

Figs. 3 and 4 demonstrate the interaction pattern using Aiken and West's (1991) procedure for computing slopes one standard deviation above and below the mean of two moderators. These results indicated relationships between trust in the intermediary platform and trust in the focal merchant, and trust in the user community and trust in the focal merchant under high and low levels of PEDR and PEFM, respectively. As expected, at high levels of PEDR, the relationship between trust in the intermediary platform and trust in the focal merchant was stronger. At lower levels of PEDR, the relationship between trust in the intermediary platform and trust in the focal merchant was weaker. The interaction pattern for PEFM showed consistent results.

6. Study 2: methodology

In this supplementary study, we aimed to strengthen the causal inference of the trust transfer process (i.e., trust in the intermediary platform → trust in the user community → trust in the focal merchant). Kline (2015) suggested that longitudinal data can improve inferences about causality among variables. Therefore, we collected three waves of longitudinal data and applied a CLPM to replicate the findings in our main study.

6.1. Research setting and measures

As the data in Study 1 were cross-sectional, to confirm causality among the variables in the research model, we collected additional data using a longitudinal approach. The variables were measured with the same instrument items as in study 1 to ensure consistency between the two studies. In total, three rounds of data were collected using a convenience sample of students who used dingping.com very often and were enrolled in the business school of a university in eastern China. The same questionnaire was distributed to these students three times with an interval of two weeks between each. Specifically, in the survey, we asked participants to recall their shopping experience of one focal merchant on dianping.com. We have specified this focal merchant should be the merchant they do not have offline experience before to rule out the effect of prior shopping experience. Students were asked to provide their names in the questionnaire, which facilitated matching of the three rounds of data. A total of 193 usable responses was obtained.

6.2. Control variables

In this supplementary study, we controlled for the same variables as in the main study. Specifically, we controlled for the effect of trust disposition (Lee & Turban, 2001), familiarity (Kim et al., 2008), reputation (Kim, Xu, & Koh, 2004), and satisfaction (Fang et al., 2014) on trust in the focal merchant, and the effect of consumer satisfaction on repurchase intention (Chang & Chen, 2008).

6.3. Data analysis technique

Because the supplementary study aimed to strengthen causal inferences based on longitudinal data, we applied CLPM to test the proposed model. CLPM has three advantages that significantly improve causal inference. First, CLPM involves an autoregressive relationship between a variable and its prior state, because it is highly possible that prior states of a variable determine its current standing (Cole & Maxwell, 2003). Second, CLPM can rule out reciprocal effects between two variables. Reciprocal effects occur when two variables influence each other, which are common among variables in business research (e.g. Lian, Ferris, Morrison, & Brown, 2014). Because regression-based

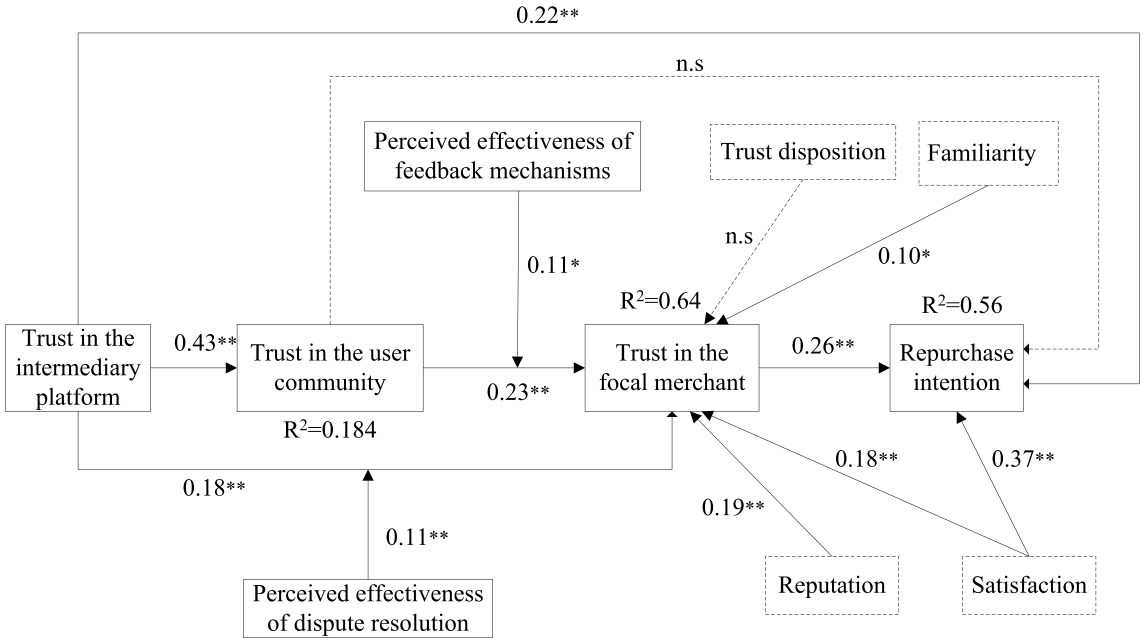

Fig. 2. Structural model results.

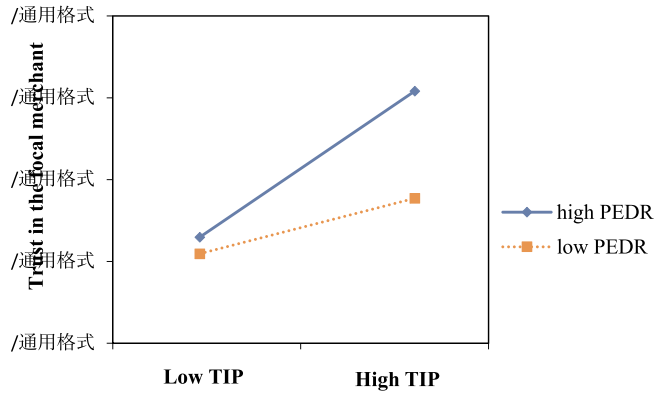

Fig. 3. Moderating effect of perceived effectiveness of dispute resolution (PEDR) on the relationship between trust in the intermediary platform (TIP) and trust in the focal merchant.

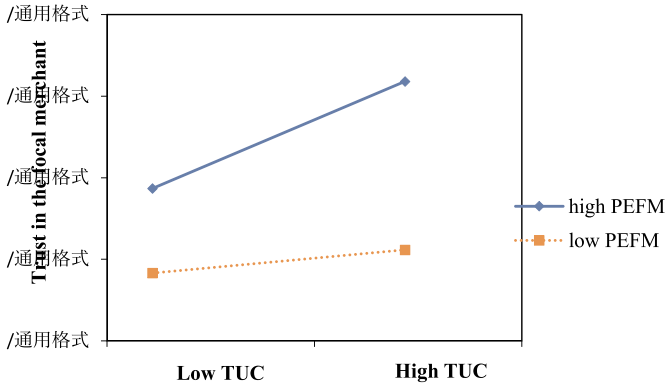

Fig. 4. Moderating effect of perceived effectiveness of feedback mechanisms (PEFM) on the relationship between trust in the user community (TUC) and trust in the focal merchant.

analysis relies on a variance–covariance matrix, it is not straightforward to distinguish the orientation of effect. After controlling for reciprocal effects, it is robust to identify the direction of causality between two variables. Third, the relationship between two variables is estimated with a time lag, which satisfies the temporal precedence condition; that is, X occurs before Y.

Following the procedure proposed by Selig and Preacher (2009), we applied CLPM to test the trust transfer process. For the casual process test based on the CLPM, three constructs—trust in the intermediary platform, trust in the user community, and trust in the focal merchant—were measured three times. As shown in Fig. 5, each variable at time n + 1 was regressed on its state at time n, hence taking the autoregressive term into account (the straight-line arrow in Fig. 5). In addition, a reciprocal effect was controlled for by regressing X at time n + 1 on Y at time n (the dashed-line arrow in Fig. 5). In addition, the moderation effects are included.

7. Study 2: results

Fig. 6 displays the structural model results for the CLPM. The results demonstrated that the autoregressive paths of trust in the intermediary platform, trust in the user community and trust in the focal merchants were significant. Specifically, trust in the intermediary platform at time 1 had a positive effect on trust in the intermediary platform at time 2 ($\beta = 0.53$, $p < 0.01$), while trust in the intermediary platform at time 2 had a similar positive effect on trust in the intermediary platform at time 3 ($\beta = 0.40$, $p < 0.01$). Trust in the user community at time 1 had a positive effect on trust in the user community at time 2 ($\beta = 0.20$, $p < 0.05$), while trust in the user community at time 2 had a consistently positive effect on trust in the focal merchant at time 3 ($\beta = 0.58$, $p < 0.01$). In addition, trust in the focal merchant at time 1 had a positive effect on trust in the focal merchant at time 2 ($\beta = 0.40$, $p < 0.01$), while trust in the focal merchant at time 2 had a consistently positive effect on trust in the focal merchant at time 3 ($\beta = 0.26$, $p < 0.01$). These results indicated that all autoregressive paths were significant, which suggested that all variables in this model were determined by their prior state. Therefore, it was necessary to control for autoregression if we aimed to test the causal relationship.

With respect to causal effects, the results indicated that trust in the intermediary platform at time 1 had a positive effect on trust in the user community at time 2 ($\beta = 0.20$, $p < 0.05$). In addition, trust in the user community at time 2 had a positive effect on trust in the focal merchant at time 3 ($\beta = 0.24$, $p < 0.01$). In addition, three-quarters of

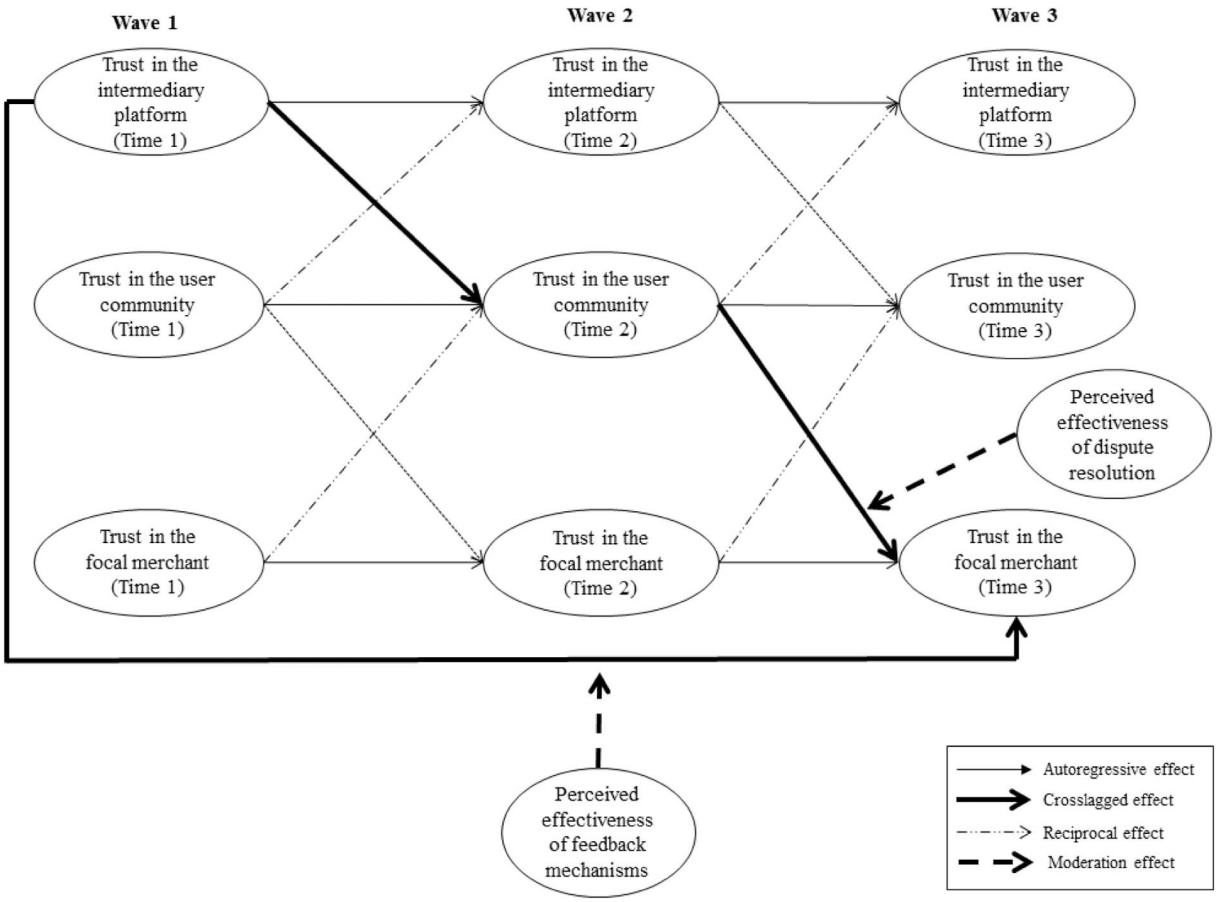

Fig. 5. Cross-lagged panel indirect model.

the reciprocal effects were non-significant, which further illustrates that the causal relationships in the trust process are unidirectional rather than reciprocal. Therefore, the causal effect is supported.

Regarding the replication of moderation analysis, one-tailed tests were used because (a) these hypotheses were directional, and (b) Study 2 was a constructive replication of Study 1. Results revealed that PEDR significantly and positively moderated the effect of trust in the intermediary platform at time 1 on trust in the focal merchant at time 3 ($\beta = 0.11$, $p < 0.05$), while PEFM positively and significantly moderated the effect of trust in the user community at time 2 on trust in the focal merchant at time 3 ($\beta = 0.10$, $p < 0.05$), supporting H4 and H5.

8. Discussion

8.1. Key findings

There were three key findings in this study. First, we found that trust in the intermediary platform and user community can influence trust in the focal merchant. Most research in online-to-offline commerce has only considered trust in the intermediary platform (Wang, Wang, & Liu, 2016), ignoring trust in merchants and user communities. Although Hsu, Chang, Chu, and Lee (2014) considered trust in both intermediary platforms and merchants, they failed to examine the relationship between these two trust targets. Specifically, we collected longitudinal data to confirm causal direction in the trust transfer process by using CLPM. Our findings extend earlier studies by including multiple targets of trust and verifying causal relationships with longitudinal data, which enables a thorough understanding of trust building via the trust transfer mechanism in online-to-offline commerce.

Second, we found that PEDR positively moderates the impact of trust in the intermediary platform on trust in the focal merchant. This result contributes to the e-commerce literature by addressing the call to identify important boundary conditions for trust transfer processes between intermediary platforms and sellers on those platforms (Chen et al., 2015).

Finally, our study confirms that PEFM positively moderates the impact of trust in the user community on trust in the focal merchant. This moderating effect implies that consumers might be more hesitant to depend on other users' comments and behavior to form expectations of merchants if a well-controlled feedback mechanism is lacking. Indeed, our interaction plot does suggest that trust in the intermediary platform could have a non-significant effect on trust in the focal merchant when PEFM is very low.

8.2. Implications for research

The findings of this study contribute to trust transfer theory and the online-to-offline commerce literature in several ways. First, this study contributes to trust transfer theory by identifying boundary conditions. Although trust transfer theory has been validated in a range of research contexts (Wang et al., 2013; Yang et al., 2015), the literature does not consider the potential contextual conditions under which trust is transferred. Mayer et al. (1995) and Hong and Cho (2011) called for research to investigate the factors that facilitate the trust transfer process. Although Chen et al. (2015) identified two moderators of trust transfer in C2C e-commerce, these factors cannot be applied in the online-to-offline commerce context. To the best of our knowledge, this study is the first to address this call in the online-to-offline commerce context by empirically theorizing and verifying the crucial moderating roles of PEDR and PEFM in influencing the trust transfer process, which may facilitate the development of strategies to promote trust transfer. We also highlight that moderators of the trust transfer process might

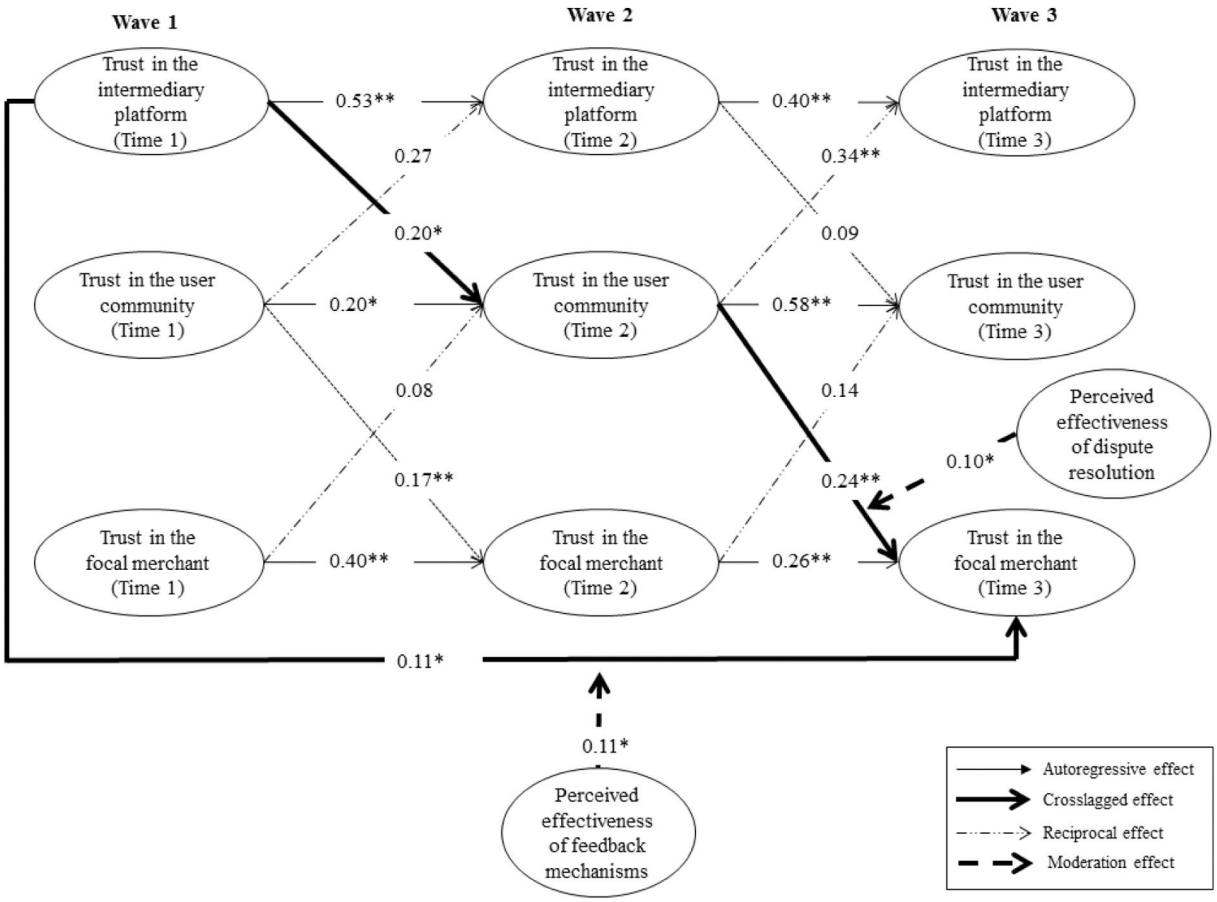

Fig. 6. Cross-lagged panel indirect model results.

vary across contexts.

Second and more specifically, by identifying PEDR as a moderator of the impact of trust in the intermediary platform on trust in the focal merchant, we advance understanding of trust building mechanisms in the intermediary platform context. It has been argued that consumers' trust in an intermediary platform can be easily transferred to trust in a merchant in C2C context (Hong & Cho, 2011). Our study refines this argument by identifying PEDR as a boundary condition. In other words, intermediary platform trust might not be as universally important for trust in merchants as it was once believed to be, if consumers perceive a lack of an effective mechanism to resolve disputes with merchants. This finding can be applied to other online contexts in which intermediary platforms are involved and the potential risks are high, such as peer-to-peer lending, and so on.

Similarly, by identifying the PEFM as a moderator of the impact of trust in the user community on trust in the focal merchant, we contribute to scholarly understanding of how consumers evaluate a merchant's trustworthiness based on other users' or consumers' recommendations in the online community. Our study is not only among the first to examine the impact of trust in the user community on trust in the focal merchant based on trust transfer theory, but also makes a significant step toward theoretical advancement by identifying a moderator of this relationship. Although user-generated content is deemed important and extensively used by consumers to develop trust and make decisions in online communities (Reimer & Benkenstein, 2016), our findings suggest that its importance in building trust is weakened when consumers perceive that there is no effective feedback mechanism.

Finally, this study addresses an emerging e-commerce form, online-to-offline commerce, which has become pertinent but to date has received limited academic attention (Phang et al., 2014). We focused on the trust transfer issue in online-to-offline commerce. Unlike most related research, which has tended to focus on building trust via institution-based or knowledge-based mechanisms and has only considered trust in the intermediary platform (Wang et al., 2016), we simultaneously included trust in the intermediary platform, trust in the user community, and trust in the focal merchant. The results not only demonstrate that the trust transfer mechanism works effectively in building trust in online-to-offline commerce, but confirm the causality of the trust transfer process. This finding suggests that in some form of e-commerce models where multiple entities are involved, researchers could shift from institution-based and knowledge-based mechanisms to the trust transfer mechanism to examine the trust-building process.

8.3. Implications for practice

From a practical perspective, this study has implications for intermediary platform operators and merchants in online-to-offline commerce. For intermediary platform operators, the findings suggest that they should pay more attention to resolving disputes between consumers and merchants. Although initially, consumers may depend on the intermediary platform to research the trustworthiness of merchants, this is only effective when consumers feel that the intermediary platform can effectively manage conflicts. If disputes between consumers and merchants offering offline services are not well managed, the intermediary platforms will lose consumers. Thus, intermediary platforms should carefully select the merchants with whom they wish to associate. In addition, they can implement strict rules to manage merchants on the platform.

Further, as consumers also care about the effectiveness of feedback mechanisms to infer the trustworthiness of merchants, intermediary platform operators should better manage the rating and review system

to provide a more reliable and credible environment for consumers. Since the ratings and reviews given by consumers to each merchant play a significant role in influencing consumers' behavior, some merchants use fake reviews to attract consumers (Zhang et al., 2016). This behavior is harmful to intermediary platforms. When feedback systems lack credibility for consumers, the reviews and behaviors of other users in the community become ineffectual in building trust in merchants. Thus, intermediary platforms can employ algorithms to detect fake online reviews and punish or cease cooperating with merchants employing individuals to post fake online reviews.

For merchants conducting or planning to conduct business in online-to-offline commerce, the findings suggest that they should select appropriate intermediary platforms to cooperate with. Specifically, intermediary platforms with a mature dispute resolution policy and a well-managed review system are more appropriate. Only when intermediary platforms can well resolve the disputes between consumers and merchants and provide a reliable and effective feedback communication environment can the trustworthiness of intermediary platforms be transferred to merchants. The results also suggest that merchants, especially the small ones, can utilize the advantages of intermediary platforms to build trust rather than invest in building their own trustworthiness among consumers.

9. Limitations and future research directions

Although this research has several important implications from theoretical and practical perspectives, we acknowledge that there are also limitations. First, we collected the data based on dianping.com in China, where online-to-offline commerce is very popular. Researchers should be cautious when generalizing the findings to other cultural contexts and other intermediary platforms in online-to-offline commerce. Future research might replicate the research model in other cultural contexts or based on other intermediary platforms in online-to-offline commerce, which would establish the generalizability of the results.

Second, we adopted repurchase intention at a particular merchant rather than actual repeat purchase behavior of consumers because of difficulty in obtaining such data. The effects of trust on actual repeat purchases remain unclear. Future research could explore the effect of trust on actual repeat purchase behavior, which may provide more insightful information.

Finally, we built the research model for the online-to-offline commerce context. As we discussed earlier, prior studies have proposed moderators of trust transfer (perceived effectiveness of e-commerce institutional mechanisms and perceived website quality of the seller) in the C2C context. However, we found that it is difficult to apply these two moderators to the online-to-offline commerce context since merchants have a uniform template for their homepages on the intermediary platform, which results in equal website quality. Therefore, we proposed that the moderators of trust transfer might vary across context. Future research should be cautious when applying the moderators of trust transfer that we identified in this study to other intermediary platform-based commerce contexts. For instance, in the C2C commerce context where products can be returned and consumers can obtain refunds easily, the importance of PEDR and PEFM might be weakened, especially if the intermediary platforms have introduced a policy that consumers can return products without having to state a reason and receive refunds within seven days after receiving the products (e.g., Taobao.com and JD.com). Hence, we encourage future research to explore the moderators of trust transfer in other contexts, such as social commerce and P2P lending.

Acknowledgements

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Appendix A. Trust transfer studies

Authors	Context	Study design	Main findings
Belanche et al. (2014)	Public e-service usage	Cross-sectional survey	Trust in public administration and trust in the internet positively influence trust in the public e-service
Chen and Shen (2015)	Social commerce	Cross-sectional survey	Trust towards members can influence trust towards community
Chen et al. (2015)	Consumer-to-consumer online shopping	Cross-sectional survey	Trust in platform can positively influence trust in seller; Perceived effectiveness of e-commerce institutional mechanisms negatively moderates the relationship between trust in platform and trust in seller; Perceived website quality positively moderates the relationship between trust in platform and trust in seller
Delgado-Marquez et al. (2012)	General context	Experiment in laboratory	The existence of a commonly trusted party linking the trustor and the trustee fosters a stronger willingness to trust in a modified anonymous trust game; The trustors' expectations derived from previous interactions moderates the relationship between reciprocity and future transfers of trust
Kuan and Bock (2007)	Shopping context	Cross-sectional survey	Trust in the supplier firm can positively influence trust in the supplier's salesperson and online trust in the retailer
Lin et al. (2011)	Mobile commerce	Cross-sectional survey	Trust in online brokerage services of a brokerage firm positively influence formation of initial trust in mobile brokerage services
Lu et al. (2011)	Mobile payment	Cross-sectional survey	Internet payment trust can positively influence initial mobile payment trust
Pavlou and Gefen (2004)	Online auction marketplace	Cross-sectional survey	Trust in intermediary can positively influence trust in community of sellers
Sollner et al. (2016)	Information systems usage	Cross-sectional survey in experiment	Trust in internet positively influence trust in community of Internet users and trust in the provider; Trust in the provider positively influence trust in the information systems
Wang et al. (2013)	Web-mobile service transition	Cross-sectional survey	Trust in web e-word-of-mouth (eWOM) services positively influence trust in mobile eWOM services
Xiao et al. (2017)	Online-to-offline context	Cross-sectional survey	Trust in online-to-offline platform can positively influence trust in user community and trust in merchants; Trust in user community can positively influence trust in merchants
Yang et al. (2015)	Web-mobile shopping	Cross-sectional survey	Trust in web shopping services can positively influence trust in mobile shopping services

Appendix B. Instrument items

Constructs		Measurement items
Trust in the intermediary platform (Koufaris & Hampton-Sosa, 2004)	TIP1	Dianping.com is trustworthy
	TIP2	I believe that dianping.com keeps my best interest in mind
	TIP3	Dianping.com is competent and effective in providing advice on services
	TIP4	Dianping.com is truthful in its dealing with me
Trust in the user community (Sollner et al., 2016)	TUC1	Other users on dianping.com will try and help me out if I get into difficulties
	TUC2	Other users of dianping.com will always keep the promises they make to one another
	TUC3	Other users of dianping.com are truthful in dealing with one another
Trust in the focal merchant (Koufaris & Hampton-Sosa, 2004)	TM1	I think this merchant is consistent in quality and service
	TM2	I think this merchant wants to be known as one that keeps promises and commitments
	TM3	I think this merchant has my best interest in mind
	TM4	I believe this merchant has high integrity
	TM5	I believe this merchant is honest
Perceived effectiveness of dispute resolution (Galves, 2009)	PEDR1	The dispute resolution mechanism in dianping.com can protect me if merchants try to cheat on me
	PEDR2	The dispute resolution mechanism in dianping.com can guaranty my benefits if merchants try to provide low quality products/service
	PEDR3	I believe that the dispute resolution mechanism in dianping.com is effective
	PEDR4	The dispute resolution services can guarantee I get my refund
Perceived effectiveness of feedback mechanisms (Pavlou & Gefen, 2004)	PEFM1	I feel confident that the marketplace feedback mechanisms give accurate information about the merchants' reputation
	PEFM2	A considerable amount of useful feedback information about the transaction history of merchants is available through the marketplace's feedback mechanism
	PEFM3	I believe that the feedback mechanism in the marketplace are effective
Repurchase intention (Li, Browne, & Wetherbe, 2006)	RI1	I intend to continue purchasing from this merchant using dianping.com
	RI2	I look forward to revisiting this merchant on dianping.com in the near future
	RI3	I am likely to place an order from this merchant on dianping.com in the near future
Familiarity (Gefen et al., 2000)	FM1	I am familiar with this merchant
	FM2	I know this merchant for a long time
	FM3	I know the product/service quality of this merchant
Reputation (Jarvenpaa, Tractinsky, & Vitale, 2000)	RE1	This merchant has a good reputation
	RE2	This merchant is well known
	RE3	This merchant has a reputation for being honest
	RE4	I am familiar with the name of this website
Trust disposition (Lee & Turban, 2001)	TD1	It is easy for me to trust a person/thing
	TD2	My tendency to trust a person/thing is high
	TD3	I tend to trust a person/thing even though I have little knowledge of it
	TD4	Trusting someone or something is not difficult
Satisfaction (Chang & Chen, 2009; Valvi & West, 2013)	SA1	I think I made the right decision by purchasing from this merchant on dianping.com
	SA2	My choice to purchase from this merchant on dianping.com was a wise one
	SA3	I think I did the right thing by buying from this merchant on dianping.com

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