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Abstract

Purpose – The purpose of this paper is to empirically test a research model that incorporated antecedents of praise feedback behaviour (fear of confrontation and incentive for reducing nuisance costs), praise feedback behaviour (deliberatively praise feedback, casual praise feedback, and true compliment feedback) and consequences (trust and repurchase intention).

Design/methodology/approach – A structural equation model was employed to test the relationships of the research model using survey data collected from 398 Taobao consumers.

Findings – The results showed that fear of confrontation and incentive for reducing nuisance costs had a significant positive influence on deliberatively praise feedback and true compliment feedback, respectively, and both antecedents had a significant positive influence on casual praise feedback of consumers. It also showed that trust was influenced negatively by deliberatively praise feedback, and positively by casual praise feedback and true compliment feedback. Meanwhile, deliberatively praise feedback and true compliment feedback were found to have negative and positive influences on repurchase intention, respectively.

Originality/value – This research was a pilot study to identify a three-dimension conceptualization of praise feedback behaviour from the perspective of customer satisfaction, and to understand positive review bias from the perspective of input processes.

Keywords Electronic commerce, Customer behaviour, Feedback bias, Online feedback systems, Praise feedback

Paper type Research paper

1. Introduction

Most online communities bring buyers and sellers together (e.g. Amazon, eBay, Jingdong, and Taobao[1]) with the assistance of reputation systems. These systems have played a vital role in the viability and success of electronic commerce (Jøsang *et al.*, 2007;

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Floyd *et al.*, 2014). Such systems provide consumers with tools to submit their feedback (so called reviews) such as ratings, text and picture reviews, and summarise the past ratings received by a trader (Nettelhorst *et al.*, 2013; You and Sikora, 2014; Jeong and Koo, 2015). Thus, the transactional efficiency of electric commerce is improved by online feedback that is beneficial to solving information asymmetry and identifying trustworthy behaviour between buyers and sellers (Bolton *et al.*, 2004; Hsu *et al.*, 2014; Jeong and Koo, 2015).

Reputation systems with collaborative sanctioning mechanisms are based on the assumption that a service provider gets a true assessment from his/her customers for its service (Hu *et al.*, 2006). However, assessment is not always true. For example, some malicious rating attacks emerged recently on Taobao (Wu and Su, 2013). Likewise, not posting any feedback has become a long-standing problem for eBay (Zacharia, 1999). Furthermore, there is the possibility that some traders may casually give a positive feedback, which has not yet been addressed in the literature. All of these untruthful feedback behaviours can lead to review bias within a reputation system, such as positive review bias (Dellarocas and Wood, 2008; Zhang *et al.*, 2012).

Positive review bias is pervasive in electronic markets. For example, a representative eBay data set uncovered that reviews are overwhelmingly positive, reaching 99.1 per cent of all comments (Resnick and Zeckhauser, 2002). Zhang *et al.* (2012) found that three component ratings are quite high with means of greater than 4.8 (range from one to five), and standard deviations of less than 0.17 based on a survey of 3,101 stores on Taobao. However, existing literature has seldom focused on why the fraction of negative reviews is so low. With voluntary reporting mechanisms on transaction outcomes, traders may give selective feedback, among which positive feedback is the most popular one (Dellarocas and Wood, 2008). For example, Li (2010) showed that buyers are more likely to leave positive comments or no comments than to leave negative feedback, based on evidence from eBay. While neutral ratings may indicate buyer dissatisfaction (Zhang *et al.*, 2012), negative ratings may be signalled by just omitting a response (Dellarocas, 2003; Dellarocas and Wood, 2008). Thus, the fact that buyers intentionally or unintentionally give praise feedback (i.e. buyers may be reluctant to express their true opinions) can explain a positive review bias.

While previous research on rating bias has indicated that praise (positive) feedback has been realized by potential buyers and may make no contribution to identifying dependable sellers (Zhang *et al.*, 2012; You and Sikora, 2014), praise feedback behaviour *per se* has not received enough attention. The purpose of this study was to explain positive review bias from a perspective of customer feedback behaviour. But, unlike most previous studies on positive reviews which were focused on a single dimensional concept, this study attempted to refine the concept of positive feedback. Based on survey data collected from consumers on Taobao, this study examined the construct of praise feedback behaviour and clarified its antecedents and influences on customer's decision making using a new conceptual model and framework. Our results contribute to the understanding of the phenomenon of online positive review bias, especially in China's e-commerce markets.

2. Theoretical background and hypotheses

2.1 Online review bias

As electronic commerce commonly takes place between parties who have never met or transacted with each other before, the service provider usually has more information about what she/he sells than the consumer has. The inefficiencies resulting from this

information asymmetry can be mitigated through online reputation systems (so called online feedback mechanisms) (You and Sikora, 2014; Tamimi and Sebastianelli, 2015). These systems provide personalised feedback to predict a user's reliability and have already been adopted by companies, such as eBay, Amazon, Jingdong and Taobao in USA and China (Zhang *et al.*, 2012; Bolton *et al.*, 2013; Nettelhorst *et al.*, 2013; Tamimi and Sebastianelli, 2015).

Reputation systems with collaborative sanctioning mechanisms rely on the assumption that 'all members in a community will consistently judge the performance of a transaction partner or the quality of a product or service' (Jøsang *et al.*, 2007, p. 623). The current study focused on a collaborative sanctioning mechanism, which has been applied to most electronic commerce platforms to sanction poor service providers (Saastamoinen, 2009; Eryarsoy and Piramuthu, 2014).

Ideally, online product reviews in the reputation system should be free of any type of bias, i.e., all feedback should represent a true assessment. However, several kinds of bias (e.g. positive bias, self-selection bias, sequential bias) have been identified in user generated online ratings (Li and Hitt, 2008; Sikora and Chauhan, 2012; You and Sikora, 2014). To our knowledge, online review bias has been studied in two mainstreams. First, some authors used customer review data collected at online retailer platforms (e.g. eBay or Amazon) to confirm the presence of online feedback bias (e.g. Floyd *et al.* (2014)) and make some estimates of the causes of the phenomenon (e.g. Li (2010)). Second, researchers investigated the performance of reputation mechanisms in the presence or absence of feedback bias from an analytical perspective with the necessary assumption of the existence of review bias (e.g. Dellarocas and Wood (2008), Eryarsoy and Piramuthu (2014)). For example, You and Sikora (2014) presented three reputation mechanism models and, using a multi-agent system, discussed the influence of three types of bias previously studied.

However, investigation into sources of online review bias is scarce. Though Robin and Marla (2008) pointed out that individual factors (e.g. poor perceptions, randomness, and emotion) can lead to greater bias and error, the underlying mechanisms need to be specified from the customer's point of view. As many studies have documented that potential buyers are aware of rating bias (Robin and Marla, 2008; Hu *et al.*, 2012), it is quite natural to understand this bias from the perspective of customers' rating behaviours *per se*.

With regard to feedback behaviour, malicious rating attacks are not common and there is insufficient evidence to show the existence of negative feedback bias, except for some assumptions (Wu and Su, 2013; You and Sikora, 2014). Under-reporting bias serves as positive feedback in many cases (Hasan *et al.*, 2012; Hu *et al.*, 2012; Qian, 2012). Sequential bias occurs when a feedback result is influenced by past ratings (You and Sikora, 2014) and has a positive tendency as the positive review fraction is high (Resnick and Zeckhauser, 2002; Zhang *et al.*, 2012). Therefore, we focused on positive bias sources caused by consumers' feedback behaviour, which was termed "praise feedback behaviour".

2.2 Praise feedback behaviour

Praise feedback is mainly used in the domain of learning and education as an approach to reinforce and foster students' learning behaviours (Skipper and Douglas, 2012). It usually discounts true feelings in consequence of negotiating judgements and evaluations (Hyland and Hyland, 2001). This phenomenon is also rife in the context of electronic commerce, i.e., buyers intentionally or unintentionally give inflated praise feedback (or fake satisfaction) (Li, 2010; Sikora and You, 2014).

Specifically, it has been highlighted that feedback on reputation systems typically reflect the extent of customers' satisfaction, i.e., satisfied customers give praise; barely satisfied ones give medium ratings; and dissatisfied ones give negative reviews (Jøsang *et al.*, 2007). However, discounted feedback behaviour may release distorted signals that do not reflect customers' satisfaction (Dellarocas, 2003; Dellarocas and Wood, 2008; Zhang *et al.*, 2012). Hence, according to consumers' satisfaction and feedback behaviour, a three-dimension conceptualization was identified in the current study to understand praise feedback behaviour.

First, many unsatisfied customers may omit feedback for fear of retaliation (Dellarocas, 2003), or still give a positive feedback for a justification of their choice (Gale and Ball, 2002). We labelled this type of praise behaviour as deliberatively praise feedback, which means a prudent and reluctant feedback behaviour. Since consumers usually focus on average rating scores (Hasan *et al.*, 2012; Hu *et al.*, 2012; Qian, 2012), not posting any feedback is effectively equivalent to deliberatively praise feedback.

Second, as a result of cost and benefit analysis, barely satisfied customers would post feedback in a simple, easy, and casual way. Submitting ratings requires personal subjective opinions (Robin and Marla, 2008), which implies that an individual invests private effort (Gazzale and Khopkar, 2011). When individuals cannot evaluate or judge the difference between products, they tend to give positive feedback casually without much effort (Zacharia, 1999). Further, if they want to easily post feedback, their feedback behaviour will be vulnerable to previous positive ratings (e.g. sequential bias) (Duan *et al.*, 2008; Robin and Marla, 2008; You and Sikora, 2014). Therefore, it is expected that a barely satisfied customer may casually give an inflated praise feedback, which we have called casual praise feedback.

Previous studies have indicated that satisfied buyers are more likely to post feedback to praise the seller (Hu *et al.*, 2006). We therefore defined true compliment feedback as the behaviour when satisfied customers gave their true assessment.

Thus, we identified a three-dimension conceptualization of praise feedback behaviour to understand any review data bias from the perspective of input processes (Piramuthu *et al.*, 2012). Unintentional or intentional praise feedback behaviour may have harmful effects on sellers and reputation systems. However, its role has not been systematically studied in the electronic commerce context. To fill this gap, this study investigated the antecedents and consequences of praise feedback behaviour. The research model is shown in Figure 1.

2.3 Antecedents of praise feedback behaviour

2.3.1 Fear of confrontation. Fear of confrontation is a state of mind based on possible conflict avoidance with others (Wang *et al.*, 2012). In the transaction context, there is a tendency for a buyer's mental state to avoid confrontation or conflict (e.g. debating, retaliation) with sellers (Wan, 2013). Previous research has indicated the value of posting praise feedback to avoid confrontation with sellers. For example, Dellarocas and Wood (2008) and You and Sikora (2011) postulated that the fear of retaliation (a type of large conflict) may be an important reason why negative feedback is less frequent than positive feedback. It has been observed that users often hesitate in providing truthful feedback, mainly due to the fear of retaliation or debate (Hasan *et al.*, 2012).

Two factors can be identified to support the fact that fear of confrontation would contribute to deliberatively praise feedback and casual praise feedback. First, the private contact information of customers (e.g. address, phone number) is usually exposed to

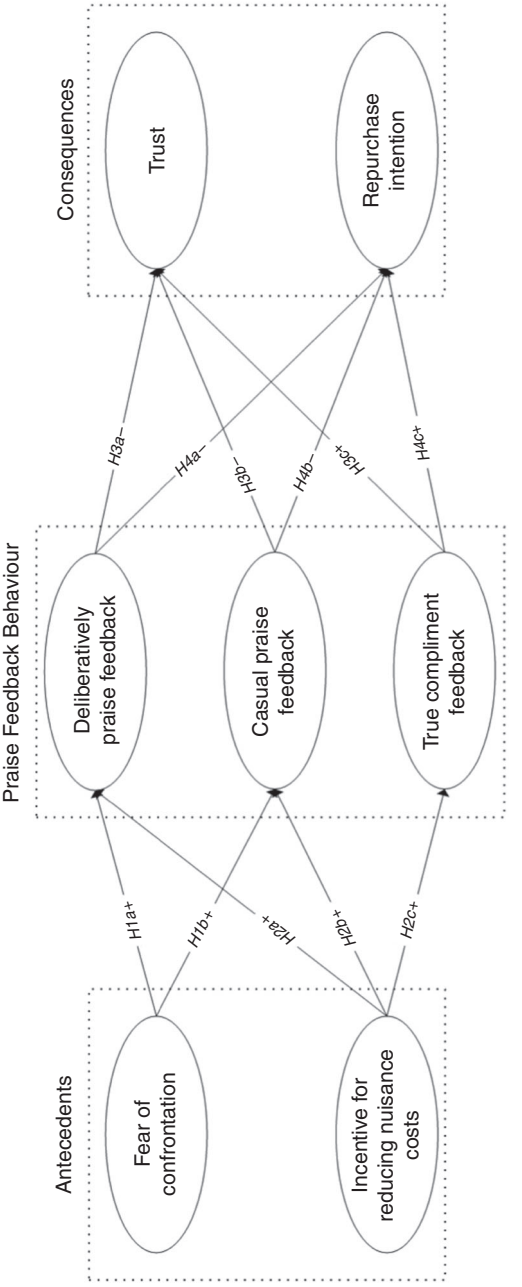

Figure 1.
The proposed research model

online traders, and this increases the possibility of direct confrontation with online sellers (Hasan *et al.*, 2012; Sharma and Wang, 2014). For example, a seller who received a negative or unsatisfactory feedback may constantly call a buyer to ask them to change their feedback. More seriously, some buyers even received ominous threatening goods after they posted negative feedback. Second, the salience of face concern may be suitable to explain fear of confrontation in the transaction context (Wan, 2013), as avoiding conflict and keeping harmony with others is advocated in East Asian culture (Leung *et al.*, 2002; Wan, 2013). If a buyer escalates a conflict because of feedback, she/he may feel embarrassed (Wan, 2013). The potential courter-punishments related to the above two factors deter consumers from expressing their true feelings for punishing dishonest sellers (Nikiforakis, 2008). Therefore, fear of confrontation can be an important motivation for buyers to leave deliberatively praise feedback and casual praise feedback, even though they are not satisfied, or barely so. Thus, we hypothesised that:

H1a. Fear of confrontation has a positive influence on deliberatively praise feedback.

H1b. Fear of confrontation has a positive influence on casual praise feedback.

2.3.2 Incentive for reducing nuisance costs. Consumers may be reluctant to pay the nuisance costs of time and effort (e.g. online feedback) with no direct rewards (Li, 2010). On the one hand, much time and effort are needed in generating assessments and posting feedback (Price *et al.*, 2010). On the other hand, feedback usually benefits the seller's future potential customers, but provides little benefit to the buyer, since information sharing is at least marginally costly (Gazzale and Khopkar, 2011), especially when most trading relationships are one-time deals (Resnick and Zeckhauser, 2002). Consequently, with voluntary feedback provision, it is inevitable that incomplete or untruthful feedback will take place (Dellarocas, 2003; Dellarocas and Wood, 2008). Besides, unsatisfied or barely satisfied consumers may give intentional or unintentional positive feedback to avoid possible trouble and costs, as individuals are less willing to bear nuisance costs to punish dishonest sellers if they may have to face counter-punishment (Nikiforakis, 2008).

With regard to satisfied customers, posting true feelings (or giving compliment feedback) is the best choice to avoid conflict and reduce time and effort (Li, 2010). True compliment feedback represents the completion of a deal, and also avoids cost associated ethical pressure of fair deals (Gale and Ball, 2002).

Therefore, we proposed the following hypotheses:

H2a. Incentive for reducing nuisance costs has a positive influence on deliberatively praise feedback.

H2b. Incentive for reducing nuisance costs has a positive influence on casual praise feedback.

H2c. Incentive for reducing nuisance costs has a positive influence on true compliment feedback.

2.4 Consequences of praise feedback behaviour

Online feedback mechanisms offer a novel and effective way of ensuring the necessary level of trust for the functioning of an electronic market (Hsu *et al.*, 2014). Although it is hard to assess the trustworthiness of remote entities with a much narrower range of

cues, appropriate feedback mechanisms can induce calculus-based credibility without repeated interactions between the transacting parties (Ba and Pavlou, 2002; Jøsang *et al.*, 2007). Consumers' trust towards the sellers is transferred from other fellow consumers through the contents of online feedback (Stewart, 2003; Baek *et al.*, 2012), which plays a central role in building trust and influencing purchase decisions (Lee *et al.*, 2011). As You and Sikora (2011) indicated, people regularly rely on these online reputation mechanisms during decision making. Online feedback reviews, functioning as both informants and recommenders, are important for making purchase decisions and for product sales (Fuller *et al.*, 2007; Lee *et al.*, 2011). However, consumers may no longer trust a feedback system, and may even stop shopping on that platform, if they doubt the credibility of reviews (Zhang *et al.*, 2013).

2.4.1 Trust towards sellers. Praise feedback behaviour would apparently weaken the influence of the feedback mechanism on trust towards sellers (Park *et al.*, 2007). Doubts concerning others' untruthful assessments can shake the foundation of trust building (Lee *et al.*, 2011). When consumers initially believe that positive feedback bias exists (Robin and Marla, 2008; Hu *et al.*, 2012), their deliberatively praise feedback or casual praise feedback would help to confirm this belief, and thus affect consumers' judgement on the reliability and truthfulness of the feedback. This problem becomes more serious if buyers predict the feedback behaviour of others in an empathetic way (Clark *et al.*, 2013). For a buyer who gives deliberatively praise feedback or casual praise feedback, the overstated feedback becomes an effective means of breaking his/her trust towards sellers. On the other hand, true compliment feedback indicates buyer satisfaction, and contributes to the buyer's trust of online shopping. Accordingly, we postulated that:

H3a. Deliberatively praise feedback has a negative influence on trust.

H3b. Casual praise feedback has a negative influence on trust.

H3c. True compliment feedback has a positive influence on trust.

2.4.2 Repurchase intention on the platform. Unlike most previous studies, we used repurchase intention to indicate that a consumer would continue to purchase products/services from a specific platform rather than a specific seller in the future, for two main reasons. First, it has been highlighted that the perception of a reputation system and related feedback behaviour leads to consumers' mistrust of the validity of feedback (Robin and Marla, 2008; Hu *et al.*, 2012). Fear of confrontation is also generated based on the global perception of all sellers and platforms. Second, focusing on repurchase intention from the platform may be more suitable for a practical context. As most trading relationships are one-time deals (Resnick and Zeckhauser, 2002), it may be more beneficial to emphasise consumer loyalty to a platform rather than to specific online sellers in the long term. In addition, China now sees fierce competition among many big electronic commerce sites, such as Taobao, Jingdong, Yihao Store, Suning, and so on. The low cost of changing sites makes it important to emphasise loyalty to platforms (Cheung *et al.*, 2014).

Like the effects on trust, the low quality of reviews associated with deliberatively praise feedback or casual praise feedback would naturally weaken their persuasive impact on consumer repurchase intention (Park *et al.*, 2007). The psychology of positive confirmation for posting praise feedback in a situation of dissatisfaction or bare satisfaction, may decrease the benefit of long-term cooperation with other participants.

Thus, deliberative and casual praise feedback both violate the smooth operation of reputation systems (Jøsang *et al.*, 2007), which are very important for generating repurchase intention. On the other hand, true compliment feedback still expresses the buyer's willingness of cooperation, which therefore would contribute to feedback quality. Thus, we expected that:

H4a. Deliberatively praise feedback has a negative influence on repurchase intention.

H4b. Casual praise feedback has a negative influence on repurchase intention.

H4c. True compliment feedback has a positive influence on repurchase intention.

3. Methods

3.1 Data collection and samples

We chose Taobao as our research object for two main reasons. First, Taobao is the biggest online electronic commerce enterprise in Asia. It is also the most popular site in China with more than ten times the market share of eBay's EachNet (Zhang *et al.*, 2012). From this perspective, Taobao is a representative electronic platform in China. Second, Taobao is a favourable platform that can enrich our understanding of praise feedback behaviour in the reputation system. Compared to other platforms, Taobao suffered customer churn caused by poor product quality and low customer satisfaction (CNNIC, 2013). The fact that Taobao still enjoys a high fraction of positive reviews may indicate the possibility of a great deal of praise feedback behaviour (Qian, 2012; Zhang *et al.*, 2012). Meanwhile, it has been highlighted that reputation on Taobao serves a different role in comparison with eBay (Ye *et al.*, 2013). Hence, focusing on feedback behaviour on Taobao can provide a new angle to enrich understanding in the domain of online reviewing (Floyd *et al.*, 2014).

The data for this study came from a sample of buyers near three universities in South China. In total, 20 recruited and well-trained marketing students conducted the survey. With the permission of respondents, the questionnaires were distributed after they finished posting online feedback on Taobao. Participants would receive a mouse worth 25 RMB as a reward for completing the questionnaire. The questionnaire, with a cover letter explaining the purpose of the survey, contained variables measurement and respondents' background. The survey lasted for two months from March to May 2013, and a total of 560 questionnaires were distributed. The response rate was 76.25 per cent, with 427 successfully completed and returned. After removing 29 invalid questionnaires, 398 were used for analysis. Specifically, 53.79 per cent of the respondents were men and 46.21 per cent were women. In terms of age, 14.34 per cent were 18-22 years, 74.55 per cent were 23-33 years and 11.11 per cent were older than 33 years. The respondents were undergraduate students (33.17 per cent) and graduate students (66.83 per cent). The respondent distribution of gender and age were each consistent with the 2013 China's Online Shopping Market Research Report (CNNIC, 2013). However, the level of education of the respondents was higher than the average level of that report, as the survey was conducted near universities. Meanwhile, the previous month shopping frequency distribution of the respondents was as follows: less than twice (7.04 per cent), two to five times (60.30 per cent) and more than five times (32.66 per cent).

Non-response bias was tested based on the procedure proposed by Armstrong and Overton (1977). Specifically, we used time trends to judge for extrapolation of non-response bias. We conducted *t*-tests of each item between the first 50 and last

50 cases (Zhang *et al.*, 2015). The results revealed no significant difference between the two groups (all *ps* > 0.185), which indicated there were no serious concerns about non-response bias in this study.

3.2 Measurement

All scale items were measured using seven-point Likert scales anchored between "strongly disagree" and "strongly agree". Two versions of the questionnaire (English and Chinese) were prepared, which were translated following a blind translation-back-translation (Sousa and Rojjanasrirat, 2011). Details of all measures are described in Appendix 1. Specifically, the items to measure fear of confrontation were adapted from Hayes *et al.* (2004) and Wang *et al.* (2012). The items to measure incentive for reducing nuisance costs were adapted from Li (2010) and Price *et al.* (2010). The items to measure trust and repurchase intention were modified from Pavlou and Gefen (2004).

Motivated by Yi and Gong (2013), the items to measure deliberatively praise feedback, casual praise feedback and true compliment feedback were developed on the basis of exploratory in-depth interviews. This research first generated an initial pool of more than 20 items for praise feedback behaviour based on a review of previous literature as well as an exploratory in-depth interview. Specifically, in this interview with an open-ended format, 14 customers were asked to describe their feedback behaviours after online shopping and to report the factors that influence their corresponding behaviour. Following that, the interviews were transcribed, analysed, and converted into items, and then were screened to eliminate any items that were ambiguous, redundant, and otherwise faulty, resulting in nine items for feedback behaviour. After reading the definition of each construct, the related explanation, and examples, nine marketing faculties and Ph.D. students assigned the items to one of the three dimensions or to a "not applicable" category. All items were retained as more than seven of the judges chose the same category for every item.

Finally, a pilot test involved 40 marketing students was employed to examine the three measures for deliberatively praise feedback, casual praise feedback, and true compliment feedback, and the results showed that our measurement has adequate convergent and discriminant validity (see Table I).

4. Results

4.1 Measurement model

Assessment of the measurement model involved evaluations of reliability, convergent validity, and discriminant validity of the construct measures. Given that the measurements for fear of confrontation, incentive for reducing nuisance costs, deliberatively praise feedback, casual praise feedback, and true compliment feedback have not been investigated in the context of consumer behaviour in previous studies,

Construct	No. of items	Cronbach's α	Composite reliability	AVE	1	2	3
Deliberatively praise feedback	3	0.906	0.919	0.791	*0.889*		
Casual praise feedback	3	0.821	0.827	0.615	0.241	*0.784*	
True compliment feedback	3	0.829	0.832	0.624	0.299	0.358	*0.790*

Table I.
Convergent and discriminant validity

Note: The figures in the sub-diagonal are correlation coefficients and the italics figures in the diagonal represent square root of average variances extracted (AVE)

we primarily evaluated the scale of the five constructs by using exploratory factor analysis (principal components factor analysis with varimax rotation) using SPSS 18.0. The factor analysis resulted in five factors with eigenvalues exceeding 1, and the first common factor accounted for 25.694 per cent of the total variance and the total variance explained 76.916 per cent. The results also showed that the Kaiser-Meyer Olkin value was 0.777 and the Bartlett's test of sphericity was significant with $\chi^2 = 3{,}437.987$, $p < 0.001$. The details for exploratory factor analysis are presented in Appendix 2, which indicates that the measurements for each construct are suitable.

In addition, we evaluated the psychometric properties of the seven constructs by conducting a confirmatory factor analysis with LISREL 8.70. The fit indexes indicated that the measurement model produced a good fit to the data with χ^2 (402.760)/df (209) = 1.927, CFI = 0.973, IFI = 0.973, GFI = 0.919, NFI = 0.949 and RMSEA = 0.048. Reliability was examined using Cronbach's α and composite reliability, with each construct exceeding 0.8 (see Table II). Convergent validity of construct measures was examined using factor loadings and average variance extracted (AVE). Following the recommendations of Hair *et al.* (1998), factor loadings greater than 0.5 were considered to be significant. All factor loadings of the items in the research model were greater than 0.7 (see Table II). The AVE for each construct exceeded the recommended level of 0.5 (see Table II), which means that more than one-half of the variances observed in the items were accounted for by their hypothesised constructs. To examine discriminant validity, we compared the shared variances between factors with the AVE of the individual factors (Koo and Ju, 2010).

Construct	Item	Mean	SD	Factor loading[a]	Critical ratio	Error	Composite reliability	AVE	Cronbach's α
Fear of confrontation	FOC1	4.77	1.410	0.788	17.091	0.380	0.822	0.534	0.820
	FOC2	5.04	1.422	0.703	14.733	0.506			
	FOC3	4.99	1.305	0.725	15.326	0.475			
	FOC4	3.24	1.554	0.708	14.875	0.499			
Incentive for reducing nuisance costs	IRC1	3.73	1.648	0.812	17.208	0.341	0.815	0.595	0.813
	IRC2	3.27	1.672	0.725	15.121	0.474			
	IRC3	4.56	1.568	0.775	16.326	0.399			
Deliberatively praise feedback	DPF1	4.46	1.461	0.771	17.581	0.405	0.881	0.712	0.875
	DPF2	4.54	1.321	0.908	22.328	0.175			
	DPF3	4.10	1.645	0.846	20.062	0.284			
Casual praise feedback	CPF1	4.20	1.658	0.873	21.365	0.238	0.911	0.773	0.911
	CPF2	4.04	1.747	0.883	21.773	0.220			
	CPF3	3.80	1.506	0.882	21.733	0.221			
True compliment feedback	TCF1	3.85	1.495	0.890	21.900	0.208	0.896	0.741	0.895
	TCF2	3.78	1.517	0.834	19.810	0.305			
	TCF3	3.28	1.557	0.858	20.671	0.264			
Trust	TRT1	3.52	1.414	0.786	17.851	0.383	0.867	0.620	0.865
	TRT2	3.61	1.423	0.819	18.951	0.330			
	TRT3	3.45	1.427	0.748	16.642	0.441			
	TRT4	3.69	1.214	0.795	18.156	0.368			
Repurchase intention	REI1	4.16	1.277	0.710	15.807	0.496	0.882	0.717	0.870
	REI2	4.15	1.093	0.934	23.498	0.128			
	REI3	4.77	1.410	0.880	21.404	0.226			

Note: [a]All loadings are significant at the 0.001 level

Table II.
Cronbach's α and factor loadings

This analysis indicated that the shared variances between factors were lower than the AVE of the individual factors, confirming discriminant validity (see Table III). Thus, the measurement model demonstrated adequate convergent validity, discriminant validity and reliability.

4.2 Structural model

We chose the structural equation model with LISREL 8.70 to estimate the path estimates of the hypothesised model. This model yielded an adequate fit to the data with $\chi^2/df = 2.634$, CFI = 0.951, IFI = 0.951, RFI = 0.914, GFI = 0.888, NFI = 0.926 and RMSEA = 0.064. The estimated standardized structural coefficients for the hypothesised associations among the constructs and their significance are shown in Figure 2.

The results indicated that fear of confrontation had a significantly positive influence on deliberatively praise feedback ($\gamma = 0.274$, $p < 0.001$) and casual praise feedback ($\gamma = 0.136$, $p < 0.050$), thus supporting *H1a* and *H1b*. *H1a* confirmed that fear of confrontation was an important reason for not posting feedback (Li, 2010). Our findings lend support to the reason for feedback bias, which was only guessed at in previous studies (Dellarocas and Wood, 2008; You and Sikora, 2011). The result of *H1b* also showed that consumers would reduce risk of confrontation as long as they thought a deal was completed and was not unsatisfactory.

While incentive for reducing nuisance costs had no significant influence on deliberatively praise feedback ($\gamma = -0.036$, $p > 0.100$), it had a significant positive influence on casual praise feedback ($\gamma = 0.154$, $p < 0.001$) and true compliment feedback ($\gamma = 0.133$, $p < 0.010$), thus supporting *H2b* and *H2c*, but not supporting *H2a*.

Consistent with *H3a* and *H4a*, deliberatively praise feedback had a significant negative influence on trust ($\beta = -0.519$, $p < 0.000$) and repurchase intention ($\beta = -0.228$, $p < 0.001$). Surprisingly, however, casual praise feedback had a significant positive influence on trust ($\beta = 0.184$, $p < 0.000$) and no significant influence on repurchase intention ($\beta = 0.066$, $p > 0.050$), thus not supporting *H3b* and *H4b*. In support of *H3c* and *H4c*, true compliment feedback had a positive influence on trust ($\beta = 0.391$, $p < 0.001$) and repurchase intention ($\beta = 0.631$, $p < 0.001$).

5. Discussion

A summary of the results is shown in Table IV. Our findings suggested that fear of confrontation and incentive of reducing nuisance costs contributed to casual praise feedback. On the other hand, casual praise feedback still had a positive effect on trust towards sellers, but had no effect on repurchase intention. It should be noted that

Construct	1	2	3	4	5	6	7
Fear of confrontation	*0.731*						
Incentive for reducing nuisance costs	−0.226	*0.771*					
Deliberatively praise feedback	0.242	−0.103	*0.844*				
Casual praise feedback	0.082	0.113	0.504	*0.879*			
True compliment feedback	−0.002	0.116	0.111	0.363	*0.861*		
Trust	−0.428	0.294	−0.393	0.088	0.413	*0.787*	
Repurchase intention	−0.037	0.094	−0.137	0.172	0.636	0.368	*0.847*

Note: The figures in the sub-diagonal are correlation coefficients and the italics figures in the diagonal represent square root of average variances extracted

Table III.
Average variance extracted and discriminant validity

Notes: ns, not significant. χ^2 (574.257)/df (218) = 2.634; CFI = 0.951; IFI = 0.951; RFI = 0.914; GFI = 0.888; NFI = 0.926 and RMSEA = 0.064. *p < 0.050; ***p < 0.001

Figure 2.
The results of the research model

Table IV. Results of Hypotheses

Hypothesised path	Hypothesis	Results
Fear of confrontation → deliberatively praise feedback	*H1a*	supported
Fear of confrontation → casual praise feedback	*H1b*	supported
Incentive for reducing nuisance costs → deliberatively praise feedback	*H2a*	not supported
Incentive for reducing nuisance costs → casual praise feedback	*H2b*	supported
Incentive for reducing nuisance costs → true compliment feedback	*H2c*	supported
Deliberatively praise feedback → trust	*H3a*	supported
Casual praise feedback → trust	*H3b*	not supported
True compliment feedback → trust	*H3c*	supported
Deliberatively praise feedback → repurchase intention	*H4a*	supported
Casual praise feedback → repurchase intention	*H4b*	not supported
True compliment feedback → repurchase intention	*H4c*	supported

deliberatively praise feedback, influenced by fear of confrontation rather than incentive for reducing nuisance costs, indeed had a negative influence on trust and repurchase intention.

Our findings revealed in detail that, the time and effort costs of reporting may be unimportant for unsatisfied customers, but important for satisfied customers; this was not identified by the research of Li (2010). Meanwhile, the results revealed that both the incentive of reducing nuisance costs and confrontation concerns contribute to arousing the casual praise feedback behaviour of online customers, which was neglected in previous literature. Our findings gave empirical evidence that fear of confrontation was the key contributor to reluctant praise feedback behaviour. As for true compliment feedback, the result was interesting. Fear of confrontation was not the reason for provision of a good rating for satisfied consumers. This may reflect the fact that satisfied consumers will not leave malicious bad reviews, as they see the transactions as good deals. In Chinese culture, the innate purity theory may explain the phenomenon. However, reducing nuisance costs is still a motivation for true compliment feedback, which reveals that even a satisfied consumer would like to avoid extra effort.

As indicated by Dellarocas (2003), deliberatively praise feedback and casual praise feedback introduced a great deal of noise to the reputation system. The power of the reputation system to sanction poor service providers would be decreased by praise feedback bias, since overstated or reluctant feedback will not reflect the true credibility of sellers. Our findings confirmed that buyers who had given praise feedback would lower the importance of online feedback when making purchase decisions (Fuller *et al.*, 2007). As the results show, deliberatively praise feedback confirmed the suspicion of feedback persuasion and had a negative impact on building trust and repurchase intention.

However, our findings showed that casual praise feedback still had a positive impact on trust placed in platform sellers. This means that the reputation system is still a source from which barely satisfied customers can generate trust. Meanwhile, the results show that the relationship between casual praise feedback and repurchase intention is still not clear and needs further research. We conclude that casual and costless feedback does not act as a main source for loyalty emergence towards electronic commerce platforms. As fairly high trustworthiness of the online market requires costly true feedback (Gazzale and Khopkar, 2011), praise feedback behaviour weakens the function of the feedback review system whether as an informant or recommender (Fuller *et al.*, 2007; Lee *et al.*, 2011).

The test for the effects of deliberatively and casual feedback on repurchase intention may also partly explain the phenomenon that most trading relationships are one-time

deals (Resnick and Zeckhauser, 2002), as customers with praise feedback behaviour would not completely lose their trust in online transactions, but have low loyalty to specific sellers. If deliberatively praise feedback and casual praise feedback account for a large proportion of praise feedback behaviour, most buyers would not benefit from long-term cooperation with other traders. As a consequence, the electronic market may lose its transaction efficiency and the benefit of trustworthy behaviour in the long term (Bolton *et al.*, 2004). This may be the main reason that the platform operators and sellers all make great efforts to encourage buyers to express their true opinions. The result that true compliment feedback strengthens consumers' trust and repurchase intention on that platform confirms that online customer satisfaction will positively influence loyalty (Lin and Sun, 2009).

This study provided vital empirical research on consumer feedback behaviour bias in a Chinese e-commerce setting, which differs sharply from the electronic commerce environment in the west (Ye *et al.*, 2013). Some particular factors may be responsible for the effects of fear of confrontation and the incentive for reducing nuisance costs on praise feedback behaviour. First, since mainland China embraces an intricate electronic commerce context and is at an ascent stage of consumer-rights protection (Cui *et al.*, 2012), there are limited ways for consumers to respond to unsatisfactory transactions. Just omitting or negotiating with the seller for compensation becomes the main way of reducing nuisance. Taobao initially provides a C2C trading platform charging a low fee (e.g. free slotting fee for three years), and thus attracts lots of vendors with a relatively low education level. There are more than 25 million online shops on Taobao, with much of their information not verified by laws or regulations (Zhang *et al.*, 2013). These vendors usually spend plenty of time in negotiating the strike price. Thus, unsatisfactory feedback may irritate them. Additionally, feedback is allowed to be modified within 20 days. So, those sellers may take unethical or illegal measures (such as telephone harassment, menace, or curse) to make buyers change their feedback. On the other hand, most online buyers are 18-30 years old (CNNIC, 2013). They may be more concerned about efficiency, and tend to avoid any trouble or confrontation involved in online transactions. Together, these characteristics may facilitate praise feedback behaviour. Thus, our research offered empirical evidence of the antecedents of reluctant praise feedback behaviour based on the operating characteristics of Taobao.

In conclusion, this study is an attempt to examine sources of review bias through the evaluation of behaviour. For reasons of conflict and cost, consumers tend to give praise feedback, which constitutes a source of awareness of online feedback bias. Our findings verified that this type of bias can significantly influence customers' perception of electronic commerce through the mechanisms we propose; this finding is important for both scholars and practitioners.

6. Implications and limitations

6.1 Theoretical contributions

This study enhances the understanding of praise feedback behaviour by examining its antecedents and consequences. Unlike previous research in this area mostly focusing on online feedback mechanisms (e.g. Dellarocas and Wood (2008), Hasan *et al.* (2012)), our study paid attention to sources of positive review bias.

First, different from most previous studies on positive reviews focusing on a single dimensional concept, this study is the first to propose a three-dimension conceptualization from the customer perspective, and offers a new angle of view to appreciate feedback bias in electronic markets.

Second, we confirmed some suggestions of reasons for positive feedback (e.g. fear of retaliation) (Dellarocas, 2003), and conducted a systematic analysis of the topic. By introducing the three-dimension conceptualization of praise feedback behaviour, we revealed detailed effects of fear of confrontation and the incentive for reducing nuisance costs on praise feedback behaviour.

Finally, apart from making a step forward to address the positive review bias in electronic markets (Resnick and Zeckhauser, 2002; Li, 2010), this study also examined customers' reaction to praise feedback behaviour. Our findings suggest that deliberatively and casual praise feedback do not play a positive role in promoting repurchase intention. This helped us realise the importance of positive review bias, as found in previous literature (Dellarocas, 2003; Urban *et al.*, 2009; Bolton *et al.*, 2013). Previous research has indicated that large numbers of positive ratings on Taobao contribute to building trust towards the platform but do not help buyers to choose credible sellers (Zhang *et al.*, 2012). Our findings that casual praise feedback still contributes to trust towards sellers but not to repurchase intention, may provide an explanation of this phenomenon.

6.2 Practical implications

Feedback reputation systems review functions with the purpose of sanctioning poor service providers (Jøsang *et al.*, 2007, p. 1597). However, feedback review bias may introduce much noise to reputation systems (Dellarocas, 2003), which may interfere with the reputation mechanism's ability to promote cooperative and honest behaviour among self-interested participants.

First, confrontation concerns and costs of effort and time involved do indeed contribute to praise feedback behaviour. Operators need to take measures to encourage buyers to post truthful feedback and/or decrease their risk and cost in providing feedback (Li, 2010). They are required to take measures to protect the private information of customers. Meanwhile, promoting the entertainment value of posting a review can motivate customers to express their true feelings. In fact, Taobao has done much to ensure that the feedback system runs smoothly. Some policies have been implemented, such as increasing the entry threshold of shoppers, and encouraging real-name transactions, which may contribute to consumers' credible feedback. Taobao has separated one of its transaction platforms called Tmall from its other business and has transferred many reputable sellers from Taobao to Tmall, in the hope of rebuilding their reputation.

Second, casual praise feedback, along with deliberatively praise feedback, which were mainly studied as the source of positive bias (Dellarocas and Wood, 2008), may partly account for the fraud or fake problems existing on Taobao (Zhang *et al.*, 2013). Praise feedback behaviour would incentivise fraud in sellers. Intuitively, sellers are encouraged to deliver low quality products if the buyers always give praise feedback. This partly explains why Taobao needs to take further strict measures to forbid fraud than either eBay or Amazon. With positive feedback bias, on the one hand, honest and reputable sellers cannot easily compete (Ba and Pavlou, 2002; Saastamoinen, 2009) or identify potentially problematic areas from reputation systems (Qu *et al.*, 2008), as most shops have relatively high scores. On the other hand, deliberative feedback behaviour negatively influences trust towards sellers and repurchase intention on a specific site. Online shoppers need to find new signals to identify credible sellers. In practice, many online sellers have taken their own measures to distinguish themselves from sellers with bad service. For example,

they provide the service of "no reason for making a return within 7 days if unsatisfied". Many sellers make efforts to maintain a good relationship with satisfied customers by providing discounts of latest products through phone messages or e-mail.

In addition, many researchers put forward optimised feedback mechanisms to solve feedback bias (e.g. Sikora and You (2014), Piramuthu *et al.* (2012)). It may be useful to find good sellers with a reputation system that can classify and rate feedback reviews, and calculate only true compliment feedback rather than all of them. Apart from implementing a bonafide seller system, buyers should also maintain a prudent attitude when they make a purchase decision while relying on feedback. They can read records of other buyers, which may act as a clue to the credibility of their reviews. Additional comments may also be credible feedback information.

6.3 Limitations and future research

Despite the valuable findings and implications, this study has a number of limitations. First, praise feedback is a pervasive phenomenon in electronic markets (Dellarocas and Wood, 2008; Li, 2010; Zhang *et al.*, 2012). In this study, we merely investigated the praise feedback behaviour by a single study with samples from Taobao in Mainland China. However, Taobao, as a prominent online C2C platform in China, is facing an intricate electronic commerce context and users of the Taobao platform are affected by East Asian culture, such as face concern (Leung *et al.*, 2002; Wan, 2013). The characteristics of platforms and culture factors may also affect the antecedents of praise feedback behaviour, resulting in a limitation on the generalisability of the research model. Therefore, cross-platform research and cross-culture research are needed in future study. Second, this study was intended to stimulate discussion and to motivate further research on positive untruthful feedback. More variables about characteristics of customers such as personalities or traits, need to be empirically examined. Third, this study ignored the ethical factors that affect consumer perceptions towards e-commerce (Sharma and Wang, 2014), which should be included in future study. Finally, this study was cross-sectional, and samples were collected over a specific period of time. Therefore a longitudinal study by tracking praise feedback behaviour is more appropriate to investigate the development of praise feedback behaviour thoroughly.

7. Conclusion

The current study provided strong support for the congruence between customer feedback behaviour and feedback bias in online reviews. The findings indicated that customers' praise feedback behaviour had an influence on their perception of e-commerce. By identifying three dimensions of praise feedback behaviour, we were able to determine the distinct and specific effects of it on trust and the likelihood of online purchase. Meanwhile, the study revealed that two important reasons (confrontation concerns and reducing nuisance costs) contributed to praise feedback behaviour. The research provided a descriptive model that better explains the consumer decision-making processes in giving feedback. It may help us to understand the phenomenon of positive review bias and indicate directions for amending feedback mechanisms. This study also enriched research in this area in China's e-commerce setting (Floyd *et al.*, 2014).

Note

1. Taobao (www.taobao.com) is a prominent online C2C platform, which occupies nearly half of the online C2C auction market share in China.

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(The Appendix follows overleaf.)

Appendix 1

Table AI. Measurement items for study

Measure items	
Fear of confrontation	
FOC1	When giving a feedback, I worry about getting my anxieties, worries, and feelings under control
FOC2	When I evaluate something negatively, I usually recognise that this is just a reaction, not an objective fact
FOC3	When I compare myself to other buyer, it seems that most of them are handling transactions better than I do
FOC4	If I could remove all confrontations, I would do so
Incentive for reducing nuisance costs	
IRC1	I tend to spend little time to give a post-purchase feedback
IRC2	I tend to spend little effort to give a post-purchase feedback
IRC3	I do not want to spend any other time and effort concerning feedback
Deliberatively praise feedback	
DPF1	When I feel unsatisfactory, I would not post any feedback
DPF2	When I feel unsatisfactory, I would give a positive feedback deliberately
DPF3	When I feel unsatisfactory, I would give a negative feedback (reversed item)
Casual praise feedback	
CPF1	When I feel barely satisfactory, I would casually give a good feedback
CPF2	When I feel barely satisfactory, I think I exaggerated the performance of the seller
CPF3	When I feel barely satisfactory, I would carefully give a feedback (reversed item)
True compliment feedback	
TCF1	When I feel satisfactory, I would give a feedback of compliment
TCF2	When I feel satisfactory, I would never criticise the seller
TCF3	When I feel satisfactory, I would carefully give a feedback
Trust	
TRT1	The sellers on Taobao are in general dependable
TRT2	The sellers on Taobao are in general reliable
TRT3	The sellers on Taobao are in general honest
TRT4	The sellers on Taobao are in general trustworthy
Repurchase intention	
REI1	Given the chance, I predict that I would consider purchasing on Taobao in the future
REI2	It is likely that I will actually buy products on Taobao in the near future
REI3	Given the opportunity, I intend to have a new deal on Taobao

Appendix 2

Item	Fear of confrontation	Casual praise feedback	True compliment feedback	Deliberatively praise feedback	Incentive for reducing nuisance costs
FOC1	*0.827*	0.042	−0.017	0.077	−0.066
FOC2	*0.803*	0.085	0.015	0.031	0.035
FOC3	*0.796*	−0.043	−0.037	0.126	−0.052
FOC4	*0.771*	0.001	0.031	0.053	−0.194
CPF1	0.038	*0.885*	0.125	0.213	0.056
CPF2	0.023	*0.868*	0.148	0.265	0.041
CPF3	0.026	*0.890*	0.203	0.147	0.052
TCF1	−0.012	0.144	*0.911*	0.027	0.053
TCF2	−0.001	0.181	*0.874*	0.080	0.022
TCF3	0.002	0.102	*0.902*	−0.017	0.039
DPF1	0.082	0.189	−0.030	*0.844*	−0.029
DPF2	0.103	0.299	0.014	*0.864*	−0.050
DPF3	0.112	0.124	0.107	*0.889*	−0.050
IRC1	−0.135	0.063	0.068	−0.024	*0.850*
IRC2	−0.045	0.046	0.020	−0.023	*0.834*
IRC3	−0.060	0.015	0.020	−0.062	*0.855*
Eigenvalue	4.111	3.063	2.049	1.885	1.198
Variance (%)	25.694	19.147	12.808	11.779	7.488
CPV (%)	25.694	44.841	57.649	69.428	76.916

Notes: CPV, cumulative per cent variance. The Kaiser-Meyer Olkin (KMO) value is 0.777 and the Bartlett's test of sphericity is significant with $\chi^2 = 3{,}437.987$, $p < 0.001$

Table AII. Principal components factor analysis with varimax rotation

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