



Platform trust in C2C e-commerce platform: the sellers' cultural perspective

Liangjuan Qin¹ · Qixing Qu¹ · Li Zhang¹ · Harris Wu²

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Abstract

With the development of online retailing on third-party e-commerce platforms such as Taobao, the churn of individual shops is becoming increasingly severe. Platform operators are eager to learn the causes of this eroding trust. Based on Hofstede's cultural dimensions theory, this paper aims to investigate how masculinity, uncertainty avoidance and long-term orientation impact platform trust and the interaction between these three cultural variables. Based on data collected from sellers on the largest Chinese C2C platform, we found that uncertainty avoidance had a negative effect on platform trust, while masculinity and long-term orientation exerted a positive impact on platform trust. A significant association among the cultural factors was also found.

Keywords Cultural factors · Consumer-to-consumer (C2C) e-commerce platform · Trust · Seller

1 Introduction

According to the data released by the China Electronic Commerce Research Center, China's online retail market has reached a growth rate of more than 50 percent annually in the past three years. However, since 2012, the number of individual online shops on consumer-to-consumer (C2C) platforms represented by Taobao (www.taobao.com) has begun to show a downward trend. Taking Taobao as an example, excluding those sellers removed from the platform for rule violations, the loss of sellers is primarily caused by those who abandon e-commerce due to a lack of profitability and fierce competition, those who switch to other e-business platforms, and those who have lost trust in Taobao buyers or

the Taobao platform [51]. Sellers' loss of trust has become an urgent problem that deserves the immediate attention of e-commerce platforms such as Taobao.

As Botsman and Rogers (2010) suggested, to be successful and sustainable commercial platforms need to attract enough participants as both customers and product/service providers. Trust is a critical success factor of e-commerce [15, 46]. Stimulated by the reported lack of trust in e-commerce, there are many research to investigate what factors affect users' trust towards an e-commerce platform. However, previous studies have found that many factors have positive or negative impact on customers' trust and purchase intention, and no study has investigated what factors affect service/product providers' trust towards an e-commerce platform. For the e-commerce platform, the sellers' trust is particularly important, as the platform can gain benefits from a large number of sellers.

The classic trust model holds that the effects of beliefs on trust intentions further generate corresponding behaviors [33]. The long-standing cultural traits of online sellers present an important beliefs. Existing studies on the relationship between culture and trust generally focused on geo-cultural differences, which constrain the concept of culture to national culture or organizational culture. In reality, cultural differences exist between countries and organizations and different individuals within the same group. Especially with the current information age, as the Internet has removed

✉ Qixing Qu
qqxing@uibe.edu.cn

Liangjuan Qin
ljqin@uibe.edu.cn

Li Zhang
tasummer@sina.com

Harris Wu
hwu@odu.edu

¹ School of Information, University of International Business and Economics, No. 10 HuixinEast Street, Chaoyang District, Beijing 100029, China

² Old Dominion University, Norfolk, USA

geographical restrictions on e-commerce transactions, the effect of differences between individual cultures on people's trust in e-commerce becomes increasingly salient. On this basis, we may further understand the loss of trust by investigating individual sellers' cultural characteristics. In this study, we explore the different effects of C2C sellers' cultural characteristics on the formation of trust in e-commerce platforms.

The first objective of this study is to investigate the influencing factors of sellers' trust towards the e-commerce platform from the cultural value. This study extends the work of platform trust by considering service/product providers' trust towards online platform and using three individual seller level cultural values. The second objective of this study is to investigate whether the relationship between the cultural value and sellers' trust is mediated by the individual seller level -uncertainty avoidance. The research questions of this study are as follows:

Research Question 1 Do individual seller level cultural values affect sellers' platform trust in e-commerce?

Research Question 2 Does the sellers' level of uncertainty avoidance play an important mediated role in the relationship between the other cultural values and sellers' platform trust in e-commerce?

2 Literature review

2.1 Trust and institutional trust

Trust is critical to human society. Essentially, trust is an expectation that is closely related to social activities, influenced by social structure, and limited by moral and cultural constraints. The evolution of trust models, ranging from interpersonal trust to institutional trust, reflects changes in the economic environment. Zucker [61] emphasized that institutional trust is the most imperative trust-creating mode in impersonal economic environments. The absence of institutional trust can hinder consumers from accepting e-commerce [3]. Institutional trust is, to date, the most crucial mode of trust in a commercial environment. McKnight et al. [33] proposed two dimensions of institutional trust: structural assurances and situational normality. Structural assurances are related to the influence of elements of some formal systems, such as norms, contracts, services, and commitments, on the formation of trust.

Existing research on institutional trust mainly underscored the security provided by a formal system. However, scholars increasingly recognized that the influence of informal constraints could by no means be underestimated, especially in e-commerce. E-commerce platforms cannot retain high-quality consumers and sellers solely through contracts or advanced technology. Given its key role, researching

e-commerce trust from a cultural perspective is of great significance.

2.2 Culture and the theory of cultural dimensions

Formal and informal systems exist in society. The formal system refers to various formal rules and restraints and punitive regulations issued to maintain the social order, for example, the Constitution and relevant laws and their extensions in different fields. The informal system refers to codes of conduct or constraints formed through interactions in human society and is inherited via forms of thought and concepts, such as customs, ethics, values, and cultural traditions. Culture comprises informal institutional factors and includes moral norms and the system rules formed imperceptibly in a country or a group, affects people's reflection of the environment and guides their behaviors. Thus, this approach is conducive to understanding culture as a set of informal system constraints that exert an impact on trust.

Kluckhohn [26] argued that culture represents a typical habit of perception, awareness, and action shown in a specific context. To date, the foundation for considerable cross-cultural research has been the pioneering studies of Hofstede [18, 2001] and De Mooij and Hofstede [9]. They maintained that culture is a unified system of values formed by interactions between members of a group. Culture has significant differentiation among groups and, to some extent, exerts an influence on the attitudes or behaviors of new members. Through a combination of primary and secondary data, Hofstede [18, 2001] created cultural index scores and ordinal rankings for five constructs: power distance, individualism, masculinity, uncertainty avoidance, and long-term orientation. Power distance refers to tolerance for class differentials in society. Individualism is the degree to which individual welfare is valued more than that of the group. Masculinity involves achievement orientation, competition, and materialism. Uncertainty avoidance describes intolerance for risk. Finally, long-term orientation includes values such as stability, thrift, respect for tradition, and future orientation. These five dimensions effectively distinguish peoples and culture across various nations.

2.3 Application of cultural theory in consumer trust and adoption

Hofstede's cultural dimensions theory has been extensively used in the literature and has become one of the most influential cultural theories in social science research [60]. In the field of information technology and e-commerce, cultural dimension theory has been used in new technology adoption and acceptance research, network trust formation and impact research. Srite and Karahanna's [48] research on the impact of cultural factors on the

technology acceptance model has shown that feminism and high uncertainty avoidance strengthen the influence of subjective norms on adoption intention. Moreover, masculinity/femininity can moderate the relationship between usability and adoption intention. Cheolho [6] analyzed the moderating effect of Hofstede's cultural dimensions (power distance, individualism, masculinity, uncertainty avoidance, and long-term orientation) on Chinese customers' trust in online shopping and verified that long-term orientation, masculinity, and uncertainty avoidance have significant moderating effects on trust in online shopping, whereas power distance and individualism have no such significant moderating effects. Peng's [39] study on mobile business adoption also showed that cultural factors strongly moderate the trust in online shopping. Xu et al. [58] discussed the effect of users' cultural characteristics on mobile payment adoption at the individual level.

Existing research on e-commerce platforms or website trust in the e-commerce context mainly focuses on the perspective of buyers; In other words, the research subjects are mainly online consumers [24, 54, 8]. When considering whether to trust a third-party e-commerce platform and trade with an online store on that platform, consumers will review its available structural assurances, such as payment tools, supervision and punishment of dishonest sellers, after-sales support, and feedback mechanisms [2, 12, 35]. They will also inspect the characteristics of a particular online seller, including the seller's reputation, product description, webpage design [59], other buyers' reviews, and the seller's qualifications and return policy [42]. For consumers, the experience of trading with a specific seller on a third-party e-commerce platform will directly affect their trust toward other sellers on this platform, and can even affect their trust in the overall third-party e-business platform [45]. Factors such as geographical or national culture [5, 50], gender differences [36, 37], and uncertainty avoidance [43, 57] indirectly affect consumers' trust in e-commerce platforms.

However, the situation differs when we examine trust in e-commerce platforms from the sellers' perspective. Since a seller is faced with numerous buyers in the market, the trading experience with a single buyer may not significantly affect the formation of the sellers' trust in e-commerce platforms. Sellers' characteristics may exert a more direct influence on the formation of trust (or lack thereof) in the e-commerce platform.

Currently, no consensus has been reached regarding the relationship between culture and platform trust. Most of the time, cultural factors serve as moderating variables in studies to trust (e.g., [27, 30–32]). Moreover, we know of no research focusing on the trust issue from the seller's perspective. The main reason is that data collection from the seller's perspective is difficult without the support of an e-commerce platform provider.

This study targets the online sellers in Taobao's C2C platform with the support of the Ali Research Institute, a global organization based in China. These sellers are characterized as self-employed or small and micro business owners who employ fewer than 5 people. Therefore, these sellers have the absolute power to decide to stay or leave the platform. This freedom allows for the study of online shop churn from the individual-level cultural perspective.

We only select three cultural dimensions widely used in the consumer perspective study from Hofstede's six cultural dimensions: uncertainty avoidance, masculinity/femininity, and long-term/short-term orientation. We examine their direct implications on sellers' trust in e-commerce platforms and the interaction among them on the basis of the context of e-commerce. First, under the C2C e-commerce model, the only reason why sellers choose to cooperate with the Taobao platform is that it has accumulated diverse sellers and customers, and sellers can attract customer attention through the Taobao platform to sell their products. Taobao is a third-party service platform that provides standardized processes for product release, order processing, payment and settlement, logistics information tracking, and credit evaluation services. The relationship between sellers and the Taobao platform is, thus, not a traditional superior-subordinate relationship, since sellers only use the online standardized service functions provided by Taobao and pay the corresponding platform service fees. Moreover, different sellers on the platform are also independent of each other, and there is no relationship of interdependence and cooperation. In such a scenario, the three-dimensional cultural characteristics of the sellers' power distance, individual/collectivism, and indulgence/restraint do not affect their evaluation of the e-commerce platform. Therefore, we focus on the effects of uncertainty avoidance, masculinity, and long-term orientation on platform trust and do not introduce power distance, individualism/collectivism, and indulgence/restraint into our theoretical framework.

Second, many studies have investigated the impact of cultural factors on individual behavior based on Hofstede's research. Scholarly consensus appears to hold that each cultural dimension is uncorrelated; consequently, this battery of hypotheses about cultural dimensions as drivers is reasonable. Therefore, even if we choose to investigate only three dimensions, such selectiveness will not affect the research results.

Third, empirical evidence in the literature has revealed conflicting results. For example, power distance and individualism are exact opposites, with no such significant effect (e.g., [11, 13, 22, 49]).

For the above reasons, we did not design questions about the measurements of power distance, individualism/collectivism, and indulgence/restraint. Therefore, we examine only the separate effects of uncertainty avoidance,

masculinity, and long-term orientation on platform trust from the sellers' perspective.

3 Research model and hypothesis development

3.1 Relationship between masculinity and platform trust

Hofstede [19] summarized the differences in gender roles, masculinity and femininity, by combining the social and emotional elements of humans with gender factors. People with masculine values are often regarded as confident, ambitious, and materialistic, while those who have feminine values are considered modest, cooperative, and attentive to quality of life and job security. In a study of intent to use online stores, Srite et al. [48] concluded that masculinity/femininity is a crucial regulatory factor. There are many sellers with differing characteristics in e-commerce platforms, and masculine/feminine temperaments obviously exist and cannot be ignored. In actual business activities, it is obvious that differences exist in the interpretations of the platform system by members of these two categories of characteristics, as a result of which trust in the e-commerce platform will be influenced. Salcedo and Gupta [44] suggest, those with high masculine cultural values would be open to using a technology or technology-mediated service if its benefits are apparent. Therefore, Hypothesis 1 is proposed:

H1 Masculinity positively correlates with platform trust.

3.2 Relationship between masculinity and uncertainty avoidance

People with masculine values tend to focus on material achievement and have tenacious qualities, and are therefore more open to novel elements (Ein et al. [10]). The degree of uncertainty avoidance demonstrates one's ability to perceive and endure risks [41]. The strong and resolute character contributed by a masculine temperament ensures that people with these characteristics have a greater perception and tolerance of uncertainty and ambiguity than those with feminine characteristics [31, 32]. It seems plausible, therefore, to assume that the higher the degree of masculinity is, the lower the degree of uncertainty avoidance will be. Therefore, Hypothesis 2 is proposed:

H2 Masculinity negatively correlates with uncertainty avoidance.

3.3 Relationship between masculinity and long-term orientation

The group with masculinity values tends to pay more attention to the target objective and holds many material expectations for the future, while their long-term orientation reflects future expectations and concerns [38]. Hence, we argue that the group with a high degree of masculinity usually has a high long-term orientation. Therefore, the hypothesis below is proposed:

H3 Masculinity positively correlates with a long-term orientation.

3.4 Relationship between uncertainty avoidance and platform trust

Uncertainty avoidance signifies how people feel endangered or fearful in the face of uncertain or ambiguous unknowns. Previous studies have proven that users with high uncertainty avoidance are unwilling to try innovative models in new technology acceptance [53, 58] and online shopping acceptance [52]. In other words, these people find it hard to build trust. Therefore, we propose the following hypothesis:

H4 Uncertainty avoidance negatively correlates with platform trust.

3.5 Relationship between long-term orientation and platform trust

Long-term orientation is a virtue that is developed based on long-term goals and ambitions. Within an economic scenario, this cultural factor is a difference watershed. In economic activities on e-business platforms, sellers themselves have various value orientations. These orientations are directly embodied in the websites' business activities and trust in the platform. When people have a higher long-term orientation, they are more likely to hold on to tradition and to be slower in adopting new things. They take a longer to establish trust, but once established, that trust is difficult to change. Therefore, Hypothesis 5 is proposed:

H5 Long-term orientation positively correlates with platform trust.

3.6 Relationship between long-term orientation and uncertainty avoidance

Those who are strong in long-term orientation tend to respect tradition and hold a conservative attitude toward the future. Therefore, they are inclined to be conservative regarding uncertain factors, i.e., high in uncertainty

avoidance. Sellers with high uncertainty avoidance will not allow themselves to endure risky conditions over the long term, especially regarding monetary deals [1]. Therefore, Hypothesis 6 is proposed:

H6 Long-term orientation positively correlates with uncertainty avoidance.

3.7 Theoretical model establishment

Based on the above hypotheses, this study proposed the model of cultural factors’ influence on e-business platform trust from a seller’s perspective, as shown in Fig. 1.

4 Research methodology

4.1 Measurements

- (1) Masculinity, uncertainty avoidance, and long-term orientation. Hofstede’s cultural dimensions theory refers to masculinity, uncertainty avoidance, and long-term orientation variables among its cultural measurements [19, 20], as shown in in Table 1.
- (2) Platform trust. Trust intention promotes the occurrence of trust behavior. In this study, e-commerce platform trust, or platform trust, is the trust intention to drive sellers to willingly use and rely on the platform.

Fig. 1 Model of Cultural Factors’ Influence on E-business Platform Trust from the Seller Perspective

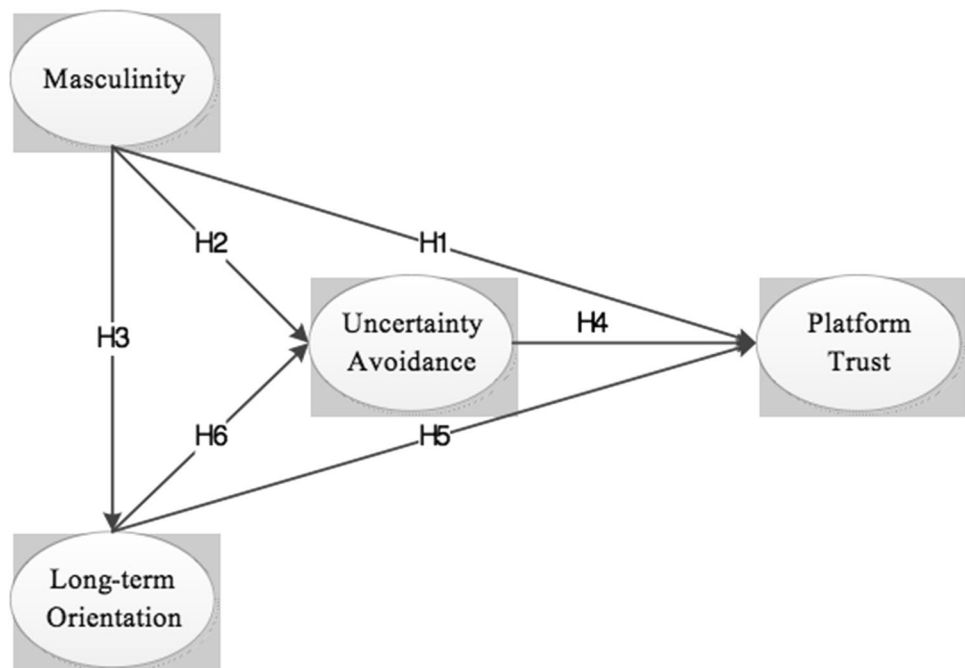


Table 1 Measurement Items

Key concept	Definition	Scale note	Source
Masculinity	Motivation to achieve, value in competition and materialism	Distinguishes male from female Goal-orientation and process-orientation Masculine and feminine	Hofstede [19, 20] and Huang and Crotts [22]
Uncertainty avoidance	The extent to which people feel threatened by uncertain or unknown situations	Nervousness/worry about unknowns Uncertainty about future Fearfulness of new environment	Hofstede [19, 20] and Huang and Crotts [22]
Long-term orientation	The preference for stability, frugality, respect for tradition, and future orientation	Thriftiness Perseverance Serious attitude to life and work	Hofstede [21] and Huang and Crotts [22]
Platform trust	The trust intention to drive sellers to willingly use and rely on the platform	Willingness to trust Acting upon instruction Willingness to provide information Willingness to pay for use	Wang et al. [55]

Thus, platform trust refers to sellers' willingness to believe that the platform is favorable to them, to act upon instruction, to provide information to the platform, and even to pay for use in a timely manner. This study adopted the scale designed by McKnight [34] to measure and test, as shown in Table 1. The detail measurements and items of constructs are presented in Appendix.

4.2 Sampling procedure and sample characteristics

The variables used in this study are mainly drawn from the extant research to guarantee the validity of scale translation. We also invited business operational staff from the Taobao.com platform to evaluate and test each scale item. All questions employed a seven-point Likert scale (1 = strongly disagree; 7 = strongly agree).

After the small-sample pilot test and revision, 50,000 questionnaires were circulated to Taobao.com and Tmall.com sellers through internal research tools by the Ali Group Taobao User Experience Department from March 2 to 10, 2013, of which 9227 were returned. After the invalid questionnaires that were incomplete, completed too quickly, or randomly oriented were eliminated, we obtained a final total of 7216 valid questionnaires, with an effective response rate of 78.21%. In accordance with Taobao's categorization of seller groups, the sample used in this study includes manufacturers, service providers, product agents, part-timers and personal full-timers, which represent the majority of seller groups opening shops on the Taobao/Tmall e-business platform. Therefore, personal full-timers and part-timers accounted, respectively, for 36.48% and 44.19% of sellers. Shops with fewer than five staff accounted for 91.69%. According to the statistics of shops' business years, most are less than three years old, with just 7.99% of shops being more than three years old. As confirmed by the Taobao operation team, the sample structure was reasonable.

The shops used for this study were personal full-timers with fewer than five staff members whose respondents were "familiar with" or "very familiar with" online deals, and 2351 questionnaires were valid.

4.3 Construct reliability and validity test

Reliability refers to how reliable the survey data are. This study employed the commonly used Cronbach's α to test the reliability of the questionnaire. A Cronbach's α value above 0.7 indicated that the questionnaire was reliable. Reliability analysis was performed on four variables: platform trust, masculinity, uncertainty avoidance and long-term orientation (see Table 2). All Cronbach's

Table 2 Variable Item Reliability Analysis

Test item	Cronbach's α	Cronbach's α on Standardized Items	No. of terms
Sample population	0.883	0.900	13
Platform trust	0.786	0.788	4
Masculinity	0.806	0.808	3
Uncertainty avoidance	0.846	0.847	3
Long-term orientation	0.757	0.787	3

Table 3 KMO and Bartlett's Test of Sphericity

KMO measure		0.935
Bartlett's test of sphericity	Chi-square test value	25,127.093
	Df	276
	Sig	0.000

α values exceeded the threshold value of 0.7, which suggests that the proposed model has acceptable psychometric properties.

Validity is used to measure how the manifest variable reflects the latent variable. This study used factor analysis to analyze validity. First, it tested whether factor analysis is applicable to variables through the Kaiser–Meyer–Olkin (KMO) test and Bartlett's test of sphericity (see Table 3). As shown in Table 3, KMO is over 0.5, so the Bartlett test of sphericity is significant, indicating that the questionnaire is suitable for factor analysis.

Factor analysis was completed of model variables, the results of which are shown in Table 4. The factor loading capacity of each item is over 0.6. All factors meet the requirements and research standards for good validity.

As shown in Table 4, average variance extracted (AVE) values for the constructs also are higher than the recommended benchmark of 0.5 [7], indicating that the constructs have captured a sufficiently high level of variance.

Discriminant validity is first assessed by examining the construct correlations. Inter-construct correlations below |0.7| are generally considered to provide evidence of measure distinctness, and thus discriminant validity. None of the construct correlations are greater than 0.7, which demonstrates discriminant validity (See Table 5). One additional guideline for discriminant validity is that the square root of AVE for each construct should be greater than the correlation values of the construct with other constructs [7]. As reported in Table 5, all constructs across the samples met the guideline. Therefore, the discriminant validity criterion is also met.

Table 4 Component score coefficient matrix

	Masculinity	Uncertainty avoidance	Long-term orientation	Platform trust
MAS1	<i>0.648</i>	−0.069	−0.066	−0.182
MAS	<i>0.723</i>	−0.192	−0.003	−0.047
MAS3	<i>0.703</i>	−0.009	−0.034	0.088
UA1	0.143	<i>0.878</i>	−0.089	0.045
UA2	−0.084	<i>0.863</i>	−0.046	−0.052
UA3	−0.231	<i>0.842</i>	0.001	−0.079
LOT1	0.006	−0.048	<i>0.804</i>	0.034
LOT2	−0.072	−0.090	<i>0.729</i>	−0.001
LOT3	−0.069	−0.065	<i>0.689</i>	−0.010
TI1	−0.045	0.015	−0.082	<i>0.711</i>
TI2	−0.009	−0.112	0.007	<i>0.732</i>
TI3	−0.066	−0.060	0.030	<i>0.989</i>
TI4	−0.064	0.340	−0.196	<i>0.618</i>
AVE	0.508	0.742	0.551	0.6

The italicized values denote that the factor loading capacity of each item in its components is more than 0.6

Table 5 Results of discriminant validity and construct correlations

	1	2	3	4
Platform trust	0.77	0.57*	0.17*	−0.38*
Masculinity	0.57*	0.71	0.20*	0.40*
Long-term orientation	0.17*	0.17*	0.74	0.29*
Uncertainty avoidance	−0.41*	0.41*	0.35*	0.86

Square roots of AVEs are presented on the diagonal. Construct correlations are below the diagonal. Construct correlations corrected for common method bias are above the diagonal. * marks the significance levels

In summary, the measures of the proposed constructs achieve high reliability as well as convergent and discriminant validity.

4.4 Common method bias

Self-reported data collection and logical constructs of items lead naturally to variance in the measurement method [40]. Whereas this variance is commonly acknowledged, very few papers actually address it, despite the popularity of self-report survey method [56]. Given that we measure platform trust, masculinity, long-term orientation and uncertainty avoidance with information gathered from the same respondents, we must address the common method variance issue. We conducted a Harmon single-factor test [29], and it showed common method variance unlikely to be a concern. Table 5 shows the results of the adjustments, with zero-order correlations below the diagonal and adjusted correlations above it. This test indicates that our results do not show a

substantial bias due to common method variance. All relevant correlations remain significant after the correction.

5 Hypothesis testing

We conducted several Ordinary Least Squares (OLS) regression models to test the proposed hypotheses after averaging the indicators for each construct by using Stata version 16. There are many different categories of sellers and many different product types on the e-commerce platform. Our questionnaire included a question to ascertain the industry to which the online shop belongs and the category of products it sells. However, as illustrated by preliminary data analysis, the effect of the sellers’ industry type and product category on platform trust is not significant. From the online platform perspective, the online platform-based services provided by Taobao are characterized by standardization and proceduralization. Furthermore, the Taobao platform can also provide sellers with personalized, customized functions of online, independent, convenient and flexible links in differentiated services for different retailing patterns (e.g., marketing plans, combined strategy, and after-sale service). Based on these platform features and functions, although sellers have different retailing patterns, seller categories do not significantly affect the relationships between cultural factors and platform trust in our data analysis.

Therefore, in our models, we used seller categories as a control variable and selected a variety of variables to control for seller characteristics, including the trade transaction (*sale*), average per customer transaction (*pct*), shop star level (*star*) and time selling online (*history*). The detailed results are shown in Table 6.

- (1) The influence of three cultural factors on platform trust
 As shown for Model IV in Table 6, masculinity ($\beta = 0.214, p < 0.01$) and long-term orientation ($\beta = 0.354, p < 0.01$) have significant and positive effects on sellers’ platform trust, indicating that sellers with more masculinity or longer-term orientation are more likely to establish trust in e-business platforms and that long-term orientation exerts the stronger influence of the two. Therefore, H1 and H5 were supported. Our study also demonstrates that uncertainty avoidance has a negative effect on platform trust ($\beta = -0.031, p < 0.05$), indicating that when uncertainty avoidance from sellers is higher, they perceive higher risks and have stronger desire to shun risks, thereby making it more difficult to build trust in e-business platforms. H4 was supported.
- (2) Results for the hypothesized correlations among cultural factors

Table 6 Regression analysis and results

	Platform trust as dependent variable				Cultural factor as dependent variable	
	I	II	III	IV	Uncertainty avoidance	Long-term orientation
<i>Control variables</i>						
Sale	0.037**	0.026*	0.03**	0.029*		
Pct	-0.024	-0.027	-0.022	-0.024		
Star	-0.031	-0.033	-0.035*	-0.035*		
History	-0.051***	-0.044***	-0.043***	-0.04***		
<i>Main effects</i>						
Masculinity		0.262***	0.202***	0.214***	0.393***	0.172***
Long-term orientation			0.349***	0.354***	0.173***	
Uncertainty avoidance				-0.031**		
R ²	0.0074	0.0992	0.1862	0.188	0.12	0.052
Adjusted R ²	0.0057	0.0972	0.184	0.1855	0.119	0.052

*** $p < 0.01$, ** $p < 0.05$, and * $p < 0.1$

Masculinity had a positive effect on uncertainty avoidance, supporting H2 ($\beta = 0.393, p < 0.01$). This result shows that Taobao sellers who have stronger masculinity may emphasize risk avoidance. Furthermore, masculinity positively affected long-term orientation ($\beta = 0.172, p < 0.01$), supporting H3. For the long-term orientation factor, sellers with higher masculinity are likely to hold a conservative attitude regarding platform trust and will not easily change this attitude.

Long-term orientation had a positive effect on uncertainty avoidance ($\beta = 0.173, p = 0.01$), supporting H6. Those with a stronger long-term orientation are quite strong in their previous opinions and will not easily change; thus, they demonstrate high uncertainty avoidance.

6 Discussion

In the context of the C2C model, this empirical study explored the influence of cultural factors on e-commerce platform trust from a seller perspective and examined the interrelations among masculinity, uncertainty avoidance and long-term orientation. The conclusions are as follows:

- (1) Uncertainty avoidance negatively correlates with platform trust.

Uncertainty avoidance is a representation of setback tolerance. High setback acceptance means that individuals are not avoidant of uncertainty, thus making it easier to accept new things and to establish trust [47]. For all sellers, they tend to avoid an ambiguity situation. The finding in our study can be explained by the fact that sellers require a dependable and opera-

tionally efficient platform that enable them to manage their business and interact with their customers online effectively. Sellers with higher level of uncertainty avoidance are relatively less confident and tend to take less risks, while those with lower level of uncertainty avoidance feel themselves comfortable during using the e-commerce platform and are more willing to trust towards it [23, 28]. Therefore, the strong statistical support that we find for H4 does not only validate uncertainty avoidance negatively affects platform trust, but also supports the existing literature [14, 17]. Based on this result, for platform operators, it may be more efficient to classify online shops through measuring their uncertainty avoidance. After that, platform operators can provide online shops with differentiated information services and training about online business and marketing. This approach is conducive for e-business platforms to retain sellers and increase platform profits.

- (2) Masculinity positively correlates with platform trust, uncertainty avoidance, and a long-term orientation, among which its influence on uncertainty avoidance is more significant.

From the consumer' perspective, female consumers frequently make more purchases online than male consumers. However, female consumers value the utility of online shopping less than males do [4, 16, 25]. A possible reason for this difference may be that the group with masculine values usually accepts new factors more easily. This group's members are progressive, aggressive and encourage competition. E-business platforms such as Taobao are commonly used by small and micro start-ups. With the rapid development of the internet, masculine-oriented individuals are more inclined to

accept this new medium, and thus, masculinity positively influences platform trust.

Contrary to our hypothesis, masculinity positively influences uncertainty avoidance. One explanation is that e-business platform users with masculinity values more cautiously emphasize material results; another explanation may be the connection with small and micro-sellers' economic strength and risk tolerance. Our study only sampled online shops with fewer than five employees.

In addition, masculinity's positive influence on long-term orientation can be interpreted as sellers with higher masculine values having more ambition to make their shops increasingly larger.

- (3) Long-term orientation positively influences platform trust and uncertainty avoidance.

As a cultural factor signifying long-term development quality, long-term orientation emphasizes future planning and relationship development [18]. Therefore, sellers high in long-term orientation are more willing to believe in their e-business platform and grow with the platform. On the basis of the positive influence of long-term orientation on platform trust, platform constructors can utilize such users' high ambition to provide them with long-term operation planning and services. Moreover, the positive influence of the long-term orientation on uncertainty avoidance reflects that even though small and micro operators look for future growth, they fear the risks brought by uncertainty.

7 Theoretical and managerial implications

The overall objective of this study was to explore the direct influence of masculinity, uncertainty avoidance, and long-term orientation on sellers' trust in a global C2C e-business platform using Hofstede's cultural dimensions theory. The results from this study enrich the research on the role of cultural factors in e-business platform trust and fill the gap in research from the sellers' perspective.

This study's conclusion explains the cultural differences among seller groups in trusting an online platform. Platform operators such as Taobao may differentiate sellers whose operations reflect different cultural characteristics to find more valuable clients seeking long-term growth and provide more stable long-term value-added services and supportive policies. When an e-business platform helps sellers improve their operation and reduce operational risks, the long-term cooperation between sellers and the platform can be advanced.

8 Limitations and future research

Although we analyzed the impact of masculinity, uncertainty avoidance and long-term orientation on platform trust from a sellers' perspective, we acknowledge a few shortcomings of our study that provide opportunities for further research. First, this study only considered uncertainty avoidance, masculinity, and long-term orientation as drivers of platform trust. Future research can be extended to the other three cultural dimensions. Second, this paper analyzed the direct influence of cultural factors on platform trust. Previous studies showed that demographics exert a certain impact on the relationship between culture and consumers' behavior or intention. In the future, we can investigate the moderating effect of demographics (e.g., income, age, and education) on such relationships. Finally, this paper used a questionnaire survey method to investigate the direct effect of cultural factors on platform trust and ignored many interference factors. However, in real business, sellers' churn and platform trust may be affected by their perception of using e-commerce platforms. However, the differences in this perception depend on levels of cultural elements, such as uncertainty avoidance. The moderating effect may be considered in future research to further enrich the conclusions of this paper.

Appendix 1

Measure and Items

Sellers' trust towards e-commerce platform [55]

TRUST01 I believe the e-commerce platform is trustworthy.

TRUST02 I believe the e-commerce platform has enough ability to solve any problem during and after transactions.

TRUST03 I feel confident that encryption and other technological advances on the e-commerce platform make it safe for me to share private information.

TRUST04 I am willing to pay and continue using the e-commerce platform if the site requires a fee to use in the future.

Masculinity [19, 20, 22]

MA01 In work and life, I think men and women should have a clear division of labor and give full play to their strengths, instead of insisting that men and women are all the same.

MA02 In work and life, I believe that accomplishing tasks is more important than caring for others.

MA03 In work and life, I think men should be masculine and women should be feminine.

Uncertainty Avoidance [19, 20, 22]

UA01 It is important to have transaction instructions spelled out in detail so that sellers always know what they are expected to do.

UA02 Standard operating procedures are helpful to sellers during and after transactions.

UA03 Rules and regulations are important because they inform sellers what and how they do during and after transactions.

Long-term Orientation [19, 20, 22]

LO01 We believe that over the long run our relationship with the e-commerce platform will be profitable.

LO02 Maintaining a long-term relationship with the e-commerce platform is important to us.

LO03 We expect the e-commerce platform to be working with us for a long time.

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