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How Social Interaction Affects Purchase Intention in Social Commerce: A Cultural Perspective

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Abstract: In the context of social commerce, the influence of culture on consumers' behavior and attitude is more significant. This paper empirically analyzes the influence of social interaction (perceived risk, trust, and intimacy) on consumers' purchase intention in social commerce, and the antecedent effect of cultural dimensions (uncertainty avoidance and individualism/collectivism) on social interaction is also explored. Data were collected in China and France from consumers who had prior online shopping experience on social commerce websites. The results show that the impact of perceived risk on subsequent purchase intention in social commerce will be transferred by trust and intimacy to a certain extent. The intimacy between users contributes to trust-building, and both of their positive impacts on purchase intention would show distinct effects in different cultures. Besides, cultural dimensions are proved to have a significant effect on users' social interaction. Although high uncertainty avoidance brings perceived risk, it can promote subsequent trust-building. These findings help provide managerial insights for social commerce community to establish effective trust mechanism in a multicultural context.

Keywords: social commerce; purchase intension; cultural dimension; social interaction

1. Introduction

Social commerce is an emerging category of e-commerce based on social network services [1], and it is a user-centered business model which leverages frequent social interaction and massive user-generated content (UGC) to assist consumers in making purchase decisions. As a quickly emerged area of inquiry for both practitioners and researchers, social commerce is a potential paradigm shift in e-commerce [2], and its role in promoting the sustainability of business model has been widely recognized [1,3]. The increasingly intense commerce competition makes sustaining social commerce become a very challenging task [3]; thus transaction mechanism analysis in social commerce is of great significance to the sustainable development of such a business model. Among the transaction process, consumer's purchase intention is the premise of purchase behavior and it is also an important basis for enterprises to formulate market strategies. At present, the study of purchase intention in traditional e-commerce is relatively mature, and perceived risk and trust are considered as two main factors affecting purchase intention and sustainable transaction [4,5]. But the "sociality" characteristic of social commerce makes the influencing factors of purchase intention still a topic worth exploring.

Compared with traditional e-commerce, the relationship between consumers in social commerce is closer, and consumers have access to more information via social interaction. For example, users can interact frequently through product experience sharing, product recommendation, and community discussion. Previous studies have shown that such activities as user interaction and word-of-mouth communication in social networks can affect the subsequent purchase intention of users [6,7]. Therefore, social commerce is a combination of business activities and social activities. Social attribute is the

most essential characteristic that distinguishes social commerce from traditional e-commerce, and it is also the core factor to study the purchase intention of users in social commerce. Meanwhile, it should be noted that the network community will present different forms and characteristics in different cultures [8], and cultural factors will affect the behavior and attitude of e-commerce users to a large extent. Choi and Geistfeld [9] found that uncertainty avoidance in culture theory can affect users' perceived risk and ultimately purchase intention. Doney et al. [10] also supported that culture will influence the establishment of trust among users. Moreover, due to the prominent social attributes in social commerce, the communication between online users is significantly more frequent. Therefore, the impact of culture on social interaction is more obvious in the context of social commerce, and researches on consumers' purchase intention also need to consider the antecedent effect of cultural dimensions on social interaction. Based on large-scale research and theoretical comparison, Hofstede [11] proposed the famous cultural dimensions theory to measure cultural differences, in which "uncertainty avoidance" and "individualism/collectivism" were considered to have a significant impact on social interaction in e-commerce [12].

In view of the fact that the current researches on the purchase intention of social commerce have not fully revealed the social interaction mechanism and lack the consideration of the antecedent effect of cultural dimension on social interaction, we present the following research questions: (1) How social interaction affects consumers' purchase intention in social commerce? (2) How uncertainty avoidance and individualism/collectivism in cultural dimensions affect social commerce consumers' interaction?

In this paper, empirical analysis is conducted to study the influence of social interaction factors (perceived risk, trust, and intimacy) on the purchase intention of Chinese and French consumers, and we also explore the antecedent effect of cultural dimensions (uncertainty avoidance and individualism/collectivism) on social interaction. The results show that the impact of perceived risk on subsequent purchase intention in social commerce will be transferred by trust and intimacy to a certain extent. The intimacy between users contributes to trust-building, and both of their positive impacts on purchase intention would show distinct effects in different cultures. In addition, cultural dimension factors are proved to have a significant effect on users' social interaction. Although high uncertainty avoidance brings perceived risk, it can promote subsequent trust-building. These findings help provide managerial insights for social commerce community to establish effective trust mechanism in a multicultural context, especially for those cross-border platforms struggling with market entry dilemma.

2. Conceptual Background

2.1. Social Commerce

Social e-commerce has two characteristics—social media and business activities. Liang et al. [13] regarded social e-commerce as a scenario where social interaction and user-generated content were used to assist consumers in purchasing products or services. Curty and Zhang [14] divided 42 social factors existing in the famous e-commerce websites into 4 groups, and found that these social elements are helpful to improve user interaction and information exchange, thereby enhancing users' online shopping experience.

Different from traditional product-centered e-commerce, social commerce has been transformed into a new user-centered model that emphasizes user-centered and word-of-mouth marketing, and user participation in the shopping process is highlighted as well [15,16]. Due to the integration of social media, users' interpersonal relationships and communication process will have an impact on their shopping decisions, which is mainly reflected in the following aspects: (1) information authenticity—users are encouraged to share their shopping experience and interact with each other to make the shared information more authentic and credible [17]; (2) communication and interaction—social media is used to promote interaction between sellers and buyers, and between customers, and then consumers share and feed back information out of interests [6,7]; and (3) social identity—consumers will be connected for the same interests, and their purchasing decisions are easily influenced by their friends [18].

2.2. Social Interaction

Social interaction reflects the intrinsic demand of human life. Network platform and its interactive function provide a place for like-minded people to communicate, and create commercial or social values through the web. Currently, more and more e-commerce platforms (e.g., Facebook and Instagram) are integrating the network community into the profit model. Studying the interaction mechanism in social commerce community is positively significant to the sustainable development of e-commerce.

According to social interaction theory, social interaction is the motivation of behavior. Stephen et al. [19] hold that in the social commerce environment, the sellers who benefit most are not necessarily those who are in the network center, but those who have access to more users. Because of the clustering effect of community users' characteristics and behaviors, their purchase behaviors are likely to be affected by the surrounding friends [15] and the retail platforms [20].

In the field of e-commerce, the researches on the intrinsic psychological mechanism that dominates consumer's purchase intention still focus on trust and perceived risk. However, in the context of "social interaction" of social commerce, how consumer's purchase intention is affected by perceived risk and trust still needs further study. Social commerce provides users with rich user-generated contents and various ways of interaction, which maximizes the effectiveness of word-of-mouth marketing in such environment. In addition, user's acceptance of interactive content (e.g., product recommendation, user experience, etc.) depends on the intimacy between users. Generally speaking, users tend to interact more frequently with friends of stronger relationships and are more receptive to their viewpoints [13].

(1) Intimacy

Lee et al. [21] define intimacy as the degree of closeness, which refers to a kind of intimate feeling and emotional connection, including liking and spiritual support. In this paper, intimacy is defined as the emotional connection with friends, including the degree of interaction and psychological support.

(2) Perceived risk

Risk represents the uncertainties in the process of decision-making. In general, consumers would take risks during online shopping, because when considering whether to buy a product or service, they cannot anticipate the result of the purchase [22].

(3) Trust

Marketing expert Morgan (1994) [23] defines trust as cooperation between two parties, in which one party has sufficient confidence in the reliability and fidelity of the other. Considering the features of online shopping websites, this paper regards the trust as consumers' confidence in the platform and other users. There are two main types of research on trust-building: one is antecedent research, which mainly discusses the factors of trust those affecting interpersonal relationships [24], and the other is mechanism research, which theoretically analyzes that trust can be explained by certain laws. Since the results of antecedent studies are different, and it is difficult to define trust accurately, this paper will adopt the method of mechanism study. The most recognized trust-building mechanism models include three types: user-based model, interaction process model and social system-based model. This paper adopts the interaction process mechanism for the following reasons: Trust comes from past interactions and experiences, and it develops as the relationship matures [25]. Besides, the interaction between users is more frequent and diversified in social commerce, and interaction process contributes to trust-building.

2.3. Cultural Theory

Psychologist Hofstede compares culture to the "mental programs" of human beings, i.e., the internal feeling, thoughts, and possible behavioral patterns of individuals, and this "mental programs" can distinguish the different collective thoughts of members of one group from those of another group. Based on interviews and questionnaires, Hofstede proposes six dimensions to measure cultural differences: power distance, individualism/collectivism, masculinity/femininity, uncertainty

avoidance, long-term/short-term orientation, and indulgence/self-restraint [11]. Among which uncertainty avoidance represents the threat individuals or organizations feel when facing uncertainty, and attempt to avoid uncertainty by establishing safety rules; individualism/collectivism is used to measure whether the social culture emphasizes individual interests or collective interests.

Considering that uncertainty avoidance and individualism/collectivism have more important effects on consumers' behavior and willingness in the context of social commerce, we choose these two dimensions to explore the impact of culture on social interaction.

3. Research Model and Hypotheses

3.1. Variable Selection

As mentioned above, perceived risk and trust are considered as two main factors affecting purchase intention, and intimacy among social commerce users determines the degree of acceptance of shared contents. So we choose the variables of intimacy, perceived risk, and trust in social interaction to study their influence on purchase intention.

Besides, users' perception of risk, mutual trust, and intimacy will be influenced by their cultural background [9,10,26]. Thus, we choose two dimensions of individualism/collectivism and uncertainty avoidance to explore the impact of culture on social interaction in social-commerce platforms. The reasons are as follows: First, individualism/collectivism can affect consumers' subjective standards and opinion recognition [27]. In collectivism-dominated culture, consumers tend to take other's opinions into account when making decisions, and often pay more attention to social recognition and acceptance, while individualists concentrate more on the achievement of personal goals and the independence of decision-making. Second, uncertainty avoidance can affect purchase intention from two aspects: external environment and internal motivation. From the external environment, the higher the uncertainty avoidance index, the more security measures people will take to avoid uncertainties, such as improving the network payment system and formulating relevant laws and regulations. Otherwise, people will be more tolerant of unconventional opinions and behaviors. In the absence of norms, consumers would feel that the security of shopping environment is not guaranteed, thus reducing trust in platforms and sellers. From the perspective of internal motivation, uncertainty avoidance, as a psychological dimension of culture, will affect one's attitude, intention, and behavior during the cognitive process.

3.2. Hypotheses

3.2.1. Perceived Risk

Because of the difference between online shopping and traditional shopping, consumers' perceived risk in e-commerce is also different. Jarvenpaa et al. propose that consumers' adaptability to the online shopping environment and their ability to operate computers are one of the factors affecting perceived risk [12]. Caudill and Murphy [28] show that privacy protection is a risk that online consumers care about. For example, they worry that personal information such as contact information, bank card number, and so on will be illegally used or sold. Therefore, the increase of perceived risk will have an impact on consumers' willingness to shop online. Some scholars also connect consumers' perceived risk with their willingness to buy. In Oghazi's study [29], privacy disclosure and security risk are viewed as the main causes of perceived risk and the biggest obstacle to consumers' online shopping. In the field of Internet finance [30] and tourism services [31], scholars also come to the conclusion that perceived risk has a negative impact on purchase intention.

However, in social commerce, consumers' purchase decisions are also affected by social interaction and other factors such as intimacy and trust. The negative impact of perceived risk on purchase intention under traditional e-commerce may be moderated by trust and intimacy in social commerce. Accordingly,

the following hypotheses are proposed to verify whether perceived risk still has a significant impact on purchase intention in social commerce:

Hypothesis 1. *The higher a social-commerce user's perceived risk is, the lower the subsequent purchase intention is.*

3.2.2. Trust

Trust is an important factor in social networks, and the level of interpersonal trust will affect the individual intention and the reception of information [32]. Sellers usually have more information about their products, which makes consumers suffer information asymmetry. In addition, suspicions generated in the trading process would also hinder consumers' willingness to pay. Therefore, trust can reduce online consumers' doubts about the uncertainty of transactions, and can also reduce the complexity of communication with sellers, thus promoting the success of transactions [17].

Moreover, the trust impact on decision-making still exists under different product attributes. Generally speaking, for more specialized products (e.g., computers, cameras, etc.), consumers prefer the views of authoritative institutions and experts. As for commodities, consumers are vulnerable to the influence of relatives, friends, and product reviews. Whether they are experts, friends, or online reviews, consumers have varying degrees of trust in them. Similarly, if a user has a good sense of trust in a social commerce community, he is more likely to shop online [32]. It can be concluded that the sense of trust in the network community has a significant impact on users' decision-making. Thus, we expect that

Hypothesis 2. *The level of trust in social commerce has a positive impact on users' purchase intention.*

3.2.3. Intimacy

Product recommendation in social network can improve the authenticity and credibility of information, and consumers' purchase intention will also be affected by friends. In order to verify the aggregation effect of users' characteristics and behaviors in social networks, Bapna and Umyarov [18] adopt regression model to analyze how friends affect users' behavior, and the results show that the fewer friends a user have, the more likely he is to adopt friends' opinions. The number of friends of different sizes may lead to different intimacy relationships, so we speculate that intimacy will affect the purchase intention.

In view of the influence of intimacy on purchase intention, Liang et al. [13] conducted the empirical analysis and found that the degree of intimacy between users has a significant impact on the information effect. Actually, close relationships among community members would certainly increase the frequency of information exchange. The deeper the exchange, the more likely consumers will accept the views of their friends. Park et al. [33] further analyzed the impact of social relationships on purchase intention from the perspective of social network structure characteristics, and the results showed that relationship intensity, network density, and network centrality could enhance users' emotional participation and cognitive participation in social services, thereby enhancing their willingness to buy products recommended by friends. Therefore, in social networks with strong relationships, word-of-mouth information recommended by friends can have a greater impact on consumers' purchase. From the above discussion, Hypothesis 3 is developed:

Hypothesis 3. *The intimacy among users in social commerce helps to increase subsequent purchasing intension.*

Besides, product recommendation can improve the authenticity and credibility of information because it is influenced by intimacy. According to the research of Hajli et al. [34], there is a great relationship between the intimacy and trust among users. Shanmuga et al. [17] inspected the influence factors of community trust and found that emotional support factors help to build trust among

community users, thus improving the level of users' trust in participating in community activities. Also, this trust in friends will evolve into trust in the entire community and even the platform. NG [35] argues that online interaction promotes trust in close friends, which in turn leads to a sense of trust in the community as a whole. Because the intimacy helps users feel a sense of security and belonging, users will be more confident in the information shared by friends. Thus, we hypothesize the following:

Hypothesis 4. *The intimacy of members in social commerce helps to enhance the level of trust built among them.*

3.2.4. Uncertainty Avoidance

According to Hofstede's cultural dimensions theory, cultural differences are the main reasons for different human behaviors [36]. Uncertainty avoidance refers to the degree of fear people feel when facing uncertainty, and people with high uncertainty avoidance index are more alert to unknown things. Javenpaa et al. [37] proposed that high uncertainty avoidance will increase users' perceived risk. Chakraborty et al. [38] also showed that perceived risk is a factor affecting individual decision-making, and it is related with the culture background, especially uncertainty avoidance. However, with the addition of social interaction factors, the impact of uncertainty avoidance on perceived risk in social commerce needs further analysis. In a culture of high index of uncertainty avoidance, people are cautious about unknown things and may perceive relatively high risks.

In addition, some scholars have studied the influence of uncertainty avoidance on trust: in high uncertainty avoidance environment, people have a very low tolerance for ambiguous things, which will make them feel distrustful of new ideas and strange behaviors [39]. However, Doney et al. [10] argue that uncertainty avoidance has a positive impact on trust-building. For uncertainty-avoidance users, the level of trust they build subsequently is higher after clearing up the original doubts. In view of the paradox of the relationship between uncertainty avoidance and trust, and the fact that few attention has been paid to explore the impact of uncertainty avoidance on perceived risk and trust in social commerce, the following hypotheses are proposed:

Hypothesis 5. *Higher index of uncertainty avoidance will increase users' perceived risk in social commerce.*

Hypothesis 6. *Higher index of uncertainty avoidance will enhance the level of trust-building in social commerce.*

3.2.5. Individualism/Collectivism

In cultures with high levels of individualism, people tend to have fewer connections; while in cultures of collectivism, people show more interaction. People in collectivism culture are more influenced by other people's opinions, and they are more involved in others' lives [40]. In contrast, people who tend to be individualistic will pay less attention to other people's opinions. As presented by Arpaci et al. [41], people in individualism culture try to meet their personal goals when considering relevant attributes, alternatives, and resources; on the contrary, collectivists tend to emphasize emotions and social acceptance in making decisions. In social commerce, as user participation and interaction serve as the core functions in shopping process, the culture dimension of individualism/collectivism will significantly affect user intimacy to further influence user behavior. So we have Hypotheses 7:

Hypothesis 7. *Individualism culture has negative impact on intimacy between users in social commerce.*

Figure 1 presents the conceptual framework and hypotheses of this study.
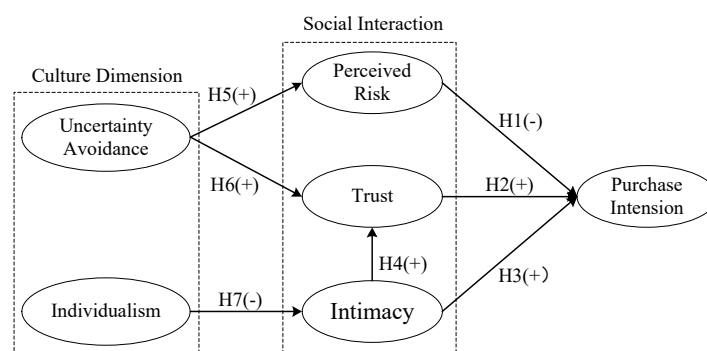
Figure 1. Conceptual framework and hypotheses.

4. Research Methodology

4.1. Measurement

Survey methodology was used to test our research model, and there are six constructs: perceived risk, trust, intimacy, uncertainty avoidance, individualism/collectivism, and purchase intension. In order to ensure the reliability and validity of the constructs, we refer to the existing measurement and scales as far as possible, and modify the questions according to actual needs. The survey consisted of three parts: cultural dimension, social interaction, and purchase intension. All of the items were measured on 7-point Likert-type scale. Pre-survey is adopted to improve the survey quality, and the survey also describes the scenarios of social commerce. The detailed measurement items of the constructs are presented in Table 1.

Table 1. Items of constructs in the proposed model.

Dimension	Construct	Measurement Items (Number)	Source
Culture	Uncertainty avoidance	It is important to work in an environment where responsibilities and requirements are clear (UA_1).	[42]
		Compliance with organizational rules is important, even if it brings more benefits for the organization (UA_2).	
		Long-term employment security is important (UA_3).	
	Individualism/collectivism	Leaving enough time for individual or for family is very important (ID_1).	[43,44]
		Engaging in challenging work that has a sense of personal achievement is very important (ID_2).	
		Working in a large and prestigious organization is very important (ID_3).	
		Making a real contribution to the success of my organization is very important (ID_4).	
Social interaction	Perceived risk	I'm worried about the quality of the product and the situation that I might buy fake goods (PR_1).	[30,31,45]
		Commodities may be damaged in transit (PR_2).	
		My personal information may be leaked (PR_3).	
		After-sales service may not be guaranteed (PR_4).	
	Trust	I think most of the businesses in social e-commerce have good reputation (TR_1).	[12,24,31]
		Existing laws and systems can effectively guarantee the security of online transactions (TR_2).	
		I think the website and payment system are reliable and can guarantee the success of the transaction (TR_3).	
		Business credit rating is the main criterion for judging their credibility (TR_4).	
		I think the friends on this website are trustworthy (TR_5).	
	Intimacy	On this website, my friends and I have a very cordial feeling (CL_1).	[13]
		On this website, I feel very close to my friends (CL_2).	
		On this website, I interact with my friends frequently (CL_3).	

Table 1. *Cont.*

Dimension	Construct	Measurement Items (Number)	Source
Purchase	Purchase intension	I'd probably think about shopping on social commerce websites (PI_1).	[13,45]
		If I need a product, I would like to buy it on social commerce websites (PI_2).	

4.2. Participants and Data Collection

Data were collected from social commerce users in China first. Since the model involves cultural dimensions, and different countries have different cultural characteristics, we further issued questionnaires in France to explore the influence of social interaction on purchase intention under different cultural backgrounds. There are obvious differences between French and Chinese culture in terms of uncertainty avoidance and individualism/collectivism.

4.2.1. Cultural Differences between China and France

Figure 2 shows the latest cultural dimension index comparison between China and France, and the data comes from the "Country Comparison" section on the website of "Hofstede Insights" (https://www.hofstede-insights.com/country-comparison). It can be seen that Chinese culture is more like collectivism while French culture belongs more to individualism, and China has a lower index of uncertainty avoidance than France.
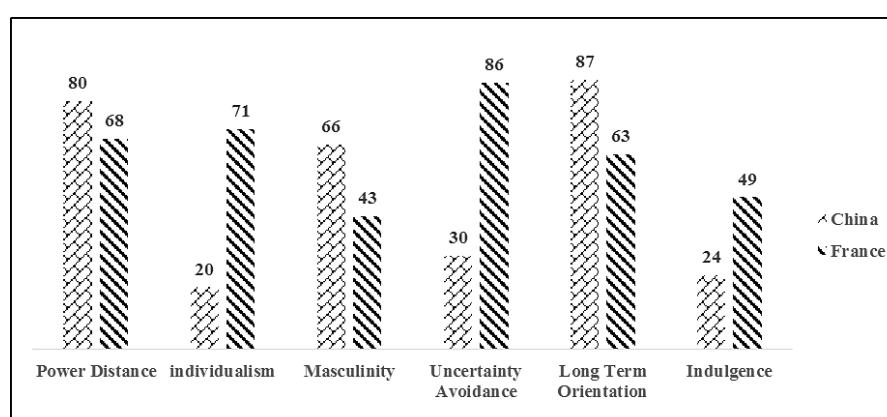

Figure 2. Contrast of cultural dimensions between China and France.

The differences in uncertainty avoidance between the two countries can be explained by the differences between Chinese and French culture since ancient times. When Chinese encounter uncertainties, they hold such attitudes as "What must be, must be", and they are more accepting and adapting to the vagueness of social relations. But the French are more inclined to take a rational attitude towards unknown and uncertain risks and try their best to eliminate the impact of uncertainty on life.

The differences in individualism/collectivism between the two countries are mainly due to the differences in social environment between China and France. The collective life of farming economy has gradually formed the collectivism form of Chinese culture. In order to maintain the coordinated development in a same region, the relationship between families and between individuals and countries has been given great importance. The French culture, in the contrast, emphasizes more on individual independence and personal privacy in social activities.

Considering that the gap of individualism or collectivism was reflected at the national level and it was more meaningful when compared with other countries, we were of the opinion that there were obvious differences between China and France in the dimension of uncertainty avoidance and

individualism/collectivism, and selected the social commerce users in these two countries as the research object.

4.2.2. Data Collection

The questionnaires were randomly sent out in China and France. To ensure the consistency of the contents in both languages, we conducted a "back translation" of the questionnaire before sending. Since the professional platform ("Sojump") for filling out questionnaires was very popular in China, the Chinese questionnaires were posted online and were disseminated through social media or e-mail. In France, the questionnaires were sent out online and offline by one of the authors: after sharing links through Facebook, e-mail, and LinkedIn, the questionnaires were distributed manually in stores, libraries, and other places where people gathered by being paid for cooperation with relevant institutions. Offline distribution in France is mainly aimed at broadening the respondents for the reason that we are not natives. In addition, in view of the frequent population movements in Europe, an item "Are you French?" were added to French questionnaires to prevent foreign samples from interfering with the data validity.

5. Data Analysis and Results

A total of 558 questionnaires were collected, in which 518 were valid. The following three types were considered as invalid questionnaires: (1) the answer time is less than one minute; (2) respondents who have never experienced social commerce; (3) and extreme answers such as always choose "totally disagree" or "totally agree".

5.1. Demographic Statistics

Among 518 valid questionnaires, there were 291 Chinese users and 227 French users. The number of male and female respondents was approximately the same. Because social commerce is popular among young people, the age of respondents is mainly between 18 and 37 years old, accounting for 74% of the total. Most of the respondents had a bachelor degree or above. Table 2 gives the detailed demographic information, and descriptive statistics results are shown in Table 3.

Table 2. Demographic description.

Items		China		France		Total	
		Frequency	**%**	**Frequency**	**%**	**Frequency**	**%**
Gender	Female	134	46.1	117	51.6	251	48.5
	Male	157	54.0	110	48.5	267	51.5
Age	18–27	101	34.7	184	81.1	285	55.0
	28–37	98	33.7	32	14.1	130	25.1
	37+	92	31.6	11	4.8	103	19.9
Education level	High School or below	27	9.3	0	0.0	27	5.2
	Bachelors	113	38.9	58	25.6	171	33.0
	Masters or above	151	51.9	169	74.5	320	61.8
	Total	291	56.2	227	43.8	518	100.0

Table 3. Descriptive statistics.

Constructs	Item	China				France			
		Min	Max	Mean	STD	Min	Max	Mean	STD
Uncertainty avoidance	UA_1	1	7	5.51	1.22	1	7	5.96	0.81
	UA_2	1	7	4.93	1.55	1	7	5.12	0.87
	UA_3	1	7	4.91	1.31	1	7	5.68	0.95
Individualism/collectivism	ID_1	1	7	5.16	1.18	1	7	5.93	0.84
	ID_2	1	7	5.00	1.27	1	7	5.80	0.86
	ID_3	1	7	4.77	1.46	1	7	5.37	0.99
	ID_4	1	7	4.92	1.19	1	7	5.90	0.93
Perceived risk	PR_1	1	7	4.08	1.59	1	7	5.10	0.90
	PR_2	1	7	5.52	1.54	1	7	5.17	0.92
	PR_3	1	7	4.54	1.59	1	7	4.93	0.87
	PR_4	1	7	5.74	1.48	1	7	5.08	0.85
	PR_5	1	7	5.00	1.62	1	7	5.05	0.97
Intimacy	CL_1	1	7	3.89	1.46	1	7	4.74	0.85
	CL_2	1	7	3.93	1.46	1	7	4.62	0.97
	CL_3	1	7	3.38	1.57	1	7	4.50	0.98
Trust	TR_1	1	7	4.11	1.40	1	7	4.79	0.96
	TR_2	1	7	3.64	1.58	1	7	4.79	0.90
	TR_3	1	7	4.96	1.51	1	7	4.81	0.92
	TR_4	1	7	4.82	1.50	1	7	5.02	0.73
	TR_5	1	7	4.25	1.47	1	7	4.81	0.74
Purchase intension	PI_1	1	7	4.65	1.59	1	7	4.75	0.91
	PI_2	1	7	4.62	1.64	1	7	4.45	1.09

5.2. Reliability Assessment

The reliability of internal consistency was tested using Cronbach's alpha and composite reliability (CR), which measured the reliability, and they should be higher than the minimum cutoff score of 0.7. The result of reliability analysis shows that the Cronbach's alpha and composite reliability of the six variables involved in the questionnaire are greater than 0.7, and the F test results are significant (see Table 4). This means the measurements are reliable, and the factors measured the constructs consistently.

Table 4. Reliability analysis.

Constructs	Item	Corrected Item–Total Correlation	Cronbach's α after Removing This Item	Cronbach's α	CR	F-Test	AVE
Uncertainty avoidance	UA_1	0.416	0.539				
	UA_2	0.384	0.589	0.718	0.905	71.639 ***	0.534
	UA_3	0.491	0.422				
Individualism/collectivism	ID_1	0.382	0.658				
	ID_2	0.509	0.579	0.777	0.930	23.460 ***	0.503
	ID_3	0.367	0.678				
	ID_4	0.600	0.516				
Intimacy	CL_1	0.766	0.762				
	CL_2	0.760	0.767	0.855	0.957	39.600 ***	0.695
	CL_3	0.663	0.863				
Trust	TR_1	0.523	0.645				
	TR_2	0.530	0.641				
	TR_3	0.466	0.668	0.714	0.870	49.562 ***	0.507
	TR_4	0.381	0.700				
	TR_5	0.461	0.671				
Perceived risk	PR_1	0.505	0.657				
	PR_2	0.510	0.654				
	PR_3	0.503	0.658	0.718	0.917	54.980 ***	0.539
	PR_4	0.657	0.657				
Purchase intension	PI_1	0.680	–	0.809	0.938	9.810 *	0.686
	PI_2	0.680	–				

Notes: *** $p < 0.01$, * $p < 0.1$.

5.3. Validity Assessment

The measurement model's validity was evaluated by examining content validity and construct validity. Content validity is a subjective evaluation index. Our questionnaire has used the existing literature and theories for reference, and the most items were adjusted according to experts' advice and the attributes of social commerce.

Construct validity was tested using the subcategories of convergent validity and discriminant validity. Convergent validity was assessed by examining the Cronbach's alpha (>0.7), composite reliability (>0.7), average extracted variance (AVE) (>0.5), and factor analysis [46]. Table 4 shows that the values of CA, CR, and AVE for each model construct satisfy the thresholds.

In factor analysis method, KMO test and Bartlett's test of sphericity were conducted first. Then exploratory analysis was carried out by using Varimax orthogonal rotation to extract factors with eigenvalues greater than 1. Generally, the original variables is suitable for factor analysis when KMO-value are greater than 0.7.

In the validity test of cultural dimension, the KMO-value was 0.781 and the Bartlett's test of sphericity coefficient was 818.469 at the 0.000 significance level, which meant the measurements of cultural dimensions were reliable and could be used for factor analysis. Then, the varimax method was applied to rotate the scale to extract the factor whose eigenvalue is greater than 1. Two factors were obtained, which were consistent with the theoretical model. The cumulative contribution rate of these two factors was 56.74%, which had a good factor interpretation rate (see Table 5). After orthogonal rotation, the loading matrix of each factor was obtained (see Table 6).

The data in Table 6 shows that all indicators load more strongly on their corresponding constructs than on other constructs in the model, which suggests sufficient convergent validity and discriminant validity of the model constructs. Similarly, for the validity test of social interaction variables and dependent variables (purchase intention), the KMO-value and Bartlett's test of sphericity coefficient conformed to the requirements. Table 7 is the factor loading matrix of social interaction variables, and the dependent variable does not rotate because it has only one factor.

Factor loading is an alternative to test convergent validity and discriminant validity [5]. Besides, discriminant validity was also assessed by comparing the construct AVEs with inter-construct correlations. The results in Table 8 also show that the square root of AVE is larger than the corresponding inter-construct correlations. Thus, the model constructs demonstrate sufficient discriminant validity. Also, we do not observe high correlations among predictors in the table, indicating the absence of multicollinearity.

Table 5. Total Variance Explained.

Constructs	Factor	Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
		Total	% of Explained variance	Cumulative %	Total	% of Explained Variance	Cumulative %
Cultural dimension	1	2.951	42.158	42.158	2.036	29.090	29.090
	2	1.021	14.582	56.740	1.935	27.650	56.740
Social interaction	1	3.876	32.299	32.299	3.065	25.540	25.540
	2	2.183	18.192	50.492	2.205	18.375	43.914
	3	1.069	8.905	59.397	1.858	15.483	59.397
Purchase intension	1	1.680	84.009	84.009	1.680	84.009	84.009

Notes: Extracting factors with eigenvalues greater than 1.

Table 6. Exploratory factor analysis results of cultural dimension.

Item	Factor Loading	
	F1	**F2**
ID_1	**0.608**	0.361
ID_2	**0.794**	0.090
ID_3	**0.609**	0.180
ID_4	**0.800**	0.215
UA_1	0.415	**0.660**
UA_2	−0.077	**0.779**
UA_3	0.293	**0.748**

Table 7. Exploratory factor analysis results of social interaction.

Item	Factor Loading		
	F1	**F2**	**F3**
PR_1	−0.107	**0.723**	−0.022
PR_2	0.148	**0.747**	0.004
PR_3	−0.198	**0.725**	0.134
PR_4	0.057	**0.741**	−0.131
TR_1	0.293	0.064	**0.722**
TR_2	0.403	−0.108	**0.705**
TR_3	0.108	−0.045	**0.815**
TR_4	0.424	0.127	**0.622**
TR_5	0.238	−0.093	**0.682**
CL_1	**0.860**	−0.081	0.196
CL_2	**0.827**	−0.029	0.258
CL_3	**0.813**	0.017	0.074

Table 8. Correlations.

	1	2	3	4	5	6
1. Uncertainty avoidance	0.731					
2. Individualism/collectivism	0.536	0.709				
3. Perceived risk	0.279 **	0.305	0.734			
4. Trust	0.238 **	0.102	−0.046	0.712		
5. Intimacy	0.131	−0.503 *	−0.063	0.624 **	0.834	
6. Purchase intension	0.265 **	0.184 **	−0.109 *	0.430 **	0.429 **	0.828

Notes: Diagonal elements are the square root of average variance extracted (AVE). ** $p < 0.01$, * $p < 0.05$.

5.4. Results of Hypotheses Testing

We tested our hypotheses using Structured Equation Modeling (SEM) technique, because SEM can simultaneously analyze all paths with latent variables in one analysis [47]. Samples from China and France were analyzed. Table 9 presents the results of model fit. The results show good fit of the model with data CMIN/DF < 3, Good Fit Index (GFI), Comparative Fit Index (CFI), Normed Fit Index (NFI), Tucker–Lewis Index (TLI), and Adjusted Goodness of Fit Index (AGFI) to be greater than 0.9. In addition, the root mean square error (RMSEA) is less than 0.08.

Table 9. Results of model fit.

	CMIN/DF	RMSEA	GFI	CFI	NFI	TLI	AGFI
China	1.958	0.067	0.925	0.944	0.938	0.929	0.942
France	1.848	0.078	0.910	0.915	0.920	0.912	0.937

Tables 10 and 11 report the results of proposed hypotheses in China and France, respectively. As hypothesized, H2, H3, H4, H5, and H6 are all supported in both China and France. However, Hypothesis 1 does not pass the significance test. In group China, although the influence in Hypothesis 7 is significant, the path coefficient is positive, that is, individualism is positively related to intimacy, which is contrary to the original hypothesis. Hypothesis 7 is not supported in group France because of low-level significance.

Table 10. Results of hypotheses testing in the group of China.

Hypothesis	Path	Coefficient	*p*-Value	Supported?
H1	Perceived risk → purchase intension	−0.182	0.125	No
H2	Trust → purchase intension	0.764	**	Yes
H3	Intimacy → purchase intension	0.278	**	Yes
H4	Intimacy → trust	0.536	***	Yes
H5	Uncertainty avoidance → perceived risk	0.579	***	Yes
H6	Uncertainty avoidance → trust	0.326	**	Yes
H7	Individualism → intimacy	0.629	**	No

Notes: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; and sample size, 291.

Table 11. Results of hypotheses testing in the group of France.

Hypothesis	Path	Coefficient	*p*-Value	Supported?
H1	Perceived risk → purchase intension	−0.052	0.219	No
H2	Trust → purchase intension	0.324	*	Yes
H3	Intimacy → purchase intension	0.926	**	Yes
H4	Intimacy → trust	0.907	***	Yes
H5	Uncertainty avoidance → perceived risk	0.531	**	Yes
H6	Uncertainty avoidance → trust	0.582	*	Yes
H7	Individualism → intimacy	−0.139	0.228	No

Notes: *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; and sample size, 227.

6. Discussion

The purpose of this study is to investigate the influence of social interaction on purchase intention and the antecedent effect of cultural dimensions on social interaction by comparing Chinese and French groups. Furthermore, we discuss the conclusion of every hypothesis one by one in the following.

6.1. The Impact of Social Interaction on Purchase Intention

Hypothesis 1 is not supported both in China and France group, which indicates that there is no significant correlation between perceived risk and purchase intention of users in social commerce. Although some scholars [48,49] have found that perceived risk of users in traditional e-commerce can significantly affect purchase intention, shopping environment of social commerce will is much more complex because user interaction and information exchange will affect purchase intention as well. To some extent, the influence of perceived risk on purchase intention may be transferred by trust and intimacy. For example, given that a user is not familiar with a website and is worried about the risks, he may give up buying in traditional e-commerce scenario. But if the user has integrated into the community to create a sense of trust, or interact with other users frequently, the trust and intimacy perceived will weaken his suspicions about the purchase risk, and even generate the purchase intention. In social commerce, perceived risk may have less impact on purchase intention than trust and social relations. Farivar et al. [50] state that trust toward the site members indirectly increases purchasing intentions, and the trust also reduces perceived commerce risk. Through a rigorous and quantitative meta-analysis, Wang et al. [51] found that trust had a stronger effect on individual behavior than risk in social media platforms.

The test result of Hypothesis 2 shows that users' trust in sellers or other users in social commerce can significantly affect their subsequent purchase intention, which is consistent with the findings in traditional e-commerce [17,33]. The path coefficient of trust on purchase intention under Chinese culture is twice as that of France, which may be related to the fact that French consumers prefer rational consumption. Comparatively, Chinese consumers' long-term strengthened trust in the social community will drive their willingness to buy in the community. A reasonable explanation is that China's social commerce shopping platforms are more diverse, and the management level and regulations are uneven, which may lead to users' difficulty in making accurate judgments, so users generally have a lower (compared with French) sense of trust in the platform. In the absence of trust, if a social commerce platform can stand out and fully win the trust of users (including friend trust, business trust, and platform trust), the consequent purchase intention increment will be significant.

Hypothesis 3 reveals the importance of social interaction among users in social e-commerce to purchase intention, which is in accordance with [13,52]. Word-of-mouth recommendation among friends is one of the core drivers of consumer behavior in this business model. Besides, the purchase intention of French users is more affected by friends' intimacy than that of Chinese users. Although France is a country of individualism culture and has relatively loose interpersonal relations, this does not mean that French users are less susceptible to the opinions of community friends. As indicated in [18], the fewer the number of a user's friends, the more likely he is to adopt their opinions. Therefore, for French consumers with loose social relations, close friends in online communities are valuable resources to assist shopping decisions and avoid perceived risks.

H4 discussed the relationship between social intimacy and trust. The results show that the intimacy between community members in both cultures has a positive impact on trust between them, which is also verified in [52]. Compared with Chinese culture, the trust between French users is more affected by intimacy, which is similar to Hypothesis 3 and also reflects the prominent influence of intimacy in individualism culture.

6.2. The Impact of Culture Dimension on Social Interaction

According to the result of Hypothesis 5, the higher uncertainty avoidance of social commerce users will lead to the increase of perceived risk in the context of both Chinese and French culture, which is consistent with that of traditional e-commerce. Additionally, Hypothesis 6 verifies that uncertainty avoidance has a positive impact on subsequent trust-building in both cultures. Downey's research [10] may be applied to explain this phenomenon: after eliminating the worrying factors, users with higher degree of uncertainty avoidance will build higher trust in the future. The conclusion of Hypothesis 6 further complements the previous debate [10,39] about the effect of uncertainty avoidance on trust.

Hypothesis 7 concludes that the degree of individualism has a significant impact on the user intimacy in Chinese social commerce, but not in France. In Chinese group, individualism, contrary to expectation, leads to a higher degree of intimacy among consumers. One possibility is that intimacy is more important in individualistic than in collectivistic crowds [53]. The scarcity of intimacy for individualists makes the individualistic users treasure their social relations in online community. This finding reflects the complexity and contradiction of the characteristics of social commerce users. Nowadays, consumers are getting rid of their traditional persona settings, and there is a trend of mutual influence of consumption concepts. A joint study by Ali Research Institute and Boston Consulting finds that the sales growth of male cosmetic products is 1.5 times that of overall cosmetics, and consumers over 40 years of age are buying more high-end outdoor goods than the average of other age groups. In modern urban society, there is a group of people who have many social activities because of their occupation and other reasons, but they are eager to be alone in their hearts. The majority of people with such characteristics are younger generation, and they are the main users of social commerce. These social phenomena provide a realistic explanation for Hypothesis 7.

6.3. Key Findings

In summary, the key results of this research are that the impact of perceived risk on subsequent purchase intention in social commerce will be transferred by trust and intimacy to a certain extent. That is to say, perceived risk may have less effect on purchase intention than trust and social relations in social commerce. Besides, the intimacy between users contributes to trust-building, and both of their positive impacts on purchase intention would show distinct effects in different cultures. The influence of trust on Chinese users' purchase intention is more obvious, while intimacy can stimulate French users' purchase intention more. This may be related to the general lack of trust in the platform among Chinese users and the relatively loose interpersonal relationships among French consumers. This shows that scarce resources (trust for Chinese users, and intimacy for French users) play a more important role in decision-making. Moreover, cultural dimensions are proved to have a significant effect on users' social interaction. Although high uncertainty avoidance brings perceived risk, it can promote subsequent trust-building.

7. Conclusions

Based on the social interaction theory and Hofstede's cultural dimensions theory, this paper studies how social interaction affects consumers' purchase intention, and explores the antecedent impact of cultural dimensions on social interaction.

7.1. Theoretical Contributions

The contribution of this paper is twofold. First, we incorporate risk perception, trust, and intimacy into the research model, and find that social interaction has different effects on users' purchase intention in different cultures, which further complements the research on purchase intention in social commerce. Second, based on the cultural dimensions of uncertainty avoidance and individualism/collectivism, we explore the influence of cultural dimension on social interaction, which helps to explain the current debate in cultural dimension research, such as whether high index of uncertainty avoidance will hinder the trust-building.

7.2. Practical Implications

For one thing, in view of the core role of social interaction in social commerce, managers should direct users' attention to social functions, such as creating common topics, creating interest-based communities, and creating more interesting ways of content sharing, and finally to enhance consumer stickiness. Meanwhile, the involvement of social relationship helps to solve the difficult problem of trust-building between buyers and sellers in e-commerce. Behind social interaction is the trust value of the whole platform, and trust is the catalyst of platform transactions. In [3], the constant comparison analysis also suggests that trust is the essence for the continuity and sustainability of social commerce. Therefore, it is necessary to establish an effective trust mechanism in social commerce community. For another, in the context of the rising cross-border e-commerce, a single management strategy does not apply to users in different cultural backgrounds. In order to enter a new market with different culture, website functions and social promotions should be designed accordingly.

7.3. Limitations and Future Research

The samples of this research have limitations. More data from different cultural backgrounds could be collected in the future to enhance the generalization of the research findings. With the deepening of globalization, multicultural integration and collision (such as in North America) will also have a certain impact on social commerce. Therefore, other kind of user behavior in multicultural context is still a topic worth exploring.

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