

IT Affordances in Online Social Commerce: Conceptualization Validation and Scale Development

Full papers

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Abstract

IT affordances have gained much attention in theoretically interpreting social media-associated behavior in information systems literature and played a crucial role in conceptually realizing IT-implicated mechanisms of human-computer interaction. But these efforts have been practically impeded in empirical research due to the lack of a validated scale. Here we address a context-specific conceptualization and a fine-grained measurement for IT affordances in online social commerce (OSC). We used a mixed-method approach to conduct a rigorous and comprehensive instrumental-development and validation procedure. We found that IT affordances in OSC are a multidimensional and formative construct, which consists of visibility, metavoicing, triggered attending, guidance shopping, social connecting, and trading. Results of psychometric properties based on two datasets ($n=255$ and $n=326$) show the scale is reliable and valid. The findings provide a theoretical springboard for further research and implication for practice.

Keywords

Scale development, hierarchical component model, IT affordance in OSC, mixed-method.

Introduction

E-commerce has achieved significant success in the past 15 years and is demonstrating further potential value with the transformative power of social media (Aral et al. 2013). As such, this new potential is most salient in online social commerce (OSC), which is expected to become a \$80 billion market by 2020 (HnyB Insights 2012). OSC represents one of IT's significant transformational impacts, namely, harnessing the power of social media to bring users (buyers & sellers) together, and facilitating online transactions of products and services through social interactions (Wang and Zhang 2012). The novel development of this business opportunity benefits from the continued progress of IT. However, to the best of our knowledge, few studies have empirically explored OSC from the point of IT affordances. The lack of appropriate and comprehensive instrument for IT affordances in the OSC context has been identified as one of the reasons for the lack of empirical work (Hoehle and Venkatesh 2015), which brings forth a vital challenge for information systems (IS) scholars (Wang et al. 2015).

In reference to IT functionalities, OSC merits new insights regarding how the IT functionalities of OSC enable users to achieve social and shopping goals in the OSC platform, because the relation between IT functionalities and goal-oriented social network behaviors characterizes the opportunity and challenge of novel forms of social media (Kane 2015). The IS literature has identified some relations between OSC IT functionalities and generic user perceptions, such as, perceived usefulness and perceived ease of use

(Huang and Benyoucef 2012; Grange and Benbasat 2013). What is still missing is a fine-grained understanding about how the relation between OSC-specific user goals and OSC IT functionalities influences users' behaviors. We believe that IT affordances naturally provide a good lens to characterize detailed IT indicators that wield direct (or indirect) influences on users' behaviors in OSC. However, extant research mainly focuses on their conceptual foundations (Majchrzak et al. 2013; Treem and Leonardi 2012) and theoretical framework, and few empirical studies have applied the lens of IT affordances in the OSC context (Grange and Benbasat 2014; Kane 2012). The empirical exploration of IT affordances in OSC is still in its infancy, and the issue of measuring IT affordances really represents a challenge (Wang et al. 2015), which is worth of deeper investigation because the types of IT affordances vary across context. Thus, a context-specific and comprehensive instrument for measuring IT affordances is necessary to address the gap. We argue this IT affordances lens grounded in the OSC context would reveal rich insights (Venkatesh et al. 2012) and its measuring instrument would also advance and refine our knowledge on OSC, providing actionable advice for further research (Benbasat and Barki 2007).

Here this paper developed and validated a measurement for IT affordances in OSC. We followed a rigorous instrument development procedure, which consisted of a review of the literature, in-depth interviews, open-ended surveys, card sorting exercise, measurement model specification, back-translation, close-ended survey, pretest, scale purification and refinement. We analyzed this scale's factor structure, reliability, content validity, internal consistency, convergent validity and discriminant validity with SPSS and SmartPLS using survey data.

IT affordances in Online Social Commerce

The first step of the scale development process is to develop a precise and detailed conceptualization of the focal constructs and point out their theoretical context (MacKenzie et al. 2011; Clark and Watson 1995). IT affordances arise from the relation between an objects and goal-directed actor since actors do not interact with an object prior to or without perceiving what the object is good for. Recently, this construct has been adapted to depict the possibility of some action of which an actor is sensing (Leonardi 2011) or to indicate the easy discoverability of possible actions (Majchrzak et al. 2013).

IS researchers assume it is important to make clear that a study's central nomological net falls within the sphere of the IS discipline, and to clearly identify the specific contribution of IT (Benbasat and Zmud 2003). Inspired by Majchrzak (2013), we take an affordances lens as the explanatory power to explore the reciprocal action between IT and users in OSC, since our research questions meet the two proposed affordances preconditions (Earl and Kimport 2011). Hence, this is in accordance with the idea that affordances can possibly lead to specific actions when supported by IT in the specific environment.

Many efforts for the concept have been devoted to explore the dynamics of technologically occasioned social change from various aspects (Treem and Leonardi 2012). Taking these various definitions and descriptions together, this paper defines IT affordances in OSC as the possibilities for purchase-oriented action that are afforded by technical objects to users given their capabilities and goals. Under the scope of OSC, IT affordances make users to simultaneously reach both products and people by combining functionalities of e-commerce and social media possible (Grange and Benbasat 2013). To understand how the effects of IT on human behavior and investigate how different characteristics of affordances influencing individual's IT use, some researchers have identified some sub-dimensions for IT affordances from organizational or individual level (Strong et al. 2014; Majchrzak et al. 2013; Volkoff and Strong 2013; Treem and Leonardi 2012). However, these sub-dimensions cannot be well adapted to OSC context and there are few effective scales to measure them. Furthermore, little attention has been focused on empirically examining IT affordances in OSC. Hence, a reliable and valid measurement scale is needed as an analytical and benchmarking tool for both researchers and practitioners.

Methodology

This study performed exploratory research to build a valid measurement for IT affordances in OSC by following well-recognized and comprehensive procedures (Mackenzie et al. 2011; Chen et al. 2011; Hoehle and Venkatesh 2015). We synthesized qualitative and quantitative research through numerous sources to develop and access the instrument because this mixed-method approach is deemed to provide the best interpretation (Schmiedel 2014) and generalizability (Fang et al. 2014) for research findings.

Dimensionality of IT Affordances in OSC

Based on theoretical grounds, we proposed IT affordances in OSC are not a unidimensional construct since it cannot be characterized by a single underlying dimension to capture the domain interest of actions in OSC context (Wetzels et al. 2009). Consistent with its definition, IT affordances in OSC have diverse attributes, and these attributes can enable different possibilities that various users' actions can be fulfilled (Leonardi 2011). Yet little is known about how the specific IT application may change the way users engaged in OSC (e.g., how users lower their effort to learn product information).

Actual action Categories	Explanation	Theoretically motivated constructs
User Connecting	Focal user can connect other user or join a community group by adding tool	Connecting, Visibility
Product Connecting	User can seek the product(brand) directly or by ways like friends' recommendation, or friends' posting	Connecting, Guidance shopping, Visibility Metavoicing
Product Learning	User can gather product knowledge by product information sharing, or by interaction with friends via people or product	Visibility, Metavoicing Triggered attending
Friends' Recommendation	User can offer product recommendation through a link or leaving message	Guidance shopping, Metavoicing
Final transaction	User can pay the order in the OSCNs platform.	Trading

Table 1. Actions List in OSC Scenario and Theoretically Motivated Constructs

Sub-dimensions	Definitions	User intentions	Technology capabilities
Visibility (Treem and Leonardi 2012)	The potential to make users' knowledge on related products visible	Get easy access to products during their participation	Provide each item with a unique profile (listing its attributes)
Metavoicing (Majchrzak et al. 2013)	The potential to enable users to provide feedback on product content	Seek valuable information about target objects	Post or comments tools, e.g., "like," "zan," and "share" buttons
Triggered attending (Majchrzak et al 2013)	The potential to notify content changes about products	Trigger intention to buy objects	Automated alert informs users of changes regarding objects of their interest
Guidance shopping	The potential to help users make purchase decision by offering personalized service	Lower effort to find satisfying products	Offer users a personalized and collaborative support service
Social connecting	The potential to establish or maintain social ties and involve users in the reciprocal commerce relationships	Employ social network structure to co-create value in sharing diverse product	Connect products or other users through (others') links or adding tool
Trading	The potential to enable users to finish the process or act of actual purchase	Make final transaction smoothly	Offer payment options, e.g., online banking or the third payment parties

Table 2. Explanations to Sub-dimensions of IT Affordances in OSC

The combination of theory-driven and data-driven methods has identified several categories of actualized IT affordances in IS research. Such as visibility, persistence, editability and association (Treem and

Leonardi 2012); metavoicing, triggered attending, network-informed associating and generative role-taking (Majchrzak et al. 2013); assembling, verifying, metavoicing and associating (Nan and Lu 2014). However, these dimensions have not been used to correctly capture the dimensions of IT affordances in OSC. Thus, we conducted in-depth interviews with ten OSC practitioners to systematically identify the key sub-dimensions of IT affordances. In order to guide this process, we proposed three questions followed by Mackenzie et al. (2011): (1) What are the essential characteristics that can help users complete their OSC actions? (2) How distinctive are the essential characteristics from each other? and (3) Whether or not eliminating any one of characteristics could restrict the conceptual domain of IT affordance?

Based on the interviews results, we argued that IT affordances in OSC are a function of the sub-dimensions that jointly define the characteristics of the focal construct since any changes in one of the sub-dimensions could be associated with changes in the focal construct (Mackenzie et al. 2011). Table 1 presents the actions in OSC scenario got from the real interviews and theoretically motivated constructs derived from related literature as well as practical coding consensus.

Then, built on recent studies (Nan and Lu 2014; Majchrzak et al. 2013; Treem and Leonardi 2012), we defined the actualized six sub-dimensions of IT affordances, representing the diverse potential relationships with which IT supports users who engage in OSC, by combining user intentions and technology capabilities (see Table 2).

Item Generation and Revision

Item creation

After the domain of each sub-dimension has been well defined, the following step is to develop items. In order to obtain the items that can fully capture the most essential aspects that supporting the necessary OSC procedure, we first interviewed ten individual OSC practitioners to capture their understanding that reflected the broad meaning of transaction in the OSC context in the initial item generation stage (Chen et al. 2011). Four of the interviews were conducted by face to face, three by telephone, and the another three through email. All the ten practitioners had more than two years OSC experience and their gender ratio was six (female) to four (male). To conceptually theorize the specific items of IT affordances, we systematically proposed the following three questions to the interviewees: (1) How do you evaluate your purchasing behavior in OSC platform? (2) What specific features could you describe that the OSC platform can support during your purchasing process? and (3) What are the keywords associated with the specific features you mentioned? We employed the three questions to systematically review and code interviewees' understanding about IT affordances in OSC through open and axial coding procedure (Hoehle and Venkatesh 2015).

On the root of definition of IT affordances in OSC, through personal interviews and open-ended questionnaire (e.g., "describe why you make purchase in OSC"), along with the principles in creating new items on which our new items' description manner are based (e.g., each item is reworded in a uniform manner using simple and easy-to-understand text), we generated 46 initial items.

Item revision

In the item revision stage, we first conducted a face validity check to examine the items' simplicity and wording problems. Three Ph.D. candidates are volunteered to participate in this section. We presented all the 46 items on one sheet of paper and asked the three participants to point out the confusing or unspecific ones. After discussion, nine items were removed from the item pool and six items were modified. Finally, 37 items were remained and were carried over to the next step.

Content validity is the primary concern in item revision (Hinkin 1995). Mackenzie et al. (2011) proposed that two key questions should be considered in this step: (1) Is the individual item representative of an aspect of the content domain of the construct? and (2) Are the items as a set collectively representative of the entire content domain of the construct? We chose the card sorting exercise to evaluate content validity of our newly created items, because this approach does not need large response as raters and seems to be more succinct to calculate the hit ratio of the items from theoretical to actual matrix by combining the approaches of Hinkin and Tracey (1999) and Anderson and Gerbing (1991). Moreover, to some extent,

this procedure is more a qualitative analysis than a rigorous quantitative procedure (Moore and Benbasat 1991), which will generate a high quality set of items for latter quantitative analysis.

Target Categories		Theoretical Categories						Statistics Kappa
		VI	ME	TA	GS	SC	TR	
Actual Categories	VI (2 nd /3 rd /4 th)	20/12/ 12	1/1/0	1/2/0	2/1/0	2/0/0	0/0/2	0.74/1.00 /1.00
	ME (2 nd /3 rd /4 th)	5/0/0	39/17/ 17	-/-/-	1/0/1	1/0/1	-/-/-	0.86/0.90 /0.89
	TA (2 nd /3 rd /4 th)	-/-/-	0/0/1	32/13 /15	0/0/1	1/0/0	-/-/-	0.92/0.65 /1.00
	GS (2 nd /3 rd /4 th)	-/-/-	-/-/-	1/0/0	30/17/16	5/1/0	0/1/0	0.83/0.85 /0.70
	SC (2 nd /3 rd /4 th)	1/0/0	2/0/0	-/-/-	1/0/0	35/13/ 13	-/-/-	0.55/0.65 /0.65
	TR (2 nd /3 rd /4 th)	-/-/-	-/-/-	-/-/-	-/-/-	-/-/-	26/10/ 10	0.55/0.80 /0.80
	N/A (2 nd /3 rd /4 th)	2/0/0	-/-/-	1/0/0	1/0/0	5/1/1	2/1/0	
	Total (2 nd /3 rd /4 th)	28/12/12	42/18/ 18	35/15/ 15	35/18/18	49/15/ 15	28/12/12	
	T_{hr} (%) (2 nd /3 rd /4 th)	71.4/100 /100	92.3/94. 4/94.4	91.4/88. 7/100	85.7/94.4 /88.9	71.4/86. 7/86.7	92.9/83.3 /83.3	
Total item placement: 217/90/90 Hit: 182/82/83 O_{hr} : 83.9/91.1/92.2 Average kappa: 0.74/0.80/0.84								

Table 3. Results of the Second/Third/Fourth Sorting Round

We conducted four rounds of rigorous card sorting procedures to categorize the initial items through online card sorting-Concept Codify website (<https://www.optimalworkshop.com/>). In all sorting rounds, we recruited a different set of judges with diverse backgrounds in business management (Moore and Benbasat 1991; Hoehle and Venkatesh 2015). At the first round, we randomly placed the initial 37 items in the left column of the sorting page, and made an instruction to ask the judges to create groups and simultaneously label them, and then to sort the items. The judges were also informed to notice that items within a group are similar to each other, but different from those in other groups. We sent this link to seven judges consisting of three OSC practitioners, two PhD students and two scholars by email. This objective was to verify the construct validity and content validity by testing the fit consistency between the judges' concept labels and the scales' intended concepts. In the first sorting step, nine items are placed in the incorrect columns. Then, we received feedback from the seven judges, and discussed the nine problematic items compared with the newly labeled and intended construct categories. Finally, we dropped six items and refined the other three. Accordingly, this led to a total of 31 items and six identified categories in next step. Notably, in the initial sorting round, we neither provided the construct categories nor their definitions, which minimizes the potential of interpretational confounding. However, in the following sorting attempts, we provide both, with the six groups' name and their detailed definitions at the top of the columns and the items listed in the rows of the sorting page. Simultaneously, we included an N/A group in the sorting procedure to ensure some other confusing or/and ambiguous items that are not adapted to the focal constructs can be identified and further to ensure the items within the same categories demonstrating high level of convergent validity. Judges were asked to allocate every item to one of the groups based on the construct definitions, and to include the ambiguous ones in the N/A group. After the judges finished the sorting, we calculated item placement ratio (I_{pr}) and inter-rater reliabilities according to Moore and Benbasat (1991). I_{pr} represents the proportion of how many items were allocated to the target category. In order to differentiate the hit ratio of every construct from that of the overall, we computed two indexes: target hit ratio (T_{hr}) and overall hit ratio (O_{hr}). We used an alternative parameter (kappa) to assess the level of inter-judge agreement (Fleiss 1971; Landis and Koch 1977). Based on the matrix results, we interviewed judges for collecting feedback on their experience and perception after each sorting procedure, and then modified every item that was not placed in the intended column. When finished discussing all the items in the current round, we then forward these items to the next step and repeated the procedure mentioned above in the following third and fourth sorting round.

Overall, in the second round, we deleted two items (one with 28.6% hit ratio, the other being repetitive with another item) in the social connecting group and added one item in the guidance shopping group. Then we got 30 items in the third round, after modified several items in a clearer way based on feedback of the judges and then we carried over the 30 items to the fourth round. The final sorting results show a high hit rate value, indicating that the most of the created items are put in the intended constructs. Out of 30 items in the fourth round, four items were still a little confusing. We dropped two items with 33.3% hit ratio and added two more items based on the 20 judges' feedback, alone with our author's discussion based on theory foundation and construct definitions. After finally confirmed with experts, 30 items were created. Table 3 shows the results of the three rounds. The final T_{hr} and O_{hr} results are both stable above the threshold of 80% (Moore and Benbasat 1991; Cenfetelli et al. 2008), and all the average statistics kappa scores exceed 0.70, indicating an adequate degree of inter-judge agreement (Landis and Koch 1977).

Measurement Model Specification

Considering the relationships between the six sub-dimensions and the focal construct, we conducted a hierarchical component model using reflective–formative type (Wetzels et al. 2009). We proposed that the six sub-dimensions are formative indicators of IT affordance in OSC and regarded each sub-dimension as the first-order construct with reflective indicators. We also used four global reflective items to measure IT affordances in OSC (IA) (Hoehle and Venkatesh 2015), which were also generated from the in-depth interviews and based on the construct definitions. In order to evaluate the wording of the global items, we conducted a face validity check by the same judges in the card sorting exercise.

Instrument Preparation and Pretest

Research setting

We organized a pre-test to examine the psychometric properties of the items to ensure the validity of construct and content (MacKenzie et al. 2011). We developed an original survey using the created items based on a seven-point Likert agreement scale, from 1 representing “strongly disagree,” through 4 representing “equal,” to 7 representing “strongly agree.” In order to ensure that all the respondents have well-established thoughts and meaningfully respond to items related to the same OSC platform. We selected WeChat, a popular Chinese SNS developed by Tencent Holdings Limited, as the targeted research context due to its emerging commercial popularity. So OSC platform is replaced with WeChat in the survey. Because the survey was originally designed in English, we followed the back-translation procedure (Brislin 1980) to develop a Chinese version. Afterwards, four domain experts and three potential survey respondents completed the survey and provided comments and suggestions. After several minor changes were made, the final Chinese survey was accordingly confirmed before collecting data from a large sample.

Data Reduction

Given the questions whether data sample presenting a wider audience and how data sample size being reasonable are two key issues in sample testing stage (MacKenzie et al. 2011), we uploaded the survey to the internet using a setting on Sojump (<http://www.sojump.com/>), and offered coupons to respondents. A sample of 536 responses was received. After excluding responses that inconsequently answered the reverse items and/or one survey that was completed in less than 120 seconds, finally, we obtained 255 valid responses with a valid response rate of 47.6% to conducted exploratory factor analysis (EFA). The distribution of age was approximately normal: under 20 (1.6%), 21-30 (54.2%), 31-40 (34.5), 41-50 (7.5%), over 51 (3.4%). All the respondents had at least 10 months of OSC experience ($SD=1.397$) and 68.2% were women. SPSS18.0 was employed to examine the data. Based on eigenvalue greater than 1.0, we used principal components analysis extracting six factors through orthogonal rotation with varimax. We eliminated the items with low loadings (primary factor loading < 0.50) or high cross-loadings (secondary factor loadings >0.50). Accordingly, nine items were dropped from the item pool. The six factors explained 76.136% of the total accumulative variance, and the reliabilities of the six factors were 0.819, 0.889, 0.847, 0.906, 0.843, 0.867, respectively. Finally, the remaining 21 items are considered for further analysis (Table 4).

Construct	Items
Visibility	OSC platform 1) provides me with detailed pictures of the products; 2) makes the product attributes visible to me; 3) makes information about how to use products visible to me; 4) helps me to visualize products like in the real world.
Metavoicing	OSC platform allows me to 1) comment on products; 2) react to other people's feedback on products; 3) share shopping experiences with other people together.
Triggered attending	OSC platform informs me of 1) product improvements in at a timely fashion; 2) any changes to my products of interest in a timely fashion; 3) new product promotion information in a timely fashion.
Guidance shopping	People in OSC platform can 1) help me establish my product needs without any restrictions ; 2) help me identify which product attributes best fit my needs; 3) provide me with personal product customization based on my requirements; 4) provide me with information on all alternative products I intend to buy.
Social connecting	OSC platform 1) enables me to make friends with sellers I have never met; 2) enables me to get product information through connections with other people; 3) enables me to connect with other people to buy products together; 4) allows me to connect with people who can offer me detailed product information by introducing me to other people.
Trading	OSC platform 1) offers me multiple payment options to complete a purchase; 2) helps me to finish a transaction in an effective way; 3) enables me to complete a transaction smoothly.
OSC IT affordances	I think the OSC platform 1) is very functional; 2) is useful; 3) serves its purpose well; 4) is of value to me.

Table 4. Item Generation

Scale validation

We conducted confirmatory factor analysis (CFA) using another data sample of 934 responses to further validate the survey instrument. Finally, we got 326 valid surveys with a valid response rate of 34.9%. The distribution of age was approximately normal: under 20 (3.7%), 21-30 (54.9%), 31-40 (32.5), 41-50 (7%), over 51 (1.8%). The respondents had at least 12 months of OSC experience (SD=1.461) and with 64.4% being women. SmartPLS 3 was chosen to perform the statistical tests.

	IA	VI	ME	TA	GS	SC	TR	CR	CA	AVE	VIF
IA	0.898							0.943	0.920	0.806	—
VI	0.570	0.830						0.899	0.849	0.689	1.641
ME	0.402	0.522	0.908					0.934	0.894	0.825	2.273
TA	0.500	0.519	0.696	0.887				0.917	0.864	0.787	2.528
GS	0.517	0.463	0.609	0.647	0.899			0.944	0.920	0.808	2.226
SC	0.541	0.454	0.580	0.631	0.662	0.838		0.903	0.856	0.702	2.500
TR	0.498	0.500	0.475	0.501	0.428	0.615	0.900	0.927	0.882	0.810	1.804

Note: Diagonal bold italics values are the square roots of the AVE of each construct; CR= composite reliability; CA=Cronbach's alpha; AVE= average variance extracted; VIF=variance inflation factor

Table 5. Internal Consistency, Convergent and Discriminant Validity, Collinearity Check

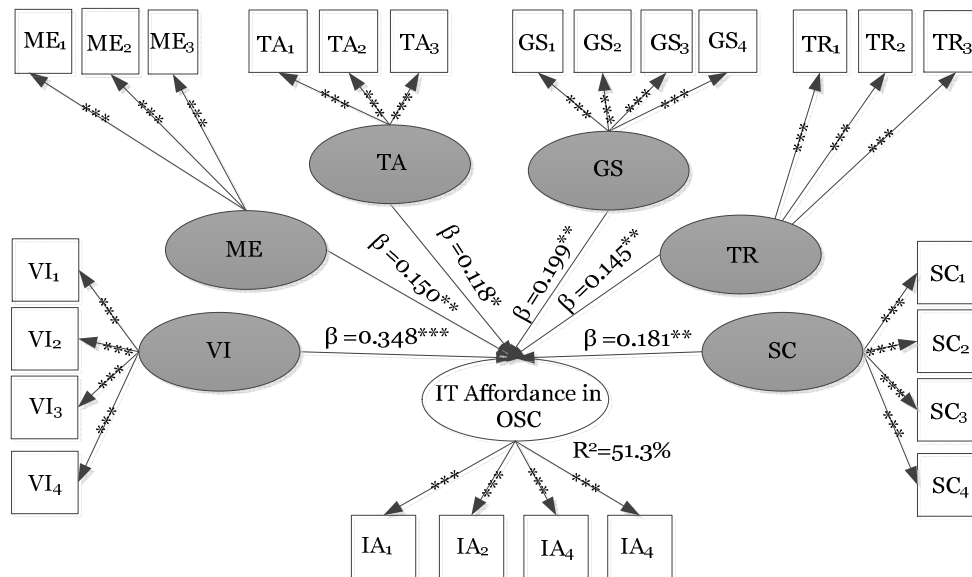
We assessed the internal consistency by examining constructs' composite reliability, and indicator reliability. The values of composite reliability range from 0.899 to 0.944 (see Table 5), which are in excess

of the recommended threshold of 0.7 (Hair et al. 2014). The values of Cronbach’s Alpha range from 0.849 to 0.920 (see Table 5), which are above the benchmark level of 0.7 (Fornell and Larcker 1981).

Convergent validity was evaluated by considering the outer loadings of all indicators, and the average variance extracted (AVE). The smallest item loading score is 0.738, which is higher than the common rule of thumb level of 0.708 (Hair et al. 2014), and the P values of all item loadings indicate the indicator reliability of the constructs is highly significant. The AVE results range from 0.689 to 0.825 (see Table 5), which are higher than the suggested threshold of 0.5, indicating that, on average, all the constructs explain more than half of the variance of its indicator (MacKenzie et al. 2011).

Discriminant validity was accessed the by two measures. First, we examined the cross loadings of the indicators, and the results shows that all indicators’ outer loading on the associated constructs are greater than all of their loadings on other constructs, which indicates discriminant validity among the constructs. We then accessed the Fornell-Larcker criterion by comparing whether the square root of each construct’s AVE value is greater than its highest corrections with any other constructs. We found the results are all significantly higher than the corrections between these constructs. The final results of the Fornell-Larcker criterion and the corrections between the constructs are shown in Table 5 in the lower left triangle. We also assessed the level of multi-collinearity by measuring variance inflation factor (VIF). All the VIF values were highly lower the benchmark level of 5.00 (see Table 5) (Hair et al. 2014), which implies no multi-collinearity problems.

For the second-order construct, the validity of each sub-dimension as an indicator of the second-order construct can be assessed by examining whether each sub-dimension is significantly related to the second-order construct (Bollen, 2014). The results of path coefficients in the structural measurement model indicate that all the first-order constructs are significant related to and explain 51.3% of the variance for IT affordances in OSC. Figure 1 shows the path results.



Note: ***—p<0.001; **—p<0.05; *—p<0.1.

Figure 1. Path Coefficients and P values for measurement model

Discussion and Future Issues

We identified and conceptualized six context-specific sub-dimensions and developed a well-gained instrument for IT affordance in OSC through in-depth interviews and revised the items using four rounds of card sorting exercise, as well as accessed the measurement model by collecting two waves of survey data from Chinese OSC users. Given the psychometric properties of the 21 items results, we proposed a reliable and valid instrument for IT affordances in OSC.

Consequently, this study makes an important contribution to the literature. First, we extend IT affordances related research and expand research on OSC. We theorize six formative dimensions of IT affordances representing the diverse potential relationships with which IT supports users who engage in OSC to complete a reciprocal purchase process. Second, we develop and validate the IT affordances construct in OSC context using a hierarchical component model. This enables the assessment of the degree of IT affordances in OSC possible and makes the construct of IT affordances in OSC not only a conceptual definition, but an operable variable for empirical study. Third, IS scholars could further conduct empirical research related to this construct based on this work.

Additionally, this work also has practical implications for practice. The results of this work are highly relevant to the decision makers of OSC platforms. Given the different positions that the six-sub-dimensions played in various OSC platforms, managers should focus on efforts to improve such weaker dimensions that attract attention from potential users. Moreover, the created scales can also be used as selecting criteria for buyers in choosing a specific OSC platform to achieve their purchase goal. Users may pay more attention to the OSC platform whose criteria scales with higher scores than that of with lower scores. This work has several limitations worth concerning, which could be addressed in future studies. The results of this study were based on data from Chinese OSC users in WeChat. However, the degree of the indicators measurement may vary among different OSC platforms (e.g., Facebook and Douban.com) and cross-cultural context. Thus, further analysis for generalization of the instrument is required by using samples from other nations. Additionally, it is important to examine a broader outcome of IT affordances in OSC and to expand its nomological network. Thus the nomological validity should be accessed with respect to theoretically related antecedents or consequents.

We hope this paper will encourage further empirical study on IT affordances in OSC to gain a deeper understanding and improvement for its scale development. Moreover, future research could extend the scope of this study and develop further norms for IT affordances in OSC using cross-cultural samples, and explore the identification and measurement of IT affordances in OSC from different perspectives.

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