

Information Sharing Behavior in Social Commerce Sites: The Differences between Sellers and Non-Sellers

Research-in-Progress

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Abstract

The rise of social media encouraged customers to share information more frequently and to larger extent. Previous work primarily focused on how and why customers share information in online social commerce sites. In the current study, we distinguish between the two types of users: sellers and non-sellers in social commerce sites. Drawing on the goal theory, we empirically examine intrinsic and extrinsic benefits as the key direct antecedents, and explore the moderating role of sellers/non-sellers in the relationship between intrinsic and extrinsic benefits and information sharing behavior. Analyzing survey data (n=1170) in the first phase collected from a popular social commerce site, we found that intention to share information among sellers and non-sellers are indeed different. This study can advance the understandings of information sharing literature by revealing the differences between different types of users. The results offer important and interesting insights to IS research and practice.

Keywords: Information sharing, social commerce sites, longitudinal research, goal theory, sellers, non-sellers

Introduction

The emergence of social commerce sites (e.g., social shopping communities) facilitated individuals to share and exchange product related information. The sustainability of such social commerce sites is largely dependent on users' volunteer information sharing behavior (Liang and Turban 2011). Social commerce sites encourage individuals to visit downstream links on the e-commerce websites (e.g., Taobao.com). The Hitwise data released in April 2012 indicated that over 17% of downstream visits went to Taobao.com through Meilishuo.com and Mogujie.com. In this regard, more and more sellers from the e-commerce websites realize the commercial values behind, and begin to participate in the social commerce sites to share their stores and product that would potentially increase purchases on the e-commerce websites (Olbrich and Holsing 2011). Therefore, in the current social commerce sites, both sellers and non-sellers are sharing product-related information and contributing to the sustainability of social commerce sites.

Existing research has long considered extrinsic and intrinsic benefits as key factors for information sharing in the knowledge management literature (Kankanhalli et al. 2005). However, they did not distinguish between different roles of users, which would suggest different motivations of information sharing behavior. Individual differences have been studied a lot in the technology acceptance literature and in the context of e-business because understanding individual differences can help to better comprehend individuals' behavior (Ahuja and Thatcher 2005; Gefen and Straub 1997; Venkatesh and Morris 2000; Venkatesh et al. 2000; Wu and Lederer 2009). While less is known in the information sharing context about whether some individual differences exist as well as the underlying reasons, the different roles of users (sellers vs. non-sellers) in particular.

Sellers and non-sellers are different in their goals concerning their participation in the social commerce sites. On the one hand, sellers intend to increase the popularity of their own online stores, which would result in increased revenues. And on the other hand, non-sellers have no such intentional purposes. Hence, it is improper to motivate them in the same way based on the limited resources of social commerce site owners. Surprisingly, there are few empirical studies which investigate these possible differences. Accordingly, the purpose of this study is to figure out whether there are differences in motivations between seller and non-sellers' sharing information behavior in the social commerce sites. If yes, what drives information sharing of sellers and non-sellers? And what are the underlying mechanisms?

In order to explore these differences, we adopt the goal theory which explains how individuals' goals influence their performance or behavior (Covington 2000; House 1971). We argue that sellers pursue the task-involved goals and non-sellers pursue the ego-involved goals. Integrating with extrinsic and intrinsic benefits framework, this study proposes that sellers are motivated more by extrinsic benefits while non-sellers are motivated more by intrinsic benefits.

Understanding these between-group differences of sellers and non-sellers in the social commerce sites has several implications for both theory and practice. First, this study can advance the understandings of both information sharing literature and social media literature by exploring the individual differences in the information sharing context. Previous studies did not distinguish motivations across different user groups, while sellers and non-sellers pursue different goals for their participations, suggesting that the between-group differences in terms of motivations are still understudied. Second, by understanding differences between sellers and non-sellers, owners of social commerce sites can adopt different motivating strategies for different types of users. This could enhance the effectiveness of motivating strategies and help social commerce sites better compete in dynamic business environment.

We have organized the rest of this paper as follows. In the first section, we present the theoretical background and literature review. Then, we provide a conceptual model of information sharing behavior in social commerce sites across different groups. After describing our data source (phase 1), we explain our empirical strategy and present the results of our data analysis (phase 1). Finally, we conclude with a discussion of the implications for theory and practice.

Theoretical Background and Literature Review

Information Sharing Behavior

Information sharing has been considered an important area of IS research for nearly two decades (Alavi and Leidner 2001; Jarvenpaa and Staples 2000; Ma and Agarwal 2007; Nunamaker Jr and Briggs 2011; Sambamurthy and Subramani 2005). Individuals from different backgrounds can easily share information with each other because of the great Internet penetration (Nunamaker Jr and Briggs 2011; Sen et al. 2010; Wenger 1998). In recent years, considerable attention is being focused on how and why customers post their opinions, comments, and reviews of products/services in online social venues from various perspectives (See Table 1). Most of the existing studies have explained this behavior from a motivational perspective with an emphasis on the perceived benefits (Cheung and Lee 2012; Hsu et al. 2007; Kankanhalli et al. 2005; LIU et al. 2014). Hence, this study also intends to be based on the perceived benefits to understand differences between sellers and non-sellers.

Previous studies have distinguished perceived benefits to extrinsic and intrinsic (Kankanhalli et al. 2005). According to the prior literature, there are two major extrinsic benefits, including anticipated extrinsic rewards and anticipated reciprocal relationships (Bock et al. 2005; Kankanhalli et al. 2005). There are also two intrinsic benefits: knowledge self-efficacy (Bandura 1986) and enjoyment in helping others (Wasko and Faraj 2005). This study deploys this extrinsic/intrinsic benefit framework for further explorations.

Table 1. Summary of Prior Studies on Information Sharing Behavior		
Research Perspectives	Factors/Motivators	References
Social Capital Perspective	Structural dimension, cognitive dimension, relational dimension	(Chiu et al. 2006; Liu et al. 2013; Wasko and Faraj 2005)
Social Exchange Perspective	Cost: Loss of power, Codification effort Benefit: reward, reciprocity, self-efficacy, enjoyment in helping others	(Cheung and Lee 2012; Hsu et al. 2007; Kankanhalli et al. 2005; LIU et al. 2014)
Social Interaction Utility Perspective	Focus-related utility: helping the company, concern for other consumers, social benefits, exerting power Consumption utility: advice seeking Approval utility: self-enhancement	(Hennig- Thurau et al. 2004; O'Reilly and Marx 2011)
Group Perspective (We-intention)	Informational influence: Attitude Emotional influence: anticipated emotions Social influence: subjective norms, group norms, social identify	(Tsai and Bagozzi 2014)
Social Cognitive Perspective	Personal factors: reward, reciprocity, self-worth Environmental factors: organizational climate	(Bock et al. 2005)

Table 1. Summary of Prior Studies on Information Sharing Behavior

Goal Theory

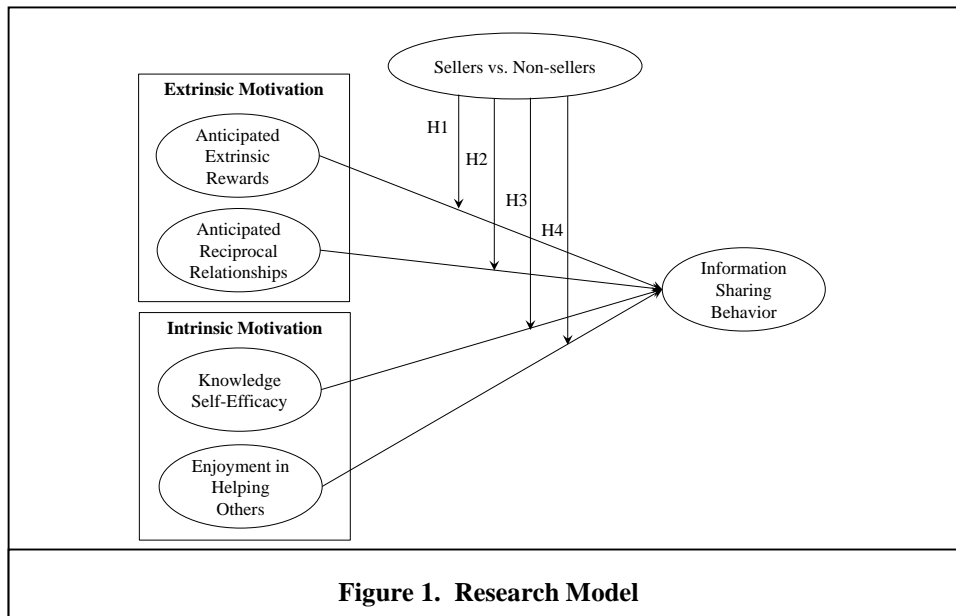
Over the years, researchers have used the goal theory to study how individuals' goals can influence their performance or behavior (Covington 2000; House 1971). Researchers in this stream assume that all behaviors are given meanings, directions, and purposes by the goals that individuals seek out, and that the behaviors will change as these goals change. Nicholls et al. (1990) defined two major kinds of goal patterns: ego-involved goals and task-involved goals. They found that individuals with ego-involved goals seek to maximize favorable evaluations of their competence. For task-involved goals individuals focus on mastering tasks to increase their competence (DeCharms 1968; DeCharms 1976; Maehr 1983; Maehr and Nicholls 1980; Nicholls 1979; Nicholls 1984). For instance, Covington (2000) showed that with ego-involved goals children were more likely to perform tasks they knew they could do, whereas task-involved children were more concerned with their own progress.

In the current social commerce sites, there are two types of users: sellers and non-sellers. Sellers participate in social commerce sites for commercial values with the goal of receiving financial benefits. Thus, we argue that sellers use task-involved processing to pursue profits. In this regard, sellers focus more on their tasks (i.e., gaining revenues) and then are motivated more by extrinsic benefits. By contrast, non-sellers participate in social commerce sites because they like to. Therefore, non-sellers use ego-

involved goal processing to share information in the social commerce sites. In this case, non-sellers are motivated more by those intrinsic benefits.

Research Model and Hypotheses

With above-presented discussion, this study builds the research model as shown in Figure 1. We argue that extrinsic benefits (i.e., anticipated extrinsic rewards and anticipated reciprocal relationship) and intrinsic benefits (i.e., knowledge self-efficacy and enjoyment in helping others) affect information sharing behavior, and these relationships are different across different user types. The relationships between intrinsic and extrinsic benefits, and information sharing behavior are well studied. In this study we only focus on the group-differences between sellers and non-sellers. The relationships between extrinsic benefits and information sharing behavior are stronger for sellers than non-sellers; while the relationships between intrinsic benefits and information sharing behavior are stronger for non-sellers than sellers. The details are elaborated below.



Extrinsic Benefits and Sellers

Individuals try to look for returns (e.g. pay, prizes, reputation, and promotion) by maximizing their benefits during information exchange process with others (Bock et al. 2005). Ryan's (1982) experiment demonstrated that being task-involved increased individuals' extrinsic motivation. Ryan et al. (1991) suggested that when people were task-involved they would persist out of interest in the activity because of extrinsic motivation. Based on this line, for sellers who are task-involved, extrinsic benefits should feature more prominently in information sharing behavior, because task-involved goal provides the fit between their extrinsic benefits and the prospect of information sharing behavior. Therefore, we expect that sellers (task-involved) are likely to exhibit relatively stronger relationship from their extrinsic benefits to their information sharing behavior. This leads to the following hypotheses:

H1: The relationship between anticipated extrinsic rewards and information sharing behavior in social commerce sites will be stronger for sellers compared with non-sellers.

H2: The relationship between anticipated reciprocal relationships and information sharing behavior in social commerce sites will be stronger for sellers compared with non-sellers.

Intrinsic Benefits and Non-sellers

Individuals will share information because of some intrinsic benefits. Ryan (1989) found that if individuals were ego-involved (non-sellers) in information sharing behavior, they would be motivated to prove their competence (and thus their self-worth). Their intrinsic benefits will be undermined by the ego-involved goals to perform and they will have less extrinsic benefits, because they will achieve their goals by their own preferences (Ryan et al. 1991). Butler (1993) argued that ego involvement promoted concerns with both self-enhancement and self-assessment. For non-sellers, intrinsic benefits should feature more prominently in information sharing behavior, because ego-involved goal provides the fit between their intrinsic benefits and the prospect of information sharing behavior. Therefore, we expect that non-sellers (ego-involved) are likely exhibit relatively stronger relationship from their intrinsic benefits to their information sharing behavior. This leads to the following hypotheses:

H3: The relationship between knowledge self-efficacy and information sharing behavior in social commerce sites will be stronger for non-sellers compared with sellers.

H4: The relationship between enjoyment in helping others and information sharing behavior in social commerce sites will be stronger for non-sellers compared with sellers.

Methodology

The study will use a multi-method approach and collect data at two different points of time. In the first phase of data collection, we collected subjective data through an online survey study and utilized behavior intention as proxy of actual behavior. In the second phase of data collection, we will crawl the actual usage data of the respondents in Phase 1 based on their user ID. We have finished the first phase of data collection. For the second phase of data collection, we haven't finished. Therefore we do not have information sharing behavior as dependent variable. In the following part, we report the procedure and results of phase 1.

Research Setting

In the first phase, an online survey was conducted for this study to test the proposed research model. We collected data from one of the most popular online social commerce site in Mainland China – Meilishuo.com, which currently has more than 15 million members. It allows users to discover, share, recommend, rate, and purchase products. In contrast to traditional online communities, Meilishuo.com additionally offers user-generated social shopping features and potential interaction so as to simplify purchase decisions. Users can also choose to follow other users in the community. Nowadays, more and more sellers from traditional e-commerce sites become users of Meilishuo.com and recommend their products in Meilishuo.com. The typical interface of Melishuo.com for sellers and non-sellers is shown in Figure 2. The information shared by users of Melishuo.com is product-related. Additionally, the products shared by sellers also include price information as highlighted with red circle. Therefore, Meilishuo.com is a proper online social commerce site for us to explore the differences of motivations to share between sellers and non-sellers.

Data Collection Procedure

The questionnaire was distributed by an online-survey service provider in China, and the sampling technique used by this study is to employ the data collection service provided by this service provider. This online-survey service provider owns over 2 million samples which are recruited from search engines, online forums, and member recommendations. The samples need to be verified through their cell phones or emails to validate their identities. The sampling pool covers various kinds of people, therefore the data collected from the sampling pools by these survey services are considered as reliable as data collected using other methods (Buhrmester et al. 2011).

We required users of Melishuo.com to participate in this survey, and the service provider helped us to distribute our survey questionnaire to the users of Melishuo.com in the sampling pool. A total of 1177 completed responses were obtained. Among the 1177 respondents, 91.3% were females and 8.7% were males because Meilishuo.com targets on the female users. A majority of our respondents (81.5%) were

aged between 20 and 29, and 76.4% of our respondents had an education level of the university or above. A majority of our respondents (88.9%) use computer to login the online social shopping communities, and 33.1% of the respondents (390 users) are sellers.

Measurement

The measures of the constructs (i.e., anticipated extrinsic rewards, anticipated reciprocal relationship, knowledge self-efficacy, enjoyment in helping others, and intention to sharing information) in this study were adapted from the existing scales which have been proven to be reliable and valid. Several minor wording modifications were applied to fit the research context. All constructs were measured using multi-item perceptual scales and were carried out by a seven-point Likert scale, ranging from strongly disagree (1) to strongly agree (7). The classification of sellers and non-sellers was measured by a single question by asking participants whether they were e-commerce sellers or not - 1 refers to sellers and 2 refers non-sellers.

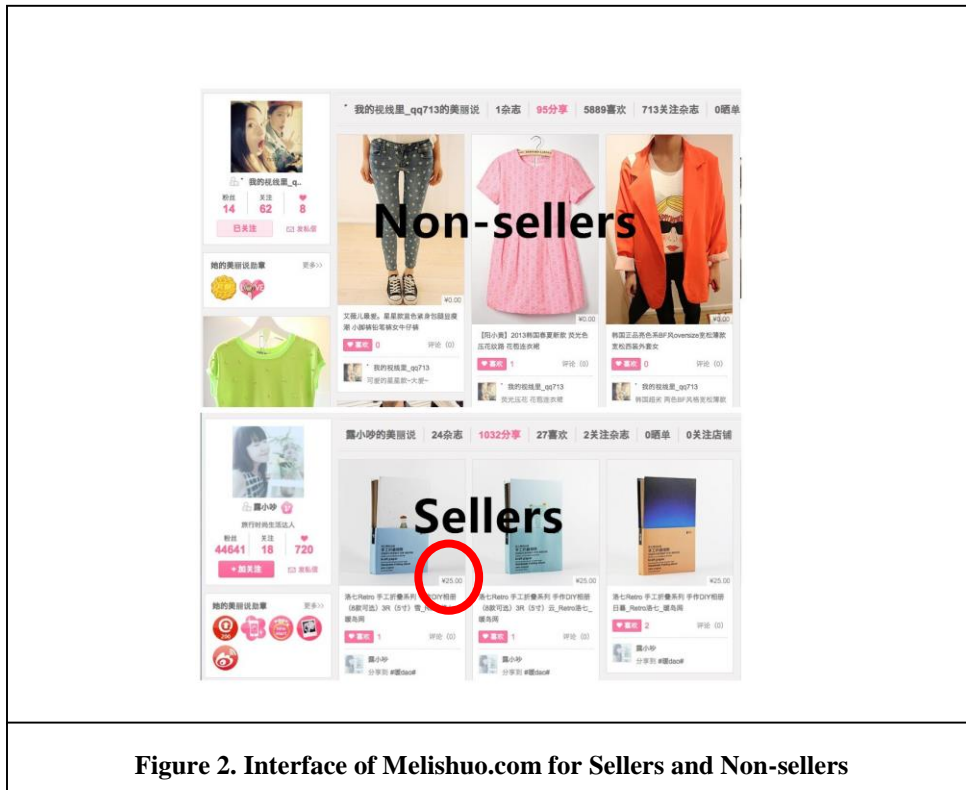


Figure 2. Interface of Melishuo.com for Sellers and Non-sellers

Data Analysis and Results

To explore the between-group differences, this study employs the parametric approach conducted by component-based SEM (Henseler 2007). This approach firstly estimates path coefficients for each group separately using PLS-SEM and then conducts a between-group t test with pooled standard errors to test the significance across group (Keil et al. 2000; Qureshi and Compeau 2009). The data analysis of this study involves two stages. The measurement model of full sample and each subgroup was firstly examined, and then the path coefficients of each group and the comparison results were presented.

Measurement Model

The measurement model was assessed by checking the reliability and validity of the constructs of the full sample and each subgroup separately. Reliability was assessed by examining the values of Cronbach's alpha, composite reliability, and average variance extracted (AVE). Cronbach's Alpha and CR should be at least 0.700. It implies that a construct retains internal consistency. Results were shown in Table 2. The CRs were satisfied in full sample and each subgroup by having the CRs ranging from 0.889 to 0.945 for full sample, from 0.860 to 0.932 for sellers group, and from 0.900 to 0.950 for non-sellers group. The

Cronbach's alpha were also satisfied by ranging from 0.814 to 0.912 for full sample, from 0.754 to 0.890 for sellers group, and from 0.836 to 0.921 for non-sellers group.

Table 2. Reliability, Average Variance Extracted (AVE), and Correlations								
	Cronbach's Alpha	Composite Reliability	AVE	1	2	3	4	5
1. Intention to Share Information (ICCK)	0.903	0.932	0.774	0.880				
2. Anticipated Extrinsic Rewards (AER)	0.838	0.925	0.860	0.450	0.928			
3. Anticipated Reciprocal Relationship (ARR)	0.814	0.889	0.727	0.483	0.482	0.853		
4. Knowledge Self-Efficacy (KSE)	0.863	0.936	0.879	0.558	0.481	0.474	0.938	
5. Enjoyment in Helping Others (EH)	0.912	0.945	0.851	0.513	0.473	0.691	0.553	0.922
Sellers (N=390)								
1. Intention to Share Information (ICCK)	0.872	0.913	0.723	0.850				
2. Anticipated Extrinsic Rewards (AER)	0.824	0.919	0.850	0.443	0.922			
3. Anticipated Reciprocal Relationship (ARR)	0.754	0.860	0.672	0.545	0.431	0.820		
4. Knowledge Self-Efficacy (KSE)	0.797	0.908	0.831	0.649	0.460	0.488	0.912	
5. Enjoyment in Helping Others (EH)	0.890	0.932	0.819	0.524	0.439	0.664	0.540	0.905
Non-Sellers (N=787)								
1. Intention to Share Information (ICCK)	0.912	0.938	0.792	0.890				
2. Anticipated Extrinsic Rewards (AER)	0.844	0.927	0.864	0.431	0.930			
3. Anticipated Reciprocal Relationship (ARR)	0.836	0.900	0.749	0.474	0.536	0.866		
4. Knowledge Self-Efficacy (KSE)	0.887	0.946	0.898	0.486	0.521	0.536	0.948	
5. Enjoyment in Helping Others (EH)	0.921	0.950	0.864	0.505	0.521	0.725	0.555	0.929

Table 2. Reliability, Average Variance Extracted (AVE), and Correlations

The convergent validity and discriminant validity of the constructs in the model were examined through the confirmatory factor analysis by full samples and by each subgroup. The convergent validity was assessed by examining whether or not the loadings of the items on the target constructs were high enough, while discriminant validity was assessed by checking whether or not the loadings on the target constructs were higher than the loadings on other constructs. All the loadings on the target constructs were higher than 0.70 and the loadings on other constructs were relatively low, suggesting the satisfying convergent and discriminant validity of all the constructs for both full sample and each subgroup.

Common Method Bias

The self-reported survey has the potential for suffering common method bias (Podsakoff et al. 2003). To examine the common method bias, this study followed the unmeasured latent method in PLS suggested by Podsakoff et al. (2003) and Liang et al. (2007). The method factor was introduced into the model, and the variances explained by both the substantive constructs and the common method factor were calculated. The results indicated that the average variance explained by substantive constructs was 0.820, while the average variance explained by the common method factor was only 0.015 which is much smaller. This suggested that the common method bias is not a major concern in this study.

Between-Group Differences Comparison

The path coefficients for each subgroup were estimated by PLS-SEM. The results were presented in Table 3. For sellers, only anticipated extrinsic rewards ($\beta = 0.106$, $t = 2.098$, $p < 0.05$), anticipated reciprocity relationship ($\beta = 0.228$, $t = 4.523$, $p < 0.001$), and knowledge self-efficacy ($\beta = 0.440$, $t = 8.360$, $p < 0.001$)

were found to have positive effects on intention to share information. The variance explained by these factors were 0.503. As to non-sellers, anticipated extrinsic rewards ($\beta = 0.131$, $t = 2.762$, $p < 0.01$), anticipated reciprocity relationship ($\beta = 0.119$, $t = 2.172$, $p < 0.05$), knowledge self-efficacy ($\beta = 0.234$, $t = 4.881$, $p < 0.001$), and enjoyment in helping others ($\beta = 0.221$, $t = 3.551$, $p < 0.001$) were all found to have positive effects on intention to share information. The total variance explained by these factors were 0.337.

Table 3. Path Coefficient Comparisons between Sellers and Non-Sellers

Constructs	Sellers (N=390)		Non-Sellers (N=787)		Sellers vs. Non-Sellers	
	Beta	t-value	Beta	t-value	Δ Beta	t-value
Anticipated Extrinsic Rewards (AER)	0.106*	2.098	0.131**	2.762	-0.025***	8.353
Anticipated Reciprocal Relationship (ARR)	0.228***	4.523	0.119*	2.172	0.109***	33.394
Knowledge Self-Efficacy (KSE)	0.440***	8.360	0.234***	4.881	0.206***	67.796
Enjoyment in Helping Others (EH)	0.064	1.389	0.221***	3.551	-0.157***	40.032
R square	0.503		0.337		NA	

Note:
 (1) ICCK - Intention to Share Information; AER - Anticipated Extrinsic Rewards; ARR - Anticipated Reciprocal Relationship (ARR); KSE - Knowledge Self-Efficacy; EH - Enjoyment in Helping Others
 (2) * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Table 3. Path Coefficient Comparisons between Sellers and Non-Sellers

The between-group differences were calculated with t test as shown in Table 3. Specifically, anticipated extrinsic rewards were significant for both sellers and non-sellers, and their effects were significantly different with the coefficient of the non-sellers' group significantly higher than that of the sellers' group ($\Delta\beta = 0.025$, $t = 8.353$, $p < 0.001$), thus H1 was not supported. Anticipated reciprocity relationship was found to be significant for both groups, and their effects were significantly different with the coefficient of the sellers' group significantly higher than that of the non-sellers' group with $\Delta\beta = 0.109$ ($t = 33.394$, $p < 0.001$), thus supporting H2. Knowledge self-efficacy were also found to be significant for both groups, and their effects were significantly different with the coefficient of the sellers' group significantly higher than that of the non-sellers' group with $\Delta\beta = 0.206$ ($t = 67.796$, $p < 0.001$), thus H3 was not supported. H4 was also supported, as the effect of enjoyment in helping others was significant for non-sellers ($\beta = 0.221$, $t = 3.551$, $p < 0.001$) but insignificant for sellers ($\beta = 0.064$, $t = 1.389$, $p > 0.1$).

Conclusion and Discussion

The main purpose of this study is to explore the differences between sellers and non-sellers in terms of their information sharing behavior in social commerce sites. We identify intrinsic and extrinsic benefits as the key direct antecedents, and explore the moderating role of sellers/non-sellers in the relationship between extrinsic and intrinsic benefits, and information sharing behavior. The results in the first phase suggest the differences between sellers and non-sellers in motivations to share knowledge in online social commerce sites.

General Discussion

Although using intention to substitute actual behavior in Phase 1, the results still shows that there are indeed group-differences between sellers and non-sellers in their motivations to share information. Consistent with our hypotheses, sellers are motivated more by anticipated reciprocity relationship, and non-sellers are motivated more by enjoyment in helping others. However, anticipated extrinsic rewards are failed to be proven to have a strong effect for sellers. A plausible explanation is that the rewards here are mainly virtual rewards from the social commerce sites. However, sellers may care for actual revenues in the real world rather than virtual gains. Another surprising result is that sellers are driven more by knowledge self-efficacy than non-sellers. This may because sellers are more professional compared with non-sellers. They are more confident on their abilities to share information. Their prior information sharing behavior in social commerce site may reinforce their knowledge self-efficacy. Therefore sellers are driven more by knowledge self-efficacy.

Implications

The sustainability of social commerce sites depends on users' volunteer information sharing behavior (Liang and Turban 2011). This study can advance the understandings of information sharing literature by exploring the differences between different types of users. Though numerous psychological factors have been identified as the antecedents of information sharing in the context of virtual communities, they do not distinguish motivations across different user groups. In the social commerce sites, sellers and non-sellers pursue different goals for their participations, suggesting the between-group differences in motivations which is still understudied. Our study can encourage further studies to explore more differences across different types of groups.

This study also provides implications for practice. The social commerce sites are still relatively new in the social media arena such that the owners are still finding ways to motivate their users. By understanding differences between sellers and non-sellers, owners of social commerce sites can adopt different motivating strategies for different types of users. This could enhance the effectiveness of motivating strategies and help social commerce sites to better attract and retain members to gain sustainability in the contemporary high competition environment.

Conclusion

In this study, we use goal theories to explain how individual differences affect information sharing behavior in the social commerce sites. Unlike other studies on information sharing, we extend the existing framework by exploring the differences between sellers and non-sellers on information sharing behavior in the social commerce sites. In addition, we will empirically test our research model and hypotheses using combined method (subjective survey data and behavioral usage data) in a longitudinal setting. We have finished the first phase of this study. Phase 2 of data collection (actual behavioral usage data) will be finished two months later. We hope that our study will bring new insights to researchers with a strong interest in understanding information sharing behavior in the social commerce sites.

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