User-Centered Investigation of Social Commerce Design

Zhao Huang and Morad Benyoucef

Telfer School of Management, University of Ottawa
55 Laurier Avenue East, Ottawa, ON K1N 6N5, Canada
zhuan2@uottawa.ca, benyoucef@telfer.uottawa.ca

Abstract. Evidence from relevant studies indicates that social commerce can benefit from a user-centered design. This study explores users' perception and preferences of social features implemented on current social commerce websites, focusing on two major categories of social commerce platforms. Results point to a number of important social features, such as the "Comment" button, allowing users to provide feedback, and encouraging users to respond to comments made by others. We also present and discuss the differences in user preferences of social features between the two social commerce platform categories. By considering the user perspective, this study aims to help business organizations develop successful social commerce systems.

Keywords: Social commerce, Social media, Social design, User-centered design, User preferences.

1 Introduction

The widespread use of social media applications, such as blogs, forums, social networks and wikis is an opportunity for the emergence of a new business model called social commerce [1]. Social commerce generally refers to online commercial applications that harness social media and Web 2.0 technologies. It supports social interactions and user-generated content to assist users in their decision making and acquisition of products and services in online marketplaces and communities [2]. Recently, social commerce has been rapidly proliferating, driven not only by the popularity of social media, but because user participation, one of the key elements of social media applications, has a significant impact on business. For example, Threadless.com uses an online community to encourage users to submit ideas about T-shirt designs and the best designs are selected as a part of products. This way of doing commerce stimulates product development, captures market trends and even increases sales [3]. As a result, thousands of social commerce websites are being created and made accessible to a large audience of users [4]. However, challenges for social commerce design remain high. One such challenge stems from the fact that social commerce is being developed in two major ways, yielding two categories of social commerce applications. The first one is based on e-commerce websites that leverage social media features; the second is built on social network websites that offer e-commerce features [5]. Such diversity, among other challenges, increases the need for

A.A. Ozok and P. Zaphiris (Eds.): OCSC/HCII 2013, LNCS 8029, pp. 287–295, 2013.

understanding the complexity of social commerce design. In addition, social commerce involves and relies on user participation. Without considering the users' point of view in informing social commerce design, social commerce may not have the wide consumer acceptance that researchers and practitioners claim it deserves.

Therefore, this study takes a user-centered approach in investigating the design of social commerce platforms. We focus on specific social commerce websites selected from the two main social commerce categories, identifying their important and less important social design features. We also present and discuss significant differences in user preferences towards social features between the two categories of social commerce. The paper is structured as follows: Section 2 briefly reviews related work on social commerce. It is followed by a presentation of the research instruments and procedure in Section 3. Section 4 reports on and discusses the study results. Finally, conclusions are drawn and future studies are recommended in Section 5.

2 Related Work

Social commerce is defined as commerce activities mediated by social media [5]. However, Stephen and Toubia [6] depict a more comprehensive definition where social commerce is a form of online social media that allows users to participate actively in the marketing and selling of products and services in online marketplaces and communities. Evidence from previous studies indicates that there is no unique definition since this concept can be explained from marketing [7], computing [8], and users' perspectives [9]. In spite of the various definitions, it can be argued that social commerce is a subset of e-commerce [10], even though some believe that social commerce is an evolution of e-commerce [5]. One major difference between e-commerce and social commerce is that the e-commerce user is usually perceived as isolated, disconnected from his community, and conducting an individual act. In addition, e-commerce usually allows a one-way information flow from business to users, where the user may find it difficult to send information back to the e-commerce [8]. But the interaction between users and social commerce differs significantly because social commerce is perceived as the interaction of a community of users and potential users with online commerce services and applications. Such interaction allows users to express their preferences and share recommendations with members of their communities, potentially affecting their purchase decision making and behaviors [2].

Kim and Park [10] further claim that social commerce fosters rich social interactions and user contributed content to facilitate the online buying and selling products. This significantly supports users' purchase behavior in terms of searching for products, acquiring feedback, and disseminating word-of-mouth referrals. Similarly, Kim and Srivastava [11] examined the influence of social media design in e-commerce on user purchase decision making. The study found a set of important social design features that help users make better decisions, including providing feedback, rating reviews and chatting with friends online. On the other hand, leveraging social media tools can have a profound impact on business applications and strategies. For instance, social media increases user power, transforming online marketplaces from

product-oriented to user-centered platforms [12]. Likewise, Serrano and Torres [13] found that using social media makes significant improvements in the social and collaborative capabilities of business processes.

Existing empirical research investigated the business needs [14], examined the service quality [19] and analyzed the marketing requirements [7] of social commerce design, while granting little attention to the users' perceptive. It can be argued that failing to understand users and their needs will keep social commerce from reaching its potential. Moreover, social commerce can be developed in two major directions: one brings e-commerce to social network platforms; the other brings social media to e-commerce platforms [5]. This diversity may call for implementing different social features on different social commerce websites. In other words, users may have different preferences of social features between the two social commerce categories.

To this end, this study aims to explore users' perceptions of social commerce design, identifying the important social features on specific social commerce websites and revealing differences in user preferences of social features between the two categories of social commerce websites. By doing so, we hope to contribute to user centered deign of social commerce.

3 Methodology

To conduct this study, an online survey was employed with the purpose of capturing users' perception and preferences of social features on social commerce websites. The survey was developed based on a conceptual model for social commerce design [2], which identifies four core design elements, namely "Individual", "Conversation", "Community", and "Commerce". Individual refers to providing a sense of self identification and user awareness, such as offering a personal profile or presenting an activity profile. Conversation relates to offering a diversity of interactions among users in order to build peer communities. Community is an aggregation of user groups, which forms the network power and produces social effects. Commerce is a set of commercial functionalities that engage users in various services and applications provided by online businesses. Guided by these key elements, we developed social design criteria by leveraging recent social media studies (e.g., [7]) and e-commerce studies (e.g., [11]). Based on these criteria, associated social design features were selected and grouped into the corresponding social commerce design elements. Finally, survey questions were developed.

Four social commerce websites were selected as representatives of current social commerce systems: Amazon and Groupon, which represent e-commerce systems that incorporate social media applications, and Facebook Starbucks and Facebook Green Day, which represent social network platforms that incorporate e-commerce applications. In total, 280 participants took part in our social design feature assessment survey. 70 participants were assigned to each target social commerce website. All participants are assumed to have good knowledge of social media applications and relevant experience using a social commerce website. Each participant followed the same assessment process consisting of: (1) a free review of the assigned website; the

(2) completing the online questionnaire. The free review allows participants to study the target social commerce website (in case they are not familiar with its functionalities), or, if they choose to, focus only on the specific social design features found on the website.

4 Discussion

4.1 Important and less Important Social Design Features

Table 1 shows a set of important social design features that have been found on the target social commerce websites. The most common ones are that the websites provide the "Comment" button, allowing users to give feedback; the websites allow users to respond to comments made by others, and the websites offer rewards to users. These common features are meant to encourage user generated content and user distribution of that content, which motivates social connection and collaborative interaction among users. This can have the effect of transforming online marketplaces into social, user-centered environments, where users can interact with more people and use their knowledge and experiences to support each other in achieving their expected service outcomes [15].

Moreover, important social features have been identified on each specific social commerce website. For example, on Amazon, the most important social feature is that the website allows users to provide product reviews. On Groupon, the social feature of "Wish-Lists" creation was identified as the most important. Likewise, the social feature of providing the "Like" button which allows users to express what they like was found to be the most important on Facebook Green Day. These findings suggest that different social commerce platforms have different sociability requirements. Hence organizations need to consider their business objectives and implement relevant strategies that are congruent with, or suited to different social design features as well as to the goals of the organization [16]. For example, if the primary concern of the organization mainly focuses on commercial services provision (e.g., e-commerce-based websites), then social features design should emphasize more on encouraging user participation and providing quality website services to support all user purchase activities. Nevertheless, if a business intends to develop social network websites (e.g., Facebook-based websites), then social design features in relation to developing user conversation and building brand communities should be paid more attention.

Some less important social design features have also been identified on each target social commerce website (see Table 2). As shown in the table, the least important social feature on Amazon consists of branded online applications, such as social games. On Groupon, the feature of reporting user activity through notifications is identified as the least important. Similarly, allowing a group of users to buy products together, and providing flash sales are found to be the least important social features on Facebook Starbucks and Facebook Green Day respectively. These findings may imply that although a variety of social design features become available for social

Table 1. Important social design features

Amazon			
Important social design features	Mean	SD	Significance
Allowing users to provide product reviews	1.92	0.75	T=-5.693, P=0.000
Proving the "Comment" button	2.10	0.77	T=-3.516, P=0.001
Offering rewards to users	2.11	0.76	T=-3.413, P=0.001
Allowing users to rate other people's reviews	2.15	0.78	T=-2.872, P=0.005
Allowing to respond to comments made by others	2.17	0.79	T=-2.700, P=0.009
Providing product recommendations	2.20	0.83	T=-2.269, P=0.026
Allowing experts to give advice on what to buy	2.21	0.82	T=-2.158, P=0.034
Providing the "Send" button	2.24	0.74	T=-2.074, P=0.042
Groupon			
Proving the "Comment" button	1.76	0.55	T=-8.882, P=0.000
Allowing users to provide product reviews	1.83	0.70	T=-6.113, P=0.000
Allowing users to create "Wish-Lists"	1.93	0.80	T=-4.290, P=0.000
Allowing to respond to comments made by others	1.94	0.77	T=-4.281, P=0.000
Offering rewards to users	1.97	0.76	T=-4.064, P=0.000
Providing the "Like" button	2.04	0.80	T=-3.093, P=0.003
Allowing a group of users to buy products together	2.04	0.78	T=-3.165, P=0.002
Providing flash sales	2.06	0.84	T=-2.796, P=0.007
Allowing experts to give advice on what to buy	2.06	0.93	T=-2.552, P=0.013
Providing product recommendations	2.13	0.76	T=-2.339, P=0.022
Facebook Starbucks			
Allowing to respond to comments made by others	1.87	0.53	T=-6.920, P=0.000
Providing the "Comment" button	1.89	0.64	T=-5.532, P=0.000
Offering the "Like" button	1.91	0.61	T=-5.624, P=0.000
Offering rewards to users	2.01	0.89	T=-2.818, P=0.006
Allowing users to provide product reviews	2.03	0.76	T=-3.150, P=0.002
Facebook Green Day			
Providing the "Like" button	1.76	0.73	T=-6.751, P=0.000
Providing the "Comment" button	1.79	0.61	T=-7.682, P=0.000
Allowing to respond to comments made by others	1.79	0.65	T=-7.147, P=0.000
Allowing users to chat with people	1.87	0.70	T=-5.681, P=0.000
Providing a community to interact with users	1.93	0.62	T=-5.634, P=0.000
Timely updating social activities (i.e. recent posts)	1.99	0.73	T=-4.129, P=0.000
Offering rewards to users	2.03	0.72	T=-3.691, P=0.000
Announcing online and offline social events to users	2.13	0.77	T=-2.347, P=0.022

commerce websites, it is not enough to simply clone social design features from one website to another. In fact, there is a need to understand the social design features and characteristics of social commerce websites, and ensure that social design features meet the needs of social commerce websites. By doing so, organization can efficiently harness various social features and derive value from them.

Table 2. Less important social design features

Amazon			
Less important social design features	Mean	SD	Significance
Providing branded online applications, social games	3.21	1.02	T=6.467, P=0.000
Presenting information about user recent activities	3.00	1.15	T=4.196, P=0.000
Reporting user activity through notifications	2.77	1.00	T=2.955, P=0.004
Allowing users to chat with people	2.75	0.90	T=3.009, P=0.004
Sharing product review on social networks	2.73	0.98	T=2.647, P=0.010
Allowing users to co-browse online store together	2.63	0.83	T=2.134, P=0.036
Groupon			
Presenting information about user recent activities	3.47	1.16	T=8.127, P=0.000
Providing branded online applications, social games	3.23	1.03	T=7.154, P=0.000
Reporting user activity through notifications	2.80	1.08	T=3.540, P=0.001
Allowing users to chat with people	2.79	0.99	T=3.754, P=0.000
Providing its storefronts on social networks	2.60	1.01	T=2.139, P=0.036
Allowing users to create own conversation topics	2.57	0.80	T=2.384, P=0.020
Facebook Starbucks			
Presenting information about user recent activities	3.27	1.04	T=7.633, P=0.000
Allowing a group of users to buy products together	2.77	0.93	T=4.084, P=0.000
Allowing users to co-browse online store together	2.71	0.93	T=3.574, P=0.001
Providing its storefront on other social networks	2.51	0.83	T=2.010, P=0.048
Facebook Green Day			
Presenting information about user recent activities	3.31	1.00	T=8.088, P=0.000
Providing flash sales	3.01	0.97	T=5.753, P=0.000
Allowing users to co-browse online store together	2.86	0.82	T=5.195, P=0.000
Allowing a group of users to buy products together	2.80	1.04	T=3.630, P=0.001
Sharing product review on social networks	2.73	0.88	T=3.614, P=0.001

4.2 Social Design Feature Preferences

Our analysis also indicates that there are significant differences in user preferences towards some social design features between the two social commerce categories (see Table 3). More specifically, the social features of providing product recommendations, allowing experts to give advice on what to buy and why, and "Wishlists" creation, are more favored by participants who used e-commerce-based websites than those who used Facebook-based websites. Conversely, the features of allowing users to chat with other people, providing an online community to interact with users, and offering online and offline events to users are more preferred by participants who used Facebook-based websites than those who used e-commerce-based websites.

Table 3. Preference differences of social design features

Social design features	E-commerce-based		Facebook-based	
	Amazon	Groupon	Starbucks	Green day
Providing product recommendations	2.20(0.83)	2.13(0.76)	2.31(0.89)	2.43(0.81)
Significance				F=7.689, P=0.000
Offering experts advice on what to buy	2.11(0.82)	2.06(0.93)	2.16(0.82)	2.21(0.96)
Significance				F=10.884, P=0.000
Allowing users to create "Wish-lists"	2.21(0.89)	1.94(0.83)	2.51(0.92)	2.54(0.89)
Significance				F=8.112, P=0.000
Allowing users to chatting with people	2.75(0.90)	2.79(0.99)	2.21(0.93)	1.87(0.70)
Significance				F=11.730, P=0.000
Providing online community to interact with users	2.44(0.95)	2.40(0.92)	2.14(0.78)	1.93(0.62)
Significance				F=4.271, P=0.001
Offering online-offline events to users	2.48(0.71)	2.44(0.87)	2.24(0.73)	2.13(0.77)
Significance				F=2.667, P=0.022

These results may signal that although the two categories of social commerce websites have utilized social features to facilitate the online buying and selling of products and services, the goals of users' visit to these websites are significantly different. Actually, users visit e-commerce-based websites primarily for purchasing products. However, users go to Facebook-based websites with the purpose of communicating and information sharing. These implications also echo the view of other social commerce studies, such as Marsden [18], which indicates that the essence of using social media tools on e-commerce (e.g., Amazon and Groupon) is to help people connect where they buy, whereas, the essence of utilizing commercial features on social media platforms (e.g., Facebook Starbucks and Facebook Green Day) is to help people buy where they connect. Therefore, it is important for business organizations to understand the characteristics of different social commerce categories, and develop appropriate social commerce platforms to support users' needs.

5 Conclusion

Evidence from previous studies indicates that social commerce design is facing big challenges in developing user centered social commerce websites. This research explores social design features by conducting an empirical study, with an emphasis on two categories of social commerce websites. We identified a set of important and less important social design features on the target social commerce websites, the most important ones being the "Comment" button provision, allowing users to give feedback; encouraging users to respond to comments made by others, and offering rewards to users; while the least important feature consists of presenting information

about users' recent activities. In addition, users' preference differences towards social features with regards to the two social commerce categories have been identified. Each social commerce website has its own business objectives so it is important to understand these objectives when developing social commerce. In this way, companies with different objectives can achieve their desirable social commerce design outcomes. Moreover, addressing the user perspective in social commerce design can provide concrete prescriptions for developing more user-centered social commerce websites that may be expected to increase user participation and the volume of sales by aligning with the needs of the users.

There are limitations to this study. For example, we only selected four social commerce websites, which may provide a limited insight into social design feature identification. Further studies may select a larger social commerce sample as well as other social network–based platforms (e.g., Twitter). In addition, as indicated by Kim and Park [10], users' perception significantly influences their interaction with social commerce. Hence, future research may investigate users' preferences and their performance with social design features in order to better understand their needs in terms social commerce design.

References

1. Liang, T.P., Turban, E.: Introduction to the Special Issue Social Commerce: A Research Framework for Social Commerce. International Journal of Electronic Commerce 16(2), 5–14 (2011)
2. Huang, Z., Benyoucef, M.: From e-commerce to social commerce: A close look at design features. Electronic Commerce Research and Applications (2013), http://dx.doi.org/10.1016/j.elerap.2012.12.003
3. Huang, Z., Yoon, S.Y., Benyoucef, M.: Adding Social Features to E-commerce. In: The 5th Annual Conference on Information Systems Applied Research, New Orleans, Louisiana (2012)
4. Tredinnick, L.: Web 2.0 and Business. Business Information Review 23(4), 228–234 (2006)
5. Curty, R.G., Zhang, P.: Social commerce: Looking back and forward. Proceedings of the American Society for Information Science and Technology 48(1), 1–10 (2011)
6. Stephen, A.T., Toubia, O.: Deriving Value from Social Commerce Networks. Journal of Marketing Research XLVII, 215–228 (2009)
7. Constantinides, E., Fountain, S.J.: Web 2.0: Conceptual foundations and marketing issues. Journal of Direct, Data and Digital Marketing Practice, 231–244 (2008)
8. Lee, S.-H., DeWester, D., Park, S.R.: Web 2.0 and opportunities for small business. Springer (2008)
9. Kang, J., Park-Poaps, H.: Motivational Antecedents of Social Shopping for Fashion and its Contribution to Shopping Satisfaction. Clothing and Textiles Research Journal 29(4), 331–347 (2011)
10. Kim, S., Park, H.: Effects of various characteristics of social commerce (s-commerce) on consumers' trust and trust performance. International Journal of Information Management (2012), http://dx.doi.org/10.1016/j.ijinfomgt.2012.11.006

11. Kim, Y.A., Srivastava, J.: Impact of social influence in e-commerce decision making. In: Proceedings of the Ninth International Conference on Electronic Commerce, New York, NY, USA, pp. 293–302 (2007)
12. Wigand, R.T., Benjamin, R.I., Birkland, J.L.H.: Web 2.0 and beyond: implications for electronic commerce. In: Proceedings of the 10th International Conference on Electronic Commerce (2008)
13. Serrano, N., Torres, J.M.: Web 2.0 for Practitioners. IEEE Software (2010)
14. Liang, T.P., Ho, Y.T., Li, Y.W., Turban, E.: What Drives Social Commerce: The Role of Social Support and Relationship Quality. International Journal of Electronic Commerce 16(2), 69–90 (2011)
15. Murugesan, S.: Understanding web 2.0. The IEEE Computer Society (2007)
16. Kietzmann, J.H., Hermkens, K., McCarthy, I.P., Silvestre, B.S.: Social media? Get serious! Understanding the functional building blocks of social media. Business Horizons 54(3), 241–251 (2011)
17. Kim, D.: Under what conditions will social commerce business models survive? Electronic Commerce Research and Applications (2012), http://dx.doi.org/10.1016/j.elerap.2012.12.002
18. Marsden, P.: Social commerce: Monetizing social media. SYZYGY Deutschland Gmbh, Germany (2010)
19. Lee, J., Cha, M.S., Cho, C.: Online Service Quality in Social Commerce Websites. In: Khachidze, V., Wang, T., Siddiqui, S., Liu, V., Cappuccio, S., Lim, A. (eds.) iCETS 2012. CCIS, vol. 332, pp. 335–351. Springer, Heidelberg (2012)