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RESEARCH PAPER

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Understanding IT-Enabled Social Features in Online Peer-to-Peer Businesses for Cultural Goods

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Abstract

Although the use of IT-enabled social features is gaining prominence on online peer-to-peer platforms, the use of these features is not well understood in the context of e-commerce marketplaces. In this study, we explain the effects of using IT-enabled social features for sellers by using data from Etsy.com, which is an online peer-to-peer marketplace for cultural goods that provides social features to its participants. Using the theory of fields of cultural production, we propose hypotheses regarding the direct and indirect impact of IT-enabled social features on sales. We find that sellers' use of IT-enabled social features for community participation (e.g., following members) and content curation (e.g., sharing favorite items) is positively associated with their online status, which in turn is positively associated with their sales. However, sellers' use of IT-enabled social features is directly negatively associated with sales. Overall, we find that the indirect positive association is large enough to offset the negative direct association. These results have important implications for sellers on online peer-to-peer platforms and for platform design.

Keywords: Online Communities, Cultural Goods, Peer-to-peer Economy, Status.

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1 Introduction

Online peer-to-peer business platforms serve as an alternative to modern market exchanges by facilitating transactions among individual buyers and sellers (instead of firms) and providing a marketplace and payment services for transactions (Sundararajan, 2014). Online peer-to-peer business platforms have shown substantial growth in recent years. According to data from PricewaterhouseCoopers (2015), global revenue for the peer-to-peer economy is expected to increase from roughly $15 billion to an estimated $335 billion by 2025. The products and services exchanged on online peer-to-peer business platforms are diverse, covering unique asset sales (e.g., Etsy) and services such as housing (e.g., Airbnb) and transportation (e.g., Uber), among others. Online peer-to-peer business platforms for unique and vintage product sales have become increasingly popular among buyers who desire to purchase artisanal goods instead of mass-produced goods.

Following the rapid rise of social media technology, peer-to-peer platforms for asset sales have moved from only facilitating transactions between buyers and sellers to also encouraging social relationships among their members. Many peer-to-peer platforms, such as Etsy, DaWanda, and ArtFire offer IT-enabled social features that promote community participation and new product discovery. For example, Twitter-like

follower/following features allow users to connect and engage with one another, and members can share their favorite products through curated product lists. Since continued participation from users is key to the success of these social features, and the demise of many online communities is attributed to a lack of user participation (Ma & Agarwal, 2007; Ren & Kraut, 2011), online platform providers are always looking for methods to ensure continued user participation (Kraut et al., 2012).

Although participation in online communities is well studied (Wasko & Faraj, 2005), the literature mainly focuses on communities where users interact with peers devoid of commercial transactions. The online communities of peer-to-peer platforms such as Etsy and DaWanda are different in several ways. First, in addition to participating in the social aspects of the community, the users also transact as buyers and/or sellers. As such, there are economic incentives generated by the transactional aspect that influence participation in the community. Second, sellers have mixed incentives to participate in the online community. On the one hand, participating in the community by following others and posting in forums may increase the visibility of sellers on the platform and subsequently increase their sales (Stephen & Toubia, 2010). On the other hand, following other sellers and sharing their products could be considered an "endorsement" for their competitors and could negatively impact sales by diverting traffic away from a seller's page.

With this motivation, we conduct this study to examine and understand the effect of different types of community participation by sellers on their economic performance. Our research questions are as follows:

RQ1: How does participation in the community of an online peer-to-peer market impact the economic performance of sellers?

RQ2: How does this impact on economic performance differ for different types of online community participation?

To answer these questions, we collected data from Etsy.com, which is an online peer-to-peer platform for unique handmade and vintage products. These products fall under the category of cultural goods[1], a term which also includes various forms of art, such as paintings, sculptures, and photography (Bourdieu, 1985; Levina & Arriaga, 2014). We use the theory of fields of cultural production developed by Pierre Bourdieu (Bourdieu, 1983) to explain the use of IT-enabled social features by sellers in an online marketplace for cultural goods. According to Bourdieu, markets for cultural goods function differently from markets for commercial goods. In markets for cultural goods, it is critical for producers and sellers to cultivate relationships with other members of the field of cultural production (e.g., peers, critics, and the interested public) in order to gain status in the marketplace and make a profit in the long term (Bourdieu & Nice, 1980).

In this study, we examine how sellers in an online peer-to-peer marketplace for cultural goods gain status by using IT-enabled social features that allow them to connect with each other. We identify two types of IT-enabled social features: (1) features for community participation (e.g., following other members, communicating with members in teams), and (2) features for content curation (e.g., creating themed lists with favorite products from other sellers, and sharing others' products). Subsequently, we empirically examine the relationship between the use of these IT-enabled social features, online seller status, and sales using a panel data set collected from Etsy.com that includes data on 1,784 sellers of products in the glass sculpture category from January to December 2015.

We find that sellers' use of IT-enabled social features for community participation and content curation is positively associated with their online status, but negatively associated with their sales. We also find that online seller status is positively associated with sales. We show that, overall, the positive association between the online status of a seller and sales is large enough to offset the negative association between community participation and sales.

Our work extends previous research in several key ways. We contribute to the literature on peer-to-peer platforms for asset sales by focusing on social processes among platform members. Further, we specifically study the context of cultural goods, which exhibits different properties than the overwhelmingly studied context of commercial goods. We also contribute to the literature on status achievement in online environments by empirically testing how sellers' actions contribute to their online status achievement and how online status is associated with their performance. Ours is the first study to link social performance (participation in an online community) with economic performance (sales). Finally, we provide actionable insights related to IT-enabled social features to community members and online platform providers.

The rest of the paper is organized as follows. In Section 2 we describe the context of this study. In Section 3 we discuss relevant literature. In Section 4, we develop the research hypotheses. In Section 5, we describe the research design, the research model, and the results of this study. In Section 6, we discuss the study's implications and future research opportunities.

[1] http://en.unesco.org/creativity/sites/creativity/files/clt_cpd_note_list_goods_services_en_092004.pdf

2 Research Context

The context of this study is Etsy.com, an online peer-to-peer marketplace that facilitates the sale of unique handmade or vintage items online. Some of the product categories on Etsy include art and collectibles, handmade jewelry, and clothing. Etsy.com launched in 2005 and has continued to grow—by the end of December 31, 2014, it counted 54 million members and gross merchandise sales amounting to $1.93 billion (Etsy, Inc., 2015).

Etsy members are primarily creative entrepreneurs (henceforth, sellers) and shoppers who purchase these unique handmade products. In order to become a member of the Etsy community, individuals create a user profile on Etsy. Sellers also must create a shop page and display a link to their shop page on their user profile. A seller on Etsy has a distinct shop page and user profile, each with its own web address. Although Etsy allows shop owners to maintain multiple shops, most sellers have a single shop, and all of the sellers in our reported data sample had a single shop.

On the shop page, sellers display the products they have for sale, the number of items sold to date, and the date the shop was opened. On the user profile, sellers display their name, picture, a short bio, a link to their shop, and records of social activities they have engaged in by using the IT-enabled social features on Etsy.

There are two different types of IT-enabled social features on Etsy: (1) features that facilitate socializing with other members, such as following other sellers and becoming members of teams; and (2) features that enable sharing content, such as sharing other sellers' products and creating treasury lists (collections of products from other sellers that follow a particular theme). Socializing with other Etsy sellers via following allows any seller to receive updates on the social activities of the followed seller. These activities include updates to treasury lists, favorite products and shops, and team memberships of the followed seller. A seller can unilaterally decide to follow another seller, and the relationship does not have to be reciprocated. In this sense, following a seller on Etsy is similar to following a user on Twitter, where the follower receives updates from the followed user, but not the other way around. Following a seller suggests that the follower believes that the followed seller will continue to provide interesting content in the future. In addition, sellers can join teams; this enables them to socialize on Etsy, which is similar to socializing in online forums. In teams, sellers can easily connect with other sellers to share information pertinent to their business or ask for and give advice about different issues concerning their business. Additionally, sellers use teams as go-to hubs to organize social gatherings online (e.g., online labs) and offline (e.g., craft fairs).

Sellers on Etsy manage and share their favorite content via the "favorites" tool and treasury lists. Through the favorites tool, sellers mark products they like from other sellers as "favorites" (a process that is similar to bookmarking). A list of a seller's favorite products is displayed on their seller profile. Marking products from other sellers as favorites also serves a social function by communicating a user's appreciation for the product and offers positive feedback directly to the seller. Preference for products made by other sellers can also be shown by using the treasury lists feature. Treasury lists are themed collections of products from other sellers, which are shared on a seller's profile page and can be viewed by other members of the platform. Sellers whose treasury lists are "favorited" by many others are considered to be community tastemakers and are often featured on Etsy's main page.

We chose Etsy as our research context for two main reasons. First, Etsy is the most well-known online peer-to-peer platform for cultural goods. Unlike other peer-to-peer platforms for cultural goods, such as Amazon Handmade, where users do not socialize with other platform members, Etsy provides IT-enabled social features which are widely utilized by its users. Hence, it provides a suitable context for the study of IT-enabled social features in online peer-to-peer platforms. Second, Etsy sellers publicly display the number of sales they have made to date, which allows us to gather information on users more easily. As such, Etsy provides a suitable context for examining the relationships between peer-to-peer platforms' IT-enabled social features and economic outcomes such as sales.

3 Literature Review

In this section, we review two streams of the literature that are relevant to understanding social processes in online peer-to-peer marketplaces for cultural goods. First, we review the literature on electronic commerce, which has been primarily focused on the transactional aspects of e-commerce marketplaces. The main variable of interest in this stream has been product sales, implicitly assuming that the sellers' only goal is to maximize sales. While product sales are important in the context of peer-to-peer marketplaces for cultural goods, it is not the only important outcome for sellers in these marketplaces, who seek both social and economic outcomes. Next, we review the relevant literature on the social processes that govern member participation in an online community. The main focus of this stream has been examining user motivations for participation in online communities devoid of economic transactions.

3.1 E-Commerce Platforms

Electronic commerce platforms are market intermediaries that facilitate computer-mediated transactions among groups of producers and buyers (Thomas, Autio, and Gann, 2014; Yadav and Pavlou, 2014). Transactions mediated by online platforms have traditionally been studied according to the types of parties that interact—namely business-consumer, business-business, and consumer-consumer (Yadav and Pavlou, 2014). The e-commerce literature has paid a great deal of attention to business-business and business-consumer interactions on online platforms by investigating issues related to marketplace design, pricing, information asymmetries that arise between buyers and sellers, and mechanisms that mitigate these information asymmetries (Einav, Farronato, & Levin, 2015).

Some studies have investigated online feedback and user reputation as mechanisms by which information asymmetry problems in these marketplaces are mitigated (Ba & Pavlou, 2002; Bolton, Katok, & Ockenfels, 2004; Pavlou & Dimoka, 2006; Dellarocas & Wood, 2008). Online feedback mechanisms enable buyers to learn about sellers' previous transactions and determine their trustworthiness (Pavlou & Dimoka, 2006). According to Dellarocas (2005), reputation mechanisms play a role in electronic commerce by either sanctioning (encouraging fair transactions through the threat of future punishment) or signaling (distinguishing high-quality sellers from low-quality ones). Different types of reputation mechanisms on online platforms (e.g., number and quality of reviews and ratings) impact the likelihood of an online transaction and create price premiums for reputable sellers (Bolton et al., 2004; Forman, Ghose, & Wiesenfeld, 2008; Pavlou & Dimoka, 2006). Notably, these studies generally allege electronic commerce operates under standard economic models, often assuming that sellers participating in e-commerce platforms are profit maximizers and that the goods they sell are commercial goods.

This stream of literature may not apply to cultural goods where both economic and social motives guide the behavior of participants (Bourdieu, 2011). Moreover, while the transactional aspects of online peer-to-peer marketplaces have been studied in the literature, there is little research that looks at IT-enabled social features on these platforms. Below, we summarize prior research on online communities.

3.2 Online Communities

Online communities are well-researched in the management information systems literature. The term "online community" refers to voluntary groups whose members share a common interest or experience and interact with one another primarily over the Internet (Forman et al., 2008). Members of online communities commit to the online community by developing attachment to the community as a whole (identity-based attachment) or attachment to individual community members (bond-based attachment) (Ren, Kraut, & Kiesler, 2007). One common theme in online community research has been asking why people choose to participate and contribute to online communities (Bateman, Gray, & Butler, 2011; Ma & Agarwal, 2007; Wasko & Faraj, 2005). Studies have shown that community members receive intrinsic benefits (e.g., self-efficacy and enjoyment) and extrinsic benefits (e.g., recognition and economic benefits) from social interactions with other community members (Bock, Zmud, Kim, & Lee, 2005; Kankanhalli, Tan, & Kwok-Kee, 2005; Zhang, Hahn, & De, 2013).

Another prominent stream of research within the online communities literature has examined the social processes that propel people to leadership positions in their communities. Studies have shown that an online community leader has a high number of incoming links from other community members, which can be seen as a marker of the community members' trust in the leader (Y. Lu, Jerath, & Singh, 2013). Similarly, another study found that opinion leaders in online review communities have a high number of fans (e.g., subscriptions), which in turn impacts the number and tone of the online reviews they write (Goes, Mingfeng Lin, & Ching-man Au Yeung, 2014). Finally, a recent study found that beyond high network centrality scores, online community leaders make more positive posts and use language that is familiar to other community members (Johnson, Safadi, & Faraj, 2015).

In this study, we investigate an online community of creative entrepreneurs and art enthusiasts: the Etsy community. The literature has identified a number of features that comprise an online community: (1) members share a common interest (Ren & Kraut, 2011); (2) they communicate with each other on the online forum (Kraut et al., 2012); (3) they contribute content to the community (Agarwal, Gupta, & Kraut, 2008); and (4) they share norms (Kraut et al., 2012). Etsy can be considered a community for the following reasons. First, Etsy members share a common interest (Ren & Kraut, 2011): they love art and crafts. Second, Etsy members communicate with one another via the Etsy platform to make purchases and form connections by using various IT-enabled social features. They follow other members by relying on them to provide new and exciting products. Furthermore, Etsy members can form teams to discuss topics relevant to their business or exchange ideas and suggestions (both online and offline). Third, Etsy members contribute content to the community by sharing their products (Bateman et al., 2011; Zeng and Wei, 2013). Many Etsy members who do not make products do not just passively consume shared content by others but also

share their favorite products by either marking them as "favorites" or creating inspirational lists of products with a theme. Finally, Etsy members share community norms, such as adherence to antique or handcrafted products. For example, many artists in the Etsy community expressed disappointment and concern about allegations that some artists on the community used mass production for their goods, with some users even leaving the community in protest (Tabuchi, 2015).

4 Theory Development

In this section, we explain the basic tenets of the theory of fields of cultural production and how that is a useful lens to understand the relations among buyers and sellers in our context, Etsy.com.

The theory of fields of cultural production was developed by Pierre Bourdieu in order to explain how cultural objects such as art, literature, and films are produced, evaluated, and consumed (Bourdieu & Johnson, 1993). He argued that the markets for cultural goods are governed by norms that are fundamentally different from the markets for commercial goods (Bourdieu, 2011). According to these norms, economic interest is not at the forefront in the markets for cultural goods. Instead, the norms dictate that the community of artists and art lovers has a prominent role in the production, dissemination and eventual economic success of sellers in the markets for cultural goods.

In order to explain the social relations among members of art communities, Bourdieu developed the notion of the "field". According to Bourdieu, a field is "a social space held together by (a) power relations among agents who belong to it, and (b) interest that is shared among those agents" (Bourdieu & Wacquant, 1992). The power relations among agents and the social hierarchy within a field determine the value of a work of art (Bourdieu, 1983). More recently, Levina and Arriaga (2014) applied the theory of fields of cultural production to the context of online user-generated content platforms in order to explain social processes that determine distinction and status on these platforms. Levina and Arriaga draw upon Bourdieu's theory of fields of cultural production to introduce the concept of online fields—defined as "social spaces where different agents consume and evaluate content in online platforms" (Levina & Arriaga, 2014). This notion of online fields is critical for user-generated content platforms, as it is within these online fields that agents on online platforms achieve status and distinction.

Status is the extent to which an individual is respected or admired by others within a particular social context (Levina & Arriaga, 2014). Agents in online fields strive to achieve distinction (status) through the production of content that is then evaluated by a complex web of social relations among agents in the field (Levina & Arriaga, 2014). On user-generated content platforms, agents can show admiration or respect for other members by using IT-enabled features such as commenting, downloading, liking, and friending (Levina & Arriaga, 2014). Different examples of status markers on user-generated content platforms include the number of views (YouTube), the number of followers and retweets (Twitter), and the number of likes and comments (Facebook).

We conceptualize the online peer-to-peer platforms for cultural goods as online fields of art producers and enthusiasts interested in sharing artwork. The online field is comprised of artists (people who present their art online for sale), tastemakers (people who collect and organize artwork from various creators), and the public (people interested in viewing or buying artwork). For the artist, achieving recognition and validation by the community leads to the accumulation of status (Bourdieu & Johnson, 1993). Sellers in online peer-to-peer marketplaces may use two different types of IT-enabled social features to achieve recognition and validation by the community: (1) features that enable community participation (e.g., following other members and communicating with members in teams); and (2) features that enable content curation (e.g., sharing favorite items and creating themed lists with favorite products from other sellers). Participating in the community by following others and being team members gives sellers higher visibility in the community and also shows commitment to the community. Higher visibility and active participation in community activities help sellers further consolidate their commitment to the community and identification with the community as a whole via identity-based and bond-based attachment (Ren et al., 2007). Therefore, activities such as following others and being team members, which are publicly visible to other community members, help sellers achieve recognition and validation in the community (i.e., online status). In addition, by curating and managing interesting content on their profiles, sellers demonstrate expertise and fine taste in certain domains and are likely to attract other community members who rely on these sellers to provide interesting collections of content within that specific domain in the future. Therefore, curating and managing content also helps sellers achieve recognition and validation in the community (i.e., online status).

4.1 Community Participation

Community participation in online platforms includes activities such as joining groups, leading groups and posting in forums (Oestreicher-Singer & Zalmanson, 2013). These activities are enabled chiefly via the IT-enabled social features provided by the online platform. On online peer-to-peer business platforms for cultural goods, sellers can connect with other members (including sellers, buyers, and tastemakers) through the use of IT-enabled social features. By

following others, sellers become informed in real time about the activities of the members they follow by receiving updates related to those members' activities in their feed. The "following" feature supports bond-based attachment in the community (Ren et al., 2007) and helps sellers easily visualize the connections they have with other members. Using the "following" feature may also increase sellers' visibility in the marketplace as they can be discovered by other members of the community on the followers' list of other members. Thus, the use of the "following" feature helps sellers achieve higher recognition by others in the community. Additionally, sellers may engage in reciprocal following (Faraj & Johnson, 2011), where a member who is following another becomes followed in return. Therefore, sellers who follow other members of the community are likely to receive more incoming links and achieve higher distinction in the marketplace. Achieving higher recognition and distinction via connecting with other community members directly contributes to the increase of sellers' online status in the marketplace.

Another social feature for community participation in online peer-to-peer marketplaces is becoming a member of teams. Teams are similar to online forums where sellers discuss different topics and organize events to interact with each other. Sellers who participate in community teams may also seek advice from the more experienced team members on how to improve their business. Team membership adds to the social experience of the community and is consistent with identity-based attachment (Ren et al., 2007).

Accordingly, members of specific teams will feel greater attachment to other members of that team, which may lead to an increase in the number of followers among team members due to identity-based attachment (Ren et al., 2007). Overall, we expect that community participation is positively associated with online status because of the increased visibility of the sellers, which encourages reciprocal following, and the creation of identity-based and bond-based attachment. Studies have found that online community leaders usually have a high number of incoming links (Johnson et al., 2015) and that a high number of incoming links in online communities is associated with high status (Goes et al., 2014; Y. Lu et al., 2013). However, if social connections are not reciprocated and following others is not associated with increased online status, community participation may not be especially helpful for sales. On the contrary, following other members may be seen as an "endorsement" of potential competitors on the platform (and their customers). Because the list of followed sellers is publicly displayed on the website, it provides opportunities for customers to leave and visit other sellers' shops (Stephen & Toubia, 2010).

As such, we developed the following research hypotheses regarding the relationship between community participation, online status, and sales.

H1a: Community participation by a seller, in the form of following others and becoming a member of teams, is *positively* associated with *online status*.

H1b: Community participation by a seller, in the form of following others and becoming a member of teams, is *negatively* associated with *sales*.

4.2 Content Curation

Online platforms such as YouTube, Instagram, and Pinterest allow users to create and share various types of digital content that include pictures and videos. While some of the content shared on these platforms is original, many users share content produced by others by managing lists of favorite content from the platform for others to enjoy (Oestreicher-Singer & Zalmanson, 2013). For example, YouTube users create lists of their favorite videos that can be viewed by users who visit their YouTube profile. On Pinterest, users create lists (called boards) with their favorite content from the web, typically organized around a specific theme, which is subsequently shared with other users on the website. Similar to other online platforms, users on Etsy share their favorite products from other sellers or organize favorite products into themed collections called treasury lists.

Prior research on various user-generated content platforms has provided empirical evidence for the relationship between content generation and social ties (Goes et al., 2014; Zeng & Wei, 2013). For example, findings from the photo-sharing platform Flickr show how users' posted content changes before and after they form social ties. Specifically, users tend to post similar content before forming social ties, but the similarity of content after the tie is formed will depend on the users' popularity level (Zeng & Wei, 2013). Another example from the online reviews website Epinions shows how a users' popularity level affects the amount and type of content shared with others: increased popularity increases the volume of shared content (Goes et al., 2014). Finally, a study of YouTube corroborates previous findings that online social interactions determine how online content is shared (Susarla, Oh, & Tan, 2012).

In the context of online peer-to-peer marketplaces, sellers who share their favorite products from other sellers and create themed collections are more likely to attract a higher number of followers who rely on them to share interesting content in the future. Also, by creating popular content boards, sellers may become community tastemakers and be featured on the platform's main web page. Therefore, we posit that content curation is positively associated with online

status (high number of followers). We also expect that content curation is negatively associated with sales, because by sharing other sellers' products, a seller is advertising other sellers by providing links to other sellers' products, which makes it easier for potential buyers to discover and purchase those products. These are represented by the following two hypotheses:

H2a: Content curation by a seller, in the form of creating lists and sharing favorite products, is *positively* associated with *online status*.

H2b: Content curation by a seller, in the form of creating lists and sharing favorite products, is *negatively* associated with *sales*.

4.3 Online Status and Sales

Prior studies in the information systems literature have paid little attention to status while mostly focusing on reputation in the context of online marketplaces. Status and reputation have sometimes been used interchangeably in previous literature; however, it is important to distinguish between the two concepts. Reputation is essentially an economic concept that captures quality differences based on past performance (Washington & Zajac, 2005). In the context of online electronic commerce platforms, reputation can be defined as prestige acquired by sellers that have shown good performance (Jensen & Roy, 2008). For example, indicators of reputation in an e-commerce marketplace are online reviews and seller ratings, which are generated by buyers based on their former transactions with the sellers. Status is essentially a social concept, and status differences reflect social characteristics that may exist independently of differences stemming from economic transactions (Washington & Zajac, 2005). Status is defined as prestige accorded to sellers because of their social positions (Jensen & Roy, 2008). For example, in the context of electronic commerce platforms, celebrities who design and sell products online have a higher status than unknown sellers of products because of their social position in society. While the majority of previous research on online platforms has been focused on reputation (Bolton et al., 2004; Pavlou, Liang, & Xue, 2007), in this study, we focus on status in the context of online peer-to-peer platforms. More specifically, we are concerned with understanding how online status—which is acquired as a result of online social interactions—affects sales on online peer-to-peer platforms for cultural goods.

In the business of cultural goods, artists have to successfully navigate the system of social relations and achieve status as recognition for their artwork (Bourdieu and Johnson, 1993). The success of an artist's work is largely determined by the relationships between the artist and the tastemakers, the artist and other artists, and the artist and the public. For example, on Etsy, if an artist's work is part of a tastemaker's collection, it is likely to attract a higher number of viewers. Similarly, if artwork is part of many members' collections, or if it has been marked as "favorite" by a large number of members, it means the artwork has received validation on a large scale. Sellers of cultural goods online benefit from having high online status (e.g., a high number of followers) because every follower they have is someone who finds the seller's products interesting and wants to receive more updates from that seller. Having many followers validates the artist's work and helps them establish high online status in the marketplace.

Prior studies have shown that people perceive goods as more valuable when the goods are controlled by high-status individuals and people also prefer to transact with high-status individuals more often (Thye, 2000). Therefore, buyers are more likely to purchase from sellers who have high online status in the community. Furthermore, having high online status is likely to be positively associated with sales because having more followers (i.e., more incoming links) equates to more visitor traffic (Stephen & Toubia, 2010). Therefore, we expect that high online status is positively associated with sales.

H3: Online status is positively associated with sales.

Our conceptual model summarizing the hypotheses (along with expected signs) is presented in Figure 1.

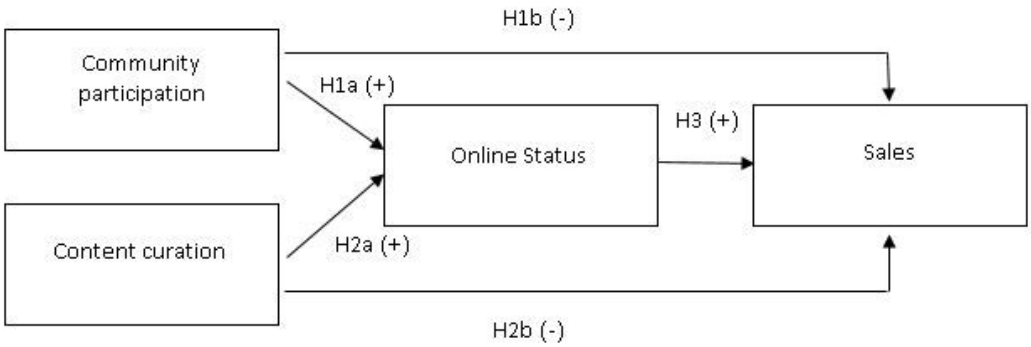

Figure 1. Conceptual Model

5 Research Methodology

5.1 Data Collection and Description

We collected data using a Java-based web crawler that retrieved information about sellers on Etsy.com in a given product category. The web crawler collected monthly data for sellers in the "glass sculpture" category on Etsy.com between January 24, 2015, and December 24, 2015. As such, our sample represents all the sellers who had at least one product for sale in the "glass sculpture" category at the time of data collection. In order to find these sellers, we conducted a search using the keyword "glass sculpture" on the main page that revealed all the products in this category, which were subsequently collected by our crawler. We randomly chose the glass sculpture category instead of a broader product category, such as sculpture, in order to make it easier for the crawler to collect all data for the subcategory. The crawler used a publicly available search result for the glass sculpture category, and collected the following data:

- Seller data: name, date of joining the website, the number of followers, the number of sellers followed, the number of teams joined, the number of treasury lists, the number of products marked as "favorite",[2] the number of products listed for sale, and the number of products sold since joining the website.
- Product data: name and description, price, and date listed for sale.

The data set contains 12,879 monthly panel observations for 1,728 unique sellers; all sellers had at least one item listed in the glass sculpture category. The panel is unbalanced; we only included sellers that had at least four consecutive observations during the data collection time frame in order to use lagged variables in the empirical analysis. All variables except for average price were collected by the crawler as they appeared on the website. Average price for a seller was calculated as the average price of all the products a seller had available for sale at the time of data collection.[3] Table 1 maps the collected variables to our study's constructs and Table 2 contains descriptive statistics.

5.2 Empirical Model

To test the hypotheses proposed above, we use simultaneous equation models. This approach is suitable when there is simultaneity between the dependent variable and the independent variables and has been used in several previous studies (Aggarwal, Gopal, Gupta, & Singh, 2012; Duan, Gu, & Whinston, 2008; X. Lu, Ba, Huang, & Feng, 2013). In order for the simultaneous equation models application to be effective, both equations have to be autonomous—i.e., each equation must have economic meaning in isolation from the other equation in the system (Wooldridge, 2010). According to Wooldridge (2010), the autonomy requirement fails when the endogenous variables in the systems are all chosen from the same economic unit. In our setting, the autonomy requirement is satisfied and both equations have economic meaning independent from the other equation.

The outcomes of interest in our estimation are online status and sales, but because of the recursive relationship between online status and sales (that is, increased followers lead to increased sales, but increased sales also lead to increased followers), we have two distinct but interrelated equations that model followers and sales.

[2] The data for the number of products marked as "favorite" (FAVORITES) was collected between July-December 2015.

[3] For 80% of the sellers, the change in the average price range during the data collection period was less than 20%.

Table 1. Research Model Measures

Variable	Construct	Description
SALES	Sales	Total number of items sold to date for a seller
FOLLOWERS	Online status	Number of people following the seller's activity
FOLLOWING	Community participation	Number of people whose activities the seller is following
TEAMS	Community participation	Number of teams the seller has joined
COLLECTIONS	Content curation	Number of treasury lists the seller has created
FAVORITES	Content curation	Number products from other sellers marked as "favorites"
TENURE	Control: Seller characteristics	Number of months elapsed since joining Etsy
ITEMS	Control: Seller characteristics	Number of items offered for sale in the seller's shop
AVG_PRICE	Control: Seller characteristics	Average price of products the seller has listed for sale

Table 2. Descriptive Statistics

#	Variable	Mean	s.d.	1	2	3	4	5	6	7	8
1	*SALES*	420	1,221	1.00							
2	*FOLLOWERS*	835	1,966	0.85	1.00						
3	*FOLLOWING*	180	333	0.33	0.49	1.00					
4	*TEAMS*	4	10	0.30	0.42	0.49	1.00				
5	*COLLECTIONS*	27	195	0.23	0.40	0.46	0.46	1.00			
6	*FAVORITES**	3,134	15,876	0.22	0.45	0.62	0.48	0.53	1.00		
7	*TENURE*	43	28	0.55	0.54	0.30	0.25	0.18	0.15	1.00	
8	*ITEMS*	95	140	0.61	0.57	0.32	0.31	0.29	0.31	0.30	1.00
9	*AVG_PRICE ($)*	125	357	(0.25)	(0.02)	(0.04)	(0.06)	(0.07)	(0.07)	(0.01)	(0.19)

Note: Mean and standard deviation for untransformed variables. Correlations for transformed variables. N = 12,879, N* = 4,902

We assume that in each time period (i.e., month) the errors in the two equations may be correlated, which implies that unobserved variables not included in our model could simultaneously influence the number of sales and the number of followers.

Equation 1 presents our model of followers for a particular seller. In the equation, the subscript *i* refers to the seller and the subscript *t* refers to the time period. For example, $FOLLOWERS_{i,t}$ refers to the number of followers for a particular seller in a given month. A seller's followings, team membership, favorite products, and collections are all expected to be positively associated with the number of followers a seller has. For example, if a seller follows other members and participates in teams, the seller may receive more followers due to increased visibility and bond-based attachment. Similarly, if a seller shares another seller's products, the other seller may respond by following the seller. Equation 2 presents our model of sales for a particular seller. The number of followers is expected to be positively associated with sales while sharing other sellers' products and following others is expected to be negatively associated with sales.

Beyond these key variables, we also include a series of controls. We control for tenure on the website (measured in months since joining the website), the average price of products, and the number of items a seller has available for sale at the time of data collection. In addition, we incorporate fixed effects at the seller level (δ) to control for unobserved seller characteristics, as well as time fixed effects (φ) to control for unobservable shocks across time periods.

$$(1)\ \log(FOLLOWERS_{i,t}) = \beta_0 + \beta_1 log(FOLLOWING_{i,t}) + \beta_2 log(TEAMS_{i,t}) + \beta_3 log(COLLECTIONS_{i,t}) + \beta_4 log(FAVORITES_{i,t}) + \beta_5 log(SALES_{i,t}) + \beta_6 log(ITEMS_{i,t}) + \beta_7 (TENURE_{i,t}) + \delta_i + \varphi_t + \varepsilon_1$$

$$(2)\ \log(SALES_{i,t}) = \beta_0 + \beta_1 log(FOLLOWERS_{i,t}) + \beta_2 log(FOLLOWING_{i,t}) + \beta_3 log(TEAMS_{i,t}) + \beta_4 log(COLLECTIONS_{i,t}) + \beta_5 log(FAVORITES_{it}) + \beta_6 log(ITEMS_{i,t}) + \beta_7 (TENURE_{i,t}) + \beta_8 \log(AVG\_PRICE)_{i,t} + \delta_i + \varphi_t + \varepsilon_2$$

Our estimations employ a three-stage least squares (3SLS) estimator with seller- and time-fixed effects. The choice of estimator is driven by the simultaneity in our model because sales and followers are co-determined. We address the endogeneity issue by employing instruments for the endogenous regressors (online status and sales). We instrument for sales in equation (1) using the variable price, which is the average price of products that a seller has for sale at a specific time period. The logic behind this instrument is that the price of products is correlated with sales, but it is not correlated with the number of followers because following sellers does not involve any financial commitment. Users are free to follow any seller they like without being affected by their price. We instrument for followers in equation (2) using the lagged value of followers, following Villas-Boas and Winer (1999). Lags of a variable in time-series data can be used as instruments of the endogenous variables since lagged variables are less likely to be influenced by current shocks.

5.3 Results

Table 3 summarizes the full results of a simultaneous equation 3SLS regression on the natural log of sales. We ran the model using 12,879 monthly observations (reduced to 11,149 because we used the lag of FOLLOWERS variable) of sellers from January 2015 until December 2015, excluding the variable FAVORITES, for which we only had data pertaining to the period between July-December 2015. We ran the same model using 4,902 observations for all the variables, including FAVORITES, which belong to the July-December 2015 period. The results using the reduced sample of 4,902 observations are qualitatively the same as the results using the full sample of observations.

We found that the coefficients of FOLLOWING and TEAMS in Equation (1) are positive (0.1490 and 0.1702, respectively) and significant (p-value < 0.01) suggesting that community participation is positively associated with online status. This provides support for hypothesis H1a. Similarly, we found that the coefficients for COLLECTIONS in Equation (1) and FAVORITES in Equation (3) are positive (0.1490 and 0.0956, respectively) and significant at the 0.01 level. This suggests that content curation is positively associated with online status, proving hypothesis H2a.

We also found support for hypotheses H1b and H2b. We found support for H1b, as the coefficients of FOLLOWING and TEAMS in Equation (2) are negative (-0.0840 and -0.0432, respectively) and significant (p-value < 0.01), suggesting that community participation is negatively associated with sales. Likewise, H2b is supported because the coefficients of COLLECTIONS in Equation (2) and FAVORITES in Equation (4) are negative (-0.1714 and -0.0913, respectively) and significant (p-value < 0.01), suggesting a negative association between content curation and sales. Using the coefficients from Table 3 to estimate the marginal effects, we found that a 10% increase in TEAMS is associated with an approximate 1.7% increase in the number of FOLLOWERS and a 10% increase in FOLLOWING is associated with an approximate 1.5% increase in the number of FOLLOWERS. On the sales equation, a 10% increase in TEAMS is associated with an approximate 0.4% decrease in SALES and a 10% increase in FOLLOWING is associated with an approximate 0.8% decrease in SALES. We further estimate that a 10% increase in COLLECTIONS is associated with an approximate 1.5% increase in the number of FOLLOWERS and a 10% increase in FAVORITES is associated with an approximate 1% increase in the number of FOLLOWERS. On the sales equation, a 10% increase in COLLECTIONS is associated with an approximate 1.7% decrease in SALES and a 10% increase in FOLLOWING is associated with an approximate 0.9% decrease in SALES.

Finally, we found that the coefficient of FOLLOWERS in Equation (2) is positive (0.8235) and significant (p-value < 0.01), which suggests that online status is positively associated with sales. This provides support for our third hypothesis, H3. Our marginal effects estimation reveals that a 10% increase in the number of FOLLOWERS is associated with an approximate 8.2% increase in sales. Finally, our control variables of TENURE ($\beta = 0.0085$, $p < .001$) and number of ITEMS ($\beta = 0.2737$, $p < .001$) are positively associated with sales.

Our analysis confirms the recursive relationship between followers and sales—i.e., more followers are associated with more sales and vice versa. Taken together, these results confirm our theory that community participation and content curation are positively associated with online status and that online status is positively associated with sales.

Table 3: Estimation Results

VARIABLES	(1) DV: Online status 3SLS-FE	(2) DV: Sales 3SLS-FE	(3) DV: Online status 3SLS-FE	(4) DV: Sales 3SLS-FE
FOLLOWERS[A]		0.8235***		0.8632***
		(0.0064)		(0.0094)
FOLLOWING	0.1490***	-0.0840***	0.0914***	-0.0419***
	(0.0065)	(0.0046)	(0.0106)	(0.0071)
TEAMS	0.1702***	-0.0432***	0.1120***	-0.0135
	(0.0141)	(0.0097)	(0.0206)	(0.0137)
COLLECTIONS	0.1490***	-0.1714***	0.0809***	-0.1455***
	(0.0100)	(0.0069)	(0.0152)	(0.0101)
FAVORITES			0.0956***	-0.0913***
			(0.0085)	(0.0057)
AVG_PRICE	0.1265***	-0.4432***	0.1115***	-0.4701***
	(0.0120)	(0.0082)	(0.0180)	(0.0120)
ITEMS	0.5991***	0.2737***	0.5844***	0.2624***
	(0.0116)	(0.0088)	(0.0175)	(0.0128)
TENURE	0.0230***	0.0085***	0.0214***	0.0081***
	(0.0005)	(0.0004)	(0.0007)	(0.0005)
Constant	0.5093***	0.8884***	0.6880***	0.9311***
	(0.1097)	(0.0745)	(0.1083)	(0.0720)
Time-fixed effects	Yes	Yes	Yes	Yes
Seller-fixed effects	Yes	Yes	Yes	Yes
Observations	11,149	11,149	4,902	4,902
R-squared	0.5549	0.819	0.5404	0.8254

Note: Standard errors in parenthesis for coefficients. *** p < 0.01, ** p < 0.05, * p < 0.1
[a]lag of followers used in Sales Equation (2) & (4)

Table 4: The Direct and Indirect Effect of IT-Enabled Social Features on Sales

IT-enabled social feature	Direct effect on Sales for 10% increase	Indirect effect on sales for 10% increase
FOLLOWING	-0.840%	1.490*8.235%=1.227%
TEAMS	-0.432%	1.702*8.235%=1.402%
COLLECTIONS	-1.714%	1.490*8.235%=1.227%
FAVORITES	-0.913%	0.956*8.235%=0.787%
Total	**-3.899%**	**4.643%**

Table 5: Pooled OLS Estimation Results

VARIABLES	DV: SALES / Pooled OLS Full sample (January-December)	DV: SALES / Pooled OLS Reduced sample (July-December)
FOLLOWERS	0.8354*** (0.0164)	0.8687*** (0.0152)
FOLLOWING	-0.0828*** (0.0123)	-0.0412*** (0.0152)
TEAMS	-0.0447 (0.0280)	-0.0115 (0.0342)
COLLECTIONS	-0.1695*** (0.0180)	-0.1449*** (0.0228)
FAVORITES		-0.0917*** (0.0141)
AVG_PRICE	-0.4360*** (0.0243)	-0.4680*** (0.0303)
ITEMS	0.2646*** (0.0237)	0.2578*** (0.0296)
TENURE	0.0095*** (0.0010)	0.0088*** (0.0012)
Constant	0.6413*** (0.1271)	0.8646*** (0.1623)
Observations	12,879	4,902
R-squared	0.8212	0.8251

Note: Standard errors in parentheses. *** p < 0.01, ** p < 0.05, * p < 0.1

Using the coefficients from Table 3, we calculated the direct and indirect effects of IT-enabled features on sales (see Table 4). For example, a 10% increase in following leads to a 0.84% decrease in sales (direct effect) and a 1.49% increase in status—which, in turn, leads to a 1.227% increase in sales (indirect effect). In total, a 10% increase in IT-enabled social features (following, teams, collections, favorites) is associated with a direct 3.899% decrease in sales. Also, a 10% increase in IT-enabled social features is associated with a 4.643% indirect increase in sales. Therefore, the overall effect of a 10% increase in IT-enabled social features on sales is positive and equal to 0.744%.

5.4 Robustness Checks

As a robustness check, we also considered alternative estimators such as pooled OLS. We ran a pooled OLS regression using first, the full sample of 12,879 observations collected during January-December 2015, and second, using the reduced sample of 4,902 observations from July-December 2015, which includes the FAVORITES variable. The results of the Pooled OLS are qualitatively similar to the results of the 3SLS estimation. Following the pooled OLS estimation, we also checked for multicollinearity among the variables. No VIF (variance inflation factor) statistic for the variables is greater than 2.2, which indicates the absence of multicollinearity. The results of this robustness check are presented in Table 5.

After our main estimations, we also explored the effect of a relative measure of online status on sales in our model. We calculated the relative measure of online status as the percentile rank score of the FOLLOWERS variable for each seller within each time period. In order to calculate the percentile rank score, we first ranked all the sellers within each time period according to their number of followers. For example, for the month of January, where we have data for 247 sellers in total, the rank for the seller with the lowest number of followers is 1 and the rank for the seller with the highest number of followers is 247. FOLLOWERS_PCRANK for each seller in each time period is calculated as (i-1)/ (n-1), where "i" is the rank of the seller and "n" is the total number of sellers for that time period. We ran an OLS regression with the relative measure of online status. The results, presented in Table 6, are qualitatively similar to the previously reported results.

Table 6: Estimation Results with a Relative Measure of Online Status

VARIABLES	DV: SALES
FOLLOWERS_PCRANK	5.2275*** (0.1305)
FOLLOWING	-0.0354** (0.0156)
TEAMS	-0.0182 (0.0368)
COLLECTIONS	-0.1507*** (0.0256)
FAVORITES	-0.0803*** (0.0143)
AVG_PRICE	-0.4488*** (0.0318)
ITEMS	0.3387*** (0.0310)
TENURE	0.0109*** (0.0012)
constant	2.4335*** (0.1757)
Observations	4,902
R-squared	0.7922
Note: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1	

6 Discussion

In this research, we explore the role of IT-enabled social features for community participation and content curation on an online peer-to-peer platform for cultural goods using data from Etsy.com. The results show that the sellers' use of IT-enabled social features on online peer-to-peer platforms for cultural goods is positively associated with online status, but negatively associated with sales. Additionally, the online status of sellers is positively associated with their sales. Moreover, the positive association between online status and sales is large enough to offset the direct negative association between IT-enabled social features and sales. These results have important implications for theory and practice.

6.1 Theoretical Contribution

Theoretically, we extend the theory of fields of cultural production (Bourdieu, 1983) to online settings and examine how online status is acquired on online peer-to-peer platforms for cultural goods. We show that online status is achieved through cultivating relationships with other members of the platform by using the IT-enabled social features provided by the platform. We also contribute to the emerging literature on status production on user-generated content platforms (Levina & Arriaga, 2014) by empirically assessing the relationships between IT-enabled social features and online status. We go one step further and also assess the impact of online status on sales.

Additionally, this research contributes to the literature on online platforms by deepening our understanding of online social processes among sellers using these platforms. While prior research has almost exclusively examined reputation on online platforms (Forman et al., 2008; Pavlou and Dimoka, 2006), we focus on the role online status plays in the sale of cultural products. Specifically, we illustrate how sellers achieve online status by interacting with all other members of the platform: buyers, sellers, and community tastemakers. We show that the social interactions of sellers contribute to their online status achievement, which is positively associated with sales. Therefore, we contribute to this stream of literature by providing empirical evidence of the relationship between online status and sales of cultural goods. Also, our study extends the literature on online communities to modern forms of communities with both social and financial interactions (Wasko & Faraj, 2005). Our study is one of the first to show the potential negative effects of online community participation. We show that community participation can have a negative impact on sales, in the likelihood that the community participation activities do not result in an increase in status for sellers.

6.2 Practical Contribution

Practically, our results have implications for sellers of cultural goods in online marketplaces and platform design. Our study helps sellers in online marketplaces better understand the importance of IT-enabled social features that enable socializing with other members of the marketplace. By using these IT-enabled social features, sellers have a better chance of increasing their online status in the marketplace and increasing sales in the long term. However, sellers should also exercise caution since following others is also likely to result in a decrease in sales. Our results suggest that if sellers are concerned about their sales, they should strategically choose to form social connections with

other members who will reciprocate. This means that sellers may benefit from finding a niche community of like-minded people on the platform. Being active and socializing with other members who belong to the same niche may help sellers achieve online status in the niche field (Levina and Arriaga, 2014).

Our study also suggests that platform designers would do well to consider the implementation of IT-enabled social features to their particular context. Because the markets for cultural goods business are different from the markets for commercial goods (Bourdieu, 1985), the implementation of IT-enabled social features such as following members and sharing favorite products may not be suitable for platforms focused on the sales of commercial goods. This logic may also explain why these social features are widely used on a platform such as Etsy (solely focused on cultural goods) but are not popular on eBay (mainly used for commercial goods). When designing IT-enabled social features for peer-to-peer platforms, the websites can experiment with different types of features and find what works for their specific platform. However, as this study demonstrates, whether a greater number of social relations is associated with more sales depends on online status. Therefore, platforms may experiment with different features that can be considered as online status markers.

6.3 Limitations and Conclusion

This study includes a few limitations. First, the panel of data used in the analysis belongs to one product category. Having sellers restricted to one product category limits the generalizability of our results, an issue which can be addressed by collecting data on other product categories. Future research may replicate our findings with data from different product categories. Second, identifying the impact of IT-enabled social features on sales is empirically challenging. Although concerns for reverse causality are reduced by the panel nature of the data, it is still possible that we have not accounted for other factors that may contribute to the association between IT-enabled social features and sales.

In conclusion, this paper is one of the first studies to investigate how sellers in online peer-to-peer businesses acquire online status by using IT-enabled social features. By showing the economic value of IT-enabled social features via online status, this study helps explain the success of online marketplaces that rely on IT-enabled social features to differentiate among sellers. By integrating literature on online platforms and art production, this paper provides theoretical and practical contributions to better understand the nature and role of IT-enabled social features, online status acquisition, and seller differentiation in online peer-to-peer marketplaces for cultural goods.

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