Summer 9-15-2016

COMMUNITY ENGAGEMENT IN PEER-TO-PEER BUSINESS: EVIDENCE FROM ETSY.COM

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Research

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Abstract

Peer-to-peer online sales platforms have increasingly become more "social" as they incorporate IT-enabled features such as discussion forums, following members and sharing favorite items. By using these social features, platform members are offered a unique opportunity to engage with a community of buyers and sellers. Yet, whether and how individual sellers on online sales platforms benefit from community engagement is not well-understood. We analyze an exploratory data set from Etsy.com to address this issue. Our results show that engaging with community members does not only satisfy intrinsic motivations for participation in the community but also has an economic impact on sellers. Specifically, after controlling for seller tenure, the number of shop items, and average price, the analysis shows that the number of followers is positively associated with sales. We discuss potential mechanisms that explain our empirical findings and discuss theoretical and practical implications.

Keywords: peer-to-peer business, online communities, engagement, panel data.

1 Introduction

Peer-to-peer businesses enabled by digital platforms have been thriving in recent years. Global revenues of the peer-to-peer economy are expected to increase from roughly $15 billion today to an estimated $335 billion by 2025 (PwC 2015). The growth of the peer-to-peer business is expected to have a positive impact on the economy by stimulating new consumption, raising productivity, and fostering entrepreneurship and innovation (Sundararajan 2014a).

There are different types of peer-to-peer businesses enabled by digital platforms: for example, transportation services (e.g., Uber), accommodation services (e.g., Airbnb), crowdfunding (e.g., Kickstarter) and asset sales (e.g., Etsy, DaWanda). While a common feature of the peer-to-peer business is the provision of assets and services through a digital platform, different platforms have adopted different approaches to their business models. On the one hand, companies like Etsy and Airbnb have made community building a priority. They have done this by organizing meetups for knowledge sharing, and enabling members to connect and communicate with one another both online and offline (Sundararajan 2014b). Platforms like Uber, on the other hand, maintain a clear distance between the platform and providers, and they do not encourage community building. One of our main goals in this paper is to understand how communities are built and sustained in online peer-to-peer platforms.

It is not clear why individuals choose to invest time and energy for community engagement in online peer-to-peer platforms. One plausible explanation is that community engagement helps sellers gain visibility and improve their business. This explanation is consistent with economic (extrinsic) motivations for participation in online communities (von Krogh et al. 2005). Other plausible explanations consistent with prior literature on online communities highlight different motivations for participation in online communities, such as reciprocity and a desire to help other members of the community (Ren et al. 2007;

Wasko and Faraj 2005). Going beyond explanations for what motivates community engagement in peer-to-peer business, we want to know how engaging with the community affects members' financial performance. Specifically, we are interested in assessing the impact of community engagement on sales. We propose these research questions: Do individual sellers on peer-to-peer platforms benefit from community engagement? What is the impact of different forms of community engagement on sales?

We empirically demonstrate the relationship between a member's self-engagement (by using IT-enabled features), peer-engagement (engagement of other community members with a focal seller using IT-enabled features) and sales using data collected from Etsy.com. Etsy is an online peer-to-peer asset sales platform that offers buyers and sellers a number of IT-enabled community engagement features. We distinguish between two types of community engagement: features for socializing with fellow community members (e.g., follow other members and communicate with members in forums), and features for content curation (e.g., creating themed lists with favorite products from other sellers).

The main results of our analysis are as follows: we find evidence that self-engagement is positively associated with peer engagement, i.e., the more one uses IT-enabled community engagement features, the more peers are likely to follow them. Also, we find that peer-engagement is positively associated with sales, i.e., a higher number of followers is associated with higher sales. However, results show that not all types of IT-enabled features for self-engagement are positively associated with sales. While self-engagement for connecting with community members is positively associated with both peer-engagement and sales, self-engagement for content curation is positively associated with peer-engagement, but negatively associated with sales. These results suggest that sellers should be careful when using features for content curation if they want to increase sales.

Our work is designed to extend previous research in important ways. We contribute to the literature on online communities by extending their scope from communities built around knowledge creation and dissemination to communities that have economic motivations as well. We also provide empirical evidence for the peer-to-peer business literature, highlighting the impact of community engagement on sales. Finally, we provide actionable insights to community members and online platform providers regarding IT-enabled community engagement features. Identifying and quantifying the impact of community engagement helps sellers devise strategies to achieve desired outcomes on the platform, and also offers insights to platform providers that have implemented community engagement features, or plan to do so in the future.

The rest of the paper is organized as follows. After briefly reviewing the study context, we discuss relevant literature and develop the research hypotheses that are empirically examined. We then describe the research design, research model, and results of this exploratory study. We conclude by discussing the study's implications and future research opportunities.

2 Study Context

In this section, we describe the study context in order to explain the relevance to the theoretical discussion and also lay the basis for understanding the subsequent empirical analysis. The context of this study is Etsy.com, an online peer-to-peer marketplace that allows sellers of unique handmade or vintage items to sell their products online. Etsy was launched in 2005 and has continued to grow ever since—counting 54 million members and gross merchandise sales amounting to $1.93 billion by the end 2014 (Etsy, Inc. 2015). A survey of Etsy members revealed that the majority of sellers (74%) consider their Etsy shop to be a business, and actively commit time and effort to grow their sales (Etsy, Inc. 2013).

Etsy users are primarily creative entrepreneurs and shoppers of unique handmade products. In order to become members of the Etsy community, individuals first register to create a user profile on Etsy. Users who have products for sale (sellers) can then create a shop page, a link to which is also displayed on their profile page. Thus, sellers on Etsy have a distinct shop profile and seller (shop owner) profile, each with its own web address. Although Etsy allows shop owners to maintain multiple shops, most sellers have a single shop.

On the shop profile, sellers display products for sale, the number of items sold to date, number and quality of feedback received on sold items, the number of shop admirers and the date when the shop was opened. On the shop owner 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 community engagement features on Etsy. Examples of social activities include following other sellers, becoming members of teams, sharing other sellers' products and creating treasury lists. These features correspond to the two main forms of participation on Etsy: socializing with other members and sharing favorite content. Figure 1 shows a seller profile (a) and a shop profile (b) on Etsy.

Following a seller enables a user to receive updates regarding the social activities of the followed seller. These activities include updates on treasury lists, favorite products and shops, and team memberships of the followed seller. A user can unilaterally decide to add another user as a contact, and the relationship does not have to be reciprocated. In this sense, following a user 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 user will continue to provide interesting content in the future, therefore it is worth watching. Teams is a community feature on Etsy, where members can connect with others to share information and advice about their business, or organize social gatherings online (e.g., online labs) and offline (e.g., craft fairs).

When viewing products from other sellers that they like, members on Etsy may mark them as "favorites", a process that is similar to bookmarking. Favorite marking serves a social function by communicating a user's appreciation for the product and offers positive feedback directly to the seller. Members' favorite products are displayed on their profile page. Another form of showing a preference for products made by other sellers are treasury lists, which are themed collections of products from other shops, containing at most 16 items. These lists can be viewed and favorited by others—the number of views and favorites are displayed in the treasury list. The number of times a treasury list is marked by viewers as a "favorite" is one of the most important indicators of its general appeal. Users with high favorited treasury lists are considered to be community taste-makers and are often featured on Etsy's main page.

Figure 1.   Etsy.com Seller Profile (above) and Shop Profile (below)

3   Literature Review

3.1   Online Platforms

The term platform has been using extensively in management research. According to Thomas et al. (2014), there are three types of platforms defined according to the literature stream that they have been used: (1) organizational platforms, (2) product family platforms, and (3) market intermediaries. We adopt the definition of platforms as market intermediaries, according to which "a platform represents a link or a facilitator between two or more markets or groups of producers and users" (Thomas et al. 2014).

This definition of a platform is also used in the literature on two-sided and multi-sided platforms. Two-sided platforms enable interactions between two sides that want to interact (Rochet and Tirole 2006). For example, electronic commerce platforms enable exchanges of products among buyers and sellers. Similarly, in an operating system an interaction occurs when the buyer buys an application built by the developer. All parties in two-sided and multi-sided platforms benefit from an increase in the number of users in the platform—a phenomenon called positive network externality.

There is a considerable body of research on online platforms in the Information Systems research. Early studies that have investigated e-commerce platforms such as eBay and Amazon have argued that these platforms assist the matching of buyers and sellers (e.g., Bailey and Bakos 1997; Brynjolfsson et al. 2003). The conclusion of this work has mainly been that electronic intermediation facilitates the exchange of goods and services by appealing to a bigger number of potential buyers, not confined by physical space. Emerging new types of platforms enabling peer-to-peer exchange have motivated the development of new streams of literature focused on topics such as crowdfunding (Burtch et al. 2013) and peer-to-peer transportation services (Greenwood and Wattal 2015).

In this study, we look at online platforms as market intermediaries, which not only facilitate transactions among buyers and sellers but also provide means for socializing and interacting. Traditionally, socializing on the internet has been studied under the umbrella of the online communities literature, which we review below.

3.2   Online Communities

Typically, the term online community refers to voluntary ensembles whose members share a common interest or experience and interact with one another primarily over the Internet (Forman et al. 2008; Sproull and Arriaga 2007). Based on this definition, Etsy can be considered a community of creative entrepreneurs who use Etsy to sell their products and find unique goods. Etsy members interact with each other via the Etsy platform to make purchases and from connections by using the social features on Etsy. Members of the Etsy platform follow others, share their favorite products, and become members of teams. First, by following favorite sellers or content curators, people may easily discover new and exciting products they would not be able to easily find otherwise. Second, by communicating and collaborating in teams, both online and offline, sellers get a chance to have one-on-one interactions with like-minded people and learn and grow from those interactions. Finally, by using the social features sellers may increase the number of followers (i.e., incoming links) similar to online community leaders (Lu Y. et al., 2013).

A central question in online community research has been understanding why people participate and contribute to online communities (Bateman et al. 2011; Ma and Agarwal 2007; Wasko and Faraj 2005). Several studies in the management literature have investigated drivers of participation in online communities (Kankanhalli et al. 2005; Wasko and Faraj 2005) and have found that members receive intrinsic (e.g., self-efficacy and enjoyment) and extrinsic benefits(e.g., recognition and economic benefits) from interactions (Bock et al. 2005; Kankanhalli et al. 2005; Zhang et al. 2013). Bateman et al. (2011) show that different motivations for community participation are associated with specific behaviors in an online

community. Specifically, Bateman et al. (2011) find that need-based participation predicts thread reading, affect-based participation predicts reply posting behavior, and obligation-based participation predicts discussion moderating behavior.

Another research stream investigates the impact of community participation on their members. For example, Goes et al. (2014) show that user interaction with other community members affects the frequency and quality of user contributions to the community (Goes et al. 2014). Oestreicher-Singer and Zalmanson (2013) find that community participation is associated with increased willingness to pay for premium membership in a website offering digital content. Taken together, these studies provide evidence about motivations underlying participation in an online community and consequent effects of participation. Our context is different from online communities studied in this research stream. While we acknowledge the importance of drivers for participation in online communities, we are interested in assessing the economic impact of community engagement for a focal member.

4 Hypotheses Development

Traditionally, engagement has been studied in the context of organizational studies and has been shown to have an impact on organizational performance (Kahn 1990; Rich et al. 2010). Engaged people commit time and resources to their role in an organization (Kahn 1990). A recent study shows that engagement is a key construct in explaining behavior in online communities (Ray et al. 2014). Engaged members contribute more knowledge and generate more word-of-mouth in online communities (Ray et al. 2014).

In this study, we investigate the impact of community engagement on sales. We identify the impact two types of community engagement: self-engagement and peer-engagement. Self-engagement is defined as time and resources committed to fostering relationships with community members. Peer-engagement related to a focal seller is conceptualized as time and resources other community members commit to developing the relationship with the seller. First, we identify the drivers of self-engagement, then argue that self-engagement and peer-engagement are positively associated with each other. Finally, we argue that peer-engagement is positively associated with sales.

4.1 Self-engagement

In an online peer-to-peer business setting, we conceptualize self-engagement as time and resources committed to fostering relationships with community members, which are reflected in the use of IT-enabled community engagement features. Prior studies have argued that enabling friend ties promotes engagement with the community by incentivizing social interactions among community members (Manchanda et al. 2015). We identify two types of IT-enabled community self-engagement features: features for socializing with community members (e.g., follow other members and communicate with members in forums), and features for content curation (e.g., creating themed lists with favorite products from other sellers).

Engaging with community members allows sellers in peer-to-peer business platforms to connect with members they like. This behavior is consistent with identity-based attachment to community identified by Ren et al. (2007). Sellers in online peer-to-peer platforms choose other community members they want to identify with and receive updates from them. In this way, sellers become informed in real time about the activities of the members they follow.

Discussing different topics with others and organizing events to inform one another allows members to connect with each other and adds to the social experience of the community. Sellers who participate in community forums seek advice from the more experienced forum members on how to improve their business. This experience fosters knowledge improvement and learning (Wasko and Faraj 2005). Additionally, participating in community forums may lead to an increase in the number of followers through member reciprocation (Faraj and Johnson 2011), leading to increased peer-engagement. Therefore, we posit that self-engagement with community members is associated with increased peer-engagement.

H1: Self-engagement by connecting with community members is positively associated with peer-engagement.

In recent years, we have witnessed the widespread adoption of social media platforms focused exclusively on content curation. Sites like Pinterest enable users to create organized boards with favorite content from the web. These websites encourage users to connect based on shared content. Prior studies have shown that posting new content to user-generated content platforms is associated with increased number of followers (Goes et al. 2014). Similarly, in online peer-to-peer business, sellers who are motivated to connect with other sellers may share favorite products from them. By creating content boards, sellers become tastemakers and are likely to attract more followers. Therefore, we posit that self-engagement by curating content is positively associated with peer-engagement.

H2: Self-engagement by curating content is positively associated with peer-engagement.

4.2 Peer-engagement

We conceptualize peer-engagement related to a focal seller as the time and resources community members commit developing the relationship with the seller. We identify peer-engagement as the number of followers a seller has. In the previous section, we argued that using self-engagement and peer-engagement are positively related to each other. Following other sellers (self-engagement by connecting with community members) may result in an increased number of followers (peer-engagement) due to online social exchange processes such as reciprocity and identity-based attachment (Ren et al. 2007; Faraj and Johnson 2011). Participating in community forums (self-engagement by connecting with community members) increases a sellers' exposure to other sellers with similar interests, who may decide to strengthen their relationship and follow each other (peer-engagement). Moreover, sharing other sellers' products (self-engagement by curating content) and creating tastefully assembled product collections may increase the number of followers (peer-engagement) who like a sellers' taste and want to receive updates (Suzuki and Best 2003). In sum, using self-engagement community features may have a positive impact on peer-engagement with a seller. Next, we argue how peer-engagement impacts sales.

Having a high number of followers (high peer-engagement) may be beneficial for a seller. Each incoming follower tie suggests that a peer member finds a seller's products remarkable and trusts that the seller will continue to provide interesting products in the future. One potential way that a seller can benefit from having a high number of followers is through the perception that a more popular seller has better products. Reputation and recognition are likely to have a positive impact on sales (Bolton et al. 2004). Also, an increased number of followers is likely to be associated with increased sales because of the increase in visitor traffic that an increased number of followers brings (Stephen and Toubia 2010).

H3: Peer-engagement (i.e., incoming followers) is positively associated with sales.

5 Research Methodology

5.1 Data Collection and Description

The data was collected using a Java-based web crawler, which was designed to collect information about the sellers in a given product category. The web crawler collected weekly data for sellers in the "glass sculpture" category between January 24th, 2015 and July 24th, 2015. 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, and avoid connectivity issues arising when the crawling takes longer than a day. The crawler was initiated using 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 listed for sale and number of products sold since joining the website.

Product data: name and description, price, date listed, the number of views (how many times it has been viewed), how many people have that product on their favorites list, and how many treasury lists the product appears in.

The dataset contains 9,567 weekly panel observations for 1,731 unique sellers—all sellers have at least one item listed in the glass sculpture category. The panel is unbalanced, and we only include sellers that have at least four consecutive observations during the data collection time frame (in order to include lagged variables in the empirical analysis). All variables except for average price are collected by the crawler as they appear on the website. Average price for a seller is calculated as the average price of all the products a seller has available for sale at the time of data collection. Table 1 maps the collected variables to our study's constructs and Table 2 contains descriptive statistics.

Variable	Construct	Description
Tenure	Control: Seller Characteristics	Number of months elapsed since joining Etsy (log transformed)
Items for Sale	Control: Seller Characteristics	Number of items offered for sale in seller's shop (log transformed)
Social media	Control: Seller Characteristics	Dummy variable indicating whether a seller has posted a social media link on his page.
Followers	Community Engagement: Peer	Number of people following the seller's activity (log transformed)
Forum Membership	Community Engagement: Self	Number of teams seller has joined (log transformed)
Following	Community Engagement: Self	Number of people whose activities this seller is following (log transformed)
Collections	Community Engagement: Self	Number of treasury lists seller has created (log transformed)
Items Sold	Outcome	Total number of items sold to date (log transformed)

Table 1.   Research Model Measures

#	Variable	Mean	s.d.	1	2	3	4	5	6	7	8
1	Sales (# of items, ln)	370.0	1067.6	1.00							
2	Followers(ln)	758.9	1849.0	0.85	1.00						
3	Following(ln)	173.0	326.4	0.35	0.51	1.00					
4	Collections(ln)	25.4	190.0	0.25	0.41	0.46	1.00				
5	Teams(ln)	4.0	10.1	0.32	0.44	0.50	0.46	1.00			
6	Tenure (months)	41.2	27.8	0.55	0.56	0.32	0.19	0.26	1.00		
7	Items in shop(ln)	88.7	131.3	0.62	0.57	0.33	0.29	0.32	0.30	1.00	
8	Average price ($)(ln)	126.1	355.9	-0.25	-0.06	-0.07	-0.06	-0.20			1.00
9	Social media(binary)	0.17	0.38	0.15	0.22	0.23	0.22	0.17	0.15	0.13	0.05

Table 2.   Mean, Standard Deviation, and Correlations for Measures

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 independent variables and has been used in several studies (Aggarwal et al. 2012; Duan et al. 2008; Lu et al. 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 choices of the same economic unit. In our setting, both equations have an economic meaning independent from the other equation.

The outcome of interest in our estimation is sales, but because of the recursive relationship between followers and sales (that is, both increased followers lead to increased sales and increased sales lead to increased followers), we have two distinct, but interrelated equations that model followers and sales. Notably, the dependent variable in each equation is also an independent variable in the other equation. 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 both the number of sales and number of followers.

$$(1)\ \ln\left(Followers_{i,t}\right)$$

$$= \beta_0 + \beta_1 \log\left(following_{i,t}\right) + \beta_2 \log\left(team_{i,t}\right) + \beta_3 \log\left(collections_{i,t}\right) + \beta_4 \log\left(followers_{i,t-2}\right)$$

$$+ \beta_5 \log\left(sales_{i,t}\right) + \beta_6 \log\left(items_{i,t}\right) + \beta_7\left(tenure_{i,t}\right) + \beta_8\left(social\ media_i\right) + \delta_i + \varphi_t + \ \varepsilon_1$$

$$(2)\ \ln\left(Sales_{i,t}\right)$$

$$= \beta_0 + \beta_1 \ln\left(followers_{i,t}\right) + \beta_2 \ln\left(following_{i,t}\right) + \beta_3 \ln\left(team_{i,t}\right) + \beta_4 \ln\left(collections_{i,t}\right)$$

$$+ \beta_5 \ln\left(avg_{price_{i,t}}\right) + \beta_6 \ln\left(items_{i,t}\right) + \beta_7\left(tenure_{i,t}\right) + \beta_8\left(social\ media_i\right) + \delta_i + \varphi_t + \ \varepsilon_2$$

Equation 1 presents our model of followers for a particular seller. A seller's forum membership, followings, and treasury lists are all expected to positively impact the number of followers a seller has. For example, if a seller follows another seller, they may reciprocate and follow back. 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. All community engagement features are expected to impact sales. Forum membership and number of followers are expected to positively impact sales while sharing other sellers' products and following other sellers are expected to negatively impact sales.

Beyond these key variables, we also include a series of controls. We control for tenure on the website, measured in days since joining the website, average price of products, and the number of items a seller has available for sale at the time of data collection. We also include social media as a control variable for additional seller shop visits that may be coming as a result of their social media or personal website. The social media variable is a binary variable, equals 1 if the seller has posted the link to at least one social media website on his page, equals 0 otherwise.

In addition to the variables above, 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.

5.3 Identification

An important specification for the identification of a simultaneous system of equations is the need to specify a variable that will impact one set of equations, but not the other. In our setting, we specify price, as the variable that will impact sales of products, but not the number of followers a seller has. The relationship between price and sales is well-established in the economics literature, however, there is no reason to believe that the price of products will impact someone's decision to follow a seller. Following sellers does not require any financial commitment, therefore, we believe that the price of products will

impact the sales of a seller, but not his followers. In order to identify the followers' equation, we use lagged values 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. We use 2-month lags of followers.

Our estimations employ a two-stage least squares (2SLS) 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 estimate each question separately, using 2SLS, rather than as a system using 3SLS for two reasons. First, there exist estimators for 2SLS capable of handling different violations of the IID assumption, using fixed effects and a panel data structure. Second, Wooldridge (2010) notes that 3SLS is inconsistent if even one equation in the system is misspecified. We are more concerned with efficiency than robustness, therefore, we follow are more conservative estimation approach.

5.4   Results

Table 3 summarizes the full results of a simultaneous equation 2SLS regression on the natural log of shop sales using 6,102 monthly observations of sellers from January 2015 until July 2015.

We find support for our first hypotheses: self-engagement by connecting with other community members is positively associated with peer-engagement, i.e., the number of forum membership and the number of sellers followed (followings) are positively associated with the number of followers. It is estimated that a 10% increase in forum membership is associated with a 0.68 % increase in the number of followers and a 10% increase in followings is associated with a 1.6% increase in the number of followers. We find support for H2: self-engagement by content curation is positively associated with peer-engagement ($\beta = 0.3103$, $p < .001$). We also find support for our third hypothesis: peer-engagement is positively associated with sales, i.e., the number of followers is positively associated with sales ($\beta = 0.6315$, $p < .001$). Interestingly (although we do not specifically hypothesize about this), we find that the direct impact of collections on sales is negative and significant ($\beta = -0.2346$, $p < .01$). Consistent with prior economic theory, we also find that price is negatively associated with sales. Finally, our control variables of tenure ($\beta = 0.395$, $p < .01$) and number of items ($\beta = 0.428$, $p < .01$) are positively associated with sales.

Our analysis confirms the recursive relationship between followers and sales, more followers are associated with more sales and vice versa. Taken together, these results confirm our theory that different types of community engagement features have a differential impact on sales.

VARIABLES	(1) DV:Followers 2SLS-FE	(2) DV:Sales 2SLS-FE
Followers(ln)		0.6315***
		(0.0154)
Following(ln)	0.1572***	-0.0068
	(0.0093)	(0.0115)
Team (ln)	0.0681***	0.0442***
	(0.0107)	(0.0129)
Collections (ln)	0.3103***	-0.2346***
	(0.0210)	(0.0255)
Price(ln)		-0.0197**
		(0.0089)
Items(ln)	0.0112**	0.0232***
	(0.0048)	(0.0058)
Tenure	0.0236***	0.0241***
	(0.0016)	(0.0019)
Sales(ln)	0.4402***	
	(0.0107)	
Constant	1.4752***	0.0168
	(0.0755)	(0.1006)
Time FE	Yes	Yes
Seller FE	Yes	Yes
Observations	6,102	6,102
Number of shopid	1,730	1,730

Table 3.   Two-Stage Least Squares Model

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

5.5 Limitations

This study has a few limitations that should be considered when evaluating its results. First, the panel of data used in the analysis is relatively short and only belongs to one product category. Having sellers only in 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 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 correlation between social features and sales.

6 Discussion and Conclusions

In this research, we attempted to explore social features for community engagement at Etsy.com. We believe that online peer-to-peer platforms like Etsy provide unique opportunities to understand the production and consumption of cultural goods (Zeng and Wei, 2013). As one of the biggest platforms for unique handmade goods enthusiasts, Etsy provides a suitable context for our purpose. The results of our

study show that community engagement in online peer-to-peer business platforms has an economic impact for members of these platforms. More specifically, we find that different types of community engagement features have differential impacts on sales. Self-engagement is always positively associated with peer-engagement, however, the economic impact on sales depends on the specific feature used. Interestingly, we find that while some community engagement features are associated with positive outcomes for sellers, others are associated with negative outcomes.

The results of this study highlight that sellers in peer-to-peer business have economic and non-economic motivations for participating in peer-to-peer communities (Bateman et al. 2011; Ma and Agarwal 2007). Sellers are able to express their passions and experience greater social support through community engagement (Manchanda et al. 2015). For example, by sharing other sellers' products, sellers act as tastemakers by collecting items that inspire them, both potentially increasing status and also expressing passions (Suzuki and Best 2003). Additionally, having a high number of followers is likely to increase a seller's status (Levina and Arriaga 2014), which would explain the positive impact of the number of followers on sales.

Additionally, this research contributes to the literature on online platforms by deepening the understanding of online social processes among sellers in these platforms. While prior research has almost exclusively examined online reputation mechanisms in online platforms such as ratings and comments (Forman et al., 2008; Pavlou and Dimoka, 2006), we focus on social features. We show that community engagement by using social features is positively associated with sales. Therefore, we contribute to this stream of literature by providing empirical evidence of the relationship between community engagement and sales. Also, our study extends the literature on online communities to modern forms of communities with both social and financial interactions (Wasko and Faraj 2005).

Our results also bear practical implications for sellers and platform providers. It is important for sellers in these platforms to understand the economic impact of their actions, and strategically plan in order to achieve desired outcomes. Our study helps sellers in online marketplaces better understand the importance of community engagement features that enable socializing with other members of the marketplace. By using these social features, sellers have a better chance of increasing their status in the marketplace and increasing sales in the long term. Our results suggest that if sellers are concerned about their sales, they should strategically choose their social connections, such that they form connections with other members who will reciprocate. This means that sellers may benefit from finding their 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 status in the niche field (Levina and Arriaga, 2014).

In conclusion, this paper is one of the first attempts to study the impact of community engagement features on financial outcomes, using the context of online peer-to-peer business platforms. We extend research that has examined motivations for contributions in online communities to online peer-to-peer business communities, where financial interests are paramount. By offering a theoretical framework and empirical analysis of how different community engagement features impact seller performance, this study shows that different types of IT-enabled community engagement features have different impacts on seller performance, with some features being associated with positive financial outcomes for the sellers and others not.

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