

Etsy and the long-tail: how microenterprises use hyper-differentiation in online handicraft marketplaces

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Abstract This research presents an analysis of online microenterprises who sell handmade crafts and individually customized products. Using extant literature in the areas of e-commerce and long-tail marketing, this study develops two theoretical models of microenterprise sales success—on the product-level and on the shop-level. The models posit that higher product sales prices or shop average sales prices are associated with hyper-differentiation marketing activities, while controlling for social media impacts. We examine the models and present an empirical analysis of a dataset consisting of the marketing and sales activities of 1490 microenterprises within Etsy, an online commerce platform. Our analysis and results show that microenterprises who leverage their core competencies around handmade and customized products command higher product sales prices, confirmed at the product and shop level. Our study offers insights for existing microenterprises and researchers interested in examining how online microenterprises in niche markets achieve sales success.

Keywords Microenterprises · Long-tail marketing · Hyper-differentiation · Niche markets · Etsy

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1 Introduction

The advent of the Internet has made it possible for small businesses to reach an ever-growing numbers of customers. As a result, many types of small businesses have emerged as segments of the world economy. A particular subset of small businesses are microenterprises, which employ five or fewer individuals and specialize in the sale and manufacturer of highly customized or personalized goods and services. According to the U.S. Small Business Administration, microenterprises constitute 88% of approximately 28 million U.S. companies [42], and increased to 92% in a 1-year span [4]. The growth of the microenterprise segment is due in part to the popularity of websites specifically tailored to the specific needs of microenterprise firms. Specialty websites have allowed microenterprises to engage in electronic commerce relatively easily, reducing the need for technical expertise or costs that are typically associated with online retail. An example of these specialty websites is Etsy—an online marketplace founded in 2005 that caters to microenterprises specializing in handmade and personalized products [36]. By exposing microenterprises to a large potential customer base, Etsy provides an opportunity for microenterprises to reach a critical mass of customers and maintain profitability, while still catering to small niche areas of the economy. With the help of Etsy and other similar marketplaces, microenterprises have brought about a veritable explosion in the availability and demand for personalized, made-to-order and handmade products in e-commerce [18]. According to Etsy.com, in 2015, Etsy facilitated \$2.39 billion in merchandise sales by supporting 1.7 million active sellers and 26.1 million active buyers.

Recognizing the potential of this growing market, other major e-commerce organizations have made significant moves and investments into the development of electronic storefronts for personalized and handmade products. In recent years, eBay has done more to cater to the needs of micro-manufacturers, while Amazon opened their own marketplace, Amazon Handmade, in 2015 [39]. *Handmade* is the first major competitor to Etsy in the handicraft online marketplace. Research has shown that small- and medium-sized organizations can benefit in online marketplaces when compared to leading or dominant firms already established on the Internet [31]. The incumbent microenterprise has the advantage of an established name and extensive customer base. Many of the microenterprise sellers, and customers, of niche products typically shy away from large corporations as it goes against the artisanal nature of handmade products and crafts [39]. Additionally, aggregation services that direct traffic to these marketplaces provide customers with the ability to browse and navigate the vast array of products developed by microenterprises. Pinterest, one of the fastest growing websites of the last decade, relies on affiliate links and click-through purchases of handmade products for a major source of its revenue [16].

In order to manage the demand of a large customer pool provided by specialty websites, microenterprises have to engage in hyper-differentiation, which we define as personalization and customization of products. Hyper-differentiation and long-tail marketing strategies have been of interest to researchers and

practitioners over the years [3, 10, 11]. Within this stream of research, hyper-differentiation has been associated with increased sales [6], improved customer satisfaction [5], improved customer loyalty [14, 34], and increased brand awareness [22]. However, despite the significant interest in long-tail marketing strategies, the literature is dominated by studies that examine the impact of adding long-tail initiatives in large organizations as a supplement to their traditional marketing approaches. For example, studies have considered long-tail strategies as part of a marketing portfolio that also includes direct consumer marketing and major television marketing [5, 13]. Few studies have examined the factors that are associated with marketing success in microenterprises when hyper-differentiation represents their main form of customer solicitation and marketing activities. Examining how microenterprises use long-tail marketing strategies to increase product sale prices and product sales prices throughout the organization will provide insight on niche market strategic actions. As a result of the Internet enabling online marketplaces to fracture into niche areas, it is vital to understand the niche market perspective in e-commerce. Thus, this study aims to fill this gap in the extant research. Specifically, we asked the question:

What are the factors associated with increased sales prices of hyper-differentiated produced by microenterprises?

Microenterprises in particular are well suited to adopt long-tail strategies and maintain profitability, whereas large organizations might struggle. Their small size provides them with significant mobility in terms of their manufacturing and marketing processes [45]. Moreover, their revenue needs are such that they can afford to cater to market niches that may seem to larger firms financially unattractive, in terms of production, distribution, and marketing costs. In this study, we examine 1490 Etsy stores to better understand the nature of successful microenterprise. Etsy provides researchers with an opportunity to study vast amounts of empirical data on organizational actions because Etsy is a socio-technical platform that supports the handicraft market [28]. We use a comprehensive dataset on these microenterprises, consisting of demographic, sales, and reputation data, as well as the extent to which they engage in hyper-differentiation efforts. To guide our empirical analysis, we rely on concepts from long-tail marketing which highlight the value in focusing on specialized and differentiated services and products that generate high-value demand [23]. Additionally, we examine the data from two perspectives—item-level and shop-level. This allows a holistic view of transactions, not just from the product level, but also from the organizational level. We tease out the nuanced understanding of the impact of long-tail marketing behavior and examine its implications for microenterprises operating within specialty online marketplaces.

The remainder the paper is organized as follows. First, we discuss the existing literature related to long-tail marketing and online settings. Then, we discuss our data collection, sampling methodology, and outline the nature of our sample. Next, we review our empirical analysis and results and detail the key findings. Lastly, we conclude with potential directions for future research and a recap of our study's contributions.

2 Literature review

2.1 Microenterprise in e-commerce

Microenterprises—resource-limited business with five or fewer employees—have embraced Internet strategies and have become a driving force for the U.S. economy [20, 42]. Historically, smaller organizations struggle to gain the same benefits from implementing IT in the same way that their larger counterparts experience [38], and technology adoptions carry increased risks for small organizations [12]. Researchers have found that the costs of “acquiring, operating, and maintaining e-commerce infrastructure and facilities” [2] can be significant and debilitating for a small business. However, utilizing an established online marketplace platform has its benefits for microenterprises. Many microenterprises are entrepreneurs looking to take advantage of opportunities for increased income and organizational growth [16]. Perren [32] states that the key growth drivers of microenterprise growth in e-commerce are the owner’s motivation for growth, the owner’s expertise in managing growth, the owner’s access to resources, and demand for the owner’s products. Typically, sellers typically pay a listing fee for each item they sell and/or pay a percentage of sales. The Internet has allowed microenterprises to capitalize on massive scaling opportunities. Rather than requiring heavy investments in IT, online marketplaces have provided microenterprises access to a wide audience interested in purchasing a variety of niche products, such as craft goods. Understanding how these organizations strategize and compete in this egalitarian online environment is of great research interest.

2.2 Microenterprises focus on niche markets

Niche markets have benefitted from the rise of technology as it creates new opportunities for reaching beyond local populations [19]. Organizations have begun to see the value in focusing on the growing field of niche markets, specifically in handmade goods. The handmade marketplace, where Etsy has continuously commanded \$2 billion sales annually since 2005, has proven to be a profitable outlet [39]. Microenterprises have been able to flourish through the access to a wide array of customers looking for unique, quirky, and custom-made products. Etsy sellers pride themselves as a part of a community of creators and crafters that focus on artisanal products rather than simply using Etsy as an e-commerce tool [28, 39]. Additionally, when examining niche market consumers, research has shown that the niche market of craft goods is filled with people who have considerable wealth [7, 8]. These type of consumers are interested in using products that are able to express their unique creativity. The Internet has enabled consumers to find any type of product or service that they are looking for [25] and these consumers are willing and able, to pay top dollar for their desired artifact.

Competition in niche markets is typically significantly less than in other markets due to customers not engaging in price comparisons [38]. Once customers find their

unique product or want to support a particular artisan, they are unlikely to search for an equally qualified competitor. However, when you add in the online component, competition is highly dependent on the type of product or service that organizations have as their specialization [31]. For example, in 2015 Amazon created a new marketplace—*Handmade* at Amazon—in order to compete in the online handmade and craft product market which had been previously only occupied by Etsy [39].

2.3 E-commerce strategies for targeting the long-tail

Microenterprises are well suited to customize their products, allowing them to hyper-differentiate customers into any number of sub-groups. This approach is an example of ‘long-tail marketing’ where an organization focuses on reaching an alternate market of niche customers that are interested in highly customizable products and who access these products through highly targeted searches and personalized recommendations [3, 10, 23]. Extant research highlights that hyper-differentiation strategies offer favorable benefits for customers. Customers are able to access a greater variety of products [23] when they are not mass-produced like other large-scale manufacturing or retail organizations. Within the Etsy platform, microenterprises primarily achieve hyper-differentiation through two means—Handmade products and Made-to-Order products.

3 Theoretical model

A graphical representation of the theoretical model is provided below (Fig. 1).

3.1 Handmade products

Etsy microenterprises specialize in creating niche products that are not mass-produced items. This strategic approach is beneficial to microenterprises as they are simultaneously creating unique products and creating a customer base that is interested in purchasing these products. The concept of handmade products can be controversial because in today’s technologically advanced and industrialized society, there are few purely handmade items that exist. Some level of machine work may be involved in the core components of a product, such as beaded jewelry made by hand where the beads were originally created by a machine. However, we adopt the definition of a handmade product as those that are “presented to consumers as being made by hand or a hand process and not by a machine or a machinal process” [15]. Consumers get a sense of the “emotional investment that handmade producers put into their production process and their product” and are willing to place additional value on the product on top of its core production value [15]. Research has shown in particular that customers indicate stronger purchase intentions and are willing to pay more for handmade gifts [15]. Within Etsy, many microenterprises have made a concerted effort to capitalize on the strategic focus on high-value sales, rather than high-volume sales. We conceptualize these ‘Handmade Products’ as a way for

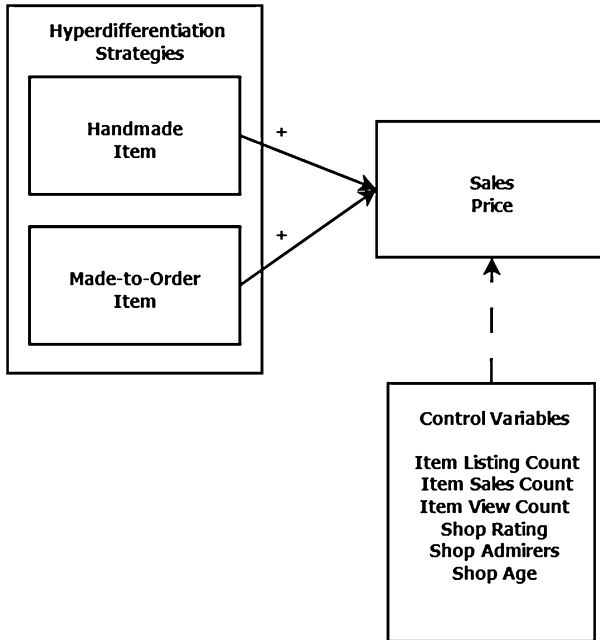


Fig. 1 Theoretical model

Etsy microenterprises to create clear distinctions between their products and those of other organizations through highlighting the unique, handmade aspects of their product.

H1 Hyper-differentiation through the sale of handmade products is associated with increased sales prices for microenterprises.

3.2 Made-to-order products

Microenterprises are also experts in the area of producing made-to-order products. Made-to-order products benefit from being matched directly to the specifications of the individual consumer, which allows for a “closer match of products to user preferences...[resulting in] a higher willingness to pay [for the product]” [35]. Incorporating individual consumer input into the product design has become a possibility for organizations, large or small, due technological advances. Challenges exist for large organizations, however, in terms of integrating large-scale customization into their carefully controlled manufacturing processes. Herein lies an opportunity for Etsy microenterprises, who can leverage their small size and adaptability to provide potential consumers with items that are not only uniquely handmade, but are also made to the consumer’s specifications. For example, consumers are able to select the color scheme and materials used in the making of many handmade items, select

from numerous customization and personalization options, thus increasing the value of the product and allowing Etsy microenterprises to command a higher item sales price. We conceptualize these ‘Made-to-Order Products’ as a way for Etsy microenterprises to create customized and personalized products based on customer design input and specification requests. Therefore, we hypothesize that:

H2 Hyper-differentiation through the made-to-order products is associated with higher sales prices for microenterprises.

3.3 Theoretical rationale for control variables

In order to isolate the effects of hyper-differentiation amongst the all products in our sample and then amongst all products within individual shops on our sample, we included the following control variables: shop size, shop age, reputation of shop, admirers, and number of views. We control for shop size (organization size) [1] in order to distinguish the effects of product hyper-differentiation from the effects of size. We control for shop age (organization age) [41] to ensure that the effect on sales is not unduly increased due to a shop existing longer than another shop. Additionally, there are a few social media metrics that were controlled for in order to ensure the effects measured were primarily caused by the long-tail marketing strategies. We controlled for shop reputation (organization reputation) [9, 30] as more reputable shops could provide higher quality products which could positively influence their product prices. To remove the impact of social influence, we controlled for the shop admirers (organization followers) [43]. Lastly, to minimize the possibility of unintended interactions with social influence, we controlled for number of views on each product (exposure) [17].

4 Data collection and summary statistics

In order to analyze our theoretical model, we collected data from Etsy, one of the largest and best-known online outlets for microenterprise commerce. Launched in 2005, Etsy has since grown to support over 54 million users, with 1.9 million microenterprises selling their products, leading to over \$2 billion in sales in 2016 (CITE, Chanda). To collect the data, web-scraping applications were developed using Scrapy, an open-source web-crawling framework based on the Python coding language. These web crawlers examined both individual item listings and their respective shops. The crawlers ultimately collected data on over 1 million distinct Etsy items and almost 1500 distinct shops. Due to the size of Etsy, it was not feasible to include every Etsy shop. Shops were therefore selected using a semi-random sampling approach. First, a web-crawling application compiled a list of URLs for a large number of Etsy shops. A random sample was then taken from this list, resulting in a final sample size of 1490 Etsy shops ($n=1490$). As the crawlers visited the web-pages they collected data on a number of item characteristics as well as shop characteristics. We therefore have variables collected at the individual item and shop level.

Our variables of interest were operationalized using publicly available information pertaining to each Etsy shop. The study's main variables of interest relate to item listings flagged as handmade and made-to-order product and shop sales. When Etsy shop owners list a product on their website, they have the ability to specify whether the product is handmade, and whether it will be made to order when purchased. Products that are made-to-order are almost always handmade, but this is not absolutely the case. Many products in our sample are also neither made-to-order nor handmade. Craft producers make handmade products, with special attention given to their materials, construction and design [21]. The "Handmade" construct was operationalized as a Boolean value indicating whether that particular product was handmade. Made-to-order products are craft produced items made on demand, or in response to customer orders [40]. The "Made-to-order" construct was operationalized as a Boolean indication of whether the item was produced in a bespoke manner. Our dependent variable shop average sales prices, represents average sales price across all items for sale in an individual Etsy shop.

In addition to containing information related to our two key variables of interest, the study also includes a number of control variables. We control for shop size given that larger shops are more likely to have larger sales totals. We account for this by including variables measuring both past item sales counts and current item listings. We also control for shop age, since older shops have a greater length of time in which to grow customer base and theoretically obtain a greater number of sales. Shop age is controlled for using a variable that measures the age of the shop in days since its founding on Etsy. Finally, we control for the reputation of the shop, using a five-point measure of shop reputation. This measure is similar to the star rating seen on many websites and indicates consumer's perceptions of the vendor's service and product quality. Our data set breaks the stars down into fractions of a star out to 0.02 of the decimal point, giving us a high degree of specificity when discussing shop rating.

In addition to these shop characteristics, we also control for a number of social characteristics accumulated through the shops interaction with the community. Included control variables in this area are admirers and item views. Etsy admirers are similar to followers seen on other social websites like Facebook, LinkedIn, Instagram, etc. These individuals are interested in the Etsy shop and want to receive notifications when the shop posts new products or has specials. We control for admirers in accordance with past research has shown that followers are associated with a number of positive outcomes including sales and firm equity value [26]. We include data on the entire number of views accumulated by all items across the shop. This measure captures social awareness and popularity exhibited by the community towards a particular shop. Taken together, admirers and item views are representative of the socially earned media attributable to a single at the shop. Table 1 shows the descriptive statistics for all the Etsy shop variables in our sample.

Table 1 Descriptive statistics of Etsy shops in the sample

Variable of interest	Mean	SD	Min	Max
Shop average sales prices (in \$)	42.09	153.98	1.00	4457.10
Handmade item listings	239.5	234.5	0	1318
Made-to-order item listings	71.3	158.0	0	1209
Total item listings	316.0	255.7	1	1319
Rating	4.88	0.2	1	5
Age (in years since shop opened)	5	1.94	1	13
Past sales count	13,524.70	25,565.20	1034	292,561
Admirers	9169.80	11,371.61	195	117,467
Avg. customer views per item	2170.70	3489.57	1	58,898.40

Statistics calculated based on 1490 Etsy shops in the sample ($n = 1490$)

5 Empirical analysis and results

5.1 Item-level analysis

Our analysis proceeds in two stages. First, we consider a large sample of individual items as our unit of analysis and look at the factors that lead to increased sales prices for these items. While past literature has hypothesized that there is a link between firm performance and hyper-differentiation strategies, we are interested in seeing whether this economic effect is present in the Etsy platform and whether or not the benefit is consistent while controlling for other aspects of the social nature of the commerce. In this first step, we are interested in seeing whether there is an economic impact attributable to hyper-differentiation in the form of handmade and made to order products that leads to increased sales prices for individual items. Our unit of analysis is the individual Etsy item. Our model is outlined in Eq. 1.

$$\ln(\text{price}) = \text{hand} + \text{mto} + \text{age} + \ln(\text{items}) + \ln(\text{count}) + \text{rating} + \ln(\text{admire}) + \ln(\text{views}) + \epsilon \quad (1)$$

We have multiple variables in our model where *price* refers to the sale price of the item. The first variable is *hand*, which refers to a Boolean value indicating whether or not the item is handmade. The second variable is *mto*, which refers to a Boolean value indicating whether or not the item is made-to-order. The third variable is *age*, which refers to the age of the item. The fourth variable is *items*, which represents the natural log of the count of items for sale in the Etsy shop. The fifth variable is *count*, which refers to the natural log of the past sales count for the shop. The sixth variable is *rating*, which is a measure of the shop rating. The seventh variable is *admire*, which is the natural log of the number of Etsy admirers attributable to the Etsy shop. The eighth variable is *views*, which refers to the natural log of accumulated customer views for that individual item. The STATA 14 statistical analysis software was

Table 2 Regression results

Variable	Item-level analysis (1)	Shop-level analysis (2)
	Item sales price dep. variable	Shop avg. sales price dep. variable
Handmade item	0.580 (0.086)**	
Made-to-order item	0.325 (0.097)**	
Handmade ratio		0.0012 (0.001)**
Made-to-order shop		0.068 (0.019)**
Item count	-0.012 (0.044)*	0.104 (0.001)**
Reputation	-0.184 (0.073)	-0.046 (0.024)*
Past sales count	-0.071 (0.043)*	-0.378 (0.194)
Admirers	0.048 (0.044)*	0.674 (0.092)
Shop age	0.112 (0.022)	0.102 (0.018)
Shop avg. views		-0.005 (0.715)
Single item views	0.049 (0.011)**	
N	1.4 million ^a	1490
R ²	0.12	0.32

Robust standard errors in parentheses

^aStandard errors calculated based on Etsy shop clustering (1490 clusters in analysis)

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

used for the analysis.¹ All variables are entered into the regression equation simultaneously. Since shops in our sample vary significantly in terms of their size and social media performance, we effectively normalize our data on sales prices and shop size by means of a log transformation [27]. We completed the same approach for our social media variables including admirers and views. Since these data consist of counts that cannot be below zero, we transform these variables using a natural log transformation. The transformation of social media count data is consistent with past studies in the area of social media metrics [24, 37]. We generate robust standard errors by clustering the standard errors around the individual Etsy shops, thus controlling for any unobserved variables and heteroscedasticity. Ultimately, the analysis involves over 1.4 million items ($n = 1.4$ million) associated with 1490 Etsy shops. Table 2 column 1 contains the results of the analysis.

5.2 Etsy shop-level analysis

The second stage of the analysis contains two important changes from our first model. The first change in the analysis concerns the repeated nature of variable observations. Our first empirical analysis consists of a cross-sectional examination, but we are also interested in examining how hyper-differentiation can help Etsy shops over time. Collecting data over time allows us to observe the average effect

¹ <https://www.stata.com>: accessed on 1/29/2018.

attributable to factors in our model. For example, shops collect Etsy admirers and customers view products constantly. Cumulative totals may only give part of the picture when examining the dynamic nature of social media environments [44]. For this reason, we collected data on Etsy shops over a period of 6 weeks looking at shop performance on a weekly basis.

Secondly, whereas the first analysis considered factors associated with the sales prices of individual items and thus necessarily took place at the item level, we moved our level of analysis to the Etsy shop itself. In order for us to do this, it is necessary that we slightly change our variables to make them suitable for shop analysis. The shops now become our unit of analysis ($n = 1490$). Additionally, instead of looking at item sale price, our dependent variable now becomes the average sales price for all items for sale in each individual shops. We also alter our item views variable from the previous analysis, creating a variable that instead represents the shop's average views across all items. Our panel regression model is detailed in Eq. 2.

$$\ln(\text{price})_{ij} = \ln(\text{hand_r})_{1ij} + \text{mto}_{2ij} + \text{age}_{3ij} + \ln(\text{items})_{4ij} + \ln(\text{count})_{5ij} \text{rating}_{6ij} \\ + \ln(\text{admirers})_{7ij} + \ln(\text{views})_{8ij} + \delta_j + \tau + \epsilon_{ij} \quad (2)$$

In this equation, *price* refers to the average of all items for sale in Etsy shop *i* in time period *j*. We then developed shop-level metrics for hyper-differentiation strategies of handmade and made-to-order products. Since these variables were previously Boolean flags on individual items, they do not correspond well to a mean average. Instead, we calculate a ratio of handmade products to regular products for each of the shops in our sample. The variable *hand_r* represents this ratio in shop *i* in time period *j*. As this ratio increases, the shop depends more on handmade products for their business. Shops with high ratios therefore sell an overwhelming majority of handmade products, while shops with low ratios may sell none. *Mto* in this second equation remains a Boolean value, but now refers to whether or not the shop offers made-to-order options on its handmade product sales. Thus, we are investigating whether or not shops that offer more handmade products command higher sales prices across all their products, and whether there is a cumulative benefit from offering made-to-order options together with these handmade products. The other variables in the model remain the same from our first stage analysis.

As before, all variables are entered into a panel regression module within STATA simultaneously. Fixed effects are used based on the results of a Hausman specification test comparing the fixed effect model to a random effects regression ($\chi^2 = 74.55$, $p < 0.001$). Table 2 column 2 shows the results of this analysis.

5.3 Results

Table 2 shows the results of the fixed effects regression procedure within STATA. As can be seen from the first stage analysis (Table 2, column 1), the coefficient for handmade products is both significant and positive (0.58, $p < 0.001$). Additionally, the coefficient for made-to-order products is also significant and positive (0.33,

$p < 0.001$). Since these coefficients are Boolean values and our dependent variable has been log-transformed, we can say that as Handmade item moves from zero to one, we observe a $\exp(0.58) = 79\%$ increase in sales price. Similarly, as Made-to-order item moves from zero to one, we observe a $\exp(0.325) = 38\%$ increase in sales price. These results show that the impact of handmade items and made-to-order items on sales price is both positive and significant. Handmade products sold for an average of 78% more than their traditionally manufactured counterparts, even after controlling for shop size, reputation and social media performance. Moreover, made-to-order products were associated with a 38% increase in sales price. Since made-to-order products are also handmade, one interpretation of this result is that products which are both handmade and made-to-order saw an even greater statistically significant increase in their prices over products that were simply handmade. The results of the first stage analysis verified that there is a statistically significant relationship between handmade and made-to-order forms of hyper-differentiation marketing strategies and the item sale prices on Etsy. In addition to our main variables of interest, several control variables also had a statistically significant impact in the analysis. These were primarily the rating of shops and the number of views for the item. A unit increase in shop rating (-0.18 , $p < 0.01$) was associated with an $\exp(-0.18) = 83\%$ reduction in unit prices. This implies that higher rated shops charged less for their products, and that consumers were more demanding in terms of their rating of more expensive shop items. Finally, since both sales price and the number of item views were log transformed in our model, the coefficient on item views (0.05 , $p < 0.001$) represents a direct percentage change in sales price. A 1% increase in item views was thus associated with a 5% increase in sales prices. The R^2 of the model was 0.12.

In this first stage of our analysis, we have shown that handmade products and made-to-order products tends to demand higher average sales prices within Etsy than counterparts produced by traditional means. While it is interesting to be able to verify in an empirical setting the hypothesized relationship that exists in research between hyper-differentiation and sales, our analysis allows us to go further into examining whether these higher average item sale prices actually lead to more successful competition for Etsy shops. Thus, we analyzed the Etsy shops themselves and examined the impact of handmade and made-to-order products on Etsy shop success.

The findings of the second stage of our analysis confirmed and expanded on our previous findings in several ways. First, the coefficient on a shop's ratio of handmade products is positive and significant (0.001 , $p < 0.01$). A 10% increase in the ratio of handmade products was associated with a 1% increase in overall sales prices across all items in the shop. This result implies that as Etsy shops sell a higher percentage of handmade products, they are able to command higher sales prices across all of their items. While the result may seem to lack practical significance, put differently, each doubling of the ratio of handmade goods was associated with a 10% increase in the average of sales prices throughout the shops. For example, a shop that sold 25% handmade goods would expect a 10% increase in sales prices for increasing that percentage of handmade goods to 50%. Additionally, we find that Etsy shops that offer made-to-order options achieved a strong and significant positive effect on their

total shop sales (0.068, $p < 0.01$). This variable represents a Boolean value associated with the availability of made-to-order options in the particular shop. Given that sales price is log transformed, this equates to an $\exp(0.068) = 7\%$ increase in average sales prices stemming from the offering of made-to-order options. Taken together, these two key findings show that the implementation of hyper-differentiation marketing strategies, in the form of both handmade and made-to-order options, leads to increased sales in the Etsy marketplace. Thus, statistical support exists for both of our hypotheses.

6 Conclusion

It is important to note that, like any research, our study has several limitations. First, some of the impact of our handmade and made-to-order product variables could be inherent in the nature of the Etsy marketplace itself. In order to check if this is the case, a future study could compare microenterprises operating in other platforms like Amazon Handmade, or compare the performance of handmade goods within Etsy to other e-commerce outlets like EBay. A second limitation of the study concerns the lack of item category information. While our sample consists of a wide variety of goods across many product categories, we did not control for product type in our analysis. A future research study could examine the economic impact of various types of handmade products, identifying the varying impact of hyper-differentiation strategies on product type. Such results would be interesting and would further increase our understanding of this growing area of research.

Although past research has examined the role of hyper-differentiation for a number of different market segments and types of organizations [21, 29], empirical evidence for hyper-differentiation strategies in online marketplaces remains elusive, with data collection concerns and the maturity of platforms for handmade commerce remaining as significant challenges. Thus, while the economic value of handmade products has been theorized for some time, this study makes an important contribution by providing some of the first quantitative evidence for the benefit of hyper-differentiation in an online commerce setting. In this area, future research can examine the application of hyper-differentiation strategies in a variety of other online niche marketplace settings. Amazon has dominated the online commerce market space with questionable third-party sellers. As a result, individuals have begun to look for specialized products with verified quality at other niche online marketplaces. For example, SpoonFlower.com is an online marketplace that allows designers to create their own patterns for fabrics, wallpaper, and gift-wrap, as well as use their creative design to create handmade items. Researchers can collect data on the items sold through this niche online marketplace and examine the hyper-differentiation tactics that sellers engage in. A study of another niche online marketplace would strengthen the findings of our study and provide a more nuanced understanding of the differences between handmade items and made-to-order items from a designer's perspective.

The study also makes an important contribution through the study of a sample of microenterprises, further adding to the body of work focused on the rise of

microenterprise-to-consumer business models. Our goal was to empirically investigate whether hyper-differentiation strategies yield advantages that can be capitalized on by micro-manufactures operating within Etsy. Microenterprises are one of the fastest growing categories of small business worldwide [33, 42], and are quickly becoming an important source of economic growth through leveraging the connectivity of the Internet. However, despite their increasingly important role in e-Commerce, microenterprises are rarely examined in the extant research. In this study, we investigated whether microenterprises benefit from the use of hyper-differentiation strategies in the Etsy marketplace. Future research could use qualitative comparative analysis to identify and further examine differences in customer responses of product purchases to identify the positive and negative impacts of the hyper-differentiation strategies. This approach would further add a newfound understanding of the broader impact of hyper-differentiation strategies and help micro-enterprises develop improved effective competitive strategies.

In our empirical tests, we measured the impact of both handmade and made-to-order strategies on two different levels of analysis. The empirical analysis yields several important findings. First, we show that handmade and made-to-order products command higher average sale prices than their traditionally manufactured counterparts. These results show that the customer base is willing to pay a premium for these micro-manufactured goods. However, one could argue that the cost of the additional labor involved in handmade made-to-order product simply demands that these items sell at a greater price. In order to investigate whether shops actually achieve greater sales when doing these types of strategies, we also investigated the performance of individual at the shops at the shop level. Here again, our data confirmed that handmade and made-to-order products achieve significantly greater economic gains than traditionally manufactured goods. Moreover, we consistently observed an interaction effect wherein handmade goods that were also made-to-order were able to capitalize twice on hyper-differentiation, achieving even greater economic gains than products that were simply handmade. Thus, the results of our study provide valuable insight on the economic impact of hyper-differentiation strategies on microenterprise sales.

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