

DIGITAL INTERNATIONALIZATION OF SMALL AND MEDIUM SIZED ENTERPRISES: ONLINE COMMENTS AND RATINGS ON AMAZON PLATFORM

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Abstract

This study observes Small and Medium Sized Enterprises (SMEs) digital internationalization and determines of online comments influences customer purchase behavior, whether different product types (utilitarian and hedonic products) would moderate the relationships among online comments and customer purchase behavior. Objective data collected by Amazon platforms and SMEs transactions of 1,366 customer orders from 2019 to 2022. We collect online ratings and open-ended comments, adopting Python package of Natural Language Toolkit (NLTK) for Natural language processing (NLP) to define a score of each comment based on a database of natural human language. Regression results reveal that customer purchasing behavior was influenced by both title and content of others' comments, the negative content has a greater negative effect than the negative title. Product types play a moderate role. Specifically, the negative contents of utilitarian goods have a stronger negative effect on customer purchase behavior. For theoretical contributions, we found that the negative comments of utilitarian products are viewed as the most influencing cues for customers purchase behavior. Furthermore, the neutral score of both title and content has a tendency to express negative emotion and attitude. The neutral comments and ratings are valuable for exploring more in future works.

Keywords: *Digital Internationalization, SMEs, Amazon, Hedonic Product, Utilitarian Product, Customer Purchase Behavior*

JEL Classification: M16, M31

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1 INTRODUCTION

1.1. Research Background

Small and Medium Sized Enterprises (SMEs) are considered the mainstay of economic growth in many countries (Karmaker et al., 2023). They have made great contributions to social stability and prosperity in both developed countries and developing countries, SMEs are the source of their economic growth. With the advent of economic globalization, internationalization has become one of the most important business strategies of firms to obtain sustainable growth (Lo et al., 2023). How might these SMEs overcome the challenges of lack of resources or international experiences to compete successfully in foreign markets (Lo et al., 2016)? Under the new trend of digital internationalization, SMEs can have the chance to explore to international market by e-commerce or internet platforms (Hervé et al., 2020). In this research, we explore digital internationalization and how it benefits SMEs to attaining international markets.

Internationalization can be associated with the processes that contribute to its context and illustrated in many different faces, dimensions, horizons, perspectives, and levels (Daszkiewicz & Wach, 2012). Internationalization of enterprise development is not always voluntary; external factors typically make enterprises step into international markets. In the business world, there is no one is safe from the competition and few companies want to limit their future only to their own domestic market. Consequently, when SMEs cannot stand by the limited scale of domestic markets, resulting in being unable to achieve their strategic objectives, they will generate international ideas to make themselves stronger.

With digitalization going on, there is no end result of advancing in the platform economy (Parker et al., 2016; Lo et al., 2020) as the main trajectories of digital innovation are platforms and distributed innovation (Yoo et al., 2012). Our era has been greatly linked with digital technologies, which penetrate deeply into the very core of marketing and business operations, such as promoting products, improving services, and holding marketing campaigns. Thanks to the improvement and innovation of digitalization, many organizations are able to radically change the nature of products and services to expand a new horizon in the marketing field. Scholar has mentioned that “Digitalization has revolutionized not only people’s lives but also businesses” (Pilinkiene & Liberyte, 2021; Martínez de Miguel et al., 2022). The retail business has been evolving over the past several decades in the company of the development of digital technologies (Lo & Campos, 2018). Thus, the changes in customer behavior, the nature of retail, and the operation of e-commerce have to be reshaped so as to continue spreading into different market channels (Ata et al., 2022). Digital transformation starts with creating a digital version of a physical item and then leads to great changes in business operations, models, and competencies to adapt to a fast-changing world, and it will never reach the end (Rupeika-Apoga et al., 2022; Vadana et al., 2021). SMEs are required to possess the ability to continuously innovate, respond quickly to adapt to a fast-changing environment, and take the best use of challenges and opportunities to ensure success. SMEs make an effort to be open-minded, by accepting new digital technologies to improve performance and to continue ahead in a higher place in these competitive markets. Being dynamic and flexible, SMEs have stood a very important role in take advantage under digital international trend.

1.2. Research Motivations

Why is it a good chance for SMEs to branch into different countries? One reason is that SMEs face a real aspect of a highly competitive market and another one is a rapid technological improvement. The number of SMEs engaging in export businesses has increased considerably with technological improvements. In this situation, the best thing SMEs can do is make good use of the internet in online strategies to communicate with customers all around the world (Vadana et al., 2019). Nowadays, many parts of our lives have been involved in the internet and digital parameters; such as sending messages, doing online courses, and online shopping, which is all around us and unsurprising anymore. Online shopping is relatively convenient and offers a variety of products to customers with no time and place limitations. Online platforms contribute an important growth of SMEs to “going digital”.

When it comes to online shopping, most people will come up with “Amazon” which started its online business in 1994 from only selling books to being “The everything store”. Nowadays, Amazon ranked as “The World’s Largest Retailers 2022: Pandemic Helps Amazon Cement Its Lead” in Forbes (Debter, L, 2022). Amazon proves itself as the first place in online retailer in the United States, selling a wide range of products and services to customers all around the world. At the time of COVID-19, online platforms have opened new sales and sourcing channels for both existing and nascent SMEs. The pandemic has strengthened their

role and stimulated them to expand the map of their businesses to be the survivors in this severe environment.

1.3. Research Purposes

Nowadays, consumers are highly sensitive to brands' reputations, leading lots of sellers to compete with each other in building customer value. Online shopping customer purchase behavior is complex and different from traditional purchasing activities. SMEs doing business in e-platforms, branding effect may not be the main consideration for customers, rather, the word-of-mouth (WOM) affect do. Thus, the first objective of this study is to explore how SMEs convey their business internationally through digital transformation. Digital transformation helps SMEs to get ahead to design and implement specific digital transformation strategies, so as to operate their business online and ensure sustainable growth (Rupeika-Apoga et al., 2022). Second, in the context of e-commerce platforms, this study aims toward exploring the complexity of the purchase behavior of consumers, such as, what critical factors would stop customers from buying. Many of your customers won't tell you if they were serviced poorly, they simply won't do business with you ever again. Communication is a crucial portion of creating the bridge between SMEs and the customer to gain feedback and help new people get their hands on your products. Putting good weight on customers' feedback and understanding how it makes changes to customers can bring SMEs fantastic rewards. Lastly, the moderating effects of product types on the relationships between online reviews and consumer behavior. This research aims to explore the influence of different product types affecting the purchase behavior and repurchase behavior of consumers from utilitarian and hedonic points of view.

Literatures had pointed out the importance of SMEs becoming internationalization and digitalization and starting their business in cross-broader digital platforms. Also, in view of doing business on digital online platforms, companies' WOM, such as the sharing recommendations by consumers on social media or peer influence, do a greater influence on its sales and sustainability, but there is still a lack of key factors for investigating different product types. Moreover, many researchers have emphasized the role of the quantitative part, but a limited emphasis on the textual properties, which are the open-ended comments in each review. As a result, in this research, we use online reviews as a tool to assist SMEs to make comprehending their customers.

Besides the above research motivation and objective, the structure of this paper runs as follows. Section 2 presents the theoretical background and research framework. Section 3 gives the research methodology and data. Section 4 lists the empirical results and discussion. Section 5 offers conclusions, implications, limitations, and future research.

2 THEORETICAL BACKGROUND

This research aims to investigate the influence of online comments, and whether the different values of consumption (hedonic and utilitarian) will impact online customers' purchase behavior or not. Since this research is involved in the context of online shopping; in this section, we first explore the background of digital online platforms and their theoretical background. Second, we discuss what factors will influence customer purchase behavior under online platforms. Last, we add an interaction factor of product type and develop the hypotheses accordingly.

2.1. Digital Internationalization of SMEs

E-commerce is the website that provides a virtual place for the user to accomplish online transactions (Luhach et al., 2014). Many SMEs get a chance to get forward with their business by operating on online platforms. Some research also mentioned that the impact of globalization has a stronger influence on SMEs than on large companies (Ruzzier et al., 2006).

Online platform and customer comments helps companies to manage their relationships and interactions with customers who stay connected to them and further improve profitability. Different from traditional selling, e-commerce provides immediate access to information to all consumers. Moreover, it is a competitive advantage for e-commerce over traditional businesses.

From the manufacturer's perspective, the website provides a quick way for customers to get familiar with its products or brands, particularly with the help of reading online reviews. The vast majority of consumers stated that online reviews impact their purchasing decisions in a real way. In the well-known large companies, their branding effect will attract customers, but in the context of SMEs without branding effect, customers highly rely on the previous customer's shopping experiences to make the purchase decisions. Online comments and reviews are just as essential for SMEs when they to the digital international as they are for customers but in different aspects.

2.2. Online Comments on Digital Online Platforms

With the quick growth of e-commerce, the competition among enterprises is increasingly fierce. The ways for customers to source and seek information are diversified, as well. The traditional way for companies or marketers to collect customer satisfaction degrees are often by questionnaires or interview surveys to investigate whether their products or services meet offline customers' expectations. Nevertheless, you may come up with a question "Can these specific questions represent an individual's beliefs, behavior, or attitudes?" The answer would be not exactly, most people dread answering truthfully and are govern one's reactions and beliefs in a way that is deemed acceptable by society. Not only dependent on the individual but also on culture, religion, age group, class, and location, making questionnaires' validity which lower the reliability of the results. Moreover, the procedures to collect and gather customer feedback through questionnaires are costly and may not get the correct information.

As a result, marketers mostly prefer more open-ended questions to get detailed information. Online customers would like to leave comments to show whether the shopping experiences are pleasant or annoying. Comments provided by the customers can view as the communication between the customer and firms (Ogunrinde, 2022). Online WOM can be described as consumer opinions, user experiences, and product reviews. These kinds of expressions have become a major information source in consumer purchase decisions (Gu et al., 2012). Unlike traditional selling, previous research has pointed out that the advantage of e-commerce is consumers have immediate access to information on the seller's website as well as online reviews (Nazir, 2019) and the benefits of the presence of online reviews to online retailers (Mudambi & Schuff, 2010).

These reviews may express customers' attitudes toward product or service quality, the efficiency of delivery, and the responsiveness of sellers which are useful references for newcomers to make purchase decisions. While, new customers, they are also eager to read the comments before making purchase decisions which helps them to understand the products and won't feel overly disappointed when receiving the products. Studies have started to highlight the significance of the relationship between online reviews and sales volume which is the main effect of e-WOM (Electronic Word-of-Mouth).

The goal of electronic commerce is to satisfy customer needs through the transaction of goods and services. When you first come to the product, you may make a purchase decision after careful deliberations. The consideration may be focus on reputation, brand image, and also others' viewpoints of the product. Reading other customers' comments assists you to get further familiar with products and brands. If potential customers know that other people had positive (negative) experiences with your brand, they're more likely to trust/un-trust your brand. Reviews build brand credibility and increase or decrease the likelihood that potential consumers will purchase from you. When customers doing comments ad feedback, most of the platforms ask customers to fill-in a short comment title and longer text for comment content, accordingly, we propose our first hypothesis:

H1-1: Other customers' overall comments (i.e., title and contents) will influence customer purchase behavior.

Comments can reflect whether the product could satisfy customers' requests or needs. Each comment is composed of the title and the content, the title for more direct feelings; the content for more comprehensive information, including plentiful details. The title part is given to something with an intuition thinking to identify or describe it. In comparison to the content, the title is shorter and lacks detailed information. Therefore, the content's word depth is stronger and consists of ample information, more directly influencing and penetrating into one's viewpoint. Studies showed that while customers feel pleased to look into and compare others' open-ended comments, the amount of information would matter. Mudambi & Schuff (2010) put forward that the depth of the comments is highly related to review diagnosticity and affects perceived helpfulness to customers. The same outcome of previous studies, Aishwarya et al. (2021) came up with a general consensus that higher word counts make the reviews more helpful. Thus, in our research, we suggest the content of the comment plays higher influencing factor than the title of the comment in each comment.

H1-2: The content of other customers' comments has a greater effect on customer purchase behavior than the title.

Previous research about online retailers, Clemons et al. (2006) suggested that the variance and the strength of the positive comments are positively related to the growth of sales. But if comparison the positive or negative comments, customers are more likely to be influenced by negative characteristics than positive ones (Lee & Koo, 2012). On the other hand, giving consideration to online purchasing, potential customers who desire and are willing to seek information related to purchase decisions will take more focus on negative reviews. One reason is that negative reviews are distinguished to be more diagnostic which provides more insights into actual experiences of products and become informational cues in the online shopping decision-making context. Individuals pay more attention to negative cues than positive ones and suggested that negative cues are given more weight in customer decisions (Lee & Koo, 2012). Therefore, we can understand that customers are consequently given greater weight to negative comments than positive ones. Additionally, negative reviews are typically fewer than positive ones, which assists customers to save time in collecting useful information before making a purchase decision. Based on the above reasoning, we purpose the following hypothesis.

H1-3: The negative content of other customers' comments has a stronger negative effect on customer purchase behavior than the title.

2.3.Types of Consumption

Shopping can be recognized as two different values. Utilitarian and hedonic values are the two basic concepts that can evaluate consumers' experience of purchasing (Ryu et al., 2010). First, utilitarian value is defined as what a customer receives based on task completion and rational consumption behavior (Babin et al. 1994). For this reason, utilitarian products' effectiveness is more realistic and fundamental than those of hedonic products. Customers would purchase utilitarian products based on meeting their needs or it belongs to a requirement in our daily life. Kivetz & Simonson mentioned that the consumption of necessities is considerably linked to utilitarian value, on the other side, luxuries are linked to hedonic consumption (Kivetz & Simonson, 2002a, 2002b). Second, hedonic value is defined as the value a customer receives based on the subject experience of fun and playfulness (Babin et al. 1994). When purchasing hedonic products, it results from the emotion of fun and pleasure rather than task completion. Thus, we can say that necessities focus on task completion; luxuries are all about a personal emotional reaction. In this context, the purchase behavior of utilitarian one differs from hedonic (Martín-Consuegra et al., 2019).

Utilitarian product is identified as relatively easy to collect detailed information on product quality and specification prior to emerging the purchase intention; key attributes are objective and easy to compare and there's no need to be concerned about one's senses to evaluate quality. Utilitarian consumption priority for meeting certain purposes, such as furniture which refers to movable objects. These kinds of objects are intended to support numerous human actions such as seating, dining, napping, and so on. Chairs, sofas, tables, and beds are the most common objects that exist in our daily life. Furniture can also be used to store things; for instance, shelves and drawers' main purpose is to reach a depository. Furniture is one of the essential requirements of every home. It makes our life simpler and meets our demands. Therefore, we define furniture as a utilitarian product, which detailed specifications are shown on the website in the area of product information. As for the orientation shown in the product description, guiding customers for the terms of use.

We identify a hedonic product as one in which it's relatively difficult and requires effort to obtain information on product quality; key attributes are subjective and difficult to compare with other products. For hedonic consumption, it brings emotions, enjoyment, and pleasure through their use or possession. Consequently, for hypothesis 2, we aim to define whether different types of consumption of comments will have a different impact on customer purchase behavior. Utilitarian values focus on goal-oriented namely conscious reactions, whereas hedonic behavior is described as unconscious responses, as known as enjoyment, play, pleasure, and experience (Scarpi, 2020). Thus, different product type's consumption will influence by the others comments differently.

H2-1: The relationship between other customers' overall comments and customer purchase behavior will be moderated by product types.

Customer's reviews of hedonic products can be highly personal or emotional, rely on the subject emotion of the customer. The information is not uniformly supportive of the other customer's purchase decision. On the other hand, reviews of utilitarian products are more objective and more authentic to sway the mind of humans. While purchasing utilitarian goods, customers will put more weight on seeking factual information about the product's attributes and have an impressionable mind. The greater depth of information comes with greater confidence while customers make the decision (Chu et al., 2015), implying that before making a utilitarian consumption, customers are worth taking a glance at the comments first. As

explained in the previous chapter, it is clear that reading content brings more helpful cues than reading the title only. Under this circumstance, we are going to propose that the content of utilitarian product comments has a greater effect than hedonic ones in regard to other customers' comments.

H2-2: For utilitarian products, the content of other customers' comments has a greater effect on customer purchase behavior than hedonic products.

Derived from a previous study, Chu et al., (2015) suggested that when reading highly dispersed rating customers showed more favorable attitudes toward hedonic products. Thinking in a logical way, the comments on hedonic products tend to be subjective and one's favor or hate are difficult to define. Thus, customers apparently show a more favorable attitude when viewing the negative content of hedonic products. On the other hand, in utilitarian products, unpleasant emotions are brought strongly and unforgettable thereby influencing one's viewpoint and cogitation. Besides, negative WOM messages provided a stronger influence on a customer's attitudes toward brand evaluations and purchase intentions than positive messages (Lee et al., 2008). Scholars also explored those negative reviews for hedonic products are less likely to be perceived as helpful compared to negative reviews of utilitarian products (Filieri et al., 2019). The content of utilitarian products contains more important information about how to use the product and how it compares with alternatives. Accordingly, the negative content of utilitarian products expresses more comparable points to alternatives and thus comes up with a stronger negative effect than hedonic products. In that case, we propose the following hypothesis on the basis of hypothesis 2-2. Research framework see figure 1.

H2-3: For utilitarian products, the negative content of other customers' comments has a stronger negative effect on customer purchase behavior than hedonic products.

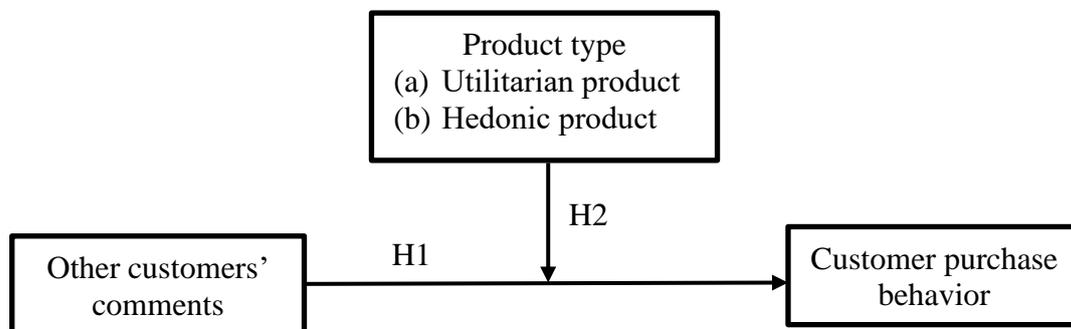


Figure 1. Research Framework.

3 METHOD

3.1.Data

Most of the previous customers purchasing behavior researches were collected from subject perception data by survey which may induce the social influence or common-method biased and may over-estimate the relationships among variables (Lo et al., 2020). To increase the reliability and validity of the data in this research, we using objective multi-source data from the SME's real transaction, mapping the online reviews and ratings from AMAZON platform. Efforts were made to avoid any potential self-report bias and eliminate social expectation effect

by the object data and triangulation of multiple data sources (Doty & Glick, 1998) which is one of the major contributions of this research.

The purchase behavior in this research is the real transaction data among customers and SME, which is about the real amount of all orders, we collected the real customer purchase data from company A to guarantee that all information objectively. As for the comments left on the Amazon website, we gathered the data through “Amazon free downloader”. Mapping the comments and real transaction data to construct the empirical data in this research. Amazon provides a channel to download its review data for free upon request. Amazon review data has been good at using by academic researchers and machine learning engineers to examine the functions and features of recommendation systems (e.g., McAuley et al. 2015; He and McAuley 2016). Moreover, Amazon owns a great WOM and it is a reputable online retailer with extensive consumers (Gu et al., 2012).

Amazon review data consists of abundant information on all transactions. Amazon review dataset has been used to data analysis. We analyze online purchase behavior to figure out whether the comments from others and the previous shopping experience would influence consumer attitude thus changing customer purchase behavior in the end. A screenshot of a web page of the online comments on Amazon is shown in figure 2 in which data source and corresponding details can be shown clearly. Amazon allows all members to leave a review no matter whether they actually buy a product or not. Everyone can rate third-party sellers from one to five stars, with five stars being the best. First, on the left side, the overall ratings and the total amounts of reviews they got from customers are shown. Below you can source keywords you want by feature in a great number of comments. Second, on the right side, all reviews are shown, you can sort reviews by “Top reviews” or “Most Recent” as your requirements. Moreover, when customers read the reviews on Amazon, they'll have the option to rate it as being helpful or not.

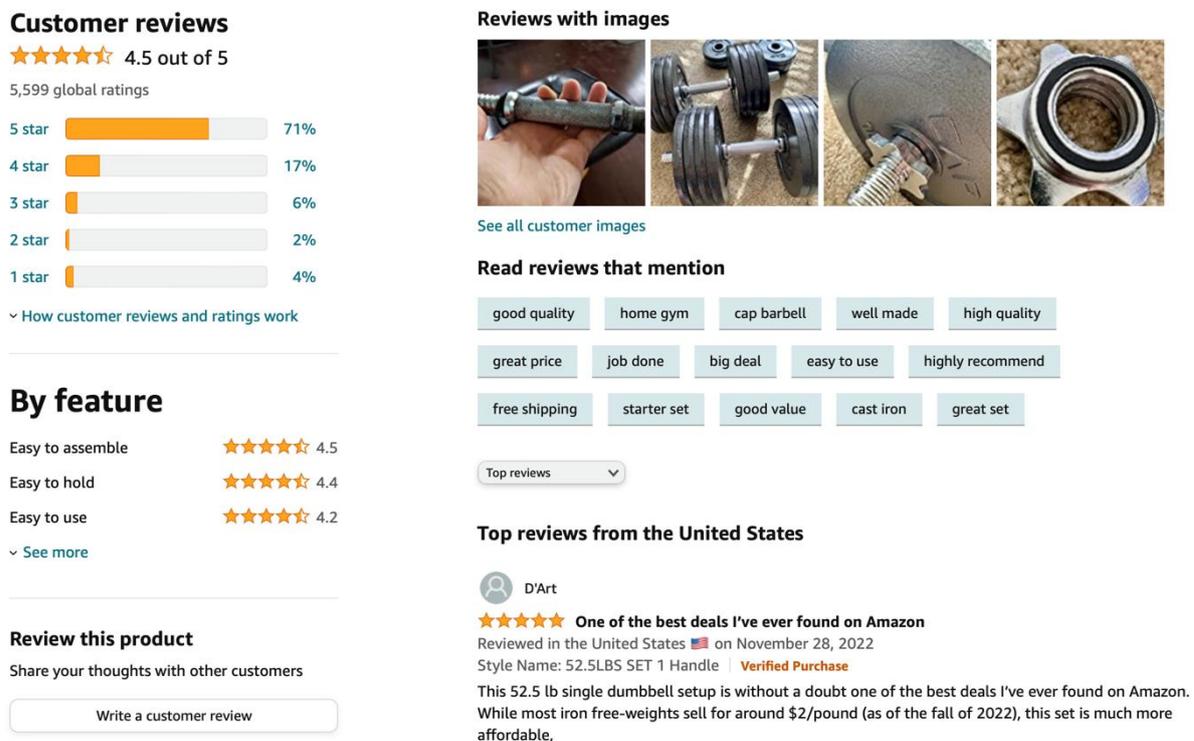


Figure 1. Comment area on Amazon. Source: <https://www.amazon.com>

There are two steps for customers to evaluate products: give a star evaluation and write an open-ended text evaluation. The star evaluation can be directly quantified; however, text evaluation tends to be qualitative. Star rating is the initial attitude of the consumer to give react to goods. There are several studies have shown that star rating positively affects consumer buying behavior or customer purchase behavior but lack of information discussing the text evaluation. Therefore, in this research, we are dedicated to focusing on exploring open-ended comments.

We also further collect the purchase data from company A. The dataset of Company A includes columns of the customer's name, customer ID, customer address, purchase order number, purchase date, warehouse to ship out, order price, and product quantity. Among these columns, we adopt customer ID to check customer identification, purchase date to define the year of the order, FOB which recorded which warehouse of this order has been shipped out, order price to know how much this order is, and product quantity to know how many items are in this order.

We collected the online reviews data from free Amazon downloader, and the six products (3 for utilitarian; 3 for hedonic) and collected counted up to 279 comments left on Amazon from 2019 to 2022. The order records collected from Company A from 2019 to 2022 are based on these six products and amount to 1633.

3.2. Research Methodology

We used Python to calculate the scores of text evaluation with human language data for application in statistical natural language processing. Each comment can be composed of two parts: title and content. For these two parts, using NLP method to score these two parts separately in Python. Once these processes are done, the work of keyword extraction is done. Then, we adopt PyCharm which is an integrated development environment used for programming in Python, providing code analysis to run the program code to get the score of each part. The identification of keywords is a very important task in this research. The aim of the classification analysis process is to classify the keywords into positive and negative classes based on the datasets of NLTK. Each keyword is given a value. Then, sum up each score of the keywords in one open-ended text to obtain the set of the score, which included four scores: the negative score, the neutral score, the positive score, and the compound score. We have known that one comment is divided into two parts, which come up with two sets of results. Totalize eight scores for one comment. The emotion list provides a quick way to access reviews with those keywords to objectively analyze the positive and negative aspects of the product in consideration.

3.3. Measurements

The measurements of the variables selected in this research represented by its independent and dependent variables are starting with the dependent variable which is the price of the order (price) which is measured by collecting the order records from company A. The price of the order means the amount that was fulfilled and completed on Amazon without a return or a refund. As for the independent variables, they are the score of the content and title in each comment. The texts we downloaded from Amazon free downloader and converted into a score for analysis. After the processes of running python, all open-ended comments were presented in the patterns of a score for further analysis.

There are eight independent variables, four for the content and four for the title. Furthermore, there are more than one thousand comments within one year, we are not allowed

to analyze them individually. We get the average scores of these eight independent variables. If the year of the order is placed and fulfilled in year “t” then will use the average score of the eight variables of the year “t-1” as the reference. The goal is to assume that all customers are viewing the latest comments in one year for their consideration and viewpoints.

The moderator variable of this research is product type. We coded “1” if the product type is defined as utilitarian, and “0” as hedonic.

We include two control variables in this research. The first one is the age of the online product comments, in which the year 2019 is coded as “1”, 2020 is coded as “2”, 2021 is coded as “3”, and 2022 is coded as “4”. And the second one is the warehouse (ware) where the order is shipped out. Company A owns 5 warehouses spreading in the United States, located in GA, TX, IL, CA, and NJ. In order to serve all customers with on-time order delivery in optimal quality, good product condition, and most important handle reverse logistics, the multi-location warehouses can achieve effective and efficient results. The rule of Company A to decide which warehouse to ship out the order is based on the customers’ address. The closer the distance between the shipping depot and the destination can lower the risk of carriage and the transportation price. If the nearest warehouse is out of inventory, then will choose the one which can provide what customers need. However, to prevent this from happening, the management of the inventory of Company A is well-developed to reach a higher point of sale. Table 1 presents all variables that were used in analysis and the definition of each variable.

Table 1. Measurements and Variables Description.

Variables	Descriptions and implications	Data Sources
price	The amount of order	Company A
year	The year t of the order	Company A
warehouse	The shipping depot of the order	Company A
title-neg	The average negative score of the title of others’ comments in year t-1	Amazon
title-neu	The average neutral score of the title of others’ comments in year t-1	Amazon
title-pos	The average positive score of the title of others’ comments in year t-1	Amazon
title-com	The average compound score of the title of others’ comments in year t-1	Amazon
content-neg	The average negative score of the content of others’ comments in year t-1	Amazon
content-neu	The average neutral score of the content of others’ comments in year t-1	Amazon
content-pos	The average positive score of the content of others’ comments in year t-1	Amazon
content-com	The average compound score of the content of others’ comments in year t-1	Amazon
p-type	1 for utilitarian product; 0 for hedonic product	Company A

4 RESULTS AND DISCUSSION

We adopted the regression analysis to test the relationship between the comments and the customer purchase behavior. Table 2 presents the results of the regression analysis. Model 1 only includes control variables and serves as the base model. Model 2 shows the impact of

other customers' comments, Model 3 add the moderating variable of product type and shows the results of a full model.

Hypotheses 1-1 postulate that other customers' overall comments may influence customer purchase behavior. The results in model 2 reveal that it has a significant level of both title and content of others' comments. For comment's title, negative title will have negative effect on customer purchase behavior ($\beta=-191.723, p<0.05$); neutral title shows no significance on customer purchase behavior ($\beta=50.615, p>0.1$); the over-all compound score of the title of others' comments will have positive effect on customer purchase behavior ($\beta=84.334, p<0.05$); thus, Hypothesis 1-1 is supported.

As for hypothesis 1-2, the content of other customers' comments has a greater effect on customer purchase behavior than the title. Regression results reveal that the significance level of content (con-neg: $\beta=-1200.820, p<0.005$; con-neu: $\beta=-820.490, p<0.005$; con-pos: $\beta=838.160, p<0.005$; and con-com: $\beta=-52.360, p<0.005$) are at the significant level is higher than the title (tit-neg: $\beta=-191.723, p<0.05$; tit-neu: $\beta=50.615, p>0.1$; tit-com: ($\beta=84.334, p<0.05$); thus, Hypothesis 1-2 is supported.

The above results of hypotheses 1-1 and 1-2 collaborates with the previous literatures of Mudambi & Schuff (2010) and Aishwarya et al. (2021) works which noticed the title and contents of customers' comments are all important, but the influence of content will higher than title.

As for hypothesis 1-3, the negative content of other customers' comments has a stronger negative effect on customer purchase behavior than the title. In regression results, the negative content ($\beta=-1200.820, p<0.005$) has a stronger negative effect on customer purchase behavior than the negative title ($\beta=-191.723, p<0.05$). Therefore, Hypotheses 1-3 is supported.

We all agree that both positive and negative comments all influence the purchasing behavior, the previous research of Clemons et al., (2006) focus on this aspect. But recent research starts to look at the negative comments and suggest customers are more likely to be influenced by negative characteristics than positive ones (Lee & Koo, 2012; Lee et al., 2008). The current research also supports this argument with stronger negative effect by negative comments while weaker positive effect over positive comments.

The second set of hypotheses uses two different types of products (i.e. utilitarian and hedonic products) to focus on product specificity to further examine the moderating effect of the product type on the other customers' comments and customer purchase behavior. Model 3 shows that the relationship between other customers' overall comments and customer purchase behavior will moderate by product types. After adding all of the interacting terms in the model, the regression model only identifies three interaction terms and one of them is significant. Thus, Hypothesis 2-1 is partially supported.

In specifically, hypothesis 2-2 proposed for utilitarian products, the content of other customers' comments has a greater effect on customer purchase behavior than hedonic products. In model 3, the content of the other customers' comments ($\beta=-52.071, p<0.05$) present a greater significant effect than the title ($\beta=-4.883, p>0.1$; $\beta=5.000, p>0.1$). Thus, Hypothesis 2-2 is supported.

Hypothesis 2-3 claimed that for utilitarian products, the negative content of other customers' comments has a stronger negative effect on customer purchase behavior than hedonic products. Model 3 implies there was a significant interaction effect between the negative score of content and product type, we can see that the compound score of content is

negative ($\beta=-52.071, p<0.05$) suggesting that the overall score of the content is negative and customers were significantly paying more attention on utilitarian products than hedonic products. Thus, Hypothesis 2-3 is supported.

In the moderating effect of product type, the category of utilitarian and hedonic products is widely used and mature classification. But the research about the customers' comments differently influences those two product types are seldom. This research concluded with the customer's comments is more influential in the utilitarian products than hedonic products. Further, the negative content of other customers' comments will seriously influence the purchase behavior over utilitarian products than hedonic products. This is the one of the unique and major contribution of this research.

Table 2. Regression Results of Research Framework.

Variable	Model 1				Model 2				Model 3			
	B	SE	T	Sig.	B	SE	T	Sig.	B	SE	T	Sig.
Constant	147.805	6.641	22.254	***	982.268	244.663	4.015	***	287.582	272.858	-1.451	†
Control variable												
Year	-3.915	1.660	-2.358	**	-9.337	3.547	-2.633	**	-7.302	4.018	-1.817	†
Warehouse	-22.039	1.534	-14.370	***	-2.376	1.969	-1.206		1.949	2.001	.974	
Independent variable												
tit-neg					-191.723	92.269	2.078	*	-604.190	398.992	1.514	†
tit-neu					50.615	46.348	1.092		358.038	291.282	1.229	
tit-com					84.334	42.932	1.964	*	330.223	190.312	1.735	
con-neg					-	233.73	-5.138	***	-835.591	309.798	.760	*
con-neu					1200.820	6						
con-pos					-820.490	231.053	-3.551	***	-1012.967	646.535	1.567	†
con-com					838.160	235.381	-3.561	***	711.810	545.907	1.304	†
Interacting term												
tit-neg x p-type									-4.883	22.373	-.218	
tit-neu x p-type									5.000	20.002	.250	
con-com x p-type									-52.071	25.475	-2.044	*

Significance level at ***: p-value < 0.005; **: p-value <0.01; *: p-value <0.05; †: p-value <0.1 (one-tailed). N = 1633

5 CONCLUSION

5.1. Concluding Remarks

When SMEs face rapid changes in global economics, most of them are willing to implement internationalization strategies, thereby ensuring sustainable development and survival. With market saturation and the number of SMEs increasing gradually, the competition among SMEs is severe. Therefore, more and more SMEs started to perform their businesses on online platforms, which can lower the overall operation cost and expand their business map overseas. As rapid economic growth is largely fueled by digital technologies, online reviews

are among the new wave of technologies that still make a significant contribution to this new digital economy.

This research explored customer purchase behavior of those who have an actual buying experience in this company on Amazon and with two types of products (hedonic products and utilitarian products).

The purpose of this study was to understand when SMEs open their business on the online platform what influencing factors of online shopping are worth discussing and should pay more effort into them. It is the study of exploring why consumers purchase and what they do with those purchases. Recent changes and developments have influenced both SMEs' marketing strategies and consumer behaviors. As a result of the review of the works of literature, it was determined that there are studies about hedonic and utilitarian consumption issues but there are not enough studies for testing these two product types in the context of reading online comments. Due to this deficiency in the literature and as a result of the review of previous studies, we explore deeper in this research.

Online shopping is gradually becoming people's first pick when shopping, as it provides a very convenient way to choose products based on product reviews. Reading reviews is always a quick way to understand the positives and negatives of a product or service. Review depth, review readability, and review extremity have been seen as relevant factors that will influence review helpfulness, as they transmitted the signals of the content-related (Clemons et al. 2006; Mudambi & Schuff, 2010; Agnihotri & Bhattacharya, 2016). A consumer will first read and comprehend the comments to interpret their usefulness and would only consider them as helpful when they have been cognitively able to comprehend the text appropriately. Moreover, we found out that consumers' thoughts and behavior can be easily influenced by the sentiment brought from the text and thus convert their willingness to buy from the brand. In other words, not only it can assist the consumers to choose the right products they want but also worthwhile for marketers and managers of SMEs to explore what kind of cues in the comments will make changes in customer purchase behavior. To run a successful online retail store, emphasis must be given to the factors necessary for customer retention. Amazon reviews undoubtedly play a critical role in every customer's purchase behavior. In this research, we adopt SPSS to run the regression result. For the title and the content of each comment, adopting a python system to define words based on Natural Language Toolkit to accord an objective score to them.

Empirically, the results of this study showed that customers do care about others' viewpoints toward products and are willing to take time to read the detailed part of comments, which is the content. Testing two different value products also recognize that consumers shopping for utilitarian and hedonic goods may make different concerns. We reveal that the negative contents of utilitarian products result in a stronger negative influence on customer purchase behavior and repurchase behavior.

5.2. Theoretical Contributions

This study explores the usefulness and helpfulness of online comments to potential consumers and existing consumers. One of the major contributions that emerge from the results of this study is moderating effect of product type, specifically, customers pay more focus to the comment of the utilitarian product, especially the negative content. And it is important in understanding what makes a change in customer real purchase behavior.

As to the other customers' comments, this research further uses the objective software to analyze the content, Mudambi & Schuff (2010) claim strong support that the review depth

has a positive and significant effect on review helpfulness. Previous researches mainly used the vote of helpfulness as their dependent variable, they claimed that readers may be more likely to vote on reviews that are longer because the more the content has more potential ability to express a real reaction of the reviewer and it was supported. In this study, it can clearly be seen that the helpfulness of the content is superior to the title, supporting the more word depth of the text brought to the customers in the real purchase behavior rather than just purchase intention.

Other customers' positive or negative comments also play different effect on the purchase behavior. Previous researches have demonstrated that negative comments might have greater effects on consumer intentions. Comments with extremely negative ratings are likely to be voted by readers as more helpful (Filieri et al., 2019). As consumers, they often focus on reading negative reviews first, which suggests that the benefits of negative comments for readers are higher than positive comments (Proserpio & Zervas, 2017). Therefore, this research proved that the negative effect of the content stands on the more important side than the positive effect. A more severely worded negative comment does lower the attitude toward the brand or company and conveys a dissatisfying experience thus influencing customer purchase behavior.

The previous researches suggest that e-WOM sources play an important role for customers in the information search process (Gu et al., 2012), our research take a step further and provide the objective evidence of the influence of e-WOM does influence on customer purchase behavior.

5.3. Practical Implications

Although in our research we proved that the negative comments of utilitarian products are viewed as the most influencing cues for potential customers and existing customers to make purchase decisions. Other research has mentioned that online retailers need not always fear negative reviews of their products (Mudambi & Schuff, 2010), but receiving negative reviews opens the door to show that you lie within your hands and has the willingness to solve the problems, taking consumer needs seriously. The negative reviews allow the consumer to have faith and trust in your company by knowing that 5-star ratings are unlikely and easily write them off as not real. In addition, the study provides information on how negative reviews have a strong impact on customers' purchase behavior, which may be important for companies wishing to improve the quality of their products. Our results suggest that companies should pay more attention to the quality of the content of their customers' reviews, especially in relation to utilitarian products.

What's more, stemming from our research we put forward to point out that future studies are needed to investigate the influencing factors of neutral comments. The results of our research clearly show that the neutral score of both title and content has a tendency to express negative emotion and attitude with its score are negative. It is quite interesting that we view the neutral score as the range of that characteristic between positive and negative in a typical situation; however, the negative expression of our results indicates that even though the texts customers left were not included any negative affirmation quality but still full of the expression of refusal or denial. Thus, the neutral comments and ratings are valuable for exploring more in future works. In addition, the study provides important practical insights for companies looking to improve the quality of their products and increase the influence of their online customer reviews.

5.4. Research Limitation and Further Research Directions

This study exposes several limitations that create various avenues for future research. First of all, despite the importance of the results found by the current study, it is still limited to the sample of the study which consists of only two product types limited by the availability of the data. Even when looking at reviews of different utilitarian and hedonic products, more samples are available for a wider variety of products.

Moreover, as only Amazon data was used, this may be limited to Amazon's platform and not representative of the market as a whole. Although the comments were sourced from the most representative platform all around the world, Amazon, it can still reach out to other online platforms for further analysis of whether the results also hold the same. Such as getting access to other biggest digital online platforms, Taobao, China's largest online marketplace selling a wide range of products, or Sephora, a powerful beauty presence in many countries selling on-trend beauty products, for the purpose of discussing other spheres of interest.

Third, Future research can explore how these digital marketing techniques can be applied across different platforms and contexts, and how companies can use customer reviews and feedback to improve their online presence and increase sales. The increasing digital transformation is a big challenge for the human resources (Troilo, F. (2023). To extend the findings of the study, more specific details could be focus on how companies can look seriously on the customers' online reviews and find a systematic way to collect the data to provide comprehensive digital marketing strategies.

Fourth, pricing or promotions strategies have been attributed as potential issues to customer purchase behavior (Ke et al., 2021). In this research, we couldn't disclose whether is there a campaign held or during the discount season of Amazon or third-party sellers (i.e., companies) that accelerates customers to conduct a purchase behavior. Therefore, it is a meaningful direction to discuss this underlying factor for future research.

Lastly, the responding customers' level should also address possible personal differences by including personality variables (Chung & Rao, 2012). Amazon protects its customers from exposing their transaction details and maintains physical, electronic, and procedural safeguards in connection with the collection, storage, and disclosure of personal information. Customers' individual information is no available to the sellers this limit our data availability. In practice, it still worth understand the reviewers' cultural background, whether it has an influence on the comment style and whether it is relevant to the purchase behavior. Future works can add other relevant factors such as companies marketing strategies or personal differences could have been included in the model. Overall, the current study provides valuable insights into the importance of customer feedback content and how this content influences customer purchase behavior, particularly in relation to different types of products.

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