

E-Commerce Industry: A Comprehensive Analysis of its Competitive Advantages

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Abstract. This paper confirms the importance of e-commerce by analyzing the definition and historical development of e-commerce. It also emphasizes the importance of cybersecurity and trust in online transactions for the development of e-commerce. Through the analysis of Porter's five forces model, it is concluded that the e-commerce market does have great potential because of obvious advantages compared with traditional commerce and but also has high competition due to the low barrier to entry. In addition, this paper analyzes companies including SHEIN, Cainiao, Xiaohongshu, Taobao, and TikTok, and summarizes five already existing comparative advantages for e-commerce companies, namely convenience, digital information, logistic network, marketing, and information tracking. The final conclusion is that for companies that want to enter e-commerce, this is a good opportunity, but it is very significant to identify market pain points and develop their own differentiation. It suggests that companies should leverage the advantages of e-commerce while also addressing the competition and developing their own unique value proposition to succeed in this fast-growing market.

Keywords: E-commerce industry, Porter's five forces model, comparative advantages.

1. Introduction

In recent years, the global marketplace has witnessed a revolutionary change in the way consumers shop and businesses sell their products and services. The introduction of electronic commerce, also known as e-commerce, has revolutionized the way companies conduct their operations and interact with customers. By definition, e-commerce is the use of electronic communications and digital information processing technology in business transactions to create, transform, and redefine relationships for value creation between or among organizations, and between organizations and individuals [1]. In simple terms, e-commerce is when products and services are traded over the Internet. E-commerce has become a vital component of modern business practices, enabling businesses to reach customers from different corners of the world and drive sales and revenue growth. There are six types of e-commerce, including B2B (business-to-business), B2C(business-to-customer), B2A(business-to-administration), C2C(customer-to-customer), C2B(customer-to-business), and C2A(customer-to-administration) [2]. In general, B2B is used for traditional industrial wholesale companies, and conventional retail companies use the B2C approach to sell consumers their products. As to transactions between companies and the government, they will use the B2A approach. From the customers' view, they can trade with other customers via online transaction forums, which is the C2C approach, while if they want to sell their products or services to companies, such as artwork, they will use the C2B approach. C2A is applied in trades between consumers and the government, such as education, health, and taxes. Based on these six types of e-commerce, it is obvious that e-commerce is changing people's lives.

The history of e-commerce can be traced back to the early 1960s when companies started using Electronic Data Interchange (EDI) to share business documents electronically [3]. However, it wasn't until the mid-1990s that -commerce began to take off with the introduction of the World Wide Web. Amazon, one of the first major e-commerce websites, was founded in 1994 and eBay followed shortly

after in 1995. From there, the e-commerce industry has continued to grow at a rapid pace. Today, e-commerce is a massive industry with global sales. It encompasses a wide range of businesses, from online marketplaces like Amazon and eBay to direct-to-consumer retailers like Warby Parker and Casper [4]. In addition, many traditional brick-and-mortar stores have added e-commerce capabilities to their business models in order to reach a wider audience. The current state of e-commerce is characterized by several trends. One of the most notable is the growth of mobile commerce, or m-commerce, which refers to e-commerce transactions conducted via mobile devices. According to data from eMarketer, m-commerce accounted for over half of all e-commerce sales in 2020 [5]. Another trend is the rise of social commerce, which involves buying and selling products directly on social media platforms like Instagram and Facebook.

E-commerce is important for several reasons. First and foremost, it offers consumers convenience and accessibility [6]. With e-commerce, people can shop from anywhere at any time, making it easier to find what they're looking for and compare prices. In addition, e-commerce has created new opportunities for businesses to reach customers and grow their sales. By eliminating the limitations of physical storefronts, businesses can reach a global audience and sell products around the clock. Finally, e-commerce has also created new job opportunities in areas like web development, digital marketing, and customer service. Overall, e-commerce has revolutionized the way people shop and do business. From its humble beginnings in the 1990s to the massive industry, it is today, e-commerce has changed the face of retail and opened up new opportunities for both consumers and businesses. As technology continues to evolve, it will be interesting to see how e-commerce continues to adapt and grow in the years to come.

2. E-Commerce Industry Analysis: Porter's Five Forces Model

To have a better view of e-commerce, the Five Forces Model, developed by Michael Porter, can be applied to the e-commerce industry to understand the competitive dynamics of the market. The five forces are threat of new entrants, bargaining power of suppliers, bargaining power of buyers, threat of substitute products or services, and intensity of competitive rivalry. The following sections discuss how these forces affect the e-commerce industry.

2.1. Threat of New Entrants

The threat of new entrants in the e-commerce industry is relatively low due to several barriers to entry [7]. First, establishing a reliable online platform requires significant investments in technology, logistics, and marketing. Second, established e-commerce players already have economies of scale that enable them to offer competitive prices and services. Third, e-commerce is a highly competitive industry, making it difficult for new entrants to gain market share. However, some niches, such as luxury e-commerce, may have lower barriers to entry and attract new players.

2.2. Bargaining Power of Suppliers

Suppliers of e-commerce companies include manufacturers, distributors, and other intermediaries. The bargaining power of suppliers is low in the e-commerce industry because e-commerce players have access to a wide range of suppliers, making it easier to switch suppliers if prices are not competitive. In addition, e-commerce companies can negotiate favorable terms due to their large purchasing power. However, some niche suppliers may have higher bargaining power, such as those providing unique or exclusive products.

2.3. Bargaining Power of Buyers

The bargaining power of buyers is high in the e-commerce industry due to the abundance of choices available to them. Customers have the ability to compare prices and services from different e-commerce companies, forcing companies to compete on price and quality. In addition, customers can leave reviews and ratings, influencing the decisions of other buyers. This gives buyers significant

bargaining power, as e-commerce companies must maintain customer satisfaction to remain competitive.

2.4. Threat of Substitute Products or Services

The threat of substitute products or services is moderate in the e-commerce industry. E-commerce companies face competition from brick-and-mortar retailers, as well as other online marketplaces. However, e-commerce companies have advantages over traditional retailers, such as lower overhead costs and the ability to reach a wider audience. In addition, e-commerce companies are constantly innovating to improve the customer experience, such as offering faster delivery and personalized recommendations. However, the increasing popularity of social commerce and mobile commerce may pose a threat to traditional e-commerce players.

2.5. Intensity of Competitive Rivalry

The intensity of competitive rivalry in the e-commerce industry is high. The industry is characterized by intense competition, with many players vying for market share. E-commerce companies must continually innovate and differentiate themselves to remain competitive. In addition, competition can come from unexpected sources, such as social media platforms or new technology. The high intensity of competitive rivalry makes it challenging for e-commerce companies to maintain profitability and market share.

Overall, the Five Forces Model analysis of the e-commerce industry shows that it is a highly competitive market with moderate to low barriers to entry. While established players have economies of scale and customer loyalty, they must continually innovate to stay ahead of the competition. The bargaining power of suppliers and buyers is low and high, respectively, and e-commerce companies must balance these factors to maintain profitability. The threat of substitute products or services is moderate, and e-commerce companies must remain aware of emerging trends and technology. Based on the Five Forces Model analysis, there is a useful framework for understanding the competitive dynamics of the e-commerce industry. While the industry has its challenges, e-commerce companies have the potential to reach a global audience and provide convenient, accessible shopping experiences for customers. By staying competitive and continuously innovating, e-commerce companies can continue to grow and succeed in the years.

3. Comparative Advantages of E-commerce

3.1. Breaking the Barriers of Time and Space

Compared with the traditional physical business model, the most intuitive advantage of e-commerce is that eliminates space and time constraints. Consumers do not need to go to a specific location to purchase the goods or services they need but only need an electronic device, and consumption can occur no matter where they are. In terms of time, consumers are no longer limited by business hours. It can truly meet the consumption wishes of consumers all the time. In the process of product selection, consumers do not need to spend a lot of time and energy going to different stores to compare the information of different products. E-commerce provides them with clear and transparent detailed information, including product raw materials, size information, sales volume, evaluation, etc., you only need to click on the product page to get it. The consumption process that used to take hours to complete now only takes tens of minutes to move your fingers.

3.2. Digital Operation

Another advantage of e-commerce that is clearly different from traditional trade lies in the collection and analysis of information, including consumer preferences, commodity sales, commodity trends, and so on. Based on the consumer's browsing footprint and purchase records, big data can analyze his preferences and develop personalized pages. This makes each consumer a higher

probability of finding the products they are interested in on the homepage. On the one hand, it saves their selection time in the shopping process, and on the other hand, it can stimulate their willingness to consume. For merchants, by analyzing and comparing the sales volume and evaluation of each product in the store, as well as the sales information of similar products in the market, merchants can more clearly understand their positioning in the market. Based on this, decisions such as increasing or decreasing production, improving and upgrading, etc. are made for specific commodities in order to increase sales and increase revenue. In addition, by collecting similar sales information in the entire market in chronological order and combining relevant information, e-commerce platforms can predict future trends to a certain extent through big data analysis and other means.

Chinese cross-border fast fashion e-commerce company SHEIN is an example of a good application of digital information. First of all, SHEIN locates the target customer group as the young female group who tends to buy cost-effective products with a certain sense of design, which is conducive to opening up the sinking market and filling the vacancy of low-consumption groups in the mainstream market. Secondly, different from the production and supply models of Zara and Uniqlo, which are similar corporate brands, SHEIN adopts the "small order and quick response" model. Control the number of orders for each type of clothing to 100-500, compress the supply chain cycle to 7 days, and maintain the frequency of daily updates. By taking advantage of these advantages, SHEIN can decide whether it is like a manufacturer through customer evaluation of additional orders [8]. This measure can not only control the cost but also avoid the problem of warehousing and squeezing goods. In addition, SHEIN has developed its own fashion trend prediction tool, so its product lag rate is only 10%, which is far lower than other brands. This caters to the needs of consumers to catch up with fashion trends and also conforms to its own "fast fashion" positioning.

3.3. Logistics Network

The gradual development and improvement of the logistics network make the advantages of e-commerce more prominent. First, logistics has brought about a huge change in the return and exchange link in traditional shopping. One warehouse can meet the delivery needs of all buyers, saving time from the warehouse to the merchant and then to the consumer, and avoiding the transportation cost of exchanging goods between warehouses in different regions. Most logistics companies also provide door-to-door pick-up services, which means that consumers can complete the process of selecting, placing orders, receiving, returning, and exchanging goods without leaving home, which greatly saves time and energy.

Second, the construction of the logistics network has broken down geographical barriers and promoted the improvement of purchasing power to a certain extent. From the perspective of commodity supply, the logistics network undoubtedly builds a transaction bridge for merchants and buyers around the world. Consumption behavior is no longer divided by region, and consumers can purchase goods from anywhere in the world through e-commerce. Alibaba has specially set up a section like Tmall Global that focuses on cross-border transactions of commodities. So far, more than 39,000 overseas brands from more than 90 countries and regions have settled in, covering more than 7,000 categories.

Third, the application of intelligent construction on the logistics network has brought obvious advantages to the e-commerce industry. Taking the Cainiao logistics network as an example, resource integration, intelligent warehousing, and intelligent delivery are three advantages that cannot be ignored. In China, Cainiao has established partnerships with major e-commerce trading platforms and logistics companies, and the information it collects covers merchants, logistics, and consumers. This means that Cainiao can provide data support for the entire supply chain. Cainiao has opened overseas warehouse services in France and Spain, effectively expanding and expanding overseas markets, reducing the cost of smart logistics transportation and distribution, accelerating the efficiency of smart logistics, and extending the chain of smart logistics services [9]. In terms of warehouse management, Cainiao is gradually realizing automated management. The machine uses the barcode of the input order information to complete the sorting and storage, which saves labor and provides a logistics

information tracking function. In the transportation and distribution link, Cainiao has introduced drones and terminal distribution robots to provide a feasible solution for transoceanic transportation and the "last mile" problem [10].

3.4. Marketing Techniques

The transformation of people's entertainment methods makes e-commerce more options in marketing. Whether it is Internet celebrity promotion or the live streaming that has emerged in recent years, marketing is integrated into entertainment activities. Compared with traditional advertising, consumers not only do not dislike the above methods but always enjoy them.

Xiaohongshu is an e-commerce app that originated from a sharing community. It not only has a content output section but also has its own e-commerce transaction section. The success of Xiaohongshu is precisely because it has captured the strong demand for exchange and sharing of the shopping experience of the customer group, which is dominated by female consumers. It goes deep into the purchasing process of consumers from the two directions of users' active retrieval of product information and self-media promotion. On the one hand, merchants will choose suitable Internet celebrities to cooperate with to promote their products from the perspective of the fan base, recent popularity, and division. The advantage of this marketing method is a higher degree of precision, which is based on the similar preferences of fans of Internet celebrities [11]. Moreover, facing their favorite Internet celebrities, these users tend to have stronger stickiness and a stronger desire to buy. On the other hand, in order to avoid the problem of being unable to choose a suitable product due to false online shopping product information, many consumers are more willing to search for evaluation and recommended content on Xiaohongshu before making a purchase.

Live streaming is an emerging marketing and trading method that combines real-time explanations with online shopping. The whole process is often based on brand sales staff introducing product selling points, displaying product details, and staff providing discount links. The short video platform represented by TikTok, and the e-commerce platform represented by Taobao has become the main platforms for live streaming. The Taobao platform is mainly broadcast live by brand sales staff, who are more professional in answering consumers' questions and recommending products on demand. The TikTok platform, on the other hand, is mainly broadcast live by Internet celebrities, attracting consumers through singing, dancing, and provocative language, which is more entertaining and appealing. The price advantage is the most prominent advantage of e-commerce live broadcasting, because the product price is directly connected by the anchor and the manufacturer, and there is usually a larger discount without middlemen to raise prices [12]. In addition, live broadcasts bring goods to economically backward areas to open up sales for agricultural products.

3.5. Information Tracking

The trade process under the e-commerce mode is open and transparent, and merchants and consumers can grasp each other's real-time information. For merchants, in the return and exchange business, they can see the logistics information of the products sent back by consumers, so as to ensure that merchants will not fall into a situation where both money and goods are empty. For consumers, knowing the source of goods and other buyers' evaluations can help in the purchase process. Information in the e-commerce transaction process will be automatically uploaded to the cloud, which is of great significance in the after-sales service process. Effective certificates can effectively avoid wrangling issues and also enable both parties to use legal means to protect their own rights and interests when they have to [13]. Especially in the transaction process of big-name commodities, an intermediate link is often inserted, and professional institutions provide certification services during the transaction process to ensure the quality of commodities.

4. Conclusion

In recent years, the global marketplace has witnessed a revolutionary change in the way consumers shop and businesses sell their products and services. The vigorous development of e-commerce has not only changed people's lives, but also has a non-negligible influence on the entire market. Therefore, it makes sense to study it. Through the analysis of Porter's five forces model, e-commerce has great potential due to its obvious advantages, but it also faces fierce competition due to lower threshold and customer loyalty. In other words, for e-commerce, risks and opportunities coexist. In this case, it is worthwhile for companies to enter this market, but only if it needs to ensure its own competitive differentiation. In order to figure out the secret of differentiation, through the analysis of several companies that have achieved results in the field of e-commerce, five comparative advantages as examples for e-commerce companies, compared with traditional business models, are summarized, including convenience, digital information, logistic network, marketing, and information tracking. These successful advantages have their own irreplaceable special features, which enable the company to improve differentiation in the highly competitive market, and finally have a relatively stable market share. Overall, although e-commerce contains potential opportunities and is developing as a good trend, it is very important for any company that wants to enter e-commerce to be clear about their differentiation and make sure that what makes them special is what is needed by the market. In the future, there may be new companies that discover new market pain points, seize opportunities, develop their own differentiation, and ultimately succeed.

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