

eCommerce and Small and Medium Enterprises

Subjects: Economics

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The rise of smaller businesses has been an essential trend since the 1990s, when they became engines for economic development. Now, Small and Medium Enterprises (SMEs) across the world are increasingly relying on eCommerce channels to create and capture value. The growth in eCommerce operations is being fueled by several global and technological developments. eCommerce allows SMEs to benefit from globalization by expanding their ability to access customers around the world and across customer demographics and categories. This emergence of a new range of markets has made strategic flexibility essential for SMEs, as such expansion requires a consistent rethinking and adapting to continually changing dynamics in a global environment.

Keywords: eCommerce ; SME ; COVID-19 ; pandemic ; disruption

1. Introduction

Globalization has created an increasing interdependence among countries and removed boundaries in domestic and international markets, offering businesses opportunities to expand their profiles abroad. Several factors have contributed to these opportunities, including that geographic and industrial specialization has created a world in which specific products are often best sourced from specific locations ^[1]. Further, the cost of shipping goods internationally has fallen to levels that can be absorbed by pricing products for the destination markets ^[2].

The effect of globalization on businesses—and particularly on smaller businesses—has been well studied in academia ^[3] because smaller organizations make a significant contribution to trade. In fact, the rise of smaller businesses has been an essential trend since the 1990s, when they became engines for economic development ^[4]. Now, SMEs across the world are increasingly relying on eCommerce channels to create and capture value ^[5]. The growth in eCommerce operations is being fueled by several global and technological developments. Internet channels have facilitated communications that allow even the smallest of businesses to run global operations ^[6]. The growing popularity of global value chains and the increased reliability of long supply chains have further encouraged small businesses to transact with suppliers and customers across the world, and that customer base is exploding.

In the year 2000, there were only 413 million internet users in the world; by 2016, the number of users had increased to 3.4 billion ^[7]. Internet users translate to consumers for most businesses. Although technology allowed SMEs access to these consumers, they must compete for their business in a global environment, with bigger, better funded, and more experienced players. eCommerce helps SMEs meet this challenge ^[8] by allowing them to expand their geographical scope, develop a larger customer base in new markets, and improve their products for customer satisfaction.

Up and downstream, businesses are increasingly digitizing their operations to tap into these platforms. In response, upstream operations are consolidating to take advantage of economies of scale ^[9]. Meanwhile, downstream businesses contiguous to the customer remain highly fragmented, especially in emerging markets. Although clearly providing benefits, these channels increasingly expose SMEs to supply chain risks, especially in the face of natural disruptions ^[10] and other disruptive forces beyond their control.

As researchers found, all case study participants retained manual processes for ordering from overseas suppliers for inventory replenishment due to the lack of infrastructure, processes, and resources to digitize these upstream processes. About half of the interview participants relied on conventional means of using email, phone calls, and text messaging to place orders from their suppliers. They heavily rely on supplier relationships. During the recent pandemic, these SMEs claimed that they maintained enough inventory in stock—for the reason that orders significantly reduced.

Among the cases included in researchers' entry, 50% of the respondents were driven to change supply chain processes during the COVID-19 pandemic. To minimize the effect of the delays during this disruption, 100% of the SMEs who took

part in researchers' research relied on their logistics partners such as fulfillment centers, courier companies, and payment processing companies for downstream processes to meet customer expectations.

Long-term relationships with other supply chain partners including logistics providers, customs brokers, and truckers supported their transportation requirements to replenish inventory despite delays caused by equipment and capacity shortages. Despite this workaround, destination-controlled resources at the ports created another issue. The shortfall of manpower at freight terminals, truck drivers, and warehouse workers created another domino effect of delays in handling inbound inventory replenishment.

While platforms of contracted partners provided visibility to their customers, the lack of resources among these intermediaries also disabled real-time and accurate updates that impacted their revenues.

In the following, researchers describe the complicated relationship between eCommerce and SMEs by exploring how global disruptions related to the COVID-19 pandemic impacted the eCommerce functions at eight SMEs in the United States.

Researchers will discuss their findings within the framework of the Actor-Network Theory. This theory, developed in the 1980s, proposes that all interactions are mediated through objects. In their research, these actors include the eCommerce website, the process-supporting platforms, third-party vendors, and SME employees. As the theory states, combining all actors creates a heterogeneous group with aligned interests, where one actor—usually the SME business owner—is indispensable in decision making. To ensure a stable network, this actor also mediates and unites all other actors in the network that are critical to the process. This unification occurs by developing relationships and emphasizing shared common interest. The business owners typically create these alliances and networks to ensure that they can successfully meet customer demands.

eCommerce allows SMEs to benefit from globalization by expanding their ability to access customers around the world and across customer demographics and categories. This emergence of a new range of markets has made strategic flexibility essential for SMEs, as such expansion requires a consistent rethinking and adapting to continually changing dynamics in a global environment ^[11].

SMEs are typically defined based on the number of employees, annual sales, and ownership for most countries. The most frequent upper limit on employees is 250—as in the European Union—but some countries set the limit at 200 employees while others, such as the United States, set it higher at 500 employees.

For globalization to work to their advantage, small SMEs unbundle through fragmentation, offshoring or vertical specialization of the value chain ^[12]. By unbundling operations that do not directly contribute to their core competencies ^[13], SMEs can focus on these core competencies to maintain their competitiveness. This process of unbundling is more advantageous to SMEs since they generally have limited resources.

Researchers' entry's goal is to evaluate the impact of disruptions on eCommerce. Here, disruptions refer to any event or innovation within an industry that radically and permanently changes how all companies in that industry operate ^[14]. Natural disruptions include fires, floods, severe storms, diseases, and other events created by nature, while disruptions directly created by humans include terrorism, strikes, regulatory changes, and technological challenges. The latter are regular occurrences for many organizations, particularly those companies dealing with global supply chain processes. Such human-created disruptions have become increasingly common due to the increase in global sourcing activities over the past 30 years ^[15]. Such disruptions are inevitable and can have a cumulative negative—and typically long-term—impact on an organization's performance ^[16]; this is particularly true for SMEs, and hinders the scalability of their business models.

The SMEs focused on keeping afloat during the recent global pandemic. They performed operations and finance functions at the same levels to focus on sales and marketing initiatives. Only two out of the eight cases made drastic changes by immediately implementing eCommerce due to the closure of brick-and-mortar stores. Scarce resources to manage the new operations, however, limited their ability to improve other processes.

2. The Contributions of eCommerce to SMEs

SMEs can use eCommerce to enhance and expand their reach. Consider, for example, The Natural Baby Company in Bozeman, Montana. This SME deployed different digital tools to grow its operations and reach new customers. As a result, its online sales have seen an average annual growth rate of 32% over the past three years ^[17]. Another example is

Villa Lagoon Title in Gulf Shores, Alabama, which used eCommerce tools to grow its customer base in Asia, Europe, and the Middle East; today, its international shipments now comprise 15% of its total sales ^[17].

As researchers describe in the following, the literature offers many examples of how SMEs can employ eCommerce to great benefit in three key business areas: operations, sales and marketing, and finance. However, existing literature offers little guidance on how global disruptions might impact eCommerce use in these areas. This is why researchers' entry seeks to understand the cross relationships between a pandemic and eCommerce within the context of an SME.

Appendix A summarizes the literature's findings regarding the specific effects of eCommerce on the three SME business areas. Researchers describe these literatures in the following. Researchers then focus on these three areas to evaluate their research questions and assess SME performance in each area before and during the global disruption.

While researchers' contribution to literature is to examine how disruptions impact key SME business areas, their contribution to practice is to present post-pandemic recommendations to SMEs on how to alleviate the effects of a global disruption and thus help them stay afloat amidst the crisis. To frame their discussion, researchers describe here how existing literature categorizes eCommerce contributions to SMEs in operations, sales and marketing, and finance.

While prior publications often describe the benefits of eCommerce, some articles describe the inability of SMEs to fully capture these benefits, as well as negative effects of eCommerce use. Given these divergent findings, researchers' discussion later offers recommendations that SMEs can use to ensure that eCommerce benefits will outweigh the potential challenges its use presents in each of the three major business areas.

Further, the literature's focus on disruptions is limited to business disruptions. In contrast, researchers' research question aims to begin unravelling the effects on SME business areas of a larger disruption—that of the global COVID-19 pandemic.

3. Operational

3.1. Business Efficiencies

Information technology (IT) has long been regarded as a breakthrough in improving business efficiency and effectiveness in domestic settings ^[18]. eCommerce is a cost-effective way to streamline business processes in smaller organizations, allowing business owners to interact directly with their partners and customers. eCommerce promotes internal efficiencies by reducing the amount of paperwork, enforcing data integrity, reducing the number of errors in data processing, and improving distribution channels ^[19]. eCommerce allows SMEs to use available resources more effectively ^[2] and make market transactions easier and more transparent ^[20]. It can potentially reduce transaction processes and coordination using electronic data interchange (EDI) interfaces and using disintermediation, which removes segments of the transaction process ^[21].

An SME's smaller structures allow for agility, creation of niche strategies, and shorter reaction times, but it also limits robustness to weather disruptions, and requires SMEs to focus too much on the existing business, rather than risk incurring operational losses on new activities ^[3].

3.2. Technology

eCommerce platform technologies bring several advantages to SMEs. First, they make information flow more efficiently ^[22]. For example, through customer communications, establishing customer profiles, and cooperating with customers, SMEs can obtain targeted, unique data and valuable market information, which can help them with business decisions. Technology also allows SMEs to exchange and share information securely using technologies such as EDI ^[23] and thus makes market transactions easier and more transparent ^[24]. eCommerce is an easier, cheaper way of doing business because customer orders can be accepted, confirmed, processed, and paid in an online environment ^[19]. The benefits that information technology (IT) brings are even more critical in international business activities, because they overcome cultural and language barriers. eCommerce use also alleviates challenges due to geographic dispersion and time zone differences among participating organizations, while providing visibility to all stakeholders in a business transaction.

Findings in other literature indicate that the downside of technology for SMEs is their failure to regularly update the website due to shortage of capital and skilled personnel ^[24].

3.3. Supply Chain

eCommerce lets SMEs streamline their supply chains and activities ^[25], enabling supply chain activities such as inventory management, order processing and fulfillment, and communication with multiple stakeholders. These activities include production processes and the delivery of goods and services to various parts of the globe. An example solution is the advancement in order fulfillment technologies, which have helped integrate front-end business processes. On the supply side, companies can purchase material inputs and services more efficiently. With these integrated order fulfillment systems, more suppliers can access global value chains (GVCs), including businesses in geographically dispersed areas ^[24]. GVCs are a full range of activities with which firms and workers engage to bring a good or service from its conception to its end use and beyond. GVC activities include those related to producing, distributing, and transporting the product (supply chain), as well as “intangible” activities such as research and development, design, marketing, and support services ^[26].

4. Sales and Marketing

4.1. Marketing Strategies

As businesses continue to trade online, more and more SMEs are using eCommerce as a sales and marketing tool. SMEs use eCommerce websites as a sales channel between business, its competitors, customers, and the world in general. The main objective of eCommerce websites is to market products and services ^[27]. Gandour stated that websites are useful for SMEs only if they create value for the customer. A disadvantage here is that SMEs using marketplaces instead of their own platforms cannot control site content in a way that allows them to provide sufficient value to customers.

Marketing strategies reflect how SMEs position themselves and compete in the market. Such strategies are a strong indicator of an SME's responsiveness to its customers. Strategies guide managers perform activities that promote marketing goals ^[4]. Marketing strategies are critical for an SME to capture a larger share of customers in a highly competitive environment. eCommerce allows SMEs to compete with larger organizations, who have the scalability to reach a larger audience and use multiple channels that provide detailed information about their company and the products they market ^[28].

Because SMEs typically have scarce resources, it is imperative that they expand to a larger customer base at a reduced cost. eCommerce reduces the cost of advertising. It links to social media through search engine marketing (SEM), which is often used to attract more customers. While SEM will be a good channel to advertise ^[29], social media platforms are saturated and may also direct customers to other sites or vendors. Consumers use search engines on the internet to find products. The search results become visible through advertisements or sponsored links, or organic links. Advertisers increase their visibility by controlling algorithms for search patterns using search engine optimization, or SEO ^[29]. This technique is critical for SMEs to reach a wider network of customers.

Finally, eCommerce allows SMEs to gather data for data analytics. This is imperative for business growth and revenue generation. SMEs can collect a wealth of primary marketing data automatically from a good website by recording customer purchasing behavior, product selection, and payment information ^[30]. They can also use data analytics tools to measure consumer behavior to direct their marketing strategy ^[27]. Despite the availability of information through these tools, however, the lack of capital and skilled resources among SMEs still becomes a challenge. SMEs are not equipped with resources to regularly update website and product information ^[24].

4.2. Globalization and New Market Entry

Globalization creates opportunities for SMEs to grow their businesses, while eCommerce allows SMEs to penetrate remote markets without requiring a physical presence ^[24]. The internet and eCommerce help SMEs to compete with larger counterparts in global markets by overcoming distance and size ^[31]. Communication and transportation technology have improved over the past two decades, letting organizations project brand awareness beyond their immediate market. This process made international markets more accessible to SMEs. The emergence of eCommerce has provided a wide range of retailers with a powerful marketing channel that can reach consumers world-wide ^[32]. Despite SME efforts to improve marketing strategies to cater to a globalized world and enter new markets, however, increasing competition with foreign enterprises may pose a risk. Globalization creates greater risks if an SME is unable to improve quality, cost competitiveness, and management practices ^[3] to compete in the international business arena.

4.3. Customer Service

eCommerce allows SMEs to obtain 24/7 availability to consumers despite geographical distances. This increases convenience, letting customers shop anytime from anywhere in the world ^[24]. Local and global competition has forced SMEs to implement eCommerce for survival and has increased competitive pressures ^[28]. At the same time, using eCommerce platforms in marketing efforts reduces SME dependence on agents and distributors ^[21], while enhancing customer engagement and communication to support internationalization strategies ^[33].

ECommerce platforms serve as a communication channel for bidirectional information transfer and communication ^[27]. Through customer feedback, an SME can improve product quality ^{[11][31]} and also respond immediately to that feedback, which strengthens customer relationships ^[27].

Social media platforms help create a two-way conversation that lets brands engage their customers and respond to their needs ^[28]. This feedback system results in good customer service that yields customer retention and establishes stickiness. Stickiness, which connotes customer or brand loyalty, is a vague measure for an organization's ability to convert visitors to customers and retain existing ones ^[34]. As research shows, brand loyalty has an influence on brand behavior. Establishing brand loyalty is still a challenge for SMEs since the online stores do not meet the needs of customers. Reasons include inconvenient navigation, information overload, and design issues ^[35].

Customer satisfaction and attention to customer behavior are critical factors in SME eCommerce ^[36]. The internet offers customers many options, so SMEs must maintain suitable communication and feedback times to retain customers. eCommerce platforms substantially reduce customer waiting times ^[24], leading to quick responses, faster resolutions, and customer loyalty. SMEs fail to reap the benefits of eCommerce to increase response time to customers. For customer communications, most SMEs prefer to respond through using emails or phone calls ^[24].

5. Financial

5.1. Revenue Growth and Cost Reduction

Prior to the internet, market expansion was an expensive, tedious process with minimal odds of success. Businesses had to commit significant capital to market research before even venturing out. During execution, expansion required considerable investment in operations and physical assets. The eCommerce revolution has replaced research with data analytics. Globalization now allows SMEs to expand on an asset-light basis. On the revenue side, the ability to reach more customers remotely drives up revenue without a corresponding rise in costs, leading to lower cost of revenue expansion. B2C e-commerce opens the possibility for producers to capture higher margins, again by disintermediation in the international distribution of goods.

Technical barriers such as technological literacy, however, deter SMEs ability to optimize eCommerce platforms. To alleviate these barriers, SMEs need to employ additional manpower or outsource processes for implementation, along with connection costs, hardware and software upgrades and maintenance costs ^[2].

5.2. Improved Working Capital Position

SMEs can gain a competitive advantage from optimizing cash flow and managing working capital, both of which can be facilitated by eCommerce. Deploying eCommerce technology can drastically minimize SMEs operating costs, or the day-to-day costs of running a business. In one of the most obvious gains, the ability to communicate in detail about demand and supply significantly reduces the need for transportation and movement of goods. More importantly, the flow of information up and downstream improves operational synchrony, reducing operational inefficiency by ensuring that more actions and decisions are based on signals from the market, the supply chain, or the value chain. This minimizes the frequency of resource wastage and leakage. In effect, operational efficiency reduces working capital.

5.3. Financial Management and Asset Monitoring

Accounting and fiscal management costs have historically kept financial management by SMEs at a minimum. Physical records were difficult to obtain and manipulate. However, the digitization of eCommerce operations has baked in digital recordkeeping in SME operations. It positions the business effectively for global financial monitoring and management, guiding decision-makers on investment decisions. eCommerce reduces the cost of business operations ^[2] while improving SME revenue streams. In effect, it improves the business's bottom line. Among the tangible benefits is reduced production cost ^[19] by leveraging available data in eCommerce platforms in financial forecasting, demand planning, resource allocation, and production management. eCommerce has been found to reduce transaction and coordination costs by

utilizing online databases globally ^[37], allowing SMEs better financial management structures, processes and asset monitoring.

6. The Cons of Ecommerce and Global Disruptions

Literature over the past decade has presented pros and cons of eCommerce use. With the drastic effects of global disruptions such as the pandemic, researchers aim to determine how SMEs use eCommerce to support functions when human resources are relatively scarce, as well as to identify how global disruptions impact the key SME functions.

Of the many downsides of adopting eCommerce and digital operations, a business may become regimented to decisions framed around remote operations. A good example is in logistics. Typically, businesses using eCommerce outsource all or part of their logistics operations. For businesses that totally outsource, the day-to-day decision-making on their logistics is made by the service provider and can become obscure to the business owner. Thus, when opportunities arise to make minor operational decisions that can help the business, decision-makers are either unaware or under-equipped to take such decisions. Disruptions however provide a practical context for businesses to exploit such opportunities. A disruption, by placing the service provider in a position where they cannot act quickly with off-the-shelf solutions, creates both the problem and the need for the client business to engage directly in the solution. Supply chain disruptions caused by COVID-19 offer a great example. With logistics providers unable to move goods for a significant period, many businesses had the opportunity to reassess their supply chain activities and explore new ideas for business continuity ^[38].

Besides this, eCommerce can cause a reduction in the quality of information that businesses receive. This may seem paradoxical, since eCommerce on the one hand improves the ability of businesses to communicate with more customers. However, since only about 30% of communication is verbal, information collected via eCommerce can be severely regimented. This is especially significant for businesses that trade in physical goods, for whom instant feedback on the customer's first contact with their product is critical. Losing access to such information can hamper product improvement, customer satisfaction and revenue growth, thus diminishing returns on investment. ^[39].

The downsides of eCommerce from financial management and monitoring are limited but exist all the same. The physical nature of brick-and-mortar businesses prompts managers and business owners to scale their administrative and oversight infrastructure in line with their growth. Naturally, opening more physical stores to tap into new geography carries along administrative capabilities. This is not the case for eCommerce, where growth can very quickly outpace infrastructure. It has adverse implications for financial management, monitoring and compliance. A total of 32% of failed eCommerce businesses said they failed because they ran out of funds to drive their aggressive growth ^[40]. For the businesses that succeed, many run suboptimal financial structures that do not take advantage of all their opportunities. Underpinning these, the majority of eCommerce businesses are so overwhelmed by the financial data available to them that they are unable to maximize their benefits. On the sum of all this, eCommerce can go from financial boom to financial burden for SMEs ^[41]. Here again, natural disruptions can prompt SMEs to assess their financial situations and their projected needs. The shocks generated by disruptions can serve as a natural stress test for small businesses, revealing weaknesses in their financial plans.

However, disruptions can be a double-edged sword for businesses. The COVID-19 pandemic is a natural disaster that has created many disruptions in human lives and in global businesses. Some businesses are riding the pandemic wave to increased success, while others experience a decline. The pandemic has created a domino effect of multiple disruptions—most notably in the supply chain. Whether natural or deliberate, disruptions hamper eCommerce activities to connect producers to consumers across the world. This makes the relationship between eCommerce and the pandemic worth studying.

Appendix A

Table A1. Business area, focus, and impact of eCommerce on SMEs.

Business Area	Focus	eCommerce Impact
Operations	Processes	Business efficiencies ^{[18][19]} Use of available resources ^[20] Disintermediation ^[21]
	Technology	Information exchange and transparency ^{[21][23]} Information flow more efficient ^{[19][22]}
	Supply Chain	Streamlined supply chain ^{[21][25]} Simplifies international transactions ^{[21][25][30][42]}
	Marketing	Creation of Marketing Strategies ^{[41][28]} Cost of Advertising ^[28] Use of Social Media ^{[28][35]} Source of Marketing Data ^{[27][30]}
Sales and Marketing	Globalization and New Market Entry	Penetrates remote markets ^[2] Competes in a global market ^{[31][31]} Marketing channel that reaches global customers ^[32]
Finance	Customer Service	Immediate accessibility to customers ^{[24][27]} Reduces dependence on distributors for customer engagement ^{[2][33]} Customer feedback to enhance product quality ^{[11][31]} Customer Retention and Brand Loyalty ^{[28][34][36]}
	Revenue Growth and Cost Reduction	Higher ROI on Marketing Cost ^[43] eCommerce is significantly effective on SME performance, financial performance, internal process, customers, growth and learning ^[44] Lower transaction costs ^[45]
	Improved Working Capital	Disintermediation reduces transaction costs and value leakage in the value chain ^[2] Reduced Operating Costs ^[46]
	Financial Management and Asset Monitoring	eCommerce reduces the cost of monitoring business and financial operations ^[20] Among the tangible benefits is the reduced production cost ^[19] eCommerce reduces transaction and coordination costs through interconnective networks and online databases globally ^[45]

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