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The Impact of Virtual Businesses on International Trade and the Labour Force

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Abstract
The current research aims to examine how e-commerce influences global trade and jobs.The advent of electronic commerce has been beneficial for economies worldwide. Short-term benefits are more likely to accrue to wealthy nations, whereas long-term benefits will be more widespread among emerging nations. Through the use of the Internet, international trade volumes will grow. Countries that buy a lot of goods from countries with high per capita incomes will benefit from knowledge ripples. It's also expected that e-commerce will have a positive and negative impact on jobs.

Keywords: e-commerce; international trade; employment.

Introduction

The expansion of electronic commerce may provide significant opportunities for both developing and developed countries (Dudic,2020). While the developed world will likely reap the majority of the benefits in the near term, the developing world stands to gain far more in the long run. In the near future, underdeveloped nations won't have the infrastructure to fully benefit from the Internet. However, in the long term, they may leapfrog, bypassing some of the IT development phases experienced by industrialized nations.

The development of cutting-edge technologies has facilitated global trade. Millions of people throughout the globe utilize the Internet for a broad variety of purposes, including shopping. The Internet has a significant impact on almost every industry. Businesses may utilize the Internet for a variety of purposes, such as marketing, lead generation, and other routine tasks. As a result, more and more businesses are turning to the web for their day-to-day operations. One effect of e-commerce is more competition, which results in reduced pricing and more options for consumers (Zhou,2020).

It is predicted that e-commerce would both directly and indirectly increase and decrease employment opportunities. Increased demand and productivity will lead to the indirect development of new employment outside of the information and communication technology industry. However, some employment reorganization and elimination are to be anticipated as a result of changes in corporate practice. There will be a wide variety of factors at play, thus the ultimate impact on employment won't be the same in different nations, regions, sectors, or types of workers (Lauder,2020).

The rest of this article is organized as follows. The next part will serve as an introduction to online trade. Indicators that explain the expansion of online trade and its repercussions on the economy are provided in Section II. E-commerce's effects on global trade and employment are discussed in detail in Section III. Finally, some last thoughts are offered in Section IV.

E-commerce: An overview

E-commerce, an abbreviation for "electronic commerce," describes commercial activities that take place through the Internet (Sutaguna,2023). Firstly, it is a more effective conduit and collector of information, and secondly, it may permit the outsourcing of numerous internal economic operations to external vendors who are in fierce competition with each other as they carry them out.

The potential for international B2B and B2C e-commerce transactions is growing rapidly with the advent of the Internet. The internet has the potential to revolutionize global commerce by allowing for the customization of trade, particularly in the realm of business-to-consumer interactions. It allows buyers to trade with international sellers without physically visiting the sellers' country. The Internet has made it possible for businesses to open virtual shops that are accessible to customers all over the globe. As a result of technical developments, the market for customers has expanded to new levels.

The Internet and e-commerce are revolutionizing businesses by reshaping back-end processes including product creation, sourcing, manufacturing, inventory management, distribution, and even marketing (Mancuso,2023). Internet and e-commerce facilitate new supply networks, services, and business models by shifting the roles and responsibilities of diverse participants. The outcome is increased productivity, more effective use of resources, a shorter time to market, shorter order fulfillment periods, and better service for customers.

The rise of e-commerce can be quantified, and the results are significant. Over $150 billion was transacted online worldwide in 1999 (Safeer,2022). Eighty percent or more of the deals were made between corporations. Although the United States and Canada account for the lion's share of global ecommerce expenditure, consumers in other nations are increasingly turning to the Internet to do their purchasing. More than a ninetieth growth in e-commerce revenues is predicted by 2014. Spending online is likely to more than treble in Latin America, contributing significantly to this development. It is predicted that in 2014, the following regions would spend the most on online shopping: North America ($202.8 billion), Western Europe ($166.5 billion), Asia-Pacific ($93.2), Latin America ($27.1 billion), Eastern Europe and Russia ($27.0 billion), Australia ($4.9), and Africa and the Middle East ($3.0 billion).

In addition, there are now over two billion people online, and that figure continues to rise. The impact of online trade has grown. Its primary function is as a trading platform where buyers and sellers can meet and negotiate a fair price. Online marketplaces like eBay, which has over 90 million active members, allow almost anybody to purchase or sell almost anything (Yusoff,2021).

eBay was founded in 1995, and since then it has connected millions of consumers, sellers, and small companies across the world. Their combined effect on online trade is nothing short of revolutionary: In 2009, eBay racked over $60 billion in sales, or $2,000 each second.

Implications for the Economy of E-Commerce

Businesses, expenditures, and production are three areas where e-commerce has had a favorable impact on the economy (Ding,2021). Many economic and technological forces have combined to compel businesses to reconsider their supply chain strategies. In order to stay ahead of the competition, firms are working to improve supply chain coordination and collaboration by eliminating duplicative steps within each interaction. Many of the deals may be made on the open market or via online exchanges. As a result, the Internet and its apps have made it easier to improve supply chain management. In addition, the use of ICTs helps businesses locate suppliers of the materials they require, and it greatly lowers the expense of collecting and analyzing data on product costs and materials. In addition, advancements in information and communication technology have made it less expensive to implement and manage remote operations. Enhanced information and communication technologies enable the establishment of efficient operations in low-cost local areas and nations with competitive advantage for the outsourced activity. As a result, e-commerce makes it easier for businesses to subcontract or outsource any part of the manufacturing process (Milewska,2022).

The pricing empirical data we have is inconsistent. Earlier research indicated that online product costs were often higher than their brick-and-mortar counterparts. However, a more recent survey indicated that, on average, book and CD costs on the Internet are around 10% cheaper than those at conventional stores in the United States. There is also conflicting research on the degree to which demand is sensitive to changes in price (Sheng,2020).

There is strong evidence that productivity increases significantly in nations where the use of technologies for information and communication is prevalent (Cheng,2021). Research on the impact of ICTs on economic development in nine OECD countries over the last two decades found that ICTs added between 0.2% and 0.5% to annual economic growth. This contribution increased to between 0.3% and 0.9% annually in the latter part of the 1990s. The United States saw the greatest impact, followed by Australia, Finland, and Canada. According to another estimate, B2B e-commerce's continued growth would eventually add 5% to GDP. It has also been suggested that Internet-related technologies might speed up financial procedures, raising questions about what level of interest must be set and if the minimal rate of interest setting needs to become shorter (i.e., on timeframes smaller than a day).

In addition, some studies have shown that advancements in information and communication technology have contributed to greater labor and capital productivity in the United States.
Not only has productivity grown in industries that do not directly contribute to the creation of ICT, but it has also increased in those that do. Those that used these tools saw an uptick in productivity as a side effect. The data also suggests that American employees may have profited from the higher productivity made possible by the rise of e-commerce and ICTs (Munday,2021).

Online shopping's impact on global trade and employment

The potential advantages of doing business online might be very beneficial for both developing countries and developed ones. The expansion of e-commerce will have indirect and direct effects on both international trade and the labor markets as it continues to gain momentum.

❖ **E-commerce and International Trade**

Electronic methods and the internet may make starting and conducting business transactions simpler, quicker, and cheaper (Darma,2020). It may be rather expensive to get data from sources beyond international boundaries. In fact, sometimes these prices are so exorbitant that they constitute a serious obstacle to commerce. It also takes time and money to source a reliable supplier, define product specifications, negotiate a fair pricing, schedule delivery, and promote a product. With the use of the internet and e-commerce programs, many of these transactions may be completed without the need for direct physical contact between the customer and the vendor. When it comes to facilitating commerce, the internet is expected to have a similar effect as removing other trade obstacles. As a result, it's safe to assume that trade volumes across borders will grow.

In particular, e-commerce software that facilitate electronic marketplaces on the internet lower transaction costs by matching buyers and sellers online and eliminating the need for face-to-face meetings between the two parties (De Massis,2022). According to the results of a recent research, poor nations, in particular, stand to benefit the most from the Internet since it facilitates access to global markets despite their limited participation in such markets in the past. Evidence from a 1998 study of businesses in 15 developing and emerging economies reveals that these companies utilize search engines to investigate potential new markets.

However, the degree to which e-commerce stimulates global trade is product specific. On the one hand, many things that formerly needed physical delivery may now be sent digitally across a network to a client. Textbooks, movies, and computer programs are all examples of media products. However, transportation expenses will still play a major role since the vast majority of items sold abroad cannot be delivered digitally. In this context, global commerce in digital media items was about US$44 billion in 1996, or less than 1% of overall global trade (Jain,2023). In most nations, the percentage of overall commerce that included digital media items was around 2%. The average annual rate of increase in business for digital media items was roughly 10% between 1990 and 1996, which is 1.5 times greater than the average annual rate of increase in total global commerce trade.

The growth of online shopping will also have a significant impact on the trade of services. The biggest change in the trading of services is the ability of internet shopping and IT to turn so far non-tradable services into competitive commodities. Research and development, computing, stock management, quality control, finances, leadership, advertising, marketing campaigns, and distribution are only some of the non-tradable processes that will now be traded thanks to e-commerce (Mondolo,2022). All that is necessary is satisfactory channels of communication between the customer and the supplier in terms of both quality and speed as well as cost. Financial, legal, telecommunications, and bespoke software are just few of the many service industries that will see a rise in electronic cross-border commerce (Mondolo,2022).

It's easy to see the Internet as yet another sort of trade liberalization because of the way it effectively opens formerly closed markets. Because of this technological advancement, the advantages to society are far greater than the triangle efficiency boosts that result from trade liberalization. Trade liberalization

has increased potential advantages in numerous service industries as costs have decreased (Sibghatullah,2023).

The possibility for international outsourcing increases with the continuing decline in communication costs. Therefore, the importance of outsourcing both managerial and manufacturing tasks will increase. Some industries and types of global work will be more impacted by e-commerce growth than others (Yang,2022). Research has been conducted to identify industries that may be more susceptible to the disruptive effects of e-commerce and other technology developments. For instance, based on parameters including savings in expenses, productivity benefits, industry readiness, and product adaptability to e-commerce, a rating for web intensiveness has been constructed. Based on information gathered in the United States and Europe, the research concluded that the digital element, food, medicine, and forest/paper products sectors are the most internet intensive. It's reasonable to assume that similar sectors and industries, through outsourcing, would be impacted by e-commerce in other countries. Additionally, there is mounting evidence that multinational firms are heavy consumers of e-commerce.

One way in which international e-commerce might help a developing nation is by lowering the price at which it buys goods from elsewhere. A nation that does not export services but does import them in exchange for products might nonetheless reap economic benefits (Saeed,2021).The greater availability of low-cost medical, a career in engineering and architectural services, in addition to long-distance learning and decreased transaction costs, may help a country even if it does not immediately export the products and services supplied over the Internet.

Recent studies have shown that commerce may also increase internet use. A country's level of economic integration with the rest of the world, for instance, may affect its ability to invest in information technology(Santoro,2023). Countries that have more opportunities to interact with the rest of the world, whether via commerce, tourism, or just their position, are prone to be technologically sophisticated. Another research finds that nations more receptive to imports from wealthy individuals OECD economies are more likely to embrace innovative technology as a result of "knowledge spillovers." The following table and chart illustrate the expansion of internet use throughout the globe and the amount of international commerce. Figure 1 shows that international commerce volume was on the rise until 2008, notwithstanding fluctuations between 2000 and 2010. It dropped after 2008 due to the worldwide financial crisis, but has now begun to rise again. Between 2000 and 2010, global internet use rose in every area.

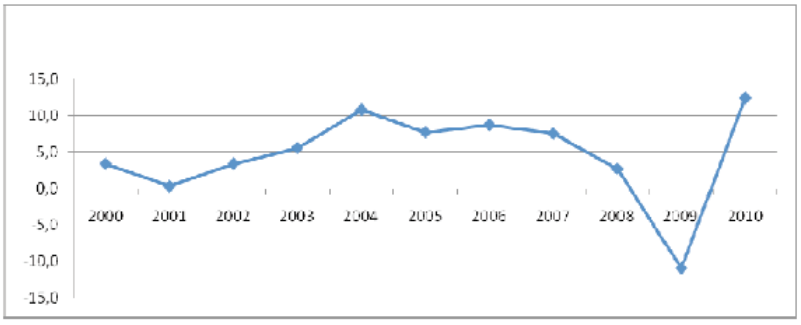


Fig. 1 World Trade Volume, 2000-2010, annul percent change. (source: IMF, WEO,2006/2011).

Table 1 The Growth of World Internet Usage, 2000-2010, percentage

World Regions	Growth, 2000-2010
Africa	2,357.3 %
Asia	621.8 %
Europe	352.0 %
Middle East	1,825.3 %
North America	146.3 %
Latin America/Caribbean	1,032.8 %
Oceania / Australia	179.0 %

Even after accounting for other characteristics that could also correlate with both internet usage and openness to trade, empirical studies of internet adaptation have established a correlation between the two. One study, for instance, indicated that in economically open emerging nations, there was a higher proportion of internet users overall. Additional indicators of ICT usage and investment have been shown to connect with different types of openness, according to another research. One study that analyzes the factors that influence the adoption of information technology in 54 African nations revealed that the rate of adoption was often greater in more liberal states.

One study found that multinational corporations engaged in e-commerce with other businesses, but not with consumers directly. According to another study, nations that buy a lot of manufactured products from the OECD also tend to spend more in information and communication technologies (Cieślik,2022). Finally, research that examines data on Internet usage at the company level throughout Eastern Europe and Central Asia finds little evidence of a positive relationship between the degree to which individual countries are open to imports and the degree to which their own businesses use the Internet. In fact, a negative connection is discovered by the same research in some model configurations. However, this may be a consequence of imports from developing and emerging economies. Access to the Internet is positively connected with imports from high-income nations. One research found that the link between openness and ICT investment was strongest in computer-importing nations.

Whether or whether internet usage influences commerce has been the subject of many recent studies. A study utilizing information from 20 developing and middle-income nations in Eastern Europe and Central Asia found that businesses with access to the internet exported a greater proportion of their goods and services. Internet usage seems to be highly connected with trade after 1996, according to another study that uses a gravity model of commerce but finds just a moderate association between 1995 and 1996.
The same studies also discovered that the internet influences commerce in underdeveloped nations more so than in economically developed nations. A second report by the same group of researchers found that, among 31 middle- and high-income countries, those with greater internet use had quicker growth in their exports of services to the United States.

More goods are exported from developing nations with high Internet penetration to developed economies. High-income nations with higher access to the web do not seem to increase exports to either emerging or advanced nations, but neither do they increase exports to other high-income countries

(Rodrik,2020). These findings seem reasonable. First, in high-income nations, manufacturing businesses are very likely to have access to the Internet, therefore disparities in the percentage of internet users likely reflect variances at the consumer rather than corporate level. On the other hand, many factories in poor nations lack access to the internet. Second, being linked to the Internet would appear to be an even larger benefit for firms in developing nations with regard to exporting to developed countries since Internet connection is less widespread in developing nations. than in developed ones.

Last but not least, because there are big differences in income between regions and most exports from nations that are developing will go to other developing countries in the same region, it seems likely that exports to far-off advanced nations will have higher costs for communication than exports to next to developing countries.

❖ **Employment and e-commerce**

There are a number of interrelated factors that will determine how the growth of e-commerce affects the labor market and how much people are paid (Werner,2023). The rise of online shopping is predicted to have both positive and negative effects on employment. The information economy, which includes the entertainment, software, and digital product industries, is expected to create many new employments. Rising demand and productivity will result in the indirect creation of employment. When e-commerce replaces conventional methods, many people will lose their jobs (Gupta,2022). Preliminary data shows that retail, postal, and travel agency employment would be hit the worst. However, the consequences won't be constant across nations, regions, sectors, or skill sets.

In the United States and the European Union, almost a third and a quarter of all jobs, respectively, are in ICT-related businesses and banks, business, and trade. Moreover, between 1993 and 1996, they were responsible for 28% and 35% of new employment opportunities.

There will be some job gains and losses on net, but e-commerce will also affect the need for certain talents (Medina-Salgado,2021). In a world where responsibilities and decisions are increasingly data-driven, it seems clear that ICTs and e-commerce call for an entirely new set of abilities. This "technical shift that focuses on skills" means that experts are needed who can handle not only the IT infrastructure but also the huge amounts of data that are collected about buyer tastes and production methods. In fact, a study's early results indicate that the need for highly qualified individuals to operate these new technologies will rise, as will the need for new managers to make decisions in more data-driven businesses.

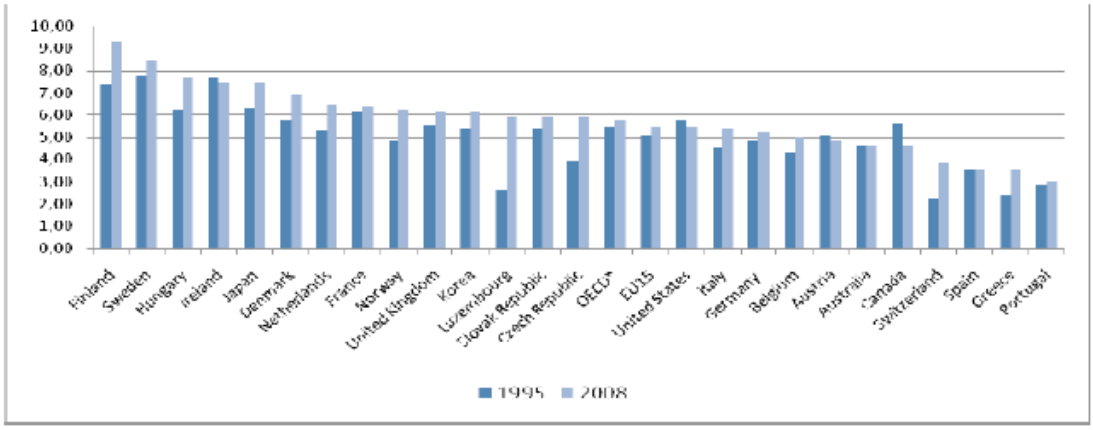
Some academics blame the widening pay gap on the rising need for highly trained individuals with increasing administrative and supervisory duties and a stronger demand for specialized skills (Elias,2023). In the United States, there seems to have been a change in demand from lower and middle-wage vocations and skills to highly compensated positions and activities requiring specialized education, training, or managerial prowess. Skill-biased technological progress is largely responsible for the uptick in labor demand. The low-wage, low-skill manufacturing sector did not have the same pay rise as the IT-intensive, high-productivity growth sectors. For this reason, IT-intensive sectors saw real pay growth,

whereas IT-poor sectors experiencing workforce cutbacks and employing mostly low-paid employees saw no change in real wage levels.

The developing nations most prepared to reap the economic benefits of e-commerce via increased exports are those that already have a sizable population of highly educated people who can operate at or near the cutting edge of computer technology. One country that is reaping significant benefits from e-exports is India.

A consulting firm calculated the multiplier effects of e-commerce on job in the UK, France, Germany, and Italy. We utilized an input-output framework and methodology to isolate three distinct types of economic effects: (i) immediate impacts, resulting from e-commerce profits for the associated sectors. (ii) secondary impacts, caused by inter-industry linkages; and (iii) additional impacts, defined via the basic Keynesian income-consumption system from the value added produced in the first-order round. Assuming a 100% substitution rate of e-commerce with traditional industries, the results show that indirect and second-order repercussions foremployment requirements are large enough to make up for the direct harm of jobs everywhere except Germany. This supports the belief that more job opportunities will follow the growth of e-commerce. According to their research, online stores that rely on labor-intensive intermediaries are more likely to reduce direct employment.

The proportion of information and communication technology (ICT) workers in the private sector is shown in the table below for the years 1995, 2000, and 2008. Employment in information and communication technologies rose in numerous nations, as a percentage of total business sector jobs (Anwar,2021).



Source: OECD ICT Key Indicators Information Technology Outlook, 2010.

Fig 2. Share of ICT employment in business sector employment, 1995 and 2008, percentages

Conclusion

The below findings are the article's final analysis. Similar to the effect of removing other trade barriers, Internet use will increase international commerce. As a result, e-commerce will increase global trade. The countries most dependent on importing from the prosperous nations will benefit from knowledge

spillovers. When it comes to the exchange of services, e-commerce may also have a major effect. Additionally, it is anticipated that e-commerce would both directly and indirectly result in the creation of new employment and the elimination of existing ones. Directly, new employment will be created in the field of information and communication technology, and indirectly, new jobs will be created as a result of rising demand and enhanced output. Gains or losses in net employment might occur if specific skills are in high demand.

Conflict of Interests

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