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The Impact of E-commerce on Micro-Economy

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I. INTRODUCTION

E-commerce has the significant impact on business costs and productivity. E-commerce is widely adopted due to its simple applications. The large economic impact of E-commerce led to an increase of competition and innovation, which inevitably boosts overall economic efficiency. E-commerce is the buying and selling of goods and services, or the transmitting of funds or data, over an electronic network, primarily the internet [1]. These business transactions occur either as business-to-business (B2B), business-to-consumer (B2C), Consumer-to-business (C2B) or consumer-to-consumer (C2C). The terms E-commerce and E-business are often used interchangeably. The term e-tail is also sometimes used about the transactional processes for online shopping [2].

Information is the key component of the modern micro-economy. While specialized knowledge is no longer proprietary, the transferring, storing, and processing of information can still be costly for firms and consumers. The proliferation of E-business has such a positive impact on today's economy because the use of information technology greatly lowers the costs associated with information distribution. Viewed through the lens of cost reduction, transformations of the production process enabled by E-business such as outsourcing, electronic procurement, and online trading not only make sense but also become predictable [3]. Similarly, given the efficient organization of information in search-and-match markets between consumers with suppliers and the labor market with hirers, led to advent of electronic platforms such as auction sites and online resume exchanges. Wherever the costs involved with transacting information are high, the gains from adopting E-business practices are highest and the

market will naturally implement the needed info-and communications-technologies (ICT) there first [4].

Reduced informational costs cannot only facilitate given transactions, but can increase the rate of transactions taking place within a specific market. By lowering the costs of bringing together geographically distant buyers and sellers, E-business increases the size of any given market. Access to a larger markets makes the trade of goods and services more reliable and efficient, in part because bigger markets often have lower average costs associated with them. However, the aggregation of information in larger markets is beneficial in its own right, especially compared to the bilateral negotiation between economic agents that E-business might replace. The inefficiency of bilateral negotiation, resulting in some mutually beneficial trades not materializing, is due to the asymmetric information (e.g., on the reservation prices) held by the parties. Thicker markets mitigate such inefficiencies (Vulkan, 2003) [6] [7].

a) Dimension of E-Commerce

Business-to-business (B2B) E-commerce refers to the electronic exchange of products, services or information between businesses rather than between businesses and consumers. Examples include online directories and product-and-supply exchange websites that allow businesses to search for products, services and information and to initiate transactions through e-procurement interfaces [7].

1. Business-to-consumer (B2C) is the retail part of E-commerce on the internet. It is when businesses sell products, services or information directly to consumers. The term was popular during the dot-com boom of the late 1990s, when online retailers and sellers of goods was a novelty.
2. Today, there are innumerable virtual stores and malls on the internet selling all types of consumer goods. The most recognized example of these sites is Amazon, which dominates the B2C market.
3. Consumer-to-consumer (C2C) is a type of E-commerce in which consumers' trade products, services and information with each other online. These transactions are generally conducted through an enablement party that provides an online platform on which the transactions are carried out.
4. Online auctions and classified advertisements are two examples of C2C platforms, with eBay and Craigslist being two of the most popular of these platforms. Because eBay is a business, this form of



E-commerce could also be called C2B2C -- consumer-to-business-to-consumer.

5. Consumer-to-business (C2B) is a type of E-commerce in which consumers make their products and services available online for companies to bid on and purchase. This is the opposite of the traditional commerce model of B2C.
6. Business-to-administration (B2A) refers to transactions conducted online between companies and public administration or government bodies. Many branches of government are dependent on e-services or products in one way or another, especially when it comes to legal documents, registers, social security, fiscals and employment. Businesses can supply these electronically. B2A services have grown considerably in recent years as investments have been made in e-government capabilities.
7. Consumer-to-administration (C2A) refers to transactions conducted online between individual consumers and public administration or government bodies. The government rarely buys products or services from citizens.

b) Exposure of Micro-Economy

The researcher emphasized that Microeconomics is the study of behavior of individuals and firms in making decisions regarding the allocation of scarce resources and the interactions among these individuals and firms. One goal of microeconomics is to analyze the market mechanisms that establish relative prices among goods and services and allocate limited resources among alternative uses. Microeconomics shows conditions under which free markets lead to desirable allocations. It also analyzes market failure, where markets fail to produce efficient results. Micro-economy stands in contrast to macroeconomics, which involves "the sum total of economic activity, dealing with the issues of growth, inflation, and unemployment and with national policies relating to these issues".[2] Microeconomics also deals with the effects of economic policies (such as changing taxation levels) on microeconomic behavior and thus on the aforementioned aspects of the economy.[4] Particularly in the wake of the Lucas Critique (1976), much of modern macroeconomic theories has been built upon micro-foundations—i.e. based upon basic assumptions about micro-level behavior.

The combination of strong technological scale economies on the supply side and network effects on the demand side makes market structures with high concentration of dominant firms both lively and efficient. On the other hand, a firm possessing a dominant market position and operating in a network industry has access to a more efficient set of instruments than potentially abuse its dominant market position relative to a firm operating in a traditional industry. This study

argues that the recognition of these two counteracting aspects forms a necessary condition for the design of successful microeconomic policies in contemporary high-tech markets. It is also emphasized that efficient competition policy in these markets has to face an inherent structural trade-off between the exploitation of strong scale economies and the promotion of entry and small enterprises [10].

II. BACKGROUND OF THE STUDY

James E. Priefer and Daniel Heil (2010) stated that data and interchanges technology (ICT) in business—the most expansive definition of E-business—is changing the world economy. E-business at the microeconomic level of retail, wholesale, and work market exchanges enormously affects the performance of companies and the economic welfare of consumers and workers. The increases in efficiency and economic benefits at the microeconomic level exert influence as far as possible up to the macroeconomic level of Gross domestic product and financial and monetary phenomena. However, new arrangement challenges go with the rewards from E-business in the economy. The economics of E-business are shaped by how that ICT lowers the expense of transferring, putting away, and processing data (Borenstein and Saloner, 2001). When the expense of data falls, there are significant consequences for how firms direct business with each other, with consumers, and with workers [1].

Severin Borenstein and Garth Saloner (2001) studied the markets—whether wholesale or retail, merchandise or services, commodities or profoundly differentiated items—these are extraordinary times. The Internet and related technologies have caused the costs of numerous sorts of market interactions to plummet. Similarly as with any emotional technological change, the most evident and earliest effects are incremental. Over time, however, the movements are more uncommon: we discover that we can do entirely new things, or completely restructure the manner by which certain business activities are carried out. Such long haul effects of technological change are in every case hard to forecast, but that assignment is especially troublesome on account of E-commerce, where markets are currently very a long way from equilibrium. In the "land surge" to secure Internet real-estate, to increase first-mover market position and other advantages, numerous organizations are pursuing strategies that are properly interpreted as the payment of one-time, largely sunk entry costs. In some cases the focal point of these expenditures is on "customer securing," through evaluating that isn't likely to be sustainable, while in others it is building infrastructure to achieve least efficient scale [2].

Nir Kshetri and Nikhilesh Dholakia(2010) emphasized that Compared to business-to-consumer

(B2C) E-commerce, business-to-business (B2B) E-commerce is larger, becoming faster and has less unequal geographical appropriation all around. In this paper, we examine the current stage of B2B E-commerce development crosswise over four worldwide regions and propose a model to explain the magnitude and worldwide circulation of B2B E-commerce activities. Our examination indicates that increases in the freedom of the movements of products, services, capital, technology and people coupled with quick technological development resulted in an explosion of worldwide B2B E-commerce. The share of the worldwide B2B E-commerce a nation is likely to income and populace size, the accessibility of credit, venture capital, and telecom and strategic infrastructure, charge and other incentives, tax/non-levy barriers, government emphasis on the development of human capital, regulations to influence firms' investment in Research and development, hierarchical level legislative issues, language and the activities of international agencies [3].

Lucking-Reiley, David, and Daniel F. Spulber (2001) stated that the mechanical revolution mechanized the assembling elements of firms, the data revolution is computerizing their merchant capacities. Four types of potential profitability increases are expected from business-to-business (B2B) electronic commerce: cost efficiencies from mechanization of exchanges, potential advantages of new market intermediaries, solidification of demand and supply through organized exchanges, and changes in the extent of vertical integration of firms. The article examined the characteristics of B2B online intermediaries, including categories of products traded, market mechanisms employed, and ownership arrangements, and considers the market structure of B2B E-commerce [4].

Frans Suijker (2002) stated that its early stages, electronic commerce (E-commerce) might have large economic effects in the future. E-commerce can improve the transparency of markets and can result in efficiency gains using lower procurement and inventory expenses and better production network management. It can likewise be a source of new items. During a temporary period, a surge in E-commerce might support macroeconomic development and reduce swelling, if markets capacity well. This note explores the potential microeconomic, sectorial and macroeconomic effects of E-commerce [5].

Emily S. Dunt and Ian R. Harper (2002) focused on the effect of e-commerce and the Internet on the Australian economy. It surveys literature on the extent and development of e-commerce in Australia and its effect on the shape of the Australian economy. It has enjoyed increases in efficiency as a result of the creation or potentially uses of new data and correspondences technology. Australia is seen as comprehensively well placed to benefit from the Internet and e-commerce.

Generally isolated from the world's principle economic centers] and reliant on commodities in international trade, the advent of the Internet is ideal for a nation experiencing significant change to a service-orientated, knowledge-based micro-economy[6].

Melisande Cardona Nestor et al. (2015) focused on the offline to online shopping – and a change in arrangement – measures to reduce the barriers to online trade perceived by consumers and retailers. In opposition to the prevalent smaller scale economic fractional equilibrium consumer modeling way to deal with E-commerce, we use a large scale economic general equilibrium model that unites the effect on consumers just as on producers. We use survey information on cross-border E-commerce between EU Member States to estimate the implied cross-border trade cost reduction when consumers move from offline to online utilization just as the implied expenses of perceived regulatory barriers to E-commerce. The relatively weak Gross domestic product effect in examination with the creation and utilization effects indicates that the move from offline to online retail induces considerable welfare redistribution from retailing to other sectors and to households, more so than a generation effect [7].

The two ideas that is to be classified as miniaturized scale economic concepts. As of not long ago, exchange had centered on "E-commerce". More often than not, this thought is understood as denoting all possibilities to electronically bolster processes in the field of sales and procurement. Insofar, its emphasis is on commercial activities among market members. "E-business", then again, covers a larger range of activities and, aside from market exchanges, likewise includes business processes inside firms and along value-added chains [8].

Urbaczewski et al. (2004) re-examined the value relevance of E-commerce announcements utilizing an event study methodology. Event studies have become an increasingly prevalent technique for data systems research by giving researchers a devices to measure the famously elusive value of data technology. It is discovered evidence that the customary event study methodology might not provide an accurate measure of irregular returns during periods of high market unpredictability, and propose an alternative methodology. Utilizing the alternative methodology of E-commerce initiatives with an advanced item was valued fundamentally more than E-commerce initiatives with a tangible item, while in 1998 no such difference existed [9].

Stenbacka, Rune (2001) focused on new data economy are characterized by imperfect competition, asymmetric data or external effects. In this manner, well-designed microeconomic policies, as competition policies, technology policies or mixes of these, have solid potential of generating welfare improvements and

advancing social efficiency. This paper emphasized advancement intensive competition, solid technological scale economies, network effects and complementarity between system components as characteristic features of the core industries in the data economy. Concerning these features the investigation explores the implications for microeconomic policies from the point of view of competition analysis. [10].

Silvia Bertarelli (2015) emphasized that the reputation is significant in advancing exchanges in online markets, since it might overcome data inefficiency through successful sign of sellers' quality to less informed customers. To explore this issue, the researcher studied the web sellers' reliability in business-to-consumer online exchanges concerning reputation games. Customers can gather data in online marketplaces like e-Sound through open feedback systems. Conversely, without a centralized reputation system, it isn't clear how potential buyers structure their beliefs [11].

Melanie Fritz (2007). Emphasized that the key facilitators for exchanges in nourishment networks. Recent developments in electronic exchange bolster, for example, E-commerce consider efficiency improvements in exchange processes along nourishment supply chains. However, the correspondence of trust between exchange partners isn't sufficiently realized in existing E-commerce offers for nourishment networks. To enable nourishment networks to exploit efficiency potentials from electronic commerce, appropriate generation of trust and confidence at the exchange partners in the sense of an E-commerce partnering due diligence is necessary[12].

Jiming Liu Yiming Ye (2019) emphasized that the internet has swept over the registering scene like a hurricane. The scope and rate of change of WWW are dazzling and are influencing pretty much every aspect of human society. Among the numerous changes brought by the Internet is the emergence of electronic commerce over the Web [13]. Mantel, Brian (2001) provided an overview of developments in e-money and E-commerce. It then explores research on the economics of advancement to place these changes into a broader context. The research paper explores the potential ramifications of market structure changes in banking and commerce for the evolution of e-money [14].

James E. Priefer(2016) focused on E-commerce can be defined barely to refer just to purchases made through an electronic medium, or more expansively to refer to any use of ICT in business (in spite of the fact that the latter might more properly be called E-business). This research article will use the term E-commerce regularly in the stricter sense, in spite of the fact that in places it will talk about the effect of ICT in general, and the Internet specifically, on numerous aspects of how firms and consumers work together. As the importance of E-commerce has developed, so has

the academic investigation of its effects on firms' strategy [15].

M.R. Baye (2002) emphasized that internet has revolutionized how consumers and firms interact in the marketplace, and it has significantly changed the data enjoyed by market members at different focuses in the value chain. This volume on the Internet and E-commerce provides academics and practitioners with useful research on the 'glue' that holds the new micro-economy together. The initial six chapters of the text examine four-wide issues: the role of the Internet in fostering competition, its effect on price dispersion and on business-to-business exchanges, and the importance of E-commerce [16].

III. PROBLEM STATEMENT AND RESEARCH OBJECTIVES

This paper presents a methodology for a systematic identification of trust generation for electronic commerce in micro-economy fields. The researcher stated some of the following objectives which are significant in E-commerce and its significant impact on micro-economy.

1. To study the factors of E-commerce which are significant on Micro-economy.
2. To analyze the limitation of E-commerce on Micro-economy and its significant usage in real life.

The researcher also emphasized that Electronic commerce activities, such as on-line exchange of information, services, and products etc., are bringing business to a whole new level of productivity and profitability. In parallel with the emergence of electronic commerce, there have been interesting developments in the area of intelligent software agents, or software entities that are capable of independent action to manage and control micro-economy activities in unpredictable environments.

IV. RESEARCH DESIGN AND METHODOLOGY

This research paper has been written based on secondary data. The secondary data was collected from published books, journals, research papers, magazines, daily newspapers, internet and official statistical documents. The study is qualitative in nature to show that the significant impact of E- Commerce on Micro-economy. The methodology builds on three central elements: transaction decisions, the phase of the transaction process, and the information and communication processes as mediating links. The transaction decision portfolio builds the central element of the methodology and contains criteria for the assessment of the reliability of transaction situations to control and management the dimension of Micro-economy activities.

V. PROPOSED RESEARCH WORK: SIGNIFICANCE IMPACT OF E-COMMERCE ON MICRO-ECONOMY

E-commerce and its Impact on Components of Microeconomics

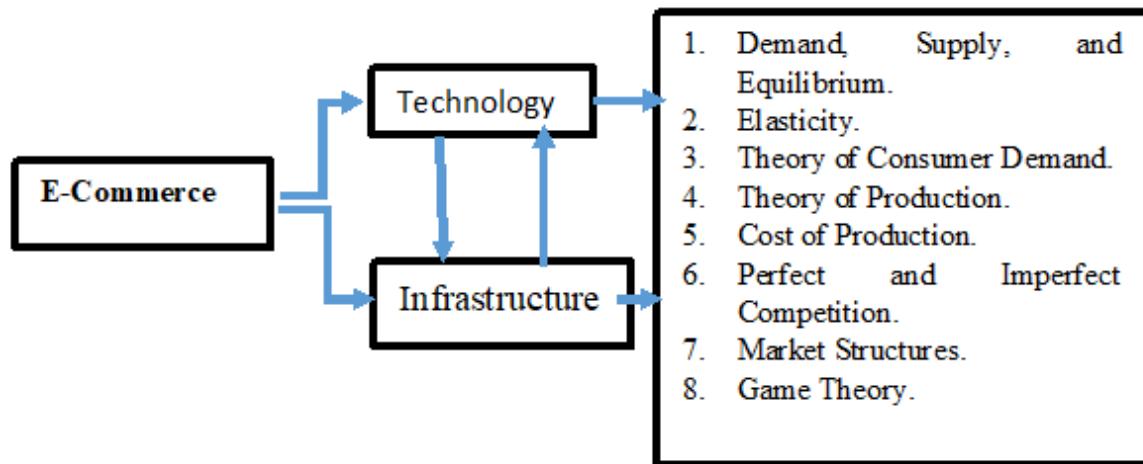


Fig. 5.1: Proposed Research on E-commerce and its Impact on Micro-economy

VI. DISRUPTION TO PHYSICAL RETAIL

Given the stratospheric rise in E-commerce in recent years, many analysts, economists and consumers have debated whether the online B2C market will soon make physical, brick and mortar stores obsolete. There is little question that online shopping is growing at the significant rate in micro-economy. Research from Big-Commerce has found that Americans are about evenly split on online versus offline shopping, with 51% of Americans preferring E-commerce and 49% preferring physical stores. However, 67% of millennial prefer shopping online over offline. According to Forbes, 40% of millennial are also already using voice assistants to make purchases, with that number expected to surpass 50% by 2020[12].

According to data from Shopper Trak, physical store traffic on Black Friday declined by 1% year over year, and the two-day Thanksgiving-Black Friday period saw a 1.6% decline in traffic. Nearly 40% of sales on Black Friday came via a mobile devices, up nearly 10% from the previous year, an indication that E-commerce is becoming m-commerce [13]. The benefits of E-commerce include its around-the-clock availability, the speed of access, the wide availability of goods and services for the consumer, easy accessibility and international reach [14].

1. Availability. Aside from outages or scheduled maintenance, E-commerce sites are available 24x7, allowing visitors to browse and shop at any time. Bricks and mortar businesses tend to open for a fixed amount of hours and might even close entirely on certain days.

2. Speed of access. While shoppers in a physical store can be slowed by crowds, E-commerce sites run quickly, which is determined by computing and bandwidth considerations on both consumer devices and E-commerce sites. Product pages and shopping cart pages load in a few seconds or less. An E-commerce transaction can comprise a few clicks and take less than five minutes.
3. Wide availability. Amazon's first slogan was "Earth's Biggest Bookstore." They could make this claim because they was an E-commerce sites and not a physical store that had to stock each book on its shelves. E-commerce enables brands to make a wide array of products available, which are then shipped from a warehouse after a purchase is made.
4. Easy accessibility. Customers shopping a physical store might have a hard time determining which aisle a particular product is in. In E-commerce, visitors can browse product category pages and use the sites search feature the find the product immediately.
5. International reach. Bricks and mortar businesses sell to customers who physically visit their stores. With E-commerce, businesses can sell to any customer who can access the web. E-commerce has the potential to extend a business' customer base globally.
6. Lower cost. Pure play E-commerce businesses avoid the cost associated with physical stores, such as rent, inventory and cashiers, although they might incur shipping and warehouse costs.
7. Personalization and product recommendations. E-commerce sites can track visitors' browse, search



and purchase history. They can leverage this data to present useful and personalized product recommendations. Examples include the sections of Amazon product pages labeled "Frequently bought together" and "Customers who viewed this item also viewed."

VII. LIMITATION OF E-COMMERCE ON MICRO-ECONOMY

The perceived downside of E-commerce includes sometimes limited customer service, consumers not being able to see or touch a product before purchase and the wait time for product shipping. If a customer has a question or issue in a physical store, he or she can see a clerk, cashier or store manager for help. In an E-commerce store, customer service might be limited: the sites might only provide support during certain hours of the day, or a call to a customer service phone number might keep the customer on hold [15].

1. Not being able to touch or see. While images on a web page can provide a good sense about a product, it's different from experiencing it "directly," such as playing music on speakers, assessing the picture quality of a product or trying on a shirt or dress. E-commerce can lead consumers to receive products that differ from their expectations, which leads to returns. In some scenarios, the customer bears the burden for the cost of shipping the returned item to the retailer.
2. Wait time. If a customer sees an item that he or she likes in a store, the customer pays for it and then goes home with it. With E-commerce, there is a wait time for the product to be shipped to the customer's address. Although shipping windows are decreasing as next day delivery is now quite common, it's not instantaneous.
3. Security. Skilled hackers can create authentic-looking websites that claim to sell well-known products. Instead, the sites sends customers forfeit or imitation versions of those products -- or, simply collects customers' credit card information. Bona fide E-commerce sites also carry risk, especially when customers store their credit card information with the retailer to make future purchases easier. If the retailer's sites is hacked, hackers might come into the possession of customers' credit card information.

VIII. CONCLUSION

The researcher concluded that E-commerce is having the significant impact on every phase of micro-economy such as email, online catalogs and shopping carts, EDI, the File Transfer Protocol, web services, and mobile devices. This includes business-to-business activities and outreach, such as using email for unsolicited ads, usually viewed as spam, to consumers

and other business prospects, as well as sending out e-newsletters to subscribers and SMS texts to mobile devices. More companies now try to entice consumers directly online, using tools such as digital coupons, social media marketing and targeted advertisements. The rise of E-commerce forced IT personnel to move beyond infrastructure design and maintenance to consider numerous customer-facing aspects, such as consumer data privacy and security to accommodate E-commerce activities, data governance-related regulatory compliance mandates, personally identifiable information privacy rules and information protection protocols must be considered in micro-economy.

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