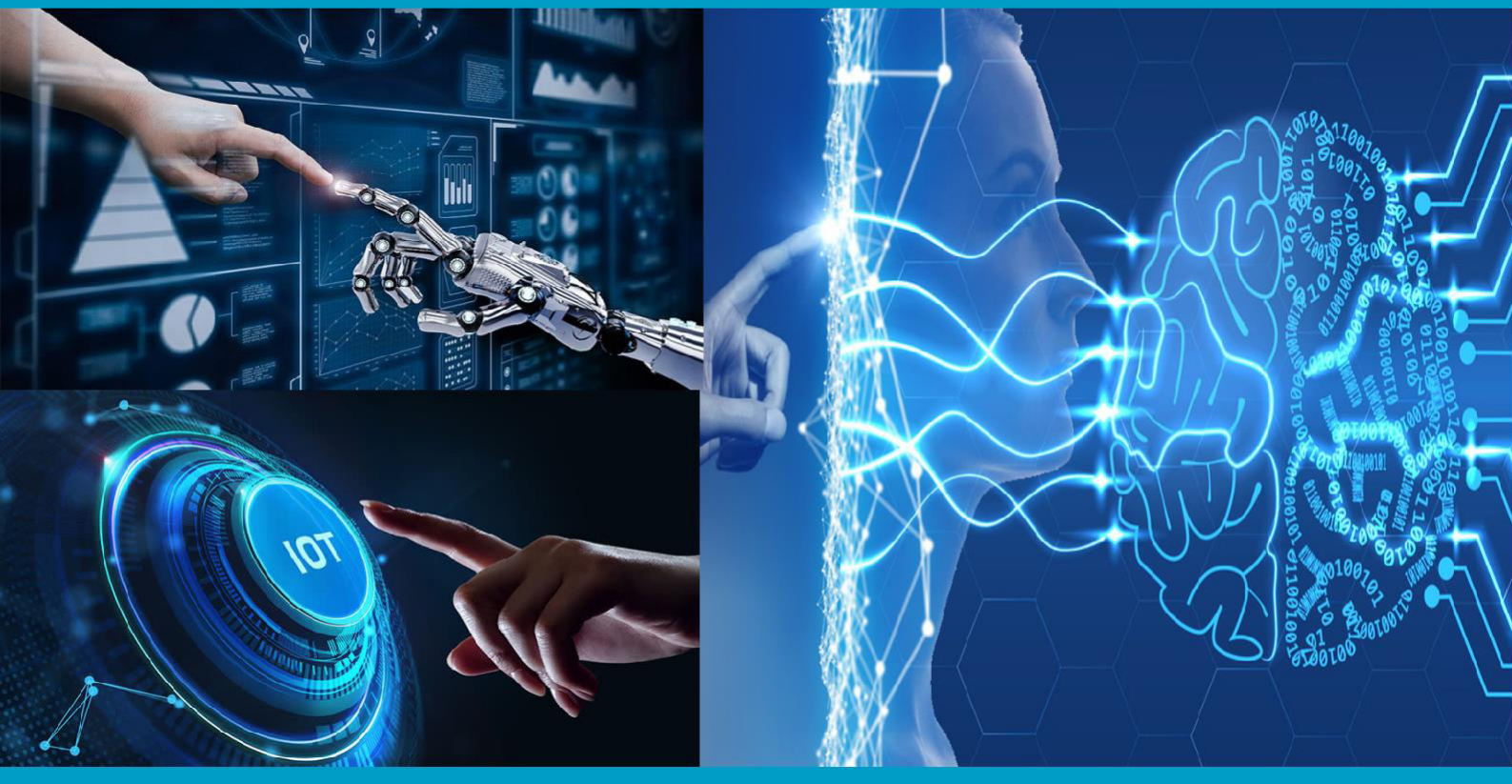
IJMRSETM

e-ISSN: 2395 - 7639




# INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH

## IN SCIENCE, ENGINEERING, TECHNOLOGY AND MANAGEMENT

Volume 9, Issue 12, December 2022

INTERNATIONAL STANDARD SERIAL NUMBER INDIA

Impact Factor: 7.580

International Journal of Multidisciplinary Research in Science, Engineering, Technology & Management (IJMRSETM)

| ISSN: 2395-7639 | www.ijmrsetm.com | Impact Factor: 7.580| A Monthly Double-Blind Peer Reviewed Journal |

| Volume 9, Issue 12, December 2022 |

# E-COMMERCE V/S M-COMMERCE

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**ABSTRACT:** Information and communication technology (ICT) is the computing and communications system that a business uses to exchange information with its stakeholders. ICT is developing rapidly, and with this development, businesses are changing how they work. ICT has impacted various sectors and industries, including collecting, storing, and analyzing information; digital communication; and m-commerce and e-commerce.

**KEYWORDS**-ICT, communication, e-commerce, m-commerce, digital, information

## I. INTRODUCTION

Before diving deep into the details of e-commerce and m-commerce, let's consider the term 'commerce.' Cambridge dictionary defines commerce as:

The activities involved in buying and selling things.[1]
Once we know that commerce includes all the activities needed for trade, we can guess what e-commerce is. What do you think are the most critical factors in commerce? You are correct if you think of a buyer, a seller, and a product of interest. E-commerce works the same as traditional commerce, just electronically.

Electronic commerce, or e-commerce, is the act of buying and selling goods electronically using the Internet.
It is hard to find a single person who does not know what Amazon does. E-commerce may be a company selling its products via a website or different vendors selling various products on an e-commerce platform. Some businesses, like Spareroom, Shein, Zalando, etc., run entirely on the Internet without any physical locations. Companies that stayed away from e-commerce are now either regretting it or running hard to catch up.[1,2,3]

Some platforms are trying to get small businesses on board to join the e-commerce revolution and compete with their giant counterparts. Platforms like Uber Eats and Deliveroo are trying to get local restaurants and grocery stores onto food ordering apps. E-commerce is joining more countries than ever and is a fundamental part of globalization.

A person sitting in their living room can start an e-commerce website that will serve customers worldwide.

So what exactly do you need to start an e-commerce business? Just a laptop with working Internet.

M-commerce is a sub-part of e-commerce.

M-commerce, or mobile commerce, is the buying and selling of goods using mobile, handheld devices such as smartphones or tablets.
M-commerce can take place via a dedicated app that customers may download on their mobile phones or by simply accessing the mobile version of the website. The Amazon shopping app and the Google Play store are examples of m-commerce apps.

E-commerce (electronic commerce) is the activity of electronically buying or selling products on online services or over the Internet. E-commerce draws on technologies such as mobile commerce, electronic funds transfer, supply chain management, Internet marketing, online transaction processing, electronic data interchange (EDI), inventory management systems, and automated data collection systems. E-commerce is the largest sector of the electronics industry and is in turn driven by the technological advances of the semiconductor industry.

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## Defining e-commerce

The term was coined and first employed by Robert Jacobson, Principal Consultant to the California State Assembly's Utilities & Commerce Committee, in the title and text of California's Electronic Commerce Act, carried by the late Committee Chairwoman Gwen Moore (D-L.A.) and enacted in 1984.

E-commerce typically uses the web for at least a part of a transaction's life cycle although it may also use other technologies such as e-mail. Typical e-commerce transactions include the purchase of products (such as books from Amazon) or services (such as music downloads in the form of digital distribution such as the iTunes Store).[1] There are three areas of e-commerce: online retailing, electronic markets, and online auctions. E-commerce is supported by electronic business.[2] The existence value of e-commerce is to allow consumers to shop online and pay online through the Internet, saving the time and space of customers and enterprises, greatly improving transaction efficiency, especially for busy office workers, and also saving a lot of valuable time.[3]

E-commerce businesses may also employ some or all of the following:

- Online shopping for retail sales direct to consumers via web sites and mobile apps, conversational commerce via live chat, chatbots, and voice assistants.[4]
- Providing or participating in online marketplaces, which process third-party business-to-consumer (B2C) or consumer-to-consumer (C2C) sales;
- Business-to-business (B2B) buying and selling.[5]
- Gathering and using demographic data through web contacts and social media.
- B2B electronic data interchange.
- Marketing to prospective and established customers by e-mail or fax (for example, with newsletters).
- Engaging in pretail for launching new products and services.
- Online financial exchanges for currency exchanges or trading purposes.

There are five essential categories of E-commerce:[6]

- Business to Business
- Business to Consumer
- Business to Government
- Consumer to Business
- Consumer to Consumer[4,5,6]

## Forms

Contemporary electronic commerce can be classified into two categories. The first category is business based on types of goods sold (involves everything from ordering "digital" content for immediate online consumption, to ordering conventional goods and services, to "meta" services to facilitate other types of electronic commerce). The second category is based on the nature of the participant (B2B, B2C, C2B and C2C).[7]

On the institutional level, big corporations and financial institutions use the internet to exchange financial data to facilitate domestic and international business. Data integrity and security are pressing issues for electronic commerce.

Aside from traditional e-commerce, the terms m-Commerce (mobile commerce) as well (around 2013) t-Commerce[8] have also been used.

## Governmental regulation

In the United States, California's Electronic Commerce Act (1984), enacted by the Legislature, the more recent California Privacy Rights Act (2020), enacted through a popular election proposition and to control specifically how electronic commerce may be conducted in California. In the US in its entirety, electronic commerce activities are regulated more broadly by the Federal Trade Commission (FTC). These activities include the use of commercial e-mails, online advertising and consumer privacy. The CAN-SPAM Act of 2003 establishes national standards for direct marketing over e-mail. The Federal Trade Commission Act regulates all forms of advertising, including online advertising, and states that advertising must be truthful and non-deceptive.[9] Using its authority under Section 5 of the FTC Act, which prohibits unfair or deceptive practices, the FTC has brought a number of cases to enforce the promises in corporate privacy statements, including promises about the security of consumers' personal information.[10] As a result, any corporate privacy policy related to e-commerce activity may be subject to enforcement by the FTC.

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The Ryan Haight Online Pharmacy Consumer Protection Act of 2008, which came into law in 2008, amends the Controlled Substances Act to address online pharmacies.[11]

Conflict of laws in cyberspace is a major hurdle for harmonization of legal framework for e-commerce around the world. In order to give a uniformity to e-commerce law around the world, many countries adopted the UNCITRAL Model Law on Electronic Commerce (1996).[12]

Internationally there is the International Consumer Protection and Enforcement Network (ICPEN), which was formed in 1991 from an informal network of government customer fair trade organisations. The purpose was stated as being to find ways of co-operating on tackling consumer problems connected with cross-border transactions in both goods and services, and to help ensure exchanges of information among the participants for mutual benefit and understanding. From this came Econsumer.gov, an ICPEN initiative since April 2001. It is a portal to report complaints about online and related transactions with foreign companies.

There is also Asia Pacific Economic Cooperation. APEC was established in 1989 with the vision of achieving stability, security and prosperity for the region through free and open trade and investment. APEC has an Electronic Commerce Steering Group as well as working on common privacy regulations throughout the APEC region.

In Australia, trade is covered under Australian Treasury Guidelines for electronic commerce and the Australian Competition & Consumer Commission[13] regulates and offers advice on how to deal with businesses online,[14] and offers specific advice on what happens if things go wrong.[15]

The European Union undertook an extensive enquiry into e-commerce in 2015-16 which observed significant growth in the development of e-commerce, along with some developments which raised concerns, such as increased use of selective distribution systems, which allow manufacturers to control routes to market, and "increased use of contractual restrictions to better control product distribution". The European Commission felt that some emerging practices might be justified if they could improve the quality of product distribution, but "others may unduly prevent consumers from benefiting from greater product choice and lower prices in e-commerce and therefore warrant Commission action" in order to promote compliance with EU competition rules.[16]

In the United Kingdom, the Financial Services Authority (FSA)[17] was formerly the regulating authority for most aspects of the EU's Payment Services Directive (PSD), until its replacement in 2013 by the Prudential Regulation Authority and the Financial Conduct Authority.[18] The UK implemented the PSD through the Payment Services Regulations 2009 (PSRs), which came into effect on 1 November 2009. The PSR affects firms providing payment services and their customers. These firms include banks, non-bank credit card issuers and non-bank merchant acquirers, e-money issuers, etc. The PSRs created a new class of regulated firms known as payment institutions (PIs), who are subject to prudential requirements. Article 87 of the PSD requires the European Commission to report on the implementation and impact of the PSD by 1 November 2012.[19]

In India, the Information Technology Act 2000 governs the basic applicability of e-commerce.

In China, the Telecommunications Regulations of the People's Republic of China (promulgated on 25 September 2000), stipulated the Ministry of Industry and Information Technology (MIIT) as the government department regulating all telecommunications related activities, including electronic commerce.[20] On the same day, the Administrative Measures on Internet Information Services were released, the first administrative regulations to address profit-generating activities conducted through the Internet, and lay the foundation for future regulations governing e-commerce in China.[21] On 28 August 2004, the eleventh session of the tenth NPC Standing Committee adopted an Electronic Signature Law, which regulates data message, electronic signature authentication and legal liability issues. It is considered the first law in China's e-commerce legislation. It was a milestone in the course of improving China's electronic commerce legislation, and also marks the entering of China's rapid development stage for electronic commerce legislation.[22]

## Global trends

In 2010, the United Kingdom had the highest per capita e-commerce spending in the world.[23] As of 2013, the Czech Republic was the European country where e-commerce delivers the biggest contribution to the enterprises' total revenue. Almost a quarter (24%) of the country's total turnover is generated via the online channel.[24]

Among emerging economies, China's e-commerce presence continues to expand every year. With 668 million Internet users, China's online shopping sales reached $253 billion in the first half of 2015, accounting for 10% of total Chinese consumer retail sales in that period.[25] The Chinese retailers have been able to help consumers feel more comfortable shopping online.[26] e-commerce transactions between China and other countries increased 32% to 2.3 trillion yuan ($375.8 billion) in 2012 and accounted for 9.6% of China's total international trade.[27] In 2013, Alibaba had an e-

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commerce market share of 80% in China.[28] In 2014, Alibaba still dominated the B2B marketplace in China with a market share of 44.82%, followed by several other companies including Made-in-China.com at 3.21%, and GlobalSources.com at 2.98%, with the total transaction value of China's B2B market exceeding 4.5 billion yuan.[29] In 2014, there were 600 million Internet users in China (twice as many as in the US), making it the world's biggest online market.[30] China is also the largest e-commerce market in the world by value of sales, with an estimated US$899 billion in 2016.[31] Research shows that Chinese consumer motivations are different enough from Western audiences to require unique e-commerce app designs instead of simply porting Western apps into the Chinese market.[32]

Recent research indicates that electronic commerce, commonly referred to as e-commerce, presently shapes the manner in which people shop for products. The GCC countries have a rapidly growing market and are characterized by a population that becomes wealthier (Yuldashev). As such, retailers have launched Arabic-language websites as a means to target this population. Secondly, there are predictions of increased mobile purchases and an expanding internet audience (Yuldashev). The growth and development of the two aspects make the GCC countries become larger players in the electronic commerce market with time progress. Specifically, research shows that the e-commerce market is expected to grow to over $20 billion by 2020 among these GCC countries (Yuldashev). The e-commerce market has also gained much popularity among western countries, and in particular Europe and the U.S. These countries have been highly characterized by consumer-packaged goods (CPG) (Geisler, 34). [7,8,9]However, trends show that there are future signs of a reverse. Similar to the GCC countries, there has been increased purchase of goods and services in online channels rather than offline channels. Activist investors are trying hard to consolidate and slash their overall cost and the governments in western countries continue to impose more regulation on CPG manufacturers (Geisler, 36). In these senses, CPG investors are being forced to adapt to e-commerce as it is effective as well as a means for them to thrive.

In 2013, Brazil's e-commerce was growing quickly with retail e-commerce sales expected to grow at a double-digit pace through 2014. By 2016, eMarketer expected retail e-commerce sales in Brazil to reach $17.3 billion.[33] India has an Internet user base of about 460 million as of December 2017.[34] Despite being the third largest user base in the world, the penetration of the Internet is low compared to markets like the United States, United Kingdom or France but is growing at a much faster rate, adding around 6 million new entrants every month.[ In India, cash on delivery is the most preferred payment method, accumulating 75% of the e-retail activities.[35][ The India retail market is expected to rise from 2.5% in 2016 to 5% in 2020.[36]

The future trends in the GCC countries will be similar to that of the western countries. Despite the forces that push business to adapt e-commerce as a means to sell goods and products, the manner in which customers make purchases is similar in countries from these two regions. For instance, there has been an increased usage of smartphones which comes in conjunction with an increase in the overall internet audience from the regions. Yuldashev writes that consumers are scaling up to more modern technology that allows for mobile marketing. However, the percentage of smartphone and internet users who make online purchases is expected to vary in the first few years. It will be independent on the willingness of the people to adopt this new trend (The Statistics Portal). For example, UAE has the greatest smartphone penetration of 73.8 per cent and has 91.9 per cent of its population has access to the internet. On the other hand, smartphone penetration in Europe has been reported to be at 64.7 per cent (The Statistics Portal). Regardless, the disparity in percentage between these regions is expected to level out in future because e-commerce technology is expected to grow to allow for more users.[10,11]

The e-commerce business within these two regions will result in competition. Government bodies at the country level will enhance their measures and strategies to ensure sustainability and consumer protection (Krings, et al.). These increased measures will raise the environmental and social standards in the countries, factors that will determine the success of the e-commerce market in these countries. For example, an adoption of tough sanctions will make it difficult for companies to enter the e-commerce market while lenient sanctions will allow ease of companies. As such, the future trends between GCC countries and the Western countries will be independent of these sanctions (Krings, et al.). These countries need to make rational conclusions in coming up with effective sanctions.

The rate of growth of the number of internet users in the Arab countries has been rapid – 13.1% in 2015. A significant portion of the e-commerce market in the Middle East comprises people in the 30–34 year age group. Egypt has the largest number of internet users in the region, followed by Saudi Arabia and Morocco; these constitute 3/4th of the region's share. Yet, internet penetration is low: 35% in Egypt and 65% in Saudi Arabia.[37]

E-commerce has become an important tool for small and large businesses worldwide, not only to sell to customers, but also to engage them.[38][39]

Cross-border e-Commerce is also an essential field for e-Commerce businesses. It has responded to the trend of globalization. It shows that numerous firms have opened up new businesses, expanded new markets, and overcome trade barriers; more and more enterprises have started exploring the cross-border cooperation field. In addition,

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compared with traditional cross-border trade, the information on cross-border e-commerce is more concealed. In the era of globalization, cross-border e-commerce for inter-firm companies means the activities, interactions, or social relations of two or more e-commerce enterprises. However, the success of cross-border e-commerce promotes the development of small and medium-sized firms, and it has finally become a new transaction mode. It has helped the companies solve financial problems and realize the reasonable allocation of resources field. SMEs ( small and medium enterprises) can also precisely match the demand and supply in the market, having the industrial chain majorization and creating more revenues for companies.[40]

In 2012, e-commerce sales topped $1 trillion for the first time in history.[41]

Mobile devices are playing an increasing role in the mix of e-commerce, this is also commonly called mobile commerce, or m-commerce. In 2014, one estimate saw purchases made on mobile devices making up 25% of the market by 2017.[42]

For traditional businesses, one research stated that information technology and cross-border e-commerce is a good opportunity for the rapid development and growth of enterprises.[12,13,14] Many companies have invested an enormous volume of investment in mobile applications. The DeLone and McLean Model stated that three perspectives contribute to a successful e-business: information system quality, service quality and users' satisfaction.[43] There is no limit of time and space, there are more opportunities to reach out to customers around the world, and to cut down unnecessary intermediate links, thereby reducing the cost price, and can benefit from one on one large customer data analysis, to achieve a high degree of personal customization strategic plan, in order to fully enhance the core competitiveness of the products in the company.[44]

Modern 3D graphics technologies, such as Facebook 3D Posts, are considered by some social media marketers and advertisers as a preferable way to promote consumer goods than static photos, and some brands like Sony are already paving the way for augmented reality commerce. Wayfair now lets you inspect a 3D version of its furniture in a home setting before buying.[45]

### Logistics

Logistics in e-commerce mainly concerns fulfillment. Online markets and retailers have to find the best possible way to fill orders and deliver products. Small companies usually control their own logistic operation because they do not have the ability to hire an outside company. Most large companies hire a fulfillment service that takes care of a company's logistic needs.[46]

## II. DISCUSSION

E-commerce

### Impacts

Impact on markets and retailers

E-commerce markets are growing at noticeable rates. The online market is expected to grow by 56% in 2015–2020. In 2017, retail e-commerce sales worldwide amounted to 2.3 trillion US dollars and e-retail revenues are projected to grow to 4.891 trillion US dollars in 2021.[47] Traditional markets are only expected 2% growth during the same time. Brick and mortar retailers are struggling because of online retailer's ability to offer lower prices and higher efficiency. Many larger retailers are able to maintain a presence offline and online by linking physical and online offerings.[48]

E-commerce allows customers to overcome geographical barriers and allows them to purchase products anytime and from anywhere. Online and traditional markets have different strategies for conducting business. Traditional retailers offer fewer assortment of products because of shelf space where, online retailers often hold no inventory but send customer orders directly to the manufacturer. The pricing strategies are also different for traditional and online retailers. Traditional retailers base their prices on store traffic and the cost to keep inventory. Online retailers base prices on the speed of delivery.[16,17,18]

There are two ways for marketers to conduct business through e-commerce: fully online or online along with a brick and mortar store. Online marketers can offer lower prices, greater product selection, and high efficiency rates. Many customers prefer online markets if the products can be delivered quickly at relatively low price. However, online retailers cannot offer the physical experience that traditional retailers can. It can be difficult to judge the quality of a product without the physical experience, which may cause customers to experience product or seller uncertainty. Another issue regarding the online market is concerns about the security of online transactions. Many customers remain loyal to well-known retailers because of this issue.[49]

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Security is a primary problem for e-commerce in developed and developing countries. E-commerce security is protecting businesses' websites and customers from unauthorized access, use, alteration, or destruction. The type of threats include: malicious codes, unwanted programs (ad ware, spyware), phishing, hacking, and cyber vandalism. E-commerce websites use different tools to avert security threats. These tools include firewalls, encryption software, digital certificates, and passwords.[

Impact on supply chain management

For a long time, companies had been troubled by the gap between the benefits which supply chain technology has and the solutions to deliver those benefits. However, the emergence of e-commerce has provided a more practical and effective way of delivering the benefits of the new supply chain technologies.[50]

E-commerce has the capability to integrate all inter-company and intra-company functions, meaning that the three flows (physical flow, financial flow and information flow) of the supply chain could be also affected by e-commerce. The affections on physical flows improved the way of product and inventory movement level for companies. For the information flows, e-commerce optimized the capacity of information processing than companies used to have, and for the financial flows, e-commerce allows companies to have more efficient payment and settlement solutions.[50]

In addition, e-commerce has a more sophisticated level of impact on supply chains: Firstly, the performance gap will be eliminated since companies can identify gaps between different levels of supply chains by electronic means of solutions; Secondly, as a result of e-commerce emergence, new capabilities such implementing ERP systems, like SAP ERP, Xero, or Megaventory, have helped companies to manage operations with customers and suppliers. Yet these new capabilities are still not fully exploited. Thirdly, technology companies would keep investing on new e-commerce software solutions as they are expecting investment return. Fourthly, e-commerce would help to solve many aspects of issues that companies may feel difficult to cope with, such as political barriers or cross-country changes. Finally, e-commerce provides companies a more efficient and effective way to collaborate with each other within the supply chain.[50]

Impact on employment

E-commerce helps create new job opportunities due to information related services, software app and digital products. It also causes job losses. The areas with the greatest predicted job-loss are retail, postal, and travel agencies. The development of e-commerce will create jobs that require highly skilled workers to manage large amounts of information, customer demands, and production processes. In contrast, people with poor technical skills cannot enjoy the wages welfare. On the other hand, because e-commerce requires sufficient stocks that could be delivered to customers in time, the warehouse becomes an important element. Warehouse needs more staff to manage, supervise and organize, thus the condition of warehouse environment will be concerned by employees.[51]

Impact on customers

E-commerce brings convenience for customers as they do not have to leave home and only need to browse websites online, especially for buying products which are not sold in nearby shops. It could help customers buy a wider range of products and save customers' time. Consumers also gain power through online shopping. They are able to research products and compare prices among retailers. Thanks to the practice of user-generated ratings and reviews from companies like Bazaarvoice, Trustpilot, and Yelp, customers can also see what other people think of a product, and decide before buying if they want to spend money on it.[52][53] Also, online shopping often provides sales promotion or discounts code, thus it is more price effective for customers. Moreover, e-commerce provides products' detailed information; even the in-store staff cannot offer such detailed explanation. Customers can also review and track the order history online.

E-commerce technologies cut transaction costs by allowing both manufactures and consumers to skip through the intermediaries. This is achieved through by extending the search area best price deals and by group purchase. The success of e-commerce in urban and regional levels depend on how the local firms and consumers have adopted to e-commerce.[54]

However, e-commerce lacks human interaction for customers, especially who prefer face-to-face connection. Customers are also concerned with the security of online transactions and tend to remain loyal to well-known retailers. In recent years, clothing retailers such as Tommy Hilfiger have started adding Virtual Fit platforms to their e-commerce sites to reduce the risk of customers buying the wrong sized clothes, although these vary greatly in their fit for purpose.[55] When the customer regret the purchase of a product, it involves returning goods and refunding process. This process is inconvenient as customers need to pack and post the goods. If the products are expensive, large or fragile, it refers to safety issues.[48]

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Impact on the environment

In 2018, E-commerce generated 1.3 million short tons (1.2 megatonnes) of container cardboard in North America, an increase from 1.1 million (1.00)) in 2017. Only 35 percent of North American cardboard manufacturing capacity is from recycled content. The recycling rate in Europe is 80 percent and Asia is 93 percent. Amazon, the largest user of boxes, has a strategy to cut back on packing material and has reduced packaging material used by 19 percent by weight since 2016. Amazon is requiring retailers to manufacture their product packaging in a way that does not require additional shipping packaging. Amazon also has an 85-person team researching ways to reduce and improve their packaging and shipping materials.[56]

Accelerated movement of packages around the world includes accelerated movement of living things, with all its attendant risks.[57] Weeds, pests, and diseases all sometimes travel in packages of seeds.[57] Some of these packages are part of brushing manipulation of e-commerce reviews.[57]

Impact on traditional retail[19,20]

E-commerce has been cited as a major force for the failure of major U.S. retailers in a trend frequently referred to as a "retail apocalypse."[58] The rise of e-commerce outlets like Amazon has made it harder for traditional retailers to attract customers to their stores and forced companies to change their sales strategies. Many companies have turned to sales promotions and increased digital efforts to lure shoppers while shutting down brick-and-mortar locations.[59] The trend has forced some traditional retailers to shutter its brick and mortar operations.[60]

E-commerce during COVID-19

In March 2020, global retail website traffic hit 14.3 billion visits[61] signifying an unprecedented growth of e-commerce during the lockdown of 2020. Later studies show that online sales increased by 25% and online grocery shopping increased by over 100% during the crisis in the United States.[62] Meanwhile, as many as 29% of surveyed shoppers state that they will never go back to shopping in person again; in the UK, 43% of consumers state that they expect to keep on shopping the same way even after the lockdown is over.[63]

Retail sales of e-commerce shows that COVID-19 has a significant impact on e-commerce and its sales are expected to reach $6.5 trillion by 2022.[64]

Even though m-commerce is a part of e-commerce, there are some differences. M-commerce is a newer technology than e-commerce and comes with improvements implemented over time. Here are a few:

1. Portability: Generally, e-commerce activities are done via desktops or laptops. These devices are not highly portable compared to m-commerce devices such as mobiles and tablets.
2. Location tracking: Location tracking and providing localized offers can become tedious when using e-commerce, whereas location tracking is easy with mobile phones, as they have built-in GPS.
3. Push notifications: The technology is mainly associated with mobile devices and can make m-commerce a better and more secure option than e-commerce.
4. Security: Mobile devices are used in e-commerce for 2-factor authentication. M-commerce has the advantage of additional protection via biometrics like fingerprint and face recognition.
5. Ease of use: Mobile apps are optimized for the best user experience. It takes fewer taps and less navigation compared to e-commerce websites.

Advantages and Disadvantages of E-Commerce and M-Commerce

E-commerce is equally important to customers as it is for businesses. The advantages and disadvantages of e-commerce are also present in m-commerce. As more and more companies are going online, one may find high competition in every market. Is it worth it for businesses to go online? Or will it create a burden businesses won't be able to handle?

M-Commerce and E-Commerce: Advantages

1. Cost reduction: Businesses do not have to put up any money to rent a fancy shop on a busy high street. Entirely online-operating businesses save extra costs such as energy bills and operating costs.
2. New markets: e-commerce help businesses tap into the global market. Goods nowadays are delivered across the globe. It also helps companies launch new products with minimum investment.

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3. Business expansion: Businesses that have established physical locations can expand their business online. This expansion might become a source of an extra revenue stream.
4. No working hours restriction: Customers can check products and place an order 24/7. An e-commerce website provides a personalized shopping experience to customers around the clock.
5. Easy to track KPIs: E-commerce websites can track many key performance indicators (KPIs) that are difficult to uncover otherwise. Websites can check which items are in demand, what time people love to shop, how much money they are willing to pay, and what customers dislike. Providing good customer support online becomes more straightforward as more data becomes available.

Key performance indicators (KPIs) are a set of quantifiable measures used to gauge a company's success. Examples of KPIs are sales conversion rates, average time spent on a website, most frequently bought products, etc. KPIs are measurable, and they reflect performance.[20]

M-Commerce and E-Commerce: Disadvantages

1. Website and mobile app building: Businesses have to invest in building professional websites that are secure and provide a good user experience. Both websites and mobile apps are necessary for m-commerce. To tap into more customers, the app must be available on leading app stores like the Google Play Store for Android or the App Store for Apple users.
2. Platform management: Just building apps and websites will not help. Businesses must have trained service staff to deal with potential issues and developers to manage the website.
3. Complicated supply chain: Going global also means businesses have to sort out their supply chains and delivery around the globe. Businesses must be able to accommodate the scale of orders that may come with launching an e-commerce store.
4. Security: It falls on the business to provide a secure purchasing experience for customers. Companies must extend security measures to financial transactions as well as personal data.

## III. RESULTS

E-Commerce and M-Commerce Example

Depending on how businesses operate their customer base, e-commerce businesses can be divided into three major types :

1. Business-to-business (B2B): Businesses selling their goods or services to other businesses are called B2B firms. B2B businesses might include professional service providers, wholesalers, etc. For example, imagine an auto garage ordering spare parts in bulk from the website of a car parts dealer. Another example of this would be Amazon. Amazon does not charge buyers, but they charge sellers to open their stores on the platform. From this point of view, Amazon is a B2B company.
2. Business-to-consumer (B2C): Online shopping websites of fashion brands such as Zara, H&M, and Superdry, or grocery giants like Tesco and Morrisons, are examples of B2C e-commerce. Some companies, like Shein, do not have physical stores and run entirely online. Businesses reach out directly to end customers via these websites or apps.
3. Customer-to-customer (C2C): eBay provides a platform to users to sell their goods. All the transactions take place securely on the platform.

Some companies base their business models on other types of e-commerce, such as consumer-to-business and business-to-government.

To learn more about the different types of businesses, check out our explanation of Business Markets and B2B Marketing.

Before you head off, let's take a look at an example of e-commerce through the company Amazon.

Amazon is one of the largest e-commerce retailers in the world. An interesting thing about Amazon is that it engages in both B2B and B2C markets. You might already be familiar with Amazon's B2C marketplace, where customers can purchase various products, including household goods, clothing, gardening supplies, and even groceries (through Amazon Fresh). Amazon also runs its Prime subscription service through which members can receive the items they ordered with same-day and next-day delivery.

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On the other hand, businesses can also use Amazon's e-commerce retail platform. Using Amazon's B2B site, business sellers can reach thousands, if not millions, of business customers.[2] The only difference here is that instead of an individual purchasing one or two items, it's an entire business purchasing (usually) in large quantities. Businesses can purchase a number of different products, like office supplies, furniture, technology, etc., in bulk.

E-commerce and M-commerce are now inseparable parts of online businesses. In the coming years, e-commerce will be everywhere. Remember, Tesla cars can now order new tires on their own. But businesses should be cautious while trying to capture new markets via e-commerce, as e-commerce can open new markets and create new risks.

M-commerce

The term mobile commerce was originally coined in 1997 by Kevin Duffey at the launch of the Global Mobile Commerce Forum, to mean "the delivery of electronic commerce capabilities directly into the consumer's hand, anywhere, via wireless technology."[1] Many choose to think of Mobile Commerce as meaning "a retail outlet in your customer's pocket."

Mobile commerce is worth US$800 billion, with Asia representing almost half of the market.

History

The Global Mobile Commerce Forum, which came to include over 100 organisations, had its fully minuted launch in London on 10 November 1997. Kevin Duffey was elected as the Executive Chairman at the first meeting in November 1997. The meeting was opened by Dr Mike Short, former chairman of the GSM Association, with the very first forecasts for mobile commerce from Kevin Duffey (Group Telecoms Director of Logica) and Tom Alexander (later CEO of Virgin Mobile and then of Orange). Over 100 companies joined the Forum within a year, many forming mobile commerce teams of their own, e.g. MasterCard and Motorola. Of these one hundred companies, the first two were Logica and Cellnet (which later became O2). Member organisations such as Nokia, Apple, Alcatel, and Vodafone began a series of trials and collaborations.

Mobile commerce services were first delivered in 1997, when the first two mobile-phone-enabled Coca-Cola vending machines were installed in the Helsinki area in Finland. The machines accepted payment via SMS text messages. This work evolved into several new mobile applications such as the first mobile phone-based banking service launched in 1997 by Merita Bank of Finland, also using SMS. Finnair mobile check-in was also a major milestone, first introduced in 2001.

The m-Commerce(tm) server developed in late 1997 by Kevin Duffey and Andrew Tobin at Logica won the 1998 Financial Times award for "most innovative mobile product," in a solution implemented with De La Rue, Motorola and Logica.[2] The Financial Times commended the solution for "turning mobile commerce into a reality."[ The trademark for m-Commerce was filed on 7 April 2008.[3]

In 1998, the first sales of digital content as downloads to mobile phones were made possible when the first commercial downloadable ringtones were launched in Finland by Radiolinja (now part of Elisa Oyj).

Two major national commercial platforms for mobile commerce were launched in 1999: Smart Money in the Philippines, and NTT DoCoMo's i-Mode Internet service in Japan. i-Mode offered a revenue-sharing plan where NTT DoCoMo kept 9 per cent of the fee users paid for content, and returned 91 percent to the content owner.

Mobile-commerce-related services spread rapidly in early 2000. Norway launched mobile parking payments. Austria offered train ticketing via mobile devices. Japan offered mobile purchases of airline tickets.

In April 2002, building on the work of the Global Mobile Commerce Forum (GMCF), the European Telecommunications Standards Institute (ETSI) appointed Joachim Hoffmann of Motorola to develop official standards for mobile commerce.[4] In appointing Mr Hoffman, ETSI quoted industry analysts as predicting "that m-commerce is poised for such an exponential growth over the next few years that could reach US$200 billion by 2004".[5]

As of 2008, UCL Computer Science and Peter J. Bentley demonstrated the potential for medical applications on mobile devices.[6]

PDAs and cellular phones have become so popular that many businesses[are beginning to use mobile commerce as a more efficient way to communicate with their customers.

In order to exploit the potential mobile commerce market, mobile phone manufacturers such as Nokia, Ericsson, Motorola, and Qualcomm are working with carriers such as AT&T Wireless and Sprint to develop WAP-enabled smartphones. Smartphones offer fax, e-mail, and phone capabilities.

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"Profitability for device vendors and carriers hinges on high-end mobile devices and the accompanying killer applications," said Burchett.[ Perennial early adopters, such as the youth market, which are the least price sensitive, as well as more open to premium mobile content and applications, must also be a key target for device vendors.

Since the launch of the iPhone in 2007, mobile commerce has moved away from SMS systems and into actual applications. SMS has significant security vulnerabilities and congestion problems, even though it is widely available and accessible. In addition, improvements in the capabilities of modern mobile devices make it prudent to place more of the resource burden on the mobile device.

Unlike online banking using bank websites, mobile banking allows a smaller number of operations based on short messages or applications installed on mobile devices. At present, it is estimated that by 2022, the number of customers adopting mobile banking will increase to 2 billion, and banks are investing more and more in improving mobile applications to improve security and customer satisfaction.[7]

More recently, brick and mortar business owners, and big-box retailers in particular, have made an effort to take advantage of mobile commerce by utilizing a number of mobile capabilities such as location-based services, barcode scanning, and push notifications to improve the customer experience of shopping in physical stores. By creating what is referred to as a 'bricks & clicks' environment, physical retailers can allow customers to access the common benefits of shopping online (such as product reviews, information, and coupons) while still shopping in the physical store. This is seen as a bridge between the gap created by e-commerce and in-store shopping, and is being utilized by physical retailers as a way to compete with the lower prices typically seen through online retailers. By mid summer 2013, "omnichannel" retailers (those with significant e-commerce and in-store sales) were seeing between 25% and 30% of traffic to their online properties originating from mobile devices. Some other pure play/online-only retail sites (especially those in the travel category) as well as flash sales sites and deal sites were seeing between 40% and 50% of traffic (and sometimes significantly more) originate from mobile devices.

The Google Wallet Mobile App[8] launched in September 2011 and the m-Commerce joint venture formed in June 2011 between Vodafone, O2, Orange and T-Mobile are recent developments of note.[9] Reflecting the importance of m-Commerce, in April 2012 the Competition Commissioner of the European Commission ordered an in-depth investigation of the m-Commerce joint venture between Vodafone, O2, Orange and T-Mobile.[10] A recent survey states that 2012, 41% of smartphone customers have purchased retail products with their mobile devices.[11]

## Products and services available

### Mobile money transfer

In Kenya money transfer is mainly done through the use of mobile phones. This was an initiative of a multimillion-shillings company in Kenya named Safaricom. Currently, the companies involved are Safaricom and Airtel. Mobile money transfer services in Kenya are now provided by the two companies under the names M-PESA and Airtel Money respectively.

A similar system called MobilePay has been operated by Danske Bank in Denmark since 2013. It gained considerable popularity with about 1.6 million users by mid-2015. Another similar system called Vipps was introduced in Norway in 2015.

Mobile automated teller machine (ATM) is a special type of ATM. Most ATMs are meant to be stationary, and they're often found attached to the side of financial institutions, in stores, and in malls. A mobile ATM, on the other hand, is meant to be moved from location to location. This type of ATM is often found at special events for which ATM service is only needed temporarily. For example, they may be found at carnivals, fairs, and parades. They may also be used at seminars and workshops where no regular ATM is nearby.

Mobile ATMs are usually self-contained units that don't need a building or enclosure. Usually, a mobile ATM can be placed in just about any location and can transmit transaction information wirelessly, so there's no need to have a phone line handy. Mobile ATMs may, however, require access to an electrical source, though there are some capable of running on alternative sources of power. Often, these units are constructed of weather-resistant materials, so they can be used in practically any type of weather conditions. Additionally, these machines typically have internal heating and air conditioning units that help keep them functional despite the temperature of the environment.ion of mobile money services for the unbanked, operators are now looking for efficient ways to roll out and manage distribution networks that can support cash-in and cash-out.[18,19,20] Unlike traditional ATMs, sicap Mobile ATMs have been specially engineered to connect to mobile money platforms and provide bank-grade ATM quality. In Hungary, Vodafone allows cash or bank card payments for monthly phone bills.[12] The Hungarian market is one where direct debits are not standard practice, so the facility eases the burden of queuing for the postpaid half of Vodafone's subscriber base in Hungary.

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Mobile ticketing

Tickets can be sent to mobile phones using a variety of technologies. Users are then able to use their tickets immediately, by presenting their mobile phone at the ticket check as a digital boarding pass. Most numbers of users are now moving towards this technology. The best example would be IRCTC where the ticket comes as an SMS to users. New technology such as RFID can now be used to directly provide a single association digital ticket via the mobile device hardware associated with relevant software.

Mobile vouchers, coupons and loyalty cards

Mobile ticketing technology can also be used for the distribution of vouchers, coupons, and loyalty cards. These items are represented by a virtual token that is sent to the mobile phone. A customer presenting a mobile phone with one of these tokens at the point of sale receives the same benefits as if they had the traditional token. Stores may send coupons to customers using location-based services to determine when the customer is nearby. Using a connected device and the networking effect can also allow for gamification within the shopping experience.

Content purchase and delivery

Currently, mobile content purchase and delivery mainly consist of the sale of ring-tones, wallpapers, apps, and games for mobile phones. The convergence of mobile phones, portable audio players, and video players into a single device is increasing the purchase and delivery of full-length music tracks and videos. The download speeds available with 4G networks make it possible to buy a movie on a mobile device in a couple of seconds.

Location-based services

The location of the mobile phone user is an important piece of information used during mobile commerce or m-commerce transactions. Knowing the location of the user allows for location-based services such as:

- Local discount offers
- Local weather
- Tracking and monitoring of people
- Data-driven mashups targeting at a hyper-local level

Information services

A wide variety of information services can be delivered to mobile phone users in much the same way as it is delivered to PCs. These services include:

- News
- Stock quotes
- Sports scores
- Financial records
- Traffic reporting
- Emergency Alerts
- Location Based Notifications

Customized traffic information, based on a user's actual travel patterns, can be sent to a mobile device. This customized data is more useful than a generic traffic-report broadcast but was impractical before the invention of modern mobile devices due to the bandwidth requirements.

Mobile banking

Banks and other financial institutions use mobile commerce to allow their customers to access account information and make transactions, such as purchasing stocks, and remitting money. This service is often referred to as mobile banking, or m-banking.

Mobile brokerage

Stock market services offered via mobile devices have also become more popular and are known as Mobile Brokerage. They allow the subscriber to react to market developments in a timely fashion and irrespective of their physical location.

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Auctions

Over the past three years[ mobile reverse auction solutions have grown in popularity.[ Unlike traditional auctions, the reverse auction (or low-bid auction) bills the consumer's phone each time they place a bid. Many mobiles SMS commerce solutions rely on a one-time purchase or one-time subscription; however, reverse auctions offer a high return for the mobile vendor as they require the consumer to make multiple transactions over a long period of time.[20]

Mobile browsing

Using a mobile browser—a World Wide Web browser on a mobile device—customers can shop online without having to be at their personal computer. Many mobile marketing apps with geo-location capability are now delivering user-specific marketing messages to the right person at the right time.

Mobile purchase

Catalog merchants can accept orders from customers electronically, via the customer's mobile device. In some cases, the merchant may even deliver the catalog electronically, rather than mailing a paper catalog to the customer. Consumers making mobile purchases can also receive value-add upselling services and offers. Some merchants provide mobile web sites that are customized for the smaller screen and limited user interface of a mobile device.

In-application mobile phone payments

Payments can be made directly inside an application running on a popular smartphone operating system, such as Google Android. Analyst firm Gartner expects in-application purchases to drive 41 percent of app store (also referred to as mobile software distribution platforms) revenue in 2016.[13] In-app purchases can be used to buy virtual goods, new and other mobile content and is ultimately billed by mobile carriers rather than the app stores themselves.[14] Ericsson's IPX mobile commerce system is used by 120 mobile carriers to offer payment options such as try-before-you-buy, rentals and subscriptions.[15]

Mobile marketing and advertising

In the context of mobile commerce, mobile marketing refers to marketing sent to mobile devices. Companies have reported that they see better responses from mobile marketing campaigns than from traditional campaigns. The primary reason for this is the instant nature of customer decision-making that mobile apps and websites enable. The consumer can receive a marketing message or discount coupon and, within a few seconds, make a decision to buy and go on to complete the sale - without disrupting their current real-world activity.

For example, a busy mom tending to her household chores with a baby in her arm could receive a marketing message on her mobile about baby products from a local store. She can and within a few clicks, place an order for her supplies without having to plan ahead for it. No more need to reach for her purse and hunt for credit cards, no need to log into her laptop and try to recall the web address of the store she visited last week, and surely no need to find a babysitter to cover for her while she runs to the local store.

Research demonstrates that consumers of mobile and wireline markets represent two distinct groups who are driven by different values and behaviors, and who exhibit dissimilar psychographic and demographic profiles.[16] What aspects truly distinguish between a traditional online shopper from home and a mobile on-the-go shopper? Research shows that how individuals relate to four situational dimensions- place, time, social context and control determine to what extent they are ubiquitous or situated as consumers.[17] These factors are important in triggering m-commerce from e-commerce. As a result, successful mobile commerce requires the development of marketing campaigns targeted to these particular dimensions and according to user segments.

Influence on youth markets

Mobile media is a rapidly changing field. New technologies, such as WiMax, act to accelerate innovation in mobile commerce. Early pioneers in mobile advertising include Vodafone, Orange, and SK Telecom. An empirical study shows that over 70% of mobile commerce users are under the age of 25, as of 2019.[18]

Mobile devices are heavily used in South Korea to conduct mobile commerce. Mobile companies in South Korea believed that mobile technology would become synonymous with the youth lifestyle, based on their experience with previous generations of South Koreans. "Profitability for device vendors and carriers hinges on high-end mobile devices and the accompanying killer applications," said Daniel Longfield.[19]

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### Payment methods

Consumers can use many forms of payment in mobile commerce, including:

- Contactless payment for in-person transactions through a mobile phone (such as Apple Pay or Google Pay). In a system like EMV, these are interoperable with contactless credit and debit cards.
- Premium-rate telephone numbers, which apply charges to the consumer's long-distance bill
- Mobile-Operator Billing allows charges to be added to the consumer's mobile telephone bill, including deductions to pre-paid calling plans
- Credit cards and debit cards
  - Some providers allow credit cards to be stored in a phone's SIM card or secure element
  - Some providers are starting to use host card emulation, or HCE (e.g. Google Wallet and Softcard)
  - Some providers store credit card or debit card information in the cloud; usually in tokenized. With tokenization, payment verification, authentication, and authorization are still required, but payment card numbers don't need to be stored, entered, or transmitted from the mobile device
- Micropayment services
- Stored-value cards, often used with mobile-device application stores or music stores (e.g. iTunes)

### App design

Interaction design and UX design has been at the core of the m-commerce experience from its conception, producing apps and mobile web pages that create highly usable interactions for users.[20] However, much debate has occurred as to the focus that should be given to the apps. In recent research, Parker and Wang[21] demonstrated that within fashion m-Commerce apps, the degree that the app helps the user shop (increasing convenience) was the most prominent function. Such use examples might be through design cues that help the user find their products with minimal search.[22] Additionally, shopping for others was a motivator for engaging in m-commerce apps with a great preference for close integration with social media. Research shows that culture makes a significant difference in people's motivation to engage in shopping, where Western consumers - for example - have significantly different motivations to Chinese consumers.[23]

### App commerce

The popularity of apps has given rise to the latest iteration of mobile commerce: app commerce. This refers to retail transactions that take place on a native mobile app. App commerce is said to perform better than both desktop and mobile web when it comes to browsing duration and interactions.[24] Average order value is reportedly greater with retail apps than traditional ecommerce, and conversion rates on apps are twice that of mobile websites.[24]

### Mobile Device Shopping Trends

Mobile applications serve as a means to ensure positive user experience, seamless interaction, and increased revenues for e-commerce. According to DesignRush report,[25] mobile applications are expected to generate $189 billion by 2020. Moreover, a study by Forrester shows that mobile devices will be leveraged to facilitate over $1 trillion in sales in 2018.

## IV. CONCLUSION

M-commerce and E-commerce - Key takeaways

- Electronic commerce (e-commerce) is the act of buying and selling things electronically using the Internet.
- M-commerce is a subpart of e-commerce.
- M-commerce is the buying and selling of goods using mobile, handheld devices such as smartphones or tablets.

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- M-commerce has advantages such as portability, location tracking, push notification technology, biometric support, extensive security, and ease of use over e-commerce.
- E-commerce provides various advantages to businesses, such as cost reduction, the ability to enter new markets, 24/7 availability, and ease of KPI tracking.
- Some disadvantages of e-commerce include businesses having to invest in developing websites and mobile apps, extending their supply chain, and providing enhanced security to customers online.
- B2B, B2C, and C2C are the main types of e-commerce businesses.[20]

## REFERENCES

1. "Retail e-commerce sales CAGR forecast in selected countries from 2016 to 2021". Statista. October 2016. Archived from the original on 26 November 2017. Retrieved 4 May 2021.
2. ^ Wienclaw, Ruth A. (2013). "B2B Business Models" (PDF). Research Starters: Business. Archived (PDF) from the original on 18 July 2013. Retrieved 4 May 2021.
3. ^ Subramani, Mani; Walden, Eric (June 2001). "The Impact of E-Commerce Announcements on the Market Value of Firms". Information Systems Research. 12 (2): 135–154. doi:10.1287/isre.12.2.135.9698. ISSN 1047-7047. Archived from the original on 15 June 2022. Retrieved 30 April 2022.
4. ^ Bussey, Ed (6 March 2018). "How to prepare your products and brand for conversational commerce". VentureBeat. Archived from the original on 29 September 2020. Retrieved 4 May 2021.
5. ^ "The Ultimate Guide to eCommerce Marketing". Mayple. Archived from the original on 28 April 2021. Retrieved 4 May 2021.
6. ^ Simjanović, Dušan J.; Zdravković, Nemanja; Vesić, Nenad O. (March 2022). "On the Factors of Successful e-Commerce Platform Design during and after COVID-19 Pandemic Using Extended Fuzzy AHP Method". Axioms. 11 (3): 105. doi:10.3390/axioms11030105. ISSN 2075-1680.
7. ^ Khurana, Ajeet (25 November 2019). "Did You Know That There Are 4 Types of Ecommerce?". The Balance Small Business. Dotdash. Archived from the original on 22 January 2021. Retrieved 4 May 2021.
8. ^ Hacon, Tom (4 March 2013). "T-Commerce – What the tablet can do for brands and their consumers". Governor Technology. Archived from the original on 7 June 2016. Retrieved 4 May 2021.
9. ^ "Advertising and Marketing on the Internet: Rules of the Road". Federal Trade Commission. September 2000. Archived from the original on 8 March 2020. Retrieved 4 May 2021.
10. ^ "Privacy and Security". Federal Trade Commission. Archived from the original on 4 May 2021. Retrieved 4 May 2021.
11. "Global Mobile Commerce Forum".
12. ^ Logica. "DE LA RUE, MOTOROLA AND LOGICA WIN FINANCIAL TIMES AWARD FOR MOST INNOVATIVE MOBILE PRODUCT /PR Newswire UK/".
13. ^ "M-COMMERCE - Reviews & Brand Information - Logica Plc 250 Brook Drive Green Park, Reading GB RG2 6UA in European Community (CTM)". Archived from the original on 23 August 2015.
14. ^ "Archived copy". Archived from the original on 3 April 2015. Retrieved 29 September 2011.
15. ^ "Archived copy". Archived from the original on 3 March 2014. Retrieved 29 September 2011.
16. ^ "iStethoscope in Medical Journal". Retrieved 23 November 2010.
17. ^ Bucharest University of Economic Studies; Hadad, Shahrazad (2013). "Challenges for Banking Services in the Knowledge Economy". Management Dynamics in the Knowledge Economy. 7 (3): 337–352. doi:10.25019/MDKE/7.3.04. S2CID 204842231.
18. ^ "Google Wallet". Mashable.
19. ^ "Mobile Industry Awards". www.mobileindustryawards.com.
20. ^ "Vodafone, EE and O2 still confident on m-commerce JV". Mobile News. 16 April 2012. Archived from the original on 27 July 2013.

Impact Factor: 7.580

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