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Chapter

Introductory Chapter: Introduction to e-Services

Sam Goundar

1. Introduction

e-Services have been around for a while. For example, according to Lewis [1] "what likely counts as the very first legitimate online transaction goes to Dan Kohn in August 1994", who created a website called NetMarket, and on August 11, sold a CD of Sting's "Ten Summoner's Tales" to a friend in Philadelphia. Starting with this first e-Commerce transaction almost 30 years ago, we have come a long way. This includes the making of the richest man in the world today, Jeff Bezos and his pioneer e-Commerce startup, "Amazon". Coppola [2] from Statista. Com predicts that the global retail e-Commerce sales worldwide would reach 6.39 trillion USD and account 21.8% of share of total global retail sales by 2024. Security of Internet transactions was a major big issue at that time, but "the release of Netscape 1.0 in 1994 featured a protocol called Secure Socket Layer (SSL) that kept both the sending and receiving side of an online transaction secure. SSL made sure that personal information could be encrypted on the web. The first third-party credit card processing companies were launched shortly after. This made the first ever secure online retail transaction possible".

After e-Commerce, came other e-services such as e-Learning, e-Health, e-Banking, e-Agriculture, e-Government, etc., which all have now moved onto the mobile device's platforms (especially smartphones) and renamed to m-Commerce, m-Learning, m-Health, m-Banking, etc. Many of these e-Services survived the dotcom bubble or the dotcom boom, which saw the increase of such services and domain name registrations from 1996 and then crash from 2001. "During the crash, many online shopping companies, such as Pets.com, Webvan, and Boo.com, as well as several communication companies, such as Worldcom, NorthPoint Communications, and Global Crossing, failed and shut down". The value of e-Services was further realized once the governments got on the bandwagon and introduced e-Government and e-Governance to provide government services to its citizens as well as show transparency in governance. "As growth in the technology sector stabilized, companies consolidated; some, such as Amazon.com, eBay, and Google gained market share and came to dominate their respective fields". For example, in 2021, during Amazon Prime Day (for Amazon Prime Members), the one-day worldwide sales were 10.4 billion USD and Amazon sold 175 million items ([3], Statista.Com).

The usage and relevance of e-Services is more significant today than it ever was. With the use of technology for all services and the forced digital transformation of our work and lives because of the COVID-19 pandemic, the year 2020 and 2021 has seen more services being offered online/electronically (e-Services) than ever in its history. Because of social distancing requirements of the coronavirus, businesses closed doors and started transacting online, schools and universities started teaching online (e-Learning), food was being ordered and delivered via e-platforms,

fitness trainers and gyms started having video training sessions with their clients, and we all adjusted our schedules to work from home and live-in isolation within our own or our family bubble. And the trend is going to continue in years to come. We are not going back to pre-2020 normal days. This is the new normal – working from home and using e-Services is the way things are going to be. And why not? Using e-Services saves costs and saves lives. We have realized that almost all the things that we were doing in the physical world can be done in the digital world. According to the World Trade Organization [4], COVID-19 has "resulted in spikes in business-to-consumers (B2C) sales and an increase in business-to-business (B2B) e-commerce.2 The sales is particularly evident in online sales of medical supplies, household essentials and food products".

e-Services have existed for decades and enabled organizations to gain competitive advantage while integrating their functions and streamlining their operations. Over the years, e-Services have evolved with developments in technology and new ways of doing business. Technologies like cloud computing, in particular, have made access to e-Services ubiquitous. Such technologies were needed to cater for new business models like e-Commerce, e-Learning, e-Government, etc. that resulted in a different business environment. This rapid acceleration of technological diffusion has changed the way we work, do business, and live. The business and research community took this interplay of work, technology and peoples into serious consideration which generated many research and publications on e-Services and socio-technical systems. The current e-Services that we have are results of these research and development.

Today' Fourth Industrial Revolution (4IR), is building on the Third (the digital revolution), and Future of Work is all about automation, machine learning and artificial intelligence. The First Industrial Revolution introduced mechanization, which saved us from mundane tasks such as fetching water from the well and collecting firewood. The Second Industrial Revolution used electrification to power factories into mass production and its products again assisted us for washing clothes, keeping our drinks cold and heating our food. The Third Industrial Revolution was about Information Communications Technology to automate office work and business processes. However, we were still required to start the computers, run the programs, check the results, monitor processes, and take corrective action. With the Fourth Industrial Revolution, the intention is to completely automate, let machines handle everything and totally free ourselves.

In terms of technology, we initially started off by doing our own developments and isolating ourselves from others because we were out to compete, take market share as the bottom line was vital. For example, we started off with different and incompatible computer hardware in the form of distinct models where work done on one computer could not be used on another. Then, we went through the platform wars of Microsoft vs. Apple vs. Linux, etc. And the same is being witnessed in the mobile platforms and Apple and Android. However, we have come to our senses and realized it is more profitable to become compatible, interoperable and converge. Technologies have converged, likewise. Every existing and new technology needs to be able to converge with others for survival. The Internet became the platform for technological convergence and a one-stop shop to find anything and everything.

Your smartphone is an ideal example of technical convergence. Initially, with a phone, you could only make voice phone calls. Now, with a smartphone, not only can you make a voice phone call, but you can also text, email, take photos, record videos, listen to music, make payments, get a ride, do banking, order food, browse the internet, and the list is endless. Just imagine how many different technologies have converged into your smartphone: phone (voice call), camera (take photos), walkman (listen to music), video recorder (record videos), computer (email, browse, etc.) and

the list of technologies that have converged into your smartphone goes on. Similarly, a number of technologies have converged with e-Services. For example, blockchains and smart contracts can now be used to converge different supply chains of all the stakeholders of a particular product, ensure transparency and build trust with customers and each other.

Organizations now operate in a global environment, are driven by technology and need to contend with all demographics. These organizations collect data (very large amounts of data – Big Data), deal with and process information (information overload) to make decision. These organizations are now looking for e-Services that are smart, intelligent, and capable of analyzing and making fast decisions with big data to be able to survive in a global economy and fickle customers. E-Services have enabled retail organizations to reach global customers and increased sales/profit.

2. Technological convergence

Information Communications Technology (ICT) is the simplest example of technological convergence. Before information technology, information was either disseminated via print media (newspapers), audio media (radios) or audio and video (TV). To consume this information, an individual was required to pay for and access three different technologies on three different mediums or devices. Now, via the Internet, on a webpage, a consumer can access all three media at once with a single technology. Therefore, the print, audio, and voice and audio technologies have all converged on a single web page and accessed via a single device. With this convergence, the user has control in terms of when, for how long and how many times, the user can access this information, with the option of archiving it for future retrieval and reference. According to Goundar [5], "with this simple example, we can say that the integration of different technologies into one and the provision of them as a single service is technological convergence".

Similar statements were echoed in an essay written by Papadakis [6], for the International Telecommunications Union. He defines the term technological convergence as "a process by which telecommunications, information technology and the media, sectors that originally operated largely independent of one another, are growing together". He adds "technological convergence has both a technical and a functional side. The technical side refers to the ability of any infrastructure to transport any type of data, while functional side means the consumers may be able to integrate in a seamless way the functions of computation, entertainment, and voice in a unique device able to execute a multiplicity of tasks." "Technological convergence if appropriately managed can play an important role in national economic and social development of every nation. Governments can capitalize on the opportunity to stimulate market development and meet previous unmet society communication needs", [6].

In an organization, analog phone lines, fax machines, and other stand-alone office equipment have converged into a computer network connected via digital data lines [5]. Now, from one device, a number of different services on different technologies can be accessed. VoIP has replaced phone line communications and email attachments have replaced faxes and postal. "Technological convergence results in greater benefits from increased diversity in products and services in an organization. Using networking technology that connects all information and communications services with a single network, companies can add services to their previous ones, without new investments in infrastructure". The ability to integrate different technologies (technological convergence) seamlessly has resulted in disruptive technologies like Uber, Netflix, 3D Printing, Self-driving cars, drone

deliveries, and the list is not exhaustive. Technological convergence emerged as a savior for all of us during the time of the COVID-19 pandemic.

Already converged technologies like Artificial Intelligence, Blockchains, Robotics, Bioinformatics, Data Science, are converging again to provide totally automated and intelligent services that did not exist before. The article "The Technological Convergence Innovation" authored by Adams et al. [7], "discusses the acceleration and Integration of Everything (AIE), i.e., of all forms of electronic devices into a distributed communications grid that will, inexorably, ubiquitously change the way we exist towards a convergent singularity of robotics, informatics, genetics, and nanotechnology. The changes may be more than the collective or individual human psyche is prepared to engage and will require that societies get used to these changes and incorporate them. The use of communication and information technology is also as important for sociology as it is for any other subject as it influences and is influenced by different kinds of policy, about citizenship" [7]. This research article indicates that technological convergence still has a long way to go and there will be further disruptions.

3. Digital transformations

We have entered the era of the Fourth Industrial Revolution (4IR). The Fourth Industrial Revolution is building on the Third (the digital revolution). The digital revolution has been occurring since computers came into existence. It is characterized by a fusion of technologies that is blurring the lines between the physical, digital, and biological spheres. The "digital revolution is transforming the world as we know it at unprecedented speed. Digital technologies have changed the way businesses operate, how people connect and exchange information, and how they interact with the public and private sectors". According to Goundar [8], "businesses and citizens alike need to be aware of and possess appropriate skills and infrastructures to capture the enormous value created by the digital economy and make a success of digital transformation".

The digital revolution enabling the Fourth Industrial Revolution that the world is witnessing. It will manifest a significant impact on how we live, work, and interact with people and machines. Organizations have no other alternatives, but to step into digital world for their survival and to sure sustainable competitive edge. The governments across the world came up with an initiative to amplify the scope of e-Governance by floating so many digital programmes and undergoing digital transformations. The objective of digital transformation is to provide the necessary infrastructure as a basic utility for every citizen of their country to provide on demand services with superior governance and empowering their citizens digitally.

Security and privacy are the major barriers in adopting the digital mechanisms. Organizations and individuals are concerned about their private and financial data. The security mechanisms that safeguard and monitors the sensitive information should be standardized and the security policies should be assessed on a regular basis. "Nowadays more and more innovative applications are using standardized cryptographic mechanisms to explore many new innovative digital financial applications and various decentralized applications that eliminate the need for third party intermediaries, such as identity management, credit management, distrusted ledger, crowdfunding, crowdsourcing, blockchains, P2P insurance, smart contracts, supply chain management, online voting, medical records, to name a few".

Digital transformation marks a radical rethinking of how an organization uses technology, people, and processes to fundamentally change business performance. "Digital transformation is a foundational change in how an organization delivers

value to its customers". According to Negreiro and Madiega [9], "Internet and digital technologies are transforming our world. For decades, societies and economies have been experiencing a radical digital transformation, fostered by 'digitalization' and the speeding up of many kinds of interaction through the increasing number of connected devices and data flows".

Digital transformation covers both the integration of digital technologies by enterprises and the impact on society of new technologies, such as the Internet of Things (IoT), cloud computing, innovative digital platforms and blockchain technologies, writes [9] in their European Union Brief on Digital Transformations. "It is becoming an increasingly important condition for modern economies to thrive and has the potential to affect many sectors of the economy (including transport, energy, agri-food, telecommunications, financial services, factory production and health care) and to transform people's lives. According to the OECD, the greater computing power of consumer devices, which are available at ever more affordable prices, is accelerating this transformation". According to Goundar [8], in his book, the Impact of Digital Transformations on Security Policies and Standards, "Artificial Intelligence (AI) and Advanced Robotics are viewed as an important manifestation of the digital transformation.

3.1 The impact of digital transformations

As an example, the European Union plays an active role in shaping the digital economy, with cross-policy initiatives that range from boosting investment to reforming EU laws, to non-legislative actions to improve Member States' coordination and exchange of best practices. The 2014–2019 parliamentary term has seen a number of initiatives in the areas of digitalization of industry and public services, investment in digital infrastructure and services, research programmes, cybersecurity, e-commerce, copyright, and data protection legislation. There is a growing awareness among EU citizens that digital technologies play an important role in their everyday lives [9].

In a 2017 survey, two-thirds of Europeans said that these technologies have a positive impact on society, the economy, and their own lives. However, they also bring new challenges. A majority of respondents felt that the EU, Member States' authorities and companies need to take action to address the impacts of these technologies. The European Union will increase its support for digital transformation in the coming years, as illustrated by the recent proposal for the Digital Europe programme (for 2021–2027) – which would be the first ever funding programme dedicated solely to supporting digital transformation in the EU.

Negreiro and Madiega [9], states that further EU action will doubtless be needed, notably to increase infrastructure investment, boost innovation, foster digital champions and businesses digitalization, reduce existing digital divides, remove remaining barriers in the digital single market and ensure an adequate legal and regulatory framework in the areas of advanced computing and data, artificial intelligence, and cybersecurity. The European Parliament, as co-legislator, is closely involved in shaping the policy framework that will help citizens and businesses fully exploit the potential of digital technologies.

Digital transformation is a revolutionary technology that will play a vital role in most of the major industries. Apart from governance, it can be used for a wide variety of applications such as tracking, ownership, physical assets, voting rights, security and encryption of various digital resources and access of online, distributed platforms. Digital transformation encompasses some of the following indexing keywords: Applied Cryptography, Blockchain Technologies, Data Security and Protection, Digital Financial Applications, e-Services, Legal, Regulatory, and

Compliance Issues, Cyber-Physical Systems, Security Vulnerabilities, Security and Privacy Applications, and Trust Models. However, this is not an exhaustive list of indexing keywords. Organizations that have been transformed and undergone digital transformation find it easier to adapt to changes in economy, are competitive, innovative and deliver to the stakeholders the appropriate dividends. Digital Transformations are now being taught as course in universities and corporations.

Successful digital transformation requires an organization to have an embedded digital culture. As organizations advance from pilot digital transformation programs to wide scale adoption, they often run into unexpected obstacle: culture clash, laments Hemerling et al. [10]. According to the authors of the article "It's Not a Digital Transformation without Digital Culture", being a digital organization means not only having digital products, services, and customer interactions but also powering core operations with technology. Becoming one, therefore, requires a tectonic change in the activities employees perform as well as in their individual behaviors and the ways they interact with others inside and outside the organization. Leaders need to acknowledge digital transformation as the fundamental, strategic paradigm shift that it is. Like any major transformation, a digital transformation requires instilling a culture that supports the change while enabling the organizations overarching strategies.

4. The "e" of services

According to Hull et al. [11], "the emerging paradigm of electronic services (**e-Services**) promises to bring to distributed computation and services the flexibility that the web has brought to the sharing of documents". They state that "the last several years have seen an explosion of activity around electronic services, in e-commerce, in science, and in telecommunications". According to them, "the fundamental objective of e-services is clear: to have a collection of network-resident software services accessible via standardized protocols, whose functionality can be automatically discovered and integrated into applications or composed to form more complex services".

Stafford [12], on the other hand writes "e-services represent a business model whose time has most certainly come. They provide a time-saving functionality that busy consumers can use readily. There are so many people from so many technical and academic specialties within the e-services arena that the sky is the limit in terms of interpretation. From the product marketing perspective, an e-service could be any electronically enabled aspect of customer utility. Technologists naturally view e-services as Web-delivered software functionality, often characterized under the rubric of Web services. The marketing and IT fields both have claims on the emerging e-services paradigm".

4.1 e-Commerce

e-Commerce "stands for electronic commerce and pertains to trading in goods and services through the electronic medium" [13]. "Business to Business (B2B), Business to Consumer (B2C), Consumer to Consumer (C2C) and similar opportunity help consumer preferences and consumer markets developing electronic infrastructure for challenges of the future" states Gupta [13]. Accordingly, she adds "E-commerce has revolutionized business, changing the shape of competition with Internet, the computer communication network creating an e-commerce market place for consumers and business". In addition, she continues "with developments in the Internet and Web-based technologies, distinctions between traditional

markets and the global electronic marketplace-such as business capital size, among others-are gradually being narrowed down. The low cost of the PC and the growing use of the Internet is one of reasons for that. There is a growing awareness among the business community about the opportunities offered by ecommerce". According to the eCommerceGuide.Com, "Ecommerce, or electronic commerce, refers to transactions conducted via the internet. Every time individuals and companies are buying or selling products and services online, they are engaging in ecommerce".

4.2 e-Business

While some use e-commerce and e-business interchangeably, they are distinct concepts, according to Gupta [13]. "In e-commerce, information, and communications technology (ICT) is used in inter-business or inter-organizational transactions (transactions between and among firms/organizations) and in business-to-consumer transactions (transactions between firms/organizations and individuals). In e-business, on the other hand, ICT is used to enhance one's business. It includes any process that a business organization (either a for-profit, governmental or a non-profit entity) conducts over a computer-mediated network". A more comprehensive definition of e-business is "The transformation of an organization's processes to deliver additional customer value through the application of technologies, philosophies and computing paradigm of the new economy." Gartner.Com, describes e-Business as "any process that a business organization conducts over a computer-mediated network. Business organizations include any for-profit, governmental, or nonprofit entity. Their processes include production-, customer-, and internal- or management-focused business processes".

4.3 e-Learning

What is the true model of e-Learning? According to Mayes and De Freitas [14], "It is arguable that there are really no models of e-learning per se – only e-enhancements of existing models of learning. Technology can play an important role in the achievement of learning outcomes, but it is not necessary to explain this enhancement with a special account of learning. Rather, the challenge is to describe how the technology allows underlying processes common to all learning to function effectively. A true model of e-learning would need to demonstrate on what new learning principles the added value of the 'e' was operating. Where, for example, the 'e' allows remote learners to interact with each other and with the representations of the subject matter in a form that could simply not be achieved for those learners without the technology, then we may have a genuine example of added value. However, in this example the role of the technology may be primarily to get remote learners into a position to learn as favorably as if they were campus-based, rather than offering a new learning method. In such a case the enhancement is an educational one, though the underlying learning theory explains both campus-based and distance learning with the same theoretical constructs".

4.4 e-Government

In search for a response to the question. "What is e-Government?", Fang [15] response is as follows "Governments worldwide are faced with the challenge of transformation and the need to reinvent government systems in order to deliver efficient and cost-effective services, information and knowledge through information and communication technologies. Development of Information and communication technologies catalyzed and led up to E-government". In his paper,

"E-government is defined as a way for governments to use the most innovative information and communication technologies, particularly web-based Internet applications, to provide citizens and businesses with more convenient access to government information and services, to improve the quality of the services and to provide greater opportunities to participate in democratic institutions and processes. E-government presents a tremendous impetus to move forward in the 21st century with higher quality, cost-effective, government services and a better relationship between citizens and government". According to the United Nations e-Government Knowledge Base, "E-government has been employed to mean everything from 'online government services" to 'exchange of information and services electronically with citizens, businesses, and other arms of government".

4.5 e-Health

According to Eysenbach [16], "Internet is opening up to the area of health care. Intel, for example, referred to e-health as a concerted effort undertaken by leaders in health care and hi-tech industries to fully harness the benefits available through convergence of the Internet and health care." "Because the Internet created new opportunities and challenges to the traditional health care information technology industry, the use of a new term to address these issues seemed appropriate." Eysenbach [16], add "these new challenges for the health care information technology industry were mainly (1) the capability of consumers to interact with their systems online (B2C = "business to consumer")"; "(2) improved possibilities for institution-to-institution transmissions of data (B2B = "business to business")"; "(3) new possibilities for peer-to-peer communication of consumers (C2C = "consumer to consumer")". So, how can we define e-health in the academic environment? Eysenbach [16] "e-health is an emerging field in the intersection of medical informatics, public health and business, referring to health services and information delivered or enhanced through the Internet and related technologies. In a broader sense, the term characterizes not only a technical development, but also a state-of-mind, a way of thinking, an attitude, and a commitment for networked, global thinking, to improve health care locally, regionally, and worldwide by using information and communication technology".

4.6 e-Services research and practice

The academic community has been quite active in regard to e-Services research and practices. A search on Google Scholar <https://scholar.google.com/> using the keywords "e-Services Research and Practice" produces 44, 200 results in 0.27 seconds, while a search using the same keywords on Google <https://www.google.com/> produces about 1,730,000,000 results in 0.85 seconds. Most of the research has been on topics such as:

- Creating e-Services using Open Government Data
- Conceptualization of e-services Quality and e-satisfaction
- How to Research e-Services as Social Interaction
- Trust in e-Services: Technologies, Practices and Challenges
- e-services as Resources in Customer Value Creation

- Exploring Consumer Evaluations of e-Services: A Portal Site
- Demand Driven Development of Public e-Services
- Trust and Risk in Consumer Acceptance of e-Services

As listed above, it is evident that the research community is actively finding ways to build trust in e-Services by minimizing risks. There is also indication that e-Services results in customer value creation, provides quality service and is demand driven.

For example, in the research paper titled "e-Services: A Synthesis and Research Agenda", researchers [17] focuses on the services marketing research. They state that "services marketing research increases in both intensity and relevance as services contribute an increasing share of the world's economy and as firms and their customers increasingly interact through electronic networks". According to the researchers, "e-services present sharp new challenges to both researchers and practitioners, because the processes from beginning to end of the e-service value chain are markedly different than those for offline services and because the electronic environment offers increased flexibility throughout the value chain". This flexibility, they add, "creates the requirement to impose some sort of structure on all of the possible service and channel design choices. e-Service flexibility creates an opportunity, and the need, to think about the consumer early in the design process". Finally, they claim "flexibility makes it difficult, but critically important, to consider various scenarios suggesting future developments in e-services. Organizations may add value to existing goods and services with complementary e-services. They provide an overview of the past and some projections for the future in the new field of research and practices in e-Services.

"How e-Services are Manifested in Practice" is a research paper published in 2017, where authors [18] have looked the actual practice of e-Services in the public sector. They state that e-Services practiced in the public sector are based various models and frameworks that are not relevant any more. Over time, there have been advancements, new developments and new e-Services solutions that need to be taken into consideration to come up with new e-Services practices. They carry out an empirical investigation on how e-Services can be manifested in practice based on qualitative interviews with employees involved with e-Service development. Based on their empirical investigation they conclude that "e-service can take on many different forms within an organization; ranging from downloadable forms, to complicated self-service systems that require expertise knowledge and IT-systems with specific processing capacity. The notion that all services mediated through a website can be understood under one general umbrella term, without further categorization, needs to be challenged". The practice of e-Services in the public and private sectors are marginally different. While the private sector e-Services like e-Commerce (B2C) and e-Business (B2B) are profit oriented, public sector e-Services like e-Government and e-Governance and services oriented (Government to Citizen, G2C).

5. Future trends of e-services

At the time of writing (June 2021), we are in the midst of COVID-19 pandemic. Citizens in most of the developed and developing countries are facing wave after wave of coronavirus infections and deaths. The following has been extracted from the World Health Organization's website "Globally, as of 4:12pm CEST, 25

June 2021, there have been 179,686,071 confirmed cases of COVID-19, including 3,899,172 deaths, reported to WHO. As of 23 June 2021, a total of 2,624,733,776 vaccine doses have been administered". Source: <https://covid19.who.int/>, Retrieved, 27 June 2021. According to the World Trade Organisation [4], "the enforcement of social distancing, lockdowns and other measures in response to the COVID-19 pandemic has led consumers to ramp up online shopping, social media use, internet telephony and teleconferencing, and streaming of videos and films". They add "governments have adopted new measures, and the private sector has also acted, to respond to and ensure that e-commerce can help to alleviate some of the challenges faced in combatting the virus. These have included increasing network capacity, offering expanded data services at little or no cost, lowering or scrapping transaction costs on digital payments and mobile money transfers, improving delivery services and other logistics, using digital tools to enforce measures and disseminate information, promoting telehealth services, and leveraging ICT for surveillance".

One of the positives, out of this coronavirus pandemic, is the increase in uptake of e-Services, especially, video conferencing services. With lockdowns and social distancing in place, e-Services (video conferencing) have provided a platform to enable us to work from home (remote work). The "reduced travel time and cost, the importance of involving employees in determining strategic goals, and the rising need for virtual meeting rooms have overall increased the spending of companies on video conferencing solutions", (e-Services). Organizations and their employees are using video conferencing platforms like Zoom, Skype, Microsoft Teams, Cisco's WebEx, GoToMeeting, and Google Meet, etc. to virtually meet and organize work, tasks, and activities. According to Richter [19], "Zoom saw its revenue skyrocket throughout the fiscal year ended January 31, 2021. Following a 169-percent revenue increase in the first quarter, year-over-year revenue growth accelerated to 355, 367 and 369 percent, respectively, in the second, third and fourth quarter. For the twelve months ended January 31, Zoom's revenue amounted to $2.65 billion, up from just $623 million the previous year". "The global video conferencing market size is expected to grow from USD 9.2 billion in 2021 to USD 22.5 billion by 2026, at a Compound Annual Growth Rate (CAGR) of 19.7% during the forecast period", (marketsandmarkets.com).

According to the World Trade Organisation [4], "e-commerce in services that can be delivered electronically has flourished, with demand rising sharply. One example is media services. Facebook reports that its online messaging, voice and video call services are up by more than 50 per cent, with Italy showing a 70 per cent surge overall, and a 1,000 per cent increase in group calls". New and innovative models of doing business are aplenty with e-Services platforms. For example, restaurants that cannot have customers eat-in, are taking takeaway and delivery orders from customers using whatever e-platform, social media platform, or messaging apps. Farmers are also receiving orders for their products and making deliveries. Entrepreneurs have found that with the use of one of the e-Services platforms, they will be able to continue their businesses. Mobile payments, and mobile payments are replacing credit cards with these small scale or solo business owners. Another major use of e-Services (e-Learning) has been in education. Most of the students are now studying online, attending Massive Open Online Courses (MOOC), as well as learning whatever they can from YouTube videos. Platforms such as Amazon have chipped in, "offering the public sector free access to its remote education, remote working and research tools, and Cisco has made its WebEx video conferencing tool free of charge".

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