

Barun ICT Global News

Global Student Reporter & Researcher

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01

Introduction of New Demographics in Online Transactions due to COVID-19

Global Student Reporter & Researcher

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Approaching nearly a year since the outbreak of COVID-19, its continuity has promoted sedentary lifestyles leading civilians to alter their shopping behaviors to rely on online platforms. Mukhisa Kituyi, the Secretary General of the United Nations Conference on Trade and Development, mentioned that the COVID-19 pandemic expedited the shift towards a world that is increasingly digital [1]. Regardless of the overall decrease in retail and food services in Western regions including the United States and the European Union, the sales of e-commerce providers grew. For instance, in China, between January and August 2020, the proportion of digital transactions hit "24.6%, up from 19.4%" upholding the notion that the e-commerce market is booming due to the situations that the pandemic engendered [2].

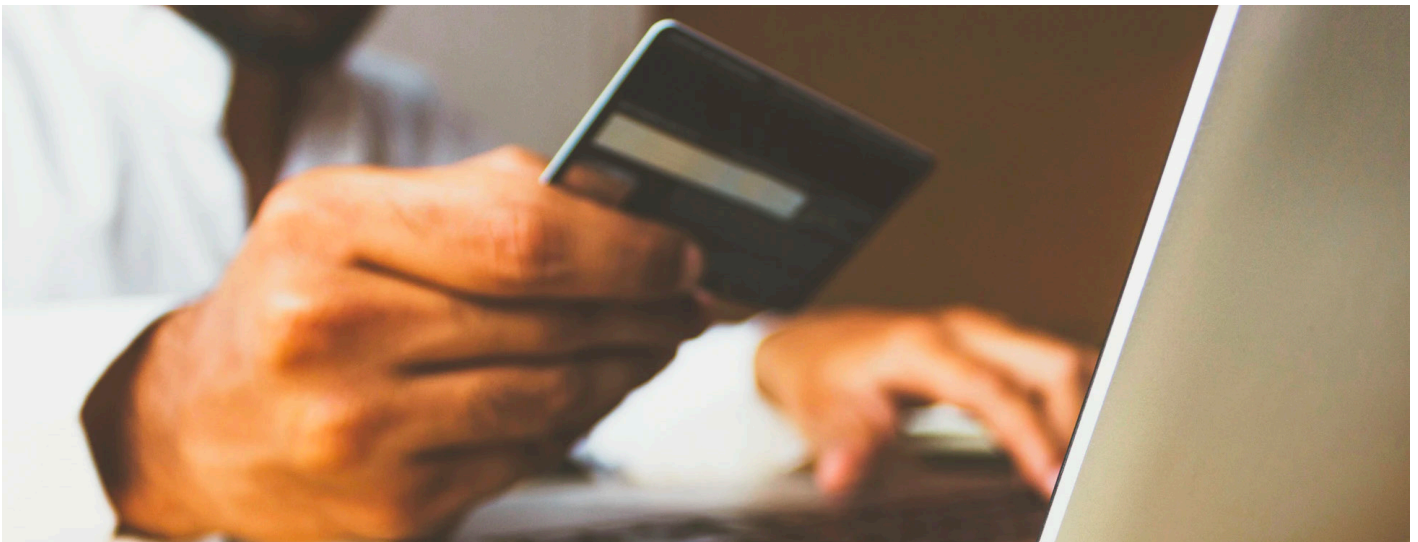


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Although some scholars posit that the boom of e-commerce is a temporary event and that the size of the market would bounce back to the size that it was before after the pandemic ends, this is unlikely as demographic groups that previously renounced online transactions are increasingly using online platforms to purchase goods due to enforced social distancing regulations.

According to Justin McCurry, the journalist at The Guardian, Japan is short on “credit card numbers,” due to the increased popularity of online shopping, which is a significant factor to consider as Japan's ratio of online transactions stands at 20 percent [3]. One of the facets to highlight is that amongst the increased share of online transactions, the age group which uses credit cards the most is the elders in the range of 60s to 70s [2]. In other words, the pandemic has accelerated the introduction of a new demographic with significant buying power, the elderly, into the e-commerce market.

Furthermore, other demographic groups that previously did not use delivery apps are becoming accustomed to the convenience of such platforms; they are likely to keep on using such services as convenience is a key driver of e-commerce participation [4]. With the purpose of preventing the spread of disease, physical distancing is emerging as a contemporary norm to follow, endorsing the usage of food delivery services. A market research firm named eMarketer estimated that the figure for food delivery app users would grow up to “45.6 million” in the United States by the end of 2020 [5]. Simply put, COVID-19 catalyzed to prompt users who were previously reluctant to use such services to become accustomed to the comfort that online delivery brings.

New demographic groups that were previously hard to get hold of despite aggressive advertising strategies have been prompted to utilize online platforms to purchase goods and produce due to unprecedented situations that have rendered offline buying a cautious act to participate in. Individuals who previously had the choice to opt out of the already increasing amount of sales amongst online platforms has made online market sales skyrocket; the comfort that they have experienced in the process of utilizing such digital platforms will likely make them continue to use such services, which might even result in a flip of online services being the norm over offline ones.

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02

Bitcoin: The New Gold?

Global Student Reporter & Researcher

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Released in 2009, Bitcoin has become the world's best-known cryptocurrency. Embedded computer code ensures that the total supply of Bitcoin is limited to 21 million tokens, which are distributed in blocks by a network of volunteer computers through mining. Unlike traditional currencies, Bitcoin exists on blockchain in an open-source, decentralized way, making tampering impossible [1]. As of December 1st 2020, Bitcoin hit a new record high of \$19,920 - showcasing the cryptocurrency's staying power while also creating a frenzy [2]. Notably, this recent spike comes after a major devaluation in March amidst the start of the pandemic. Yet nine months later, the total value of all outstanding Bitcoin is \$350 billion, with JPMorgan Chase projecting even better performance in the future [3].

As of December 1st 2020, Bitcoin hit a new record high of \$19,920 - showcasing the cryptocurrency's staying power while also creating a frenzy [2]. Notably, this recent spike comes after a major devaluation in March amidst the start of the pandemic. Yet nine months later, the total value of all outstanding Bitcoin is \$350 billion, with JPMorgan Chase projecting even better performance in the future [3].



Image from <https://unsplash.com/photos/JrjhtBJ-pGU>

With this unexpected turnaround, the 2020 peak has been compared to the 2017 spike, which proved to be short-lived and was followed by a rapid devaluation [2]. The key difference between the two spikes lies in their main drivers of growth: while the 2017 rise was driven by investors in Asia who

lost momentum within a few months, the 2020 peak has been led by traditional Wall Street bankers and companies [2]. Even former crypto-skeptics such as Inigo Fraser-Jenkins have announced their changed position on Bitcoin and now recommend including it in their investor portfolios [4]. With mainstream investors leading the movement, a less speculative atmosphere has been created; one that now treats the cryptocurrency as a long-term alternative asset similar to gold.



Image from freepik

What has caused this paradigm shift? One of the main changes lies in the policies of financial regulators and fintech companies that now make cryptocurrencies more accessible. Commercial banks are now allowed to hold cryptocurrencies, while fintech firms PayPal and Square have decided to offer Bitcoin to customers [2]. Another factor has been the steady devaluation of traditional currencies. As governments worldwide continue to expand their money supply to encourage spending, devaluation will only progress in the near future. Bitcoin holds a competitive advantage in this aspect, as the hard-coded limit on total number of tokens prevents inflation [2]. Moreover, younger investors have demonstrated an affinity for Bitcoin over gold due to excitement over its “utility as a payment method” and future valuation [5].

On the other hand, several issues threaten the value of Bitcoin. For one, the adoption of Bitcoin by terrorists, drug dealers, and sanctioned countries makes it a lucrative target for regulation by governments. Moreover, Bitcoin is not legal tender but is rather backed by pure speculation, rendering value extremely volatile. Perhaps the most serious existential threat to Bitcoin is the introduction of national cryptocurrencies by countries such as China and Singapore, which would ameliorate concerns regarding speculation and volatility [2]. Yet as Bitcoin still dwarfs national cryptocurrencies in familiarity, diversification, and overall expectations, it will likely continue on its current trajectory at least in the immediate future.

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03 Is Artificial Intelligence a Threat to Energy Consumption?

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Goal 7 of the Sustainable Development Goals tries to ensure access to affordable, modern, reliable, and sustainable energy to the global population. Achieving it is not easy because developing countries still lack access to energy, while developed countries over-consume. At the same time, as the percentage of lower income households continues to grow, it is estimated that this will cause an excess in energy demand [1]. Therefore, if future energy is not renewable, the negative effects of climate change will increase dramatically.

This goes hand in hand with the concern over how much energy artificial intelligence (AI) consumes. According to analysis done by Determined AI, some projects can consume up to 2.8 gigawatt-hours of electricity, which equals the energy three nuclear power plants make in an hour [2]. Just in 2018, Netflix's energy consumption (especially costumers downloading content from the platform onto their devices) used almost 200,000 megawatt-hours [3]. At the same time, data centers from companies like Alphabet, Amazon, Apple, Facebook, and Microsoft consume approximately 200 terawatt-hours every year. In comparative measures, this amount of energy is the same as that of the total consumption of countries like Iran [4].



Image from Freepik

These are only a few examples of how AI could become a threat to climate change. The aforementioned data centers are also responsible for 0.3% of carbon emissions worldwide, and ICT generally creates 2% of carbon emissions [4]. This rate is as high as the carbon emissions from aviation, which represents 2.5% of the total emissions in 2018 [5]. At the beginning of this year, the U.S. Department of Energy assessed that centers involving AI consume 2% of the energy of the country [2]. Significant advances in face recognition, tracking applications, smart robots, mapping, and information collection among others involve enormous amounts of energy.



Image from <https://unsplash.com/photos/a1Lm99Kkqtg>

Such concern has not been considered an emergency yet because only a few countries and companies are using that much energy for their projects. However, this could become a threat as developing countries invest more in their research and development. If these countries start to develop projects involving AI, they will eventually also consume alarming quantities of energy. Fortunately, for now, this is not the case. Nevertheless, developing countries must ensure access to renewable energies so this does not become a problem in the future. Another option could be to encourage companies to start developing algorithms and projects involving less energy consumption. As the field develops further, we need to make an effort to move towards a greener AI.

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04 Considering Telehealth Services as a Medical Practice

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Image from Freepik

Telehealth services have been on the rise in conjunction with an overall increase in activity among contact-free industries because of the pandemic. As defined by the World Health Organization (WHO) [1], telehealth is the “delivery of health care services, where patients and providers are separated by distance” which utilizes ICT to provide information regarding diagnosis or treatment to patients. Countries such as Canada, Spain, Sweden, and the United States have been utilizing telehealth as part of their medical practices, with over 50% of Member States of the WHO reporting that “there was a specific national telehealth policy in their country” or a clause in eHealth national policy that referred to telehealth [1].

The United States is one of the countries that has adopted telehealth in both its private and public sectors. The private system features a telehealth provider called MDLiveCare, which allows doctors to provide diagnoses and checkups via video. The United States Department of Veterans Affairs: Care Coordination Services provides telehealth programs, such as general real-time telehealth, which aims to increase accessibility to healthcare services to vulnerable populations [2]. The U.S. telehealth market has seen a 46% increase in demand for telehealth services by consumers as of April 2020, likely due to the strain of COVID-19 [3]. Telehealth providers have also reported a 50% to 175% increase in patients who receive medical attention electronically [3].

Korea has yet to adopt telehealth due to many obstacles and pushback on the matter from regulators. The fact that telehealth would not require in-person visits has been argued to violate the Regulations for the Occupation of Physicians [4]. There have also been concerns regarding the questionable level of safety of privacy over patients' medical information, which is officially classified as more sensitive than other personal data [5]. The stability and consistency of the required telehealth technology and devices are also unconfirmed, which raises questions of whether this would affect the quality of medical services [4].

Additionally, in Korea, there has not yet been much discussion regarding what exactly constitutes the practice of telehealth. As a result, there is an overall lack of a clear definition or set of provisions on the scope of telehealth, which is prohibiting any progress on the matter, leaving Korea far behind other countries in the telehealth industry.

Despite controversy on the subject, in a world where interactions are increasingly taking place online, implementing telehealth into official medical practices is a possibility worth exploring. The Korean Medical Association and relevant stakeholders should consider these regulatory aspects to assess whether integrating telehealth services would be beneficial in Korea.

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05

How Technology is Disrupting the Food Industry

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Food is often touted as one of life's greatest pleasures, and corporations strive to come up with mesmerizing new tastes for their customers. The food industry is vast, with opportunities for entrepreneurs to both flourish and fail. Different combinations of ingredients lead to thousands of new tastes, and researchers have been working to find ways to leverage technology to achieve success in the marketplace.



Image from [ThisIsEngineering](#), Pexels

The usual method of creating new products is through taste tests. Professional food tasters are hired, and are responsible for scrutinizing the visual appeal, smell, and taste of a product. Although the process has proved itself through successful product launches, the science of how humans experience taste is not well understood [1]. Designing new flavors is difficult, as even the smallest change in an ingredient can greatly change how the flavor is perceived by the consumer.

To address the delicate nature of taste, researchers are using technology. McCormick, a seasoning and spice company, has partnered with IBM to create an AI platform to produce new flavors. The program sifts through existing data to identify patterns and novel combinations [2]. What is special about this program is that it accounts for the substitution of ingredients if the original is unavailable - while keeping the flavor unchanged [3]. For vegetarians, this program may substitute out meat-based ingredients and create a unique combination of vegetable-based spices that replicate a similar taste. With this technology, McCormick produced three creative new flavors such as bourbon pork tenderloin at a fraction of the usual time and cost.

Not only can technology be used for creating new tastes, but it can also be used to enhance existing processes. BBC Technologies of New Zealand has created a blueberry grading system by using AI that can detect punctured or damaged fruit [4]. Frito-Lay, a global leader in the potato chip industry, uses machine learning to point out production bottlenecks and determine the texture of their product without destroying them [5]. Existing data can be leveraged to forecast upcoming taste trends as well.



Image from Freepik

Currently, approximately one million recipes are in use worldwide, which is low compared to the theoretically possible recipes of over one quadrillion (10 to the power of 15) [6]. Incorporating technology, big data, and AI can broaden the current domain of the food industry: tastes can be enhanced, and new flavors can be created through pattern mining of existing ones. Technology equips producers with automation, speed, and accuracy, leading to an increased chance of success.

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