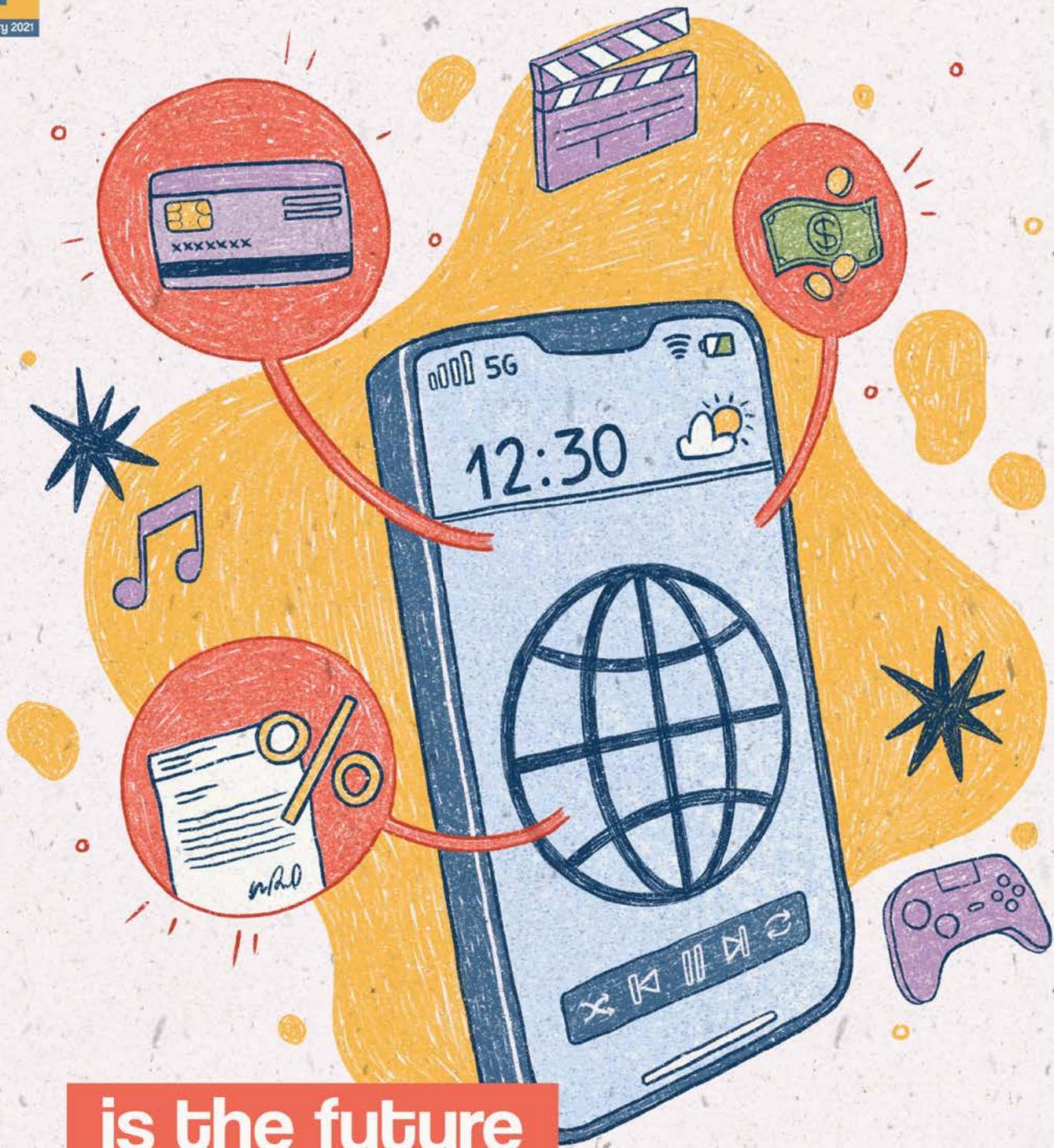




# systemic reflections

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January 2021



is the future

A deeper understanding  
of **digital trade**

really digital?

Mary Louise Malig

# about the author

**Mary Louise Malig** is a researcher, policy analyst, and campaigner now currently based in Bolivia. She has written on the issues of trade particularly the World Trade Organization (WTO), EU-Mercosur, climate change, and agriculture. She is co-author of the book, *"The Anti-Development State: The Political Economy of Permanent Crisis in the Philippines"* and other more recent publications such as *"Big Corporations, the Bali Package and Beyond"*. Mary Lou worked as Trade Campaign Coordinator of Focus on the Global South and then after as staff in Asia for La Via Campesina, and in that capacity did both analytical and campaign work with the social movements in Asia.

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### **About Fundación Solón**

Fundación Solón was born in 1994 at the initiative of the social artist Walter Solón Romero (+) to foster the creativity of rebellious spirits in the search for multidimensional alternatives to face the systemic crisis that the Earth community is experiencing.

The Systemic Alternatives initiative is coordinated by Focus on The Global South (Asia), Attac (France) and Fundación Solón (Bolivia).



# is the future really digital?

A deeper understanding of digital trade

By: Mary Louise Malig

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A current buzzword not only in technology circles but in social media, traditional corporate and the hip millennial and Generation Z youth has been and continues to be “digital trade” or for older circles, e-commerce, short for electronic commerce. It is interesting to note that years before, e-commerce was the preferred term and was not equated to the term digital trade. However, that did not last long and as can be seen today, the two terms are used interchangeably.

E-commerce or digital trade is not a new concept; however, the COVID-19 pandemic has played a major role in bringing to the forefront many digital goods and services, either by increasing the customers and profits or even introducing fledgling start-ups. Online services for telecommunications such as Zoom, Microsoft, and Google have all grown virtual classrooms or meeting spaces, as schools and offices opted to use the services for online learning from home and offices chose video conference calls in lieu of physically going to the offices. As people stayed at home during lockdown or quarantine, shopping online for everything from groceries to clothes to gadgets increased and contributed to making the owner of Amazon, Jeff Bezos, one of the richest man in the world at 182.1 billion USD<sup>1</sup>. During the pandemic, Zoom, the videoconferencing service grew by “early September the company reported revenue growth surged 355% year-over-year. Remarkably, that growth was on top of a 169% expansion in the previous quarter.”<sup>2</sup>

However, not all things referred to as digital trade or e-commerce are in fact digital trade nor e-commerce. The debate on the definitive scope and definition of what is e-commerce or digital trade has been ongoing since 1998 at the World Trade Organization (WTO). The ongoing debate on definitions has a significant impact on many things but most importantly, on global

trade rules. Currently, the WTO, the only multilateral organization dealing with trade, has yet to reach an agreement on global trade rules on digital trade or e-commerce. A lot is at stake on what rules are agreed upon, potential government revenue gains or losses, positive or negative impacts on local economies, companies and all the players in the global value chain dealing with digital trade and digital services facing tougher regulations or not, and the potential impact on consumers and their data. In all this time of not reaching consensus however, other regional free trade agreements have gone ahead and adopted the original WTO agreement in 1998 to uphold a Moratorium on tariffs on e-commerce, while the multilateral trading body reaches a decision. This situation has also allowed digital trade corporations to rake in millions of dollars. What this Moratorium and rules and lack of rules mean will be explained in greater detail in the part on state of play later in this paper.

But to truly comprehend the state of play, the debates, what is or what is not considered digital trade, one must go back to understanding the origins, definitions, new forms of digital platforms and economy formed and who the key players are.

This paper therefore aims to: 1) Break down digital trade and provide examples of what transactions fall into this definition; 2) Lay out the digital platform economy, how it works and who runs it; 3) Present a brief state of play on the global debates on the proposals for global trade rules on digital trade and 4) Provide a glimpse of the larger world of the digital economy, of which digital trade is a part of.

# Part 1: What is Digital Trade?

Digital trade as traditional trade, is a part of the larger picture of the economy. Digital trade is part of the growing digital economy and affects the non-digital larger economy. Digital trade is not new. However, despite it being around for a while, there is no definitive definition and scope globally agreed upon. This has led to lack of consensus and a plethora of debates and discussions on how to best apply rules to digital trade. This paper shall delve into that later.

As for now, a simple way of defining digital trade is to use the narrowest definition of electronic commerce (e-commerce) which is the sale and purchase of goods and services via the internet of which the digital good or digital services are delivered digitally. Many argue that even if the whole process happened online, if the end product is a physical good or service, then it is not digital trade. This will be delved further into later in the paper. To expound on this narrow definition better, some examples of these digitally enabled transactions are presented below.

A first example of digital trade is that the whole production chain from placing the order to developing to receiving the good digitally, all happen via the internet. For example, a small company has decided that it wants to establish its presence on the internet. It then contacts a website developer who can provide the server space, the domain name and create and design the website. The website developer agrees, both parties agree on a price and timeframe and then once the website is set up online and ready to go, the small company that ordered it would pay the developer by placing a wire transfer from their bank to the developer's bank account. Payment is received and the transaction is successful. This is digital trade.

Second example is that of streaming services of movies and TV shows. There are several companies, but for sake of brevity, this report cites the example of the pioneering company in this field, Netflix. Movies and TV shows delivered digitally are technically goods, the way this transaction is defined however, is paying for a service that is delivered directly to the consumer digitally. It is defined as a digital consumer service because Netflix does not sell the movies or TV shows, instead, it requires a subscription fee that can be paid monthly or annually via a credit card. The subscription then gives direct access to its library of movies and TV shows to the consumer. This model has been highly successful as Netflix now has 195 million worldwide subscribers<sup>3</sup>, earning Netflix a spot in the top 40 global companies based on market capitalization. Other brands have popped up and started offering the same

subscription model, but the closest competitor, Disney Plus has only reached 60 million subscribers so far. This business model is under digital trade. A consumer service is being provided digitally and payment is enabled electronically.

Third example is that of a business to consumer model providing transportation. Uber is a tech company that provides consumer service in the form of transportation. The Uber application needs to be installed onto a smart phone, the user then registers their details including credit card information and their address. The consumer is then able to use the Uber application and request for transportation via the application. The application then shares an alert to Uber drivers allowing them to respond to the request, usually, the one who is closest in proximity responds and is connected by Uber to the consumer. These Uber drivers are not professional taxi drivers with a taxi, but rather, an Uber driver is someone who has a car, a smartphone and has registered with Uber to be part of the roster of drivers that can be contacted via the ride hailing application. These Uber drivers then get a share of the payment that is paid to Uber. All these transactions happen and are enabled digitally. Even your tip at the end of the ride is given to the driver via the application, not in cash, even if you are physically able to give it to the driver after they drop you off at the destination you listed when you requested the ride. Also, Uber is now available in many countries, allowing its users to access the service even if you are not in your home country that you've registered. Being able to hail a ride from your phone in a foreign country that you've just traveled to, provides convenience, you wouldn't even need to have the local currency nor speak the language, the application does all the communicating and enabling payment digitally between their Uber driver and you, the Uber customer. This is the delivery of a service enabled digitally. This is also digital trade. Following the success of the Uber model, several other tech companies have made this service available as well, such as Lyft, Grab and others.

Fourth example is a financial transaction. It is quite straightforward. For example, conference documents need to be translated into a number of languages so that participants can access them in the language of their choice. The conference organizers then contract the services of a number of professional interpreters to translate the documents. A price and timeframe are agreed upon. The translated documents are delivered via the internet to the conference organizers, who then in turn, send the agreed payment. This payment can be made several ways such as a bank transfer. In this case, the example is a payment hub called PayPal. Both the payee and payor sign up to PayPal online then either using a bank account or a credit card, the conference organizer can then send the payment to the translator via PayPal and then he/she receives into their account. This is digital trade.

Fifth example, is buying a digital good, for example, a digital book or e-book. There are many online bookstores or websites that sell e-books, one of which is Amazon. The consumer is assumed to have a gadget – an e-book reader, a Kindle, an iPad, a computer or any other tech that allows you to read digital material like e-books; that consumer then orders one or a few e-books from Amazon online, pays for it with a credit card and then receives the book/s digitally directly to their preferred gadget. That is the sale and delivery electronically of a digital good. That is digital trade.

Sixth example is buying applications or software for your gadgets. For example, people who have iPhones can connect online, browse through the App Store and choose the applications – anywhere from ride hailing apps like Uber to games to various photo editing software to document readers, the list of choices is long. All of this is done online and paid for online with your already pre-registered credit card on your gadget and then delivered to your gadget directly. This is digital trade.

There are several other examples of digital services and digital goods such as health services, technology and consumer services, consumer goods, and many more.

### **Definitions and implications**

The examples listed above however, are potentially non-controversial as it falls under the narrowest definition of digital trade, that is, that the service or good is delivered digitally. It is the wider definitions and scopes that draw discord. These other examples that are considered to be in a gray area, of debated definitions of electronic commerce or digital trade include: The broadest example includes any use of digital technologies such as information, communication and

technology, which could potentially include everything done on the internet, even if it is just data flows and not necessarily the transaction itself.

- The United Nations Conference on Trade and Development (UNCTAD) on the other hand, follows the general consensus that digital trade is purchases and sales enabled by the internet, however, instead of only including digital goods and services, it also includes physical goods which is a heavily disputed definition. The UNCTAD coverage would mean that for example, a customer ordering a physical product, say, a smart phone, on Amazon, and paid for it online with a credit card, but then receives the physical product – the smart phone, on their doorstep, delivered by Amazon, is included in digital trade. This is up for debate because nowadays, many physical products are available to shop online, and although the transaction was all done online, receiving an actual physical good raises questions on whether that should then be subject to tariffs or other taxes especially as it crosses borders.

- The definition of e-commerce in the WTO work program is: “electronic commerce is understood to mean the production, distribution, marketing, sale or delivery of goods and services by electronic means. The work programme will also include consideration of issues relating to the development of the infrastructure for electronic commerce.”<sup>4</sup> Breaking down this definition, it is understood that e-commerce under the WTO would involve any or all parts of the global value chain of the end good or service. This is not a definition universally agreed to, today as other definitions only count the transaction to be e-commerce if the end product or service delivered is digital.

- The Organization for Economic Cooperation and Development (OECD) for example, emphasizes this point that it is the end not the supply chain. Furthermore, the OECD includes an important aspect of the process, the digital good or digital service has had to have crossed a border for it to be classified as digital trade. For the UNCTAD, as mentioned above, it is a broader scope, “defines “e-commerce” as purchases and sales conducted over computer networks. To the UNCTAD, “e-commerce can involve physical goods as well as intangible (digital) products and services that can be delivered digitally.”<sup>5</sup>

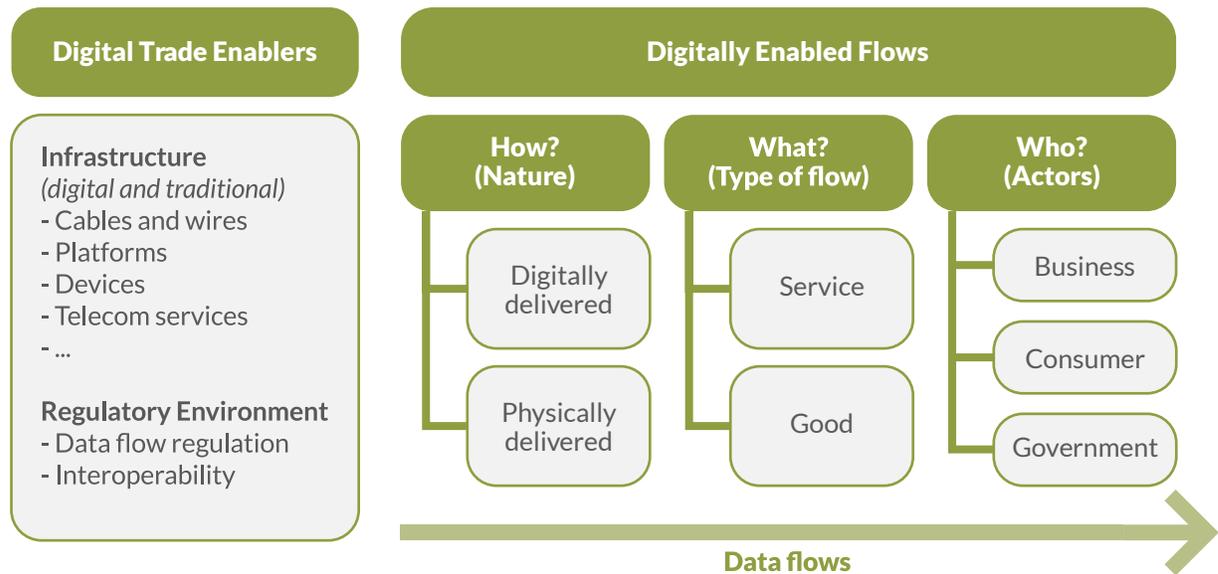
- The European Union also has its own terms with regard to digital trade, “This is defined operationally as an area where individuals and businesses can seamlessly access and exercise online activities under conditions of fair competition, irrespective of their nationality or place of residence.”<sup>6</sup>

The variations in definitions have a very important role because definitions determine international trade rules. And as of writing this paper, there has yet to be an internationally agreed definition and parameters of digital trade. The existing rule followed in general is the WTO agreement on the Moratorium, which basically is an agreement to not impose custom duties on e-commerce. This Moratorium and the different debates around it will be discussed later on in this paper.

### Categories of digital trade

To visualize better a flow of digital trade, below is a typology of digital trade, see Figure 1. To break it down, the trade is first enabled by infrastructure such as cables, wires, and all the other technology that is involved in making the internet possible. Then, there are data flows that may or may not be directly contributing to the e-commerce; and there are digitally enabled flows of services and goods, whether or not they are digitally delivered or physically delivered is included in this typology for visualization but as stated, this is under dispute because physical goods that are delivered across a border is usually subject to a tariff. Finally, the chart shows the current actors involved in digital trade: businesses, consumers and government.

Figure 1: Sample flowchart of digital trade



Source: Lopez-Gonzalez and Jouanjean (2017); Cited in: Organisation for Economic Co-operation and Development (2019) "Trade in the Digital Era" OECD Headquarters, Paris. (Adaptation by Fundación Solón)

Meanwhile, to expound on the different categories of e-commerce that are generally used to classify and measure the amount of trade happening. There is business to business or B2B; there is business to consumer or B2C; and there is government but this is sometimes not measured separately; and an also relatively unmeasured type is customer to customer.

B2B as can be seen in Table 1, involves billions in dollars, well ahead than the B2C, although quite substantial as well. As seen below, "The global value of e-commerce is estimated by UNCTAD to have reached \$29 trillion in 2017, which is equivalent to 36 per cent of GDP. Global business-to-business (B2B) e-commerce was \$25.5 trillion in 2017, representing 87 per cent of all e-commerce, while B2C e-commerce was \$3.9 trillion in 2017." <sup>7</sup>

Table 1: E-commerce sales: Top 10 countries, 2017

Rank	Country	Total e-commerce sales	As a share of GDP	B2B	Share of total e-commerce	B2C	Annual average expenditure per online shopper (\$)
		(\$ billion)	(percent)	(\$ billion)	percent)	(\$ billion)	
1	United States	8,883	46%	8,129	90%	753	3,851
2	Japan	2,975	61%	2,828	95%	147	3,248
3	China	1,931	16%	869	49%	1,062	2,574
4	Germany	1,503	41%	1,414	92%	88	1,668
5	Rep. of Korea	1,290	84%	1,220	95%	69	2,983
6	United Kingdom	755	29%	548	74%	206	4,658
7	France	734	28%	642	87%	92	2,577
8	Canada	512	31%	452	90%	60	3,130
9	India	400	15%	369	91%	31	1,130
10	Italy	333	17%	310	93%	23	1,493
	<b>Total of above</b>	19,315	36%	16,782	87%	2,533	2,904
	<b>World</b>	29,367		25,516		3,851	

Source: UNCTAD, Cited in Organisation for Economic Co-operation and Development (2019) "Trade in the Digital Era" OECD Headquarters, Paris. (Adaptation by Fundación Solón)

Although it seems to be self-explanatory, it is worthwhile to give examples of what would be classified under business to business and business to consumer. For business to business or B2B as the tech world refers to it, includes companies from manufacturing to wholesaler to retailer or companies that specialize in providing goods and services. Business to consumer or B2C examples include companies that deal directly with the consumer albeit via an app or the internet. Examples range from transportation services such as Uber, accommodation such as AirBnB, to many more. As with B2B, B2C sells or provides goods and services but this time directly to the consumer. These are classified as e-commerce as whether they are done under B2B or B2C, the goods and services are enabled and delivered digitally.

Digital trade though, has a very significant difference from "physical" or "regular" trade, aside from the fact that the internet and digitalization of goods and services play a critical role in the enabling of e-commerce. The crucial difference is the role of data flows in the chain of manufacturing to delivery of digital goods and services. As illustrated in the above figure, Figure 1, data flows are represented as flowing under the radar as goods and services are enabled, sold and delivered to either other businesses, consumers or

governments. Exchange of data is of course not new in the current traditional global value chains of physical goods and services, however, in e-commerce, data flows are critical in enabling the smooth transaction for these digital goods and services. In a digital global value chain, data flows include much more largely due to the growth and advancement of ICT or Information and Communications Technology. This refers to IT for short (Information Technology) and includes all communication technologies, wireless networks, mobile phones, conference call systems, computers, and more. These gadgets all communicate the data they gather that would be relevant in improving e-commerce amongst other things. In the case where the consumer is asked for data, everything from name, age, sex, location, and at times financial information, these are all stored as raw material and securely kept for future data mining. Usually when ethical companies use this data, they do not divulge sensitive information but rather use the general profile they can gather from their data in order to then tailor the advertisements or suggestions you see when you go online, making your online experience more targeted and inductive to you as a consumer. The next chapter will go into deeper detail on how advertisers are able to generate targeted advertising from your data.

## What is a Global Value Chain?

A global value chain (GVC), is when the production of a good or service is fragmented and spread across places or countries. A GVC chain begins at the source of the raw product where it is harvested, this, some will refer to as the low end of the chain as the work of the farmers or workers is seen as cheap labor whose skill and efforts are not seen as valuable by some of the transnational corporations (TNCs) that use them. The UNCTAD World Investment Report in 2013 elaborates on these chains and advocates for developing countries to move up and out of the lower ends of these value chains, where they are unable to get better than this low value capture of low prices and low incomes.

The raw product then moves through the chain, getting processed along each step of the way Value is added in these steps and the people involved in these parts of the chain are usually more highly skilled workers who can demand higher income. These higher parts of the value chain are also more capital intensive. The end product of the chain that has gone from raw material to various processing and input, is then sold at a profit by a TNC. In the abovementioned UNCTAD report, it states that because TNCs own most of these GVCs, TNCs investment choices determine these GVCs and all those participating in them from the low end to the high end. "TNC coordinated GVCs account for some 80 percent of global trade"

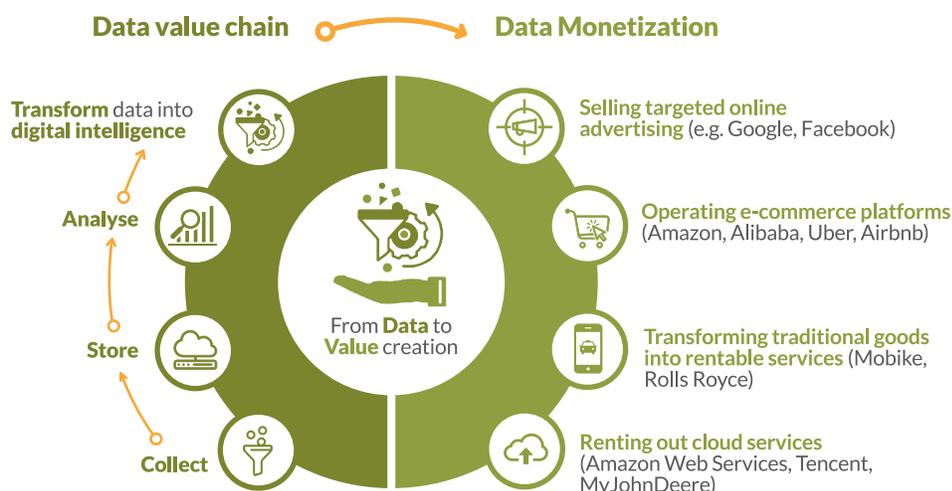
Note that in digital trade, a digital value chain may not be as straightforward as a traditional GVC and in some examples this report will delve into later, the raw material in several of these digital global value chains is data. And as with other raw materials, digital data will first need to be mined then processed in the global value chain in order to make it monetized.

Box by Author

The development of data as the new raw material – or to be more blunt – as your data as the new raw material collected, harvested, mined and then turned into monetized goods that are then sold; together with the rapid advancement in information and communications technology has paved the exponential growth of a new kind of economy: the digital platform economy.

Before delving into the digital platform economy, here is an illustration, see Figure 2, that can help visualize the digital global value chain, which is then broken down as the digital platform economy is explained. The data flows and are processed from data through collection to storage to analysis and transformation to a form that can then be monetized by various platforms flow in a data value chain where it goes from raw material to monetized form. These digital platforms are a new development in the digital economy and has advanced a new kind of economy facilitating the growth of digital trade.

Figure 2: Visual of Data Value Chain to Data Monetization



Source: United Nations (2019) "Digital Economy Report: Value Creation and Capture: Implications for Developing Countries 2019" United Nations Conference on Trade and Development UNCTAD. New York, New York. (Adaptation by Fundación Solón)

# Part 2: The Digital Platform Economy and Who Owns It

To understand the digital platform economy better, this paper breaks down below the various types of platforms, how data changes from raw material to monetized good in the digital value chain and how the discussion on digital trade should not be limited to whether or not tariffs are to be imposed on electronic goods and services but rather, more importantly, should include the complex and vast discussion that needs to be had about data - from privacy to ownership to its free or paid flows, and the potential for the misuse of data for monetary gain.

This paper will also go through the who is who in this new world of digital platform economy and how seven of these companies are now in the top 10 of the 100 global companies published by PriceWaterhouseCoopers this 2020.

As mentioned in the beginning, because of the lack of consensus on the definition and coverage of e-commerce on the international level, particularly in the WTO, the impact of having no internationally enforceable rules on digital trade, has had a significant impact on the lack of regulations on the astronomical growth of technology, financials and consumers services companies in their conduction of e-commerce. The WTO of course is not the only one to blame, however, the agreement to extend the Moratorium on imposing customs duties on e-commerce since 1998, has left a free for all in terms of implementing what definition or interpretation of rules would benefit them best. Several countries, which will be delved into the next chapter, have already in fact entered into regional free trade agreements and other systems of taxations around digital trade, choosing to move forward as the WTO, which had been having critical problems itself around the dispute settlement mechanism, has been almost at a standstill on the issue of negotiations. Again, later, the proposal for the co-convenors of the small group discussions on negotiations on e-commerce is to present a consensus proposal on e-commerce soon. The following section of this paper will delve deeper into the debate and current state of play on the proposals and existing rules and regulations around e-commerce. For now, we delve into the world of the digital platform economy.

## Digital platforms

Going back to the digital platform economy, as the UNCTAD defines it, "Digital platforms are technology-enabled operations that facilitate interaction and exchange between various groups, built on a shared and interoperable infrastructure and driven by data. They operate over a range of activities. Transaction platforms enable interaction between individuals who would otherwise not find each other; innovation

platforms provide technological building blocks enabling innovators to develop complementary services or products." <sup>8</sup>

First and foremost, digital platforms would not be where they are now without the innovation in information, communication and technologies; and massive infrastructure that support these advancements such as cables, faster processing hardware, smart mobile phones capable of doing most functions of computers and tablets; human imagination and skills, particularly in the science, technology, engineering and mathematics (STEM) fields. The race to innovate was supported by investments but probably equally so by the demand and competition.

Suddenly, the "computer and tech nerds" were leading the race. "Big Tech" became bigger than regular traditional companies. "By 2015, the 17 ICT companies that were in the top 100 TNCs globally accounted for a quarter of the total market capitalization of these top companies and 18 per cent of their profits, even though their sales revenues amounted to less than 10 percent of the total." <sup>9</sup> This basically means that even though the ICT companies were booming, this was a specialized field where employment that was at first far and few, were attracting young STEM innovators who brought with them fresh and new innovative ways to even further the ICT field.

One very good example of the beginnings of innovation from hardware to software to digital platforms is when Apple introduced the first iPhone more than a decade ago, the playing field was all of a sudden no longer even. Smart mobile phones could no longer just be able to make phone calls and emails, it had to be able to do all if not more of what the iPhone could do. Photographs, videos, music, and all of that in a high quality display that rivaled some computers. Also, Apple cornered a

market with its App Store - a virtual store where an iPhone owner could buy applications for their phone. The social media savvy companies gave theirs available for free download. Games were also free but add-ons inside the game were for sale. There were also work related applications designed to sync documents or presentations from your Macbook or Apple computer. Application developers were all lining up to be included in the Apple App Store, and all they had to do, aside from agreeing to community standards and rules of Apple, they simply had to pay a percentage (presumably a reasonable price, considering the profits the developers were making) to Apple from the profits they made from the applications. A presumably small price to pay for access to a market of millions of Apple users. Apple also has iTunes, a subscription application for music, podcasts, and a number of other audio products. For a small monthly or yearly fee, the iPhone user had access to the vast selection of music and radio shows that Apple had. The Apple iTunes even had the entire Beatles collection, a complete set that was very hard to find online let alone in physical form of records because of its copyright issues and rarity due to the

huge fan base. Apple blew its competition out of the water. It had the hardware, a phone that would have won a beauty pageant for gadgets if there were such a thing, software that was supported by processors faster than any at that moment in the market, and more significantly, it created its own marketplace, or what we would technically call a digital platform economy. The App Store would fall under the specific category of transaction digital platform. As a note, as other platforms such as Android and others caught up, application developers also designed apps that could run specifically on Android and others and not only Apple.

To concretize this discussion, as of 2019, Apple reported having approximately a billion people using more than 1.4 billion Apple devices.<sup>10</sup> This means that on average, Apple users have more than one Apple gadget, probably a computer and a phone. Apple also estimates that there are around 900 million iPhones in use<sup>11</sup> and that usually these are not shared. An iPhone is usually used by one user.

## Apple AppStore versus Fortnite

One would assume that a game developer would not mind paying fees to the host App Store when the Fortnite players buy add-ons while playing their game on their Apple gadgets whether the iPhone or iPad. It is a small price to pay as one would think that Fortnite would not have had access to Apple users otherwise. However, the game developer, on August 13, 2020, Epic, in breach of contract with Apple, revised the code of their game to allow players to pay Epic directly for the add-ons and bypass the App Store all together. Apple kicked Epic out of the App Store and a court case soon followed, with both parties suing the other.

As a result of kicking Fortnite out of the Apple platform, Fortnite lost an estimated 73 million users who only use the game on the Apple platform. That is a big number considering that there are only 116 million mobile users who play the game.<sup>12</sup> Fortnite claims it has 300 million players but it is not clear how many of those have been lost because those players only played on the Apple platform.<sup>13</sup>

"A US judge hearing arguments in Epic's antitrust lawsuit against Apple has criticized the game developer's decision to breach its contract with the iPhone maker by pushing a version of Fortnite with a custom payment system onto the App Store. The decision resulted in Apple removing Fortnite from the App Store.

During a hearing on Monday with both companies, Judge Yvonne Gonzalez Rogers of the United States District Court for the Northern District of California expressed skepticism about Epic's arguments, particularly its claim that it did not pose a security threat to Apple because it is a well-established company and partner.

"You did something, you lied about it by omission, by not being forthcoming. That's the security issue. That's the security issue!" Rogers told Epic, according to a report from CNN. "There are a lot of people in the public who consider you guys heroes for what you guys did, but it's still not honest."

The three-hour hearing, which took place over Zoom, did not settle any of the open questions in Epic's ongoing antitrust lawsuit against Apple, including whether or not Fortnite will be allowed to return temporarily to the App Store. A decision on that issue is expected "in the coming days," according to The New York Times.

Judge Gonzalez Rogers did recommend, though, that the case be taken to a jury trial in July next year to settle these issues permanently. "It is important enough to understand what real people think," said Rogers. "Do these security issues concern people or not?"

According to CNN, Judge Rogers said she was “not particularly persuaded” by Epic’s argument that Apple has bundled its App Store and in-app payment system together in violation of antitrust law. The judge also said she did not necessarily agree with Epic that Apple has harmed its ability to distribute Fortnite through its control of the App Store.

“Walled gardens have existed for decades,” said the judge. “Nintendo has had a walled garden. Sony has had a walled garden. Microsoft has had a walled garden. What Apple’s doing is not much different... It’s hard to ignore the economics of the industry, which is what you’re asking me to do.”

The lawsuit between Apple and Epic has become a rallying cry for many developers dissatisfied with the iPhone maker’s App Store policies. Last week, companies including Epic, Spotify, Tile, and the Match Group created the Coalition for App Fairness, with the aim to “defend the fundamental rights of creators to build apps and to do business directly with their customers,” according to Epic CEO Tim Sweeney.”

Source: <https://www.theverge.com/2020/9/29/21493096/epic-apple-antitrust-lawsuit-fortnite-app-store-court-hearing>

This fight between Apple and Epic will be interesting to watch as the decision would serve as a precedent of who a court would side with – the Apple platform or the game developer Epic. There are spirited debates on this issue online, stating that the developers would not have even reached their audiences if not for the platforms such as Apple. However, a question to ask is if digital platforms have gained too much power and money. As mentioned earlier, seven of the top 10 of the top 100 companies published by PriceWaterHouseCoopers this 2020, are digital platforms, Apple being number two. Another side of this debate however is that platforms have community guidelines to protect users and have sophisticated security software that protect users sensitive information such as credit cards, names, addresses and a whole list of other data.

As can be seen in this, Apple is not the only actor in the digital platform economy, and the numerous other examples will be delved into shortly. First, as illustrated, there are two main categories of digital platforms: Transaction and Innovation. Table 2 below shows an example of the different categories of digital platforms.

**Table 2: Types of Digital Platforms**

Types of digital platforms		
Category	Type	Examples
Transaction	Market places	Amazon, eBay, Alibaba, MercadoLibre, Google Play, Apple App Store, Airbnb, Uber, Ticketmaster, Paypal, PayU
	Social media and content	Facebook, Twitter, YouTube, Instagram
	Internet search services	Google, Yahoo, Bing, Baidu
	Digital Advertising	AdWords, DoubleClick, Tradedoubler
	Funding	Kickstarter, Crowdcube, Startnext
	Talent Management	LinkedIn, Monster, CareerBuilder
Innovation	Mobile ecosystems and apps	Android, iOS
	Industrial digital platforms	Google Cloud Platform, IBM Watson IoT, ThingWorx
	Participation and open services	Citadel, CitySDK, Busan Smart City Platform

Source: Adapted from United Nations and ECLAC, 2018. Cited in: United Nations Conference on Trade and Development (2018) “Trade and Development Report 2018: Power, Platforms and the Free Trade Delusion” UNCTAD New York and Geneva. (Adaptation by Fundación Solón)

Innovation is where technology companies, developers and other STEM innovators, come together and share, exchange, discuss and debate ways in improving existing technologies, software and even code. This platform benefits from more participants contributing ideas as these more often than not, improve on the existing technology and software and also help make it more difficult for hackers to hack in and destroy, steal or use data and other personal information for nefarious purposes. Hackers are a constant threat for companies that hold sensitive data and so developers designing new and updated security codes and protocols benefit the whole community.

Transaction platforms are where various users meet and possibly interact. Facebook is an easy example to explain: A person who would like to sign up to Facebook in order to contact old friends or make new ones, will freely give their “basic” data to Facebook, such as age, location, preferences, and then Facebook signs that person up for free. But as they say, there is no such thing as a free lunch. Because you’ve clicked OK to Facebook’s terms and conditions without reading it, which includes sharing general demographics about you, nothing personal or sensitive, Facebook can now feed this data into their algorithm which then matches you with advertisers, developers and of course, people they think you would be friends with. It is a friendship social media platform after all. That free of charge signing up to Facebook was in fact not free at all, because they just used your freely given data to then charge advertisers and developers to connect them to you especially because based on the algorithm, it looks like you would be interested in the goods and services they have on offer or sale.

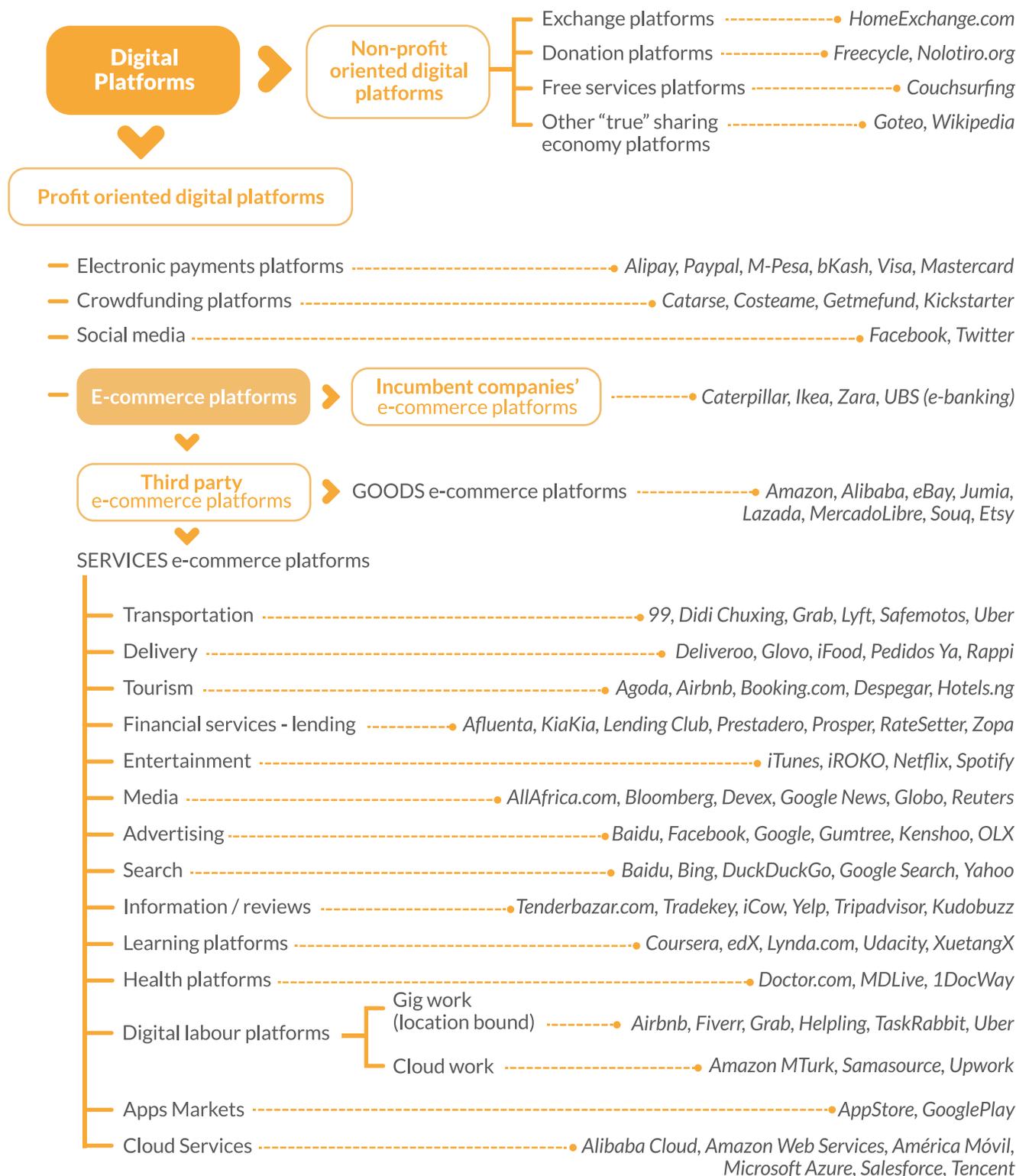
Why then would developers and advertisers pay good money to platforms such as Facebook for an aggregate analysis of the Facebook users data, including you? It is because data, even if it seems nothing to put a name, age, location and preference in music or fashion brand; it is everything to a developer who wants to tailor an application to a particular demographic or an advertiser who wants to target their advertising. Have you every clicked like on an ad in Facebook, say, for a nice dress? Notice how that dress then somehow subconsciously stays in your mind because it is actually keeping its constant presence with one or two ads in the different platforms you’ve gone on. Some developers, like applications such as Spotify, are collecting their own data on the people who use their application. They collect data on which artists you like, when you like to listen to music, how many times you’ve listened to a particular playlist or song. Then they made advertisements generated from their data. The reactions were mixed, they were funny ads but on the other hand, did you realize that Spotify was listening to your EVERY single move in their application? This is called data mining.



Some of Spotify's advertisements using its users' data, 2016.

An easy visualization made by the UNCTAD of e-commerce in the landscape of digital platforms This can also help have a snapshot of the players of the digital platform economy and even a portion of the larger digital economy.

Figure 3: Landscape of e-commerce in digital platforms



Source: United Nations (2019) “Digital Economy Report: Value Creation and Capture: Implications for Developing Countries 2019” United Nations Conference on Trade and Development UNCTAD. New York, New York [https://unctad.org/en/PublicationsLibrary/der2019\\_en.pdf](https://unctad.org/en/PublicationsLibrary/der2019_en.pdf) (Adaptation by Fundación Solón)

## The top platforms

Data mining in this digital platform economy is the new mining for raw material. Data is the new raw material. Your data is the new raw material. The new digital platform economy transforms this raw material of data into profitable and monetized forms. Just as illustrated earlier in the data value chain, Figure 2, the figure shows you how raw data is then processed in a global value chain until it reaches its monetized state. The “Big Tech” companies had caught on to this early and had and have been making the most of it. Incredibly, with this new form of economy, seven of these super platform companies are now in the top 100 companies in the world in the 2020 published listing of PriceWaterHouseCoopers. The seven super platforms are: Microsoft, Apple, Amazon, Google, Facebook, Tencent and Alibaba. It is crucial to note that not all these seven super platforms are technology corporations or “Big Tech”. Amazon, for example, is classified as consumer services. Alibaba, which stands at top 8, is not a technology corporation as well, it is also classified as consumer services. Having a digital platform does not necessarily translate to your corporation being a technology company. Not everyone in this top 7 are “Big Tech”.

Not all these seven super platforms, given the lack of consensus on the definition and coverage of digital trade, cannot all be classified as companies under e-commerce. One crucial element of the definition of e-commerce is that the digital good or digital service is delivered digitally. Companies like Amazon and Alibaba offer more physical

goods that they deliver in their physical forms. So, yes, all seven super platforms are defined as digital platforms because of how they are designed and operate. The whole transaction is online, browsing for items, choosing them, purchasing them with a credit card, paypal or other electronic financial means and choosing a mode of delivery. Digital products and services, are delivered to your chosen digital device or gadget. Whereas a physical product delivered is physical, not digital, and therefore, as currently proposed in the debate on rules, is not qualified for the exception of tariffs or other customs duties. Even without crossing borders, depending on a country’s taxation rules, a physical good can be subjected to value added tax or other taxes. Keeping it to cross-border in the discussion of international trade, even if Amazon is making billions, those goods are most likely subject to taxes, and not qualified to be classified as digital trade.

Apple though, is slightly different. It is the company that designs, manufactures and sells the hardware – iPhones, Macbooks, iPads and a whole host of other products – and it designs, controls and sells the software and electronic marketplace that Apple users can then avail from once they have the Apple gadget. It is both a traditional manufacturer of physical technological products but it is also a designer and seller of digital goods and services. It is also a digital platform as it allows developers to pay a fee to join the Apple Store and sell their digital goods and services to the billion Apple users. This combination is the probable reason why Apple is number two in the PriceWaterHouseCoopers list of Top 100 companies for 2020. See Table 3 and 3.1 below.

Table 3: Top 100 Global Companies 1-20

Rank	Company name	Location	Sector	30 June 2020			31 March 2020		31 Dec 2019	
				Rank +/- (VS Mar 2020)	Rank +/- (VS Dec 2019)	Market capitalisation (\$bn)	Rank	Market capitalisation (\$bn)	Rank	Market capitalisation (\$bn)
1	SAUDI ARABIAN OI	Saudi Arabia	Oil & Gas	0	0	1,741	1	1,602	1	1,879
2	APPLE INC	United States	Technology	1	0	1,568	3	1,113	2	1,305
3	MICROSOFT CORP	United States	Technology	-1	0	1,505	2	1,200	3	1,203
4	AMAZON.COM INC	United States	Consumer Services	0	1	1,337	4	971	5	916
5	ALPHABET INC-A	United States	Technology	0	-1	953	5	799	4	923
6	FACEBOOK INC-A	United States	Technology	1	0	629	7	475	6	585
7	TENCENT	Mainland China	Technology	1	2	599	8	469	9	461
8	ALIBABA GRP-ADR	Mainland China	Consumer Services	-2	-1	577	6	522	7	569
9	BERKSHIRE HATH-A	United States	Financials	0	-1	430	9	443	8	554
10	VISA INC-CLASS A	United States	Financials	2	2	372	12	316	12	370
11	JOHNSON&JOHNSON	United States	Health Care	-1	0	366	10	346	11	384
12	WALMART INC	United States	Consumer Services	-1	1	337	11	322	13	337
13	NESTLE SA-REG	Switzerland	Consumer Goods	0	1	328	13	306	14	323
14	ROCHE HLDG-GENUS	Switzerland	Health Care	0	9	300	14	280	23	279
15	MASTERCARD INC-A	United States	Financials	3	2	294	18	243	17	301
16	PROCTER & GAMBLE	United States	Consumer Goods	0	0	291	16	272	16	311
17	JPMORGAN CHASE	United States	Financials	-2	-7	283	15	277	10	437
18	UNITEDHEALTH GRP	United States	Health Care	1	6	275	19	237	24	279
19	TSMC	Taiwan	Technology	1	2	274	20	235	21	287
20	HOME DEPOT INC	United States	Consumer Services	7	9	265	27	201	29	238

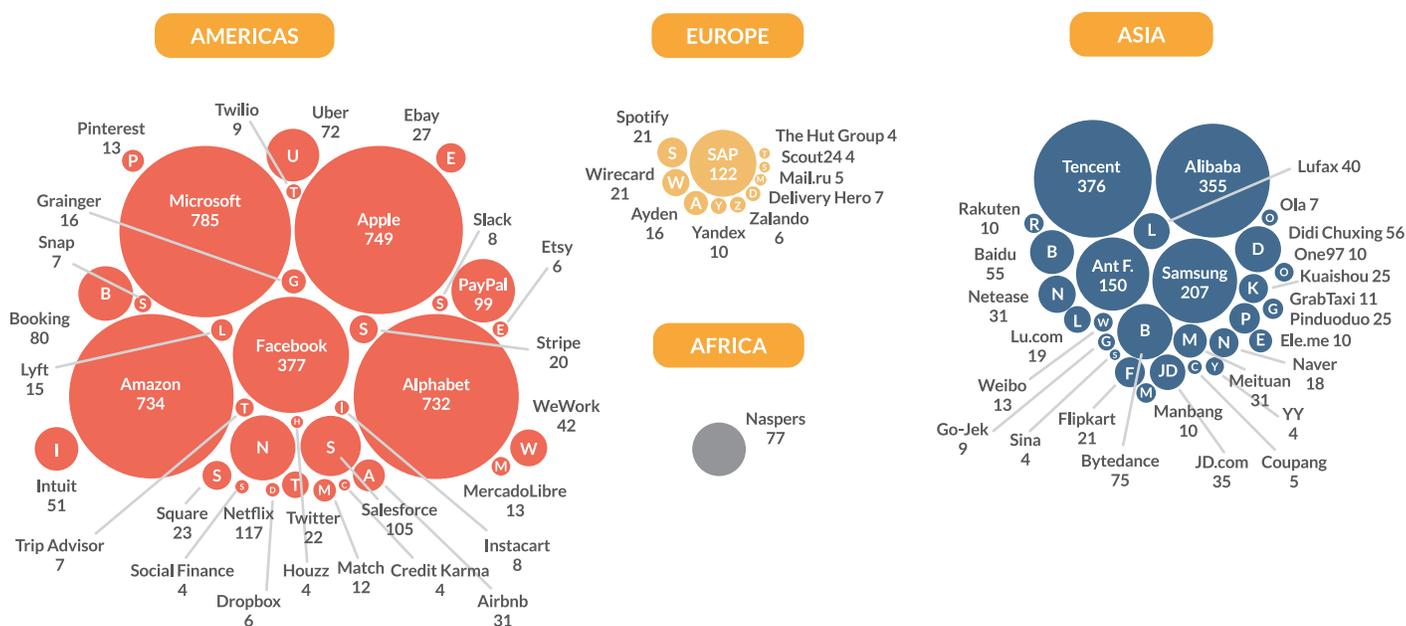
Source: Bloomberg with PwC Analysis. Cited in PricewaterhouseCoopers (2020) “Global Top 100 companies by market capitalization Update to 30 June 2020” PwC (PwC is the brand under which the member firms of PricewaterhouseCoopers International Limited (PwCIL) operate and provide professional services. Together, these firms form the PwC network) (Adaptation by Fundación Solón)

Table 3.1: Top 100 Global Companies 21-40

Rank	Company name	Location	Sector	30 June 2020			31 March 2020		31 Dec 2019	
				Rank +/- (VS Mar 2020)	Rank +/- (VS Dec 2019)	Market capitalisation (\$bn)	Rank	Market capitalisation (\$bn)	Rank	Market capitalisation (\$bn)
21	SAMSUNG ELECTRON	South Korea	Technology	0	-1	260	21	234	20	288
22	KWEICHOW MOUTA-A	Mainland China	Consumer Goods	6	18	260	28	197	40	213
23	INTEL CORP	United States	Technology	-1	3	254	22	231	26	260
24	IND & COMM BK-A	Mainland China	Financials	-7	-5	247	17	256	19	295
25	NVIDIA CORP	United States	Technology	16	38	226	41	161	63	144
26	VERIZON COMMUNIC	United States	Telecommunications	-3	1	226	23	222	27	254
27	LVMH MOET HENNE	France	Consumer Goods	5	4	220	32	188	31	235
28	AT&T INC	United States	Telecommunications	-4	-6	216	24	209	22	285
29	NOVARTIS AG-REG	Switzerland	Health Care	-4	-1	213	25	209	28	240
30	ADOBE INC	United States	Technology	14	22	205	44	153	52	160
31	BANK OF AMERICA	United States	Financials	2	-16	203	33	185	15	317
32	TOYOTA MOTOR	Japan	Consumer Goods	-3	1	203	29	197	33	232
33	PAYPAL HOLDINGS	United States	Industrials	42	45	202	75	112	78	127
34	CCB-H	Mainland China	Financials	-8	4	201	26	205	38	218
35	WALT DISNEY CO	United States	Consumer Services	1	-10	198	36	174	25	261
36	TESLA INC	United States	Consumer Goods	47	-	197	83	96	N/A	75
37	NETFLIX INC	United States	Consumer Services	2	29	195	39	165	66	142
38	CISCO SYSTEMS	United States	Technology	0	4	192	38	167	42	203
39	MERCK & CO	United States	Health Care	-9	-5	191	30	195	34	232
40	COCA-COLA CO/THE	United States	Consumer Goods	-9	-10	187	31	190	30	237

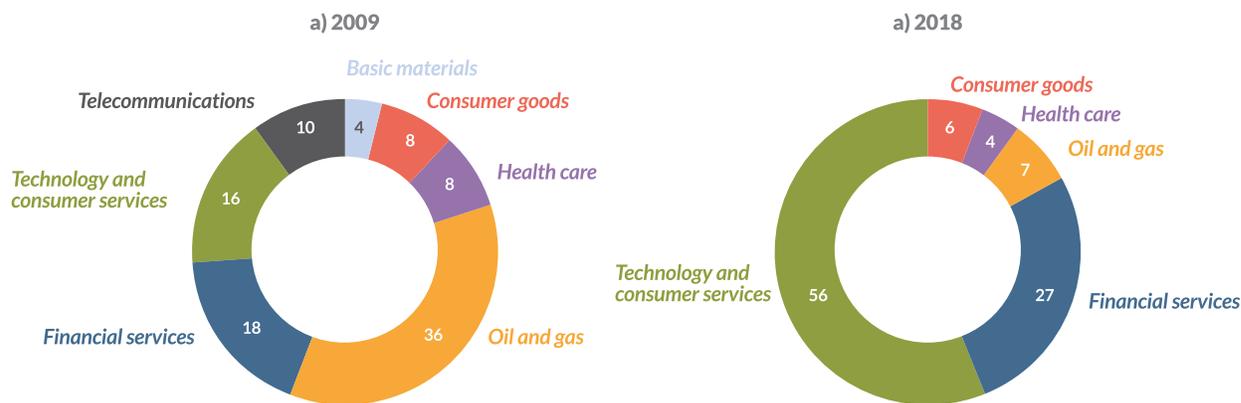
Source: PricewaterhouseCoopers (2020) "Global Top 100 companies by market capitalization Update to 30 June 2020" PwC <https://www.pwc.com/gx/en/audit-services/publications/assets/global-top-100-companies-june-2020-update.pdf> (Adaptation by Fundación Solón)

Figure 4: Geographical distribution of the main global platforms in the world, 2018



Source: Holger Schmidt. Cited in: United Nations (2019) "Digital Economy Report: Value Creation and Capture: Implications for Developing Countries 2019" United Nations Conference on Trade and Development UNCTAD. New York, New York. [https://unctad.org/en/PublicationsLibrary/der2019\\_en.pdf](https://unctad.org/en/PublicationsLibrary/der2019_en.pdf) (Adaptation by Fundación Solón)

Figure 5: World's top 20 companies by market capitalization, by sector, 2008 vs 2018

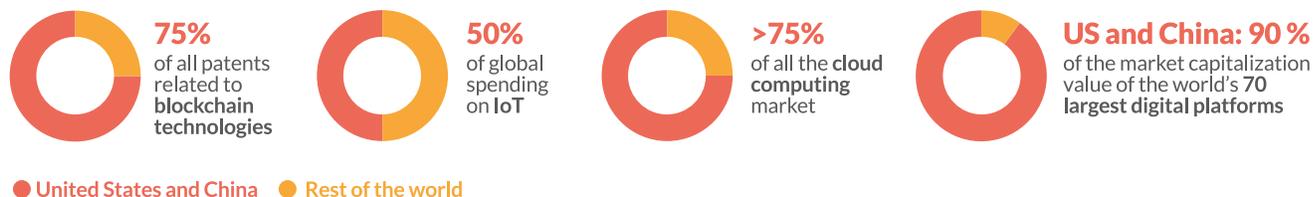


Source: UNCTAD based on PwC 2018b Cited in: United Nations (2019) "Digital Economy Report: Value Creation and Capture: Implications for Developing Countries 2019" United Nations Conference on Trade and Development UNCTAD. New York, New York. [https://unctad.org/en/PublicationsLibrary/der2019\\_en.pdf](https://unctad.org/en/PublicationsLibrary/der2019_en.pdf) (Adaptation by Fundación Solón)

The skewed distribution on the world map emphasizes the digital divide and the urgent need to do more to address this. The pie chart above, visualizes what was earlier discussed that information, communications and technology and consumer services had grown exponentially and had enabled the boom of some of the super platform companies. Digital financial services as the close second while all the rest are still quite far behind.

Figure 6: Digital Economy Concentration

Geography of the digital economy is **highly concentrated in two countries**



**Half of the world remains offline**



**In LDCs only 1 in 5 people are online**

Source: United Nations (2019) "Digital Economy Report: Value Creation and Capture: Implications for Developing Countries 2019" United Nations Conference on Trade and Development UNCTAD. New York, New York. [https://unctad.org/en/PublicationsLibrary/der2019\\_en.pdf](https://unctad.org/en/PublicationsLibrary/der2019_en.pdf) (Adaptation by Fundación Solón)

Whereas, as you can see in this visual above, Figure 6, this distribution of wealth is greatly skewed to those who have the skills, infrastructure and funds. The worst part of these statistics is the fact there are half of the world's population remains offline. How can the Digital Economy be even making plans to move forward without clear international trade rules, let alone, without the half of the world's population. Are they all just going to get left behind as the digital platform economy continues to earn millions of dollars.

# Part 3: The State of Play on the debate on the Rules

As early as 1998, the World Trade Organization (WTO) had issued a Ministerial Declaration on Global Electronic Commerce at the Second WTO Ministerial Conference in Geneva, Switzerland. Simply recognizing that global electronic commerce was growing and that therefore the WTO needed to have a work program to discuss rules that would govern this new form of trade. The most significant impact of this Ministerial Declaration was the agreement to not do anything in the meantime.

Particularly, it stated that WTO Members would not impose custom duties on electronic transmissions, for some countries who were already carrying out this practice, it was a continuation of the status quo. However, for some countries, this was relatively new and did not have rules on exempting custom duties on electronic transmissions. This would be a point of contention in future discussions, which this report will delve into later. This agreement in the Ministerial Declaration to not impose custom duties on electronic transmissions would be, to this day, referred to in trade negotiations and discussions as the Moratorium. The Declaration had given a mandate to form a work program and a Moratorium would apply while consensus was reached on what rules would apply to e-commerce. The WTO work program on e-commerce subsequently adopted in September 25, 1998, stated that the WTO Council for Trade in Services shall examine the rules within

the legal framework of the General Agreement on Trade in Services (GATS) and any aspects relevant to e-commerce in the General Agreement on Tariffs and Trade (GATT). The Council for Trade Related Aspects of Intellectual Property Rights (TRIPS) would also get involved in the work program by reviewing any relevant rules to e-commerce regarding in particular the protection of copyright, trademarks and new technologies among other related rights. The WTO work program also included instructions to study the possible implications of e-commerce on development needs of developing countries. Mandates were given out but the discussions would move slowly, presumably as it took a back seat to other more pressing issues within the WTO and the contentions that would be raised on the different interpretations on the definition of e-commerce in the WTO. In this aspect, agreement on one definition is crucial.

## *GATS and the GATT in simple terms*

The General Agreement on Trade in Services (GATS) is one of the 20 Agreements within the World Trade Organization. There are three basic areas that the WTO covers: Goods, Services, and Intellectual Property. The corresponding agreement to these three areas are the General Agreement on Tariffs and Trade (GATT), the GATS and Trade Related Intellectual Property Rights (TRIPS)

The General Agreement on Tariffs and Trade (GATT)-1994 was the predecessor of the WTO. After several years of global negotiations, an agreement was reached to transform the GATT-1994 into a legal body, the WTO, that would have the mandate to legally enforce and oversee global trade rules. It is also tasked to ensure that trade flows as smoothly, predictably and freely as possible. In addition to the GATT, which covers goods, the GATS and the TRIPS, the WTO had a crucial legal ability, it had the Dispute Settlement Mechanism, which essentially allowed Members to present legal complaints against Members whom they believe is violating one of the rules in the 60 agreements under the auspices of the WTO.

Reiterating what was detailed earlier in the paper as the various definitions, here they are again, keeping in mind that definitions define rules. The definition of e-commerce in the WTO work program is: “electronic commerce is understood to mean the production, distribution, marketing, sale or delivery of goods and services by electronic means. The work programme will also include consideration of issues relating to the development of the infrastructure for electronic commerce.”<sup>14</sup> Breaking down this definition, it is understood that e-commerce under the WTO would involve any or all parts of the global value chain of the end good or service.

This is not a definition universally agreed to, today as other definitions only count the transaction to be e-commerce if the end product or service delivered is digital. The two stark different definitions are those below, which was mentioned earlier in this paper.

- The Organization for Economic Cooperation and Development (OECD) for example, emphasizes this point that it is the end not the supply chain. Furthermore, the OECD includes an important aspect of the process, the digital good or digital service has had to have crossed a border for it to be classified as digital trade.
- For the United Nations Conference on Trade and Development (UNCTAD), it is a broader scope, “defines “e-commerce” as purchases and sales conducted over computer networks. To the UNCTAD, “e-commerce can involve physical goods as well as intangible (digital) products and services that can be delivered digitally.”<sup>15</sup>

More comprehensive lists can be found in the Standard Industrial Trade Classification and the Harmonised System classification. The Harmonised System list was used in the UNCTAD Research Paper No. 29. The study also used bilateral trade data and tariff data from World Integrated Trade Solutions (WITS) database, which is published by World Bank and UNCTAD.

Although definitions are varied, the digital goods and digital services are already being conceptualized, produced and delivered. The general understanding as well is that trade is considered digital if it is enabled digitally, and the good or service is accessed or delivered via the internet or physically. This follows somewhat the definition of the WTO that defines e-commerce as any good or service that had at some point in the global value chain, been enabled digitally. However, the lack of agreement in the WTO, the only multilateral trading system that has the capacity to legally enforce countries to follow trade rules, means that technology corporations are basically operating without globally agreed trade rules. The only rule that is standing is the Moratorium and this has already been adopted by at least 56 WTO Members

in regional free trade agreements, of which, many have included a provision to permanently prohibit custom duties on electronic transmissions. This adoption of the Moratorium in these free trade agreements presents the question of whether this will affect the ongoing debate in the WTO negotiations around e-commerce. This is because the WTO has a rule of Most Favored Nation (MFN) which basically means that all Members are given the same preferential access, say, a lower tariff on a particular good cannot just be given to one or a few Members, as that would be labeled as discrimination by the WTO MFN rule. This can be used as a negotiating tool to say that according to this WTO MFN rule, the permanent Moratorium should then be applied to all the 164 Members of the WTO. Although, some will disagree to this reverse application of the MFN rule as it would be understood that what concessions are given to each other are within the context of the WTO negotiations. These, some consider, would be the basis of a negotiation of a regional or bilateral free trade agreement and additional concessions or provisions given outside the WTO cannot then be brought back to the WTO and applied.

The main debate in the WTO discussions around e-commerce is whether or not the Moratorium should be made permanent or if consensus can be reached on a new set of rules. The Moratorium has been in place since 1998 and was continuously extended every two years at the WTO Ministerial Conferences. However, since the exponential growth of digital trade, debates have intensified within the WTO on the Moratorium and Members have presented proposals on the way forward.

A number of Members decided to create an informal group at the sidelines of the WTO 11th Ministerial Conference held in Buenos Aires last December 2017. It is not clear if the already existing WTO Friends of E-commerce for Development group spearheaded this side initiative and if they invited others. The Members of the Friends of E-commerce for Development group are Argentina, Chile, China, Colombia, Costa Rica, Kazakhstan, Kenya, Mexico, Moldova, Montenegro, Nigeria, Pakistan, Sri Lanka and Uruguay and the MIKTA (Mexico, Indonesia, Korea, Turkey and Australia group) have held several workshops on the theme.

Then, in Davos, Switzerland, last January 2019, WTO negotiations on trade-related aspects of electronic commerce were launched in Davos with the participation of 76 Members, which, at present, grew to 86. These negotiations are supposedly informal and considered plurilateral. However, this is also a more sophisticated way of excluding others with the supposedly philanthropic goal of moving negotiations in order to deliver ways forward especially for small and medium enterprises, developing and least developed countries.

Key developments in the negotiations in the WTO moved when India and South Africa presented a joint proposal presenting arguments against the continuation of the Moratorium. The potential loss of revenue from not being able to charge duties and charges, not being able to use tariffs as a trade policy instrument, and a number of other concerns were all raised. These are standing concerns citing that the Moratorium has basically been a duty-free access to markets. This market access by itself is not the problem, however, if one side has the more advanced technology and digital products and the other side does not, and is in fact, a net importer of these digital goods, the only one gaining in this scenario is the one with the digital products entering duty-free to sell in markets that do not have yet the capacity nor technology to compete.

However, in an apparent response to the joint proposal of India and South Africa, the WTO Friends of Services presented a communication debunking the claims of the joint proposal of India and South Africa. Some key points presented in the communication that was based on a comprehensive study by the OECD:

“While recognizing the importance of this concern, we consider it timely to adopt a more holistic approach, by taking into account other relevant factors and their impact on consumers and on export competitiveness, and placing existing empirical evidence into a wider economic context. With this perspective, we wish to draw Members’ attention to a publication on electronic transmissions and international trade issued in November 2019 by the OECD and entitled “Electronic transmissions and international trade - shedding new light on the moratorium debate” (hereafter referred to as ‘the study’). The study argues that the overall benefits of duty free electronic transmissions outweigh the potential forgone government revenues due to the E-Commerce Moratorium.

The OECD study indicates that lifting the Moratorium would have limited effects on government revenue implications and that it would ultimately come at the

expense of gains that are more significant in consumer welfare and export competitiveness. In this perspective and for further discussion, we would like to encourage Members to consider carefully all the elements contained in that study. When reflecting on revenue implications, we call for Members to consider internal taxes or internal charges in line with WTO commitments which could serve as alternative sources of government revenue. We continue to support open, inclusive and transparent discussions on electronic commerce and on the Moratorium in particular.”<sup>16</sup>

This communication and the study cited caused quite a stir as for example, calculations in potential lost revenue varies wildly depending on factors used by the researchers. However, this message that the Moratorium would supposedly be good for developing countries rather than negative, has heightened the debate. The WTO Friends of Service group is composed of Australia, Canada, Chile, Colombia, Hong Kong, Iceland, South Korea, New Zealand, Norway, Singapore, Switzerland, and Uruguay.

The negotiations on electronic commerce in the WTO continue with three co-convenors managing the work. The co-convenors are Australia, Japan and Singapore. Deadlines have been set for new proposals from participating Members with the aim of presenting a consolidated negotiating text by 2021.

The vast difference in computations on the potential loss of revenue due to the Moratorium is one of the core debates in the negotiations on electronic commerce in the WTO. Various studies done have used different methods but a key difference recognized itself by the study done for the UNCTAD was whether bound or applied tariffs were used in the calculations. Across the studies, the difference is huge, with one end calculating only an estimated 280 million USD and another end at 8 billion USD. The OECD study compiled the following table, see Table 4, to show the differences in calculations between the studies and whether bound or applied tariffs are used in the calculations.

### *What are bound and applied tariffs?*

Tariffs are customs duties levied on merchandise imported into the country. Tariffs are a way to raise revenue for the government and is also a policy tool that governments can use to help give an advantage to local industries that produce the same goods or to lower tariffs in case the economy benefits from the easy entry of particular goods. In the World Trade Organization, countries entered into agreements where they have “bound” their tariffs or set them at agreed rates, usually a ceiling rate that cannot be raised beyond that amount. In practice, however, WTO Members agree to lowering tariffs further to supposedly encourage more trade and those are referred to as “applied” rates. There is usually a big gap between applied and bound rates and as such, calculating using either those rates impact the results greatly.

The debate around the Moratorium or the focus on the argument that developing countries are losing potential revenue from custom duties on electronic transmissions; is indeed crucial as various studies, though with a very wide range, show that there indeed are millions or billions to be lost. However, e-commerce or digital trade, has many aspects, elements, pillars, reach and infrastructure just to name a few, that go beyond the debate of the Moratorium.

There are also various other proposals on taxes that are not limited to the issue of customs duties but are not under the scope of a free trade agreement but rather should be that of a sovereign nation. National taxes should be under the gambit of governments

and can be used as a policy tool to ensure the local economy, local consumers and local industries are looked after and benefit. Existing trade rules within the WTO have core rules such as National Treatment that dictate that governments should give the same treatment to foreign corporations as with domestic ones. However, there are no such existing rules yet on digital trade, particularly goods and services. The customs duties debate is only one aspect of this. There is a much bigger picture that includes the growing digital divide as countries with the technology, capital and infrastructure leave behind those without. There are also the technology companies that are now earning millions and billions of dollars. There is a much larger picture to be seen when discussing digital trade.

Table 4: Summary of empirical literature

Study	Methodology		Average Total Revenue Losses					
			Million USD		% of total customs revenues		% of total government revenues	
			Developed Countries	Developing Countries	Developed Countries	Developing Countries	Developed Countries	Developing Countries
Schuknecht and Pérez-Esteve (1999)	The physical delivery of digitisable goods is totally replaced by electronic delivery and no tariffs are imposed on the latter; weighted average applied rates		233.4	613.5	0.7	0.9	0.01	0.13
Teltscher (2000)	The physical delivery of digitisable goods is totally replaced by electronic delivery and no tariffs are imposed on the latter; weighted average applied rates		264	449.3	1.39	0.7	0.02	0.07
WTO (2016)	Taking the difference between revenues collected on "digitisable goods" in 2014 and 2000; applied rates		117.2	236.8	0.2	0.65	0.01	0.06
Banga (2017)	SMART model – World Integrated Trade Solutions. The sample includes 37 countries and the European Union; bound rates		24.5	255.8	0.2	0.65	0.01	0.06
Banga (2015)	Considering tariffs impossible on imports in the absence of the Moratorium both on digitisable and digitized goods	Actual applied rates	123.8	2,788.50	0.16*	1.58*	0.00*	0.08*
		Average MFN Duties	212.2	3,482.90	0.24*	2.00*	0.00*	0.10*
		Bound rates	212.2	8,043.90	0.24*	4.35*	0.00*	0.23*

Source: Andrenelli, A. and J. Lopez Gonzalez (2019-11-13) "Electronic transmissions and international trade – shedding new light on the moratorium debate" OECD Trade Policy Papers No.233. Paris [https://www.oecd-ilibrary.org/trade/electronic-transmissions-and-international-trade-shedding-new-light-on-the-moratorium-debate\\_57b50a4b-en](https://www.oecd-ilibrary.org/trade/electronic-transmissions-and-international-trade-shedding-new-light-on-the-moratorium-debate_57b50a4b-en) (Adaptation by Fundación Solón)  
 Note: \*Estimates obtained using the World Bank's World Development Indicators (WDI)

There is however, more to discuss on international digital trade rules when it comes to data. Here is an example from Australia on the vast scope that the current Moratorium debate is missing:

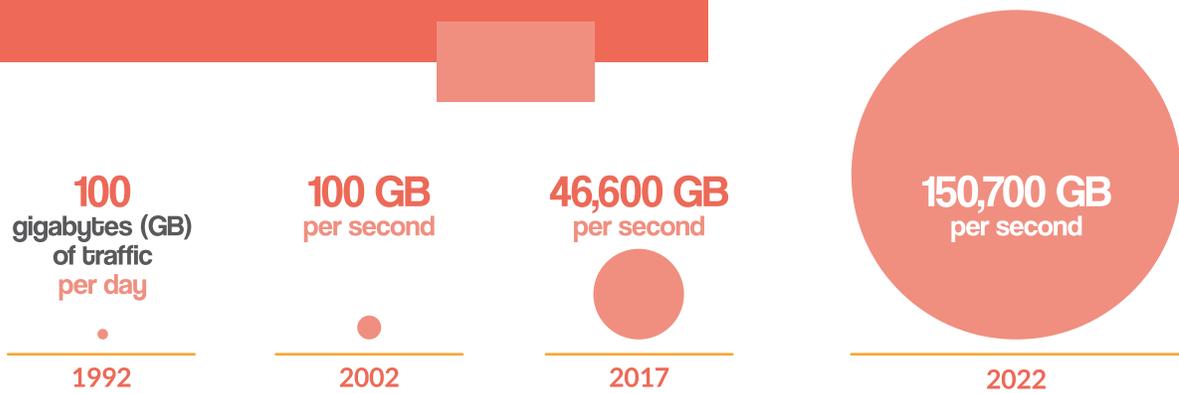
## Australia's digital trade policy positions in trade agreements

This table outlines some of the key provisions Australia pursues in its trade agreements to enable digital trade. These objectives are general, may change in specific negotiations and are negotiated in the context that we are able to accommodate our policy sensitivities, including in regard to health, environment, consumer and privacy protections, and security.

PROVISION	DESCRIPTION
<b>Paperless trading</b>	Countries should provide for online availability of import and export documentation and electronic submission of those documents.
<b>Electronic authentication</b>	Countries should not deny a signature on the basis it is in electronic form, and should adopt a flexible approach to authentication technologies .
<b>Online consumer protection</b>	Countries should provide the same protections for online consumers as they do for any other consumer.
<b>Online protection of personal information</b>	Countries should adopt or maintain a legal framework to protect the personal information of electronic commerce users from unauthorised disclosure.
<b>Unsolicited commercial electronic messages (spam)</b>	Countries should adopt or maintain measures to allow consumers to opt out of receiving unwanted commercial messages (for example email and SMS) from various sources and to provide that businesses only send such messages with the expressed or inferred consent of the consumer with the source of the messages identified.
<b>Customs duties on electronic transmissions</b>	Countries should continue the practice of not applying customs duties to electronic transmissions.
<b>Domestic regulatory frameworks / domestic electronic transaction frameworks</b>	Countries should adopt or maintain legal frameworks consistent with the principles of the UN Commission on International Trade Law (UNCITRAL) Model Law on Electronic Commerce (1996) and the UN Convention on the Use of Electronic Communications in International Contracts (2005).
<b>Localisation of computing facilities</b>	Countries should not require businesses operating in their territory to locate computing facilities (including computer servers and storage devices for processing or storing information for commercial use) within the country's borders.
<b>Cross-border transfer of information by electronic means</b>	Countries should allow cross-border transfers of information by electronic means.
<b>Disclosure of source code</b>	Countries should not require the transfer of or access to mass-market software source code as a condition for the import, distribution, sale or use of software.
<b>Cooperation</b>	Governments should cooperate on areas of mutual interest in digital trade including on cyber security matters.
<b>Elimination of customs duties on technological products</b>	Countries should eliminate customs duties on technological business and consumer products through participation in the Information Technology Agreement, or products covered by that agreement.
<b>Trade facilitation commitments</b>	Countries should continue to implement commitments made in the Trade Facilitation Agreement and endeavour to build on those commitments to ensure the efficient movement of goods across borders.
<b>Commitments on performance requirements</b>	Countries should not require technological transfers as a condition of investing in another country.

# Part 4: The Digital Economy: There is more to it than trade

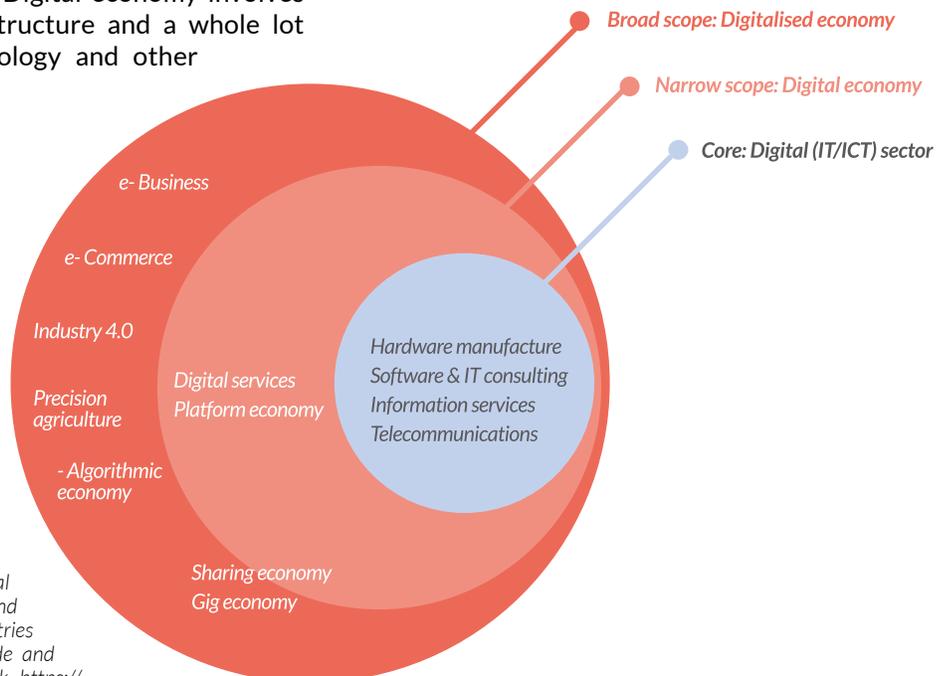
**Global Internet Protocol traffic,** a proxy for data flows, has grown dramatically, but the world is only in the early days of the data-driven economy



Source: United Nations (2019) "Digital Economy Report: Value Creation and Capture: Implications for Developing Countries 2019" United Nations Conference on Trade and Development UNCTAD. New York, New York. [https://unctad.org/en/PublicationsLibrary/der2019\\_en.pdf](https://unctad.org/en/PublicationsLibrary/der2019_en.pdf) (Adaptation by Fundación Solón)

The Digital Economy is a much broader spectrum and digital trade is just a part of it. Digital economy involves new technologies, faster infrastructure and a whole lot more skilled workers in technology and other significant areas.

Just see the figure below:



Source: United Nations (2019) "Digital Economy Report: Value Creation and Capture: Implications for Developing Countries 2019" United Nations Conference on Trade and Development UNCTAD. New York, New York. [https://unctad.org/en/PublicationsLibrary/der2019\\_en.pdf](https://unctad.org/en/PublicationsLibrary/der2019_en.pdf) (Adaptation by Fundación Solón)

## Digital Technologies that are already here or coming real soon



### 1. Blockchain technologies

Blockchain technologies are a form of distributed ledger technologies that allow multiple parties to engage in secure, trusted transactions without any intermediary. It is best known as the technology behind cryptocurrencies, but it is also of relevance for many other domains of importance to developing countries. These include digital identification, property rights and aid disbursement.



### 2. Three-dimensional printing

Three-dimensional (3D) printing, also known as additive manufacturing. But 3-D printing remains to be too expensive to actually replace traditional manufacturing.

It could be useful for specialized items such as hearing aids or prosthetics but not massive manufacturing such as cars and houses. The estimates of some that 3-D printing would replace a substantial amount of traditional manufacturing and therefore, traditional manufacturing jobs, is too far-fetched.



### 3. Internet of things

Internet of things (IoT) refers to the growing array of Internet-connected devices such as sensors, meters, radio frequency identification (RFID) chips and other gadgets that are embedded in various everyday objects enabling them to send and receive various kinds of data. It has wide applications, including in energy meters, for RFID tagging of goods for manufacturing, livestock and logistics, for monitoring soil and weather conditions in agriculture, and for wearables.



### 4. 5G Mobile Broadband

Fifth generation (5G) wireless technology is expected to be critical for IoT due to its greater ability to handle massive volumes of data. 5G networks can process around 1,000 times more data than today's systems (Afolabi et al., 2018). In particular, it offers the possibility to connect many more devices (e.g. sensors and smart devices). Some companies have already launched this.

Again, though, as things go faster where there already is internet and connectivity, what about the places in the world that do NOT even have access to the internet? Half of the world's population are still offline and if anything is to advance there, investments need to be made to install infrastructure, cables, wires, computers, smart phones and more importantly, sharing of knowledge to the population. Empowering the population with the access and the know-how.



### 5. Cloud Computing

Cloud computing is enabled by higher Internet speeds, which have drastically reduced latency between users and far away data centres. Data storage costs have also plummeted. The cloud is transforming business models, as it reduces the need for in-house IT expertise, offers flexibility for scaling, and consistent applications rollout and maintenance (UNCTAD, 2013). Some free cloud services provide of ce-like application tools that are useful for micro, small and medium-sized enterprises (MSMEs). This is particularly useful for countries where the cost of licensed software can be an obstacle to creating applications and providing services. However, in many developing countries, high costs of additional international bandwidth to access overseas servers and data centers still limit the uptake of cloud services.



## 6. Automation and Robotics

*Automation and robotics technology are increasingly used in manufacturing, which could have significant impacts on employment. There are concerns that such technologies may constrain the scope for developing countries to adopt export-led manufacturing as a path to industrialization (UNCTAD, 2017c), and that the more developed economies may increasingly use robots to “reshore” manufacturing jobs. According to the International Federation of Robotics (2018), global sales of industrial robots doubled between 2013 and 2017. The top ve markets (China, followed by Japan, the Republic of Korea, the United States and Germany) represented 73 per cent of the total sales volume of robots in 2017. Robots are mainly used in the automotive, electrical/electronics and metal industries.*

This development poses the greatest threat to employment. As corporations continue to find tasks that can be given to robots, human employees are then deemed redundant and or fired. Robots after all, cannot form unions and demand decent work and living wages.



## 7. Artificial intelligence and data analytics

*Developments in AI, including machine learning, are enabled by the large amounts of digital data that can be analyzed to generate insights and predict behavior using algorithms, as well as by advanced computer processing power. AI is already in use in areas such as voice recognition and commercial products (such as IBM’s Watson). It has been estimated that this general-purpose technology has the potential to generate additional global economic output of around \$13 trillion by 2030, contributing an additional 1.2 per cent to annual GDP growth (ITU, 2018b). At the same time, it may widen the technology gap between those that have and those that do not have the capabilities to take advantage of this technology. China and the United States are set to reap the largest economic gains from AI, while Africa and Latin America are likely to see the lowest gains.*

This is probably not the paper to delve into this deeper but the dangers of Artificial Intelligence lay not in the replacement of human employees or analysts, but rather the risks of AI being used for security purposes. If a music application can follow and listen to every single song you listen to, how easy would it be for an AI security program to follow your every move online, data analyze and conclude you are a security threat, terrorist or danger to society. This could be helpful in finding nefarious hackers or thieves or serial killers, however, does an AI really have the human capacity to make the difference between a real threat to a child playing war games. Worse, it could also be used to monitor activists or what government would label dissidents. Will there be more freedom lost in the name of efficiency and security?

**Note:** comments not in italics were made by author. Text in italics are definitions listed by the UNCTAD.

Source: United Nations (2019) “Digital Economy Report: Value Creation and Capture: Implications for Developing Countries 2019” United Nations Conference on Trade and Development UNCTAD. New York, New York. [https://unctad.org/en/PublicationsLibrary/der2019\\_en.pdf](https://unctad.org/en/PublicationsLibrary/der2019_en.pdf) (Adaptation by Fundación Solón)

Digital trade is the tip of the iceberg of Digital Economy. And although this paper has just focused on digital trade and has given an understanding on how significant a potential agreed definition and scope of digital trade would be, as it would determine the global trade rules that will govern digital trade. Potentially unfair global trade rules on digital trade may deepen the already very wide digital gap between the haves and have nots. The exponential growth as well of super platforms, technology corporations and the digital services sector may further leave behind small enterprises and economies.

The arrival as well of upcoming technology should be looked into deeper to see both the possible benefits but also the negative consequences.

Already, there is fear of loss of jobs, loss of privacy, the use of new technology to track people, and so much more. However, there are also examples of new technology that had not taken off as quickly as was predicted such as 3-D printing. It was predicted to replace manufacturing at some point, however, because of the cost and other factors, it has remained a specialized additive manufacturing used in small operations such as printing hearing aids, prosthetics and others. There is a plethora of debates on the development of Artificial Intelligence as this has the potential to be designed to generate insights and predict behavior using algorithms, to identify supposed security threats, in some places, that includes activists or staunch critics of their governments.

Digital Trade is not new, in fact, it has been around since the nineties. Digital trade, to use the narrowest definition of e-commerce, is the sale and purchase of goods and services via the internet of which they are delivered digitally. Many argue that even if the whole process happened online, if the end product is a physical good, then it is not digital trade.

E-commerce officially came into the radar of multilateral trade negotiations in 1998 and to this day, the WTO still has not been able to achieve consensus amongst its members on the global trade rules that would govern digital trade or e-commerce. The root of this inability to reach agreement is that there is not even consensus on the definition and scope of e-commerce. Definitions are crucial because they form the basis of the rules. In this paper, the estimates and proposed coverage are far and wide with a middle ground hard to see. Other countries have moved ahead with their own regional trade agreements, making the Moratorium permanent in their deals. The temporary solution of the WTO Moratorium to not impose tariffs on e-commerce while the debate goes on, has allowed e-commerce to operate without a set of agreed rules on a multilateral level. All this while digital trade grows with technology and services corporations building super platforms, earning them top spots in the top 100 corporations in the world.

The millions of dollars being made in this sector is in stark contrast to the 50 percent of the global population that do not even have access to the internet, let alone digital trade. There is a deepening digital divide that needs to be addressed, not for trade, but first and foremost for access to services such as education, health, and so on, and many other ways that access to connection to support can benefit that 50 percent.

Digital trade is a crucial part of the growing Digital Economy and so it is key to understand it, follow its developments and enable and improve the capacity

of people to voice their support or opposition to proposals on global trade rules that will cover digital trade. Furthermore, given its track record of free trade rules favoring the big over the small, should it even be the WTO that is given the right to make and implement the rules that govern digital trade globally?

Digital trade is growing, particularly in information, communication and technology and other services that can be delivered digitally. Digital goods have grown too but there is a physical limit to this as many physical goods, like food for example, cannot be digitalized. The presence and convenience though of digital trade such as in various services from access to transportation to accommodation to financial services to accessing applications from your smartphone, makes it feel that digital trade and the digital economy for that matter, is hurtling towards a digital future. While it is true that technological advancements have made digital access fast and easy, it is quite premature to foresee a digital future. Even if several places have infrastructure and the technology, many more do not. There is a need for capital, investment, infrastructure, capacity building, knowledge sharing, technology transfer, a population with improved access to basic needs such as food, water, shelter, healthcare, and much more important necessities, way before access to the technology and internet.

As the other aspects of the digital economy develop further such as artificial intelligence, automation and robotics, there is a critical need for monitoring and ensuring that these are not used against people, nor to exploit them, that there be a just transition to other employment for those who will lose their jobs and that most importantly, that digital trade not only profits the super platforms and corporations in technology, services, information and communication. Digital trade is growing and so is the bigger umbrella of digital economy, but it is most crucial that this growth does not just further enrich the already rich.

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# half the world remains offline



The millions of dollars being made in this sector is in stark contrast to the 50 percent of the global population that do not even have access to the internet, let alone digital trade. The deepening digital divide that needs to be addressed, brings into stark focus the inequalities in the world. A digital or any future for that matter, that does not address the inequalities, poverty and divide, will only lead to even more vulnerable people being left behind.