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국제학석사학위논문

**Analyzing the Impact of EU General Data
Protection Regulation on SMEs**

유럽연합 (EU) 일반데이터보호규칙(GDPR)이

중소기업에 미치는 영향 분석

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서울대학교 국제대학원

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Analyzing the Impact of EU General Data Protection Regulation on SMEs

Abstract

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In the world where technology is taking over every aspect of a daily life governments struggle to keep up with the changes to claim all the benefits, the internet can bring. The paper will be looking into the digital aspects of the trade environment, existing barriers and the impact it has on SMEs. The focus will be placed on EU policies and its agenda 2020, particularly The General Data Protection Regulation (GDPR), which is said to be a “revolutionary” achievement in human rights protection, security and managing e-commerce.

In order to regulate data flows EU has gone beyond its borders and restricts transfers of data outside the EU member states. Only 12 countries in the world were identified to be meeting the EU data protection standards.

The paper tries to break down the positive and negative impact of new regulations and answer the question if the EU policymakers’ attempt to regulate digital trade

with the help of data localization methods can be an efficient to create a healthy and safe digital trade environment.

The paper will not be looking into the case of large enterprises, as apart from rear cases such enterprises find it easier to overcome barriers in trade, due to the larger scale of financial and other advantages they hold. Large business organizations face fewer problems in the digital trade as they already have a comparative advantage, especially companies based in developed regions. At the end of the paper, we will attempt to pay attention to one particular retail industry, which remains to be the backbone of the European SMEs, with over 800,000 representatives.

Keywords: digital trade; e-commerce; data localization; processing data; GDPR.

초록

기술이 일상생활의 모든 측면을 장악하고 있는 세계에서 정부는 모든 혜택을 주장하기 위한 변화를 따라잡기 위해 고군분투하고 있다. 그 신문은 무역 환경의 디지털 측면, 기존의 장벽, 그리고 그것이 중소기업에 미치는 영향에 대해 조사할 것이다. EU 정책과 그 의제인 2020, 특히 GDPR 은 인권 보호, 보안 및 전자상거래 관리에 있어 "혁명적" 성과로 알려져 있다.

데이터 흐름을 규제하기 위해 EU 는 국경을 넘어 유럽연합 회원국 외부의 데이터 전송을 제한했다. 전 세계 12 개국만이 EU 데이터 보호 표준을 준수하는 것으로 확인되었다.

이 논문은 새로운 규정의 긍정적인 영향과 부정적인 영향을 분석하고 유럽연합 정책 입안자들의 데이터 지역화 방법의 도움으로 디지털 무역을 규제하려는 시도가 건전하고 안전한 디지털 무역 환경을 조성하는 데 효과적일 수 있는지에 대한 질문에 답하고자 한다.

논문은 대기업의 경우를 조사하지 않을 것이다. 후발적인 경우를 제외하고, 그러한 기업들은 더 큰 규모의 금융 및 다른 장점 때문에 무역 장벽을 극복하는 것이 더 쉽다고 생각하기 때문이다. 대기업들은 이미 비교우위가 있기 때문에 디지털 무역에서 더 적은 문제에 직면할 것이다. 특히 선진국에 기반을 둔 회사들이다. 이 논문의 말미에, 우리는 유럽 중소기업의 중추적인 역할을 하는 한 특정한 소매 산업에 주의를 기울이려고 노력할 것이다. 80 만 명 이상의 대표자들이 있다.

Abbreviations and explanations

WTO

EU

OECD

UPU

UNCTAD

ECIPE

GDPR

GVC

SME

UEAPME

ICC

ICT

e-commerce the production, distribution, marketing, sale or
delivery of goods and services by electronic means
(WTO)

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Introduction

1. Digitalization of trade: What does it mean?

The growth of artificial intelligence appliance in every aspect of daily life has had a tremendous impact on trade as well. Digital tools have changed the whole relationship between the main actors in trade: consumer, manufacturer, and government. With estimated 5 billion people to have access to the internet by 2020 (International Telecommunications Union (2013), no wonder cyber tools are transforming the communication means.

Digitalization can be found at any stage of production and trade, starting from the very beginning of the manufacturing process to the final good to be delivered to a customer. Being a new phenomenon and still in an infant stage, digitalization level in trade is questioned by many, particularly relying on the fact that major means of reaching a customer still remains to be a physical delivery of goods.

While trade is not fully digitalized yet, data flows across the border has reached tremendous levels. Commonly used term “e-commerce” is mostly used to identify the process of selling and purchasing not only electronic goods, such as movies or music, but also physical goods, as well as services online. However, it has to be noted that with the increased globalization, importers and exporters are switching to digital technologies, which goes far beyond e-commerce.

Lack of empirical studies or a strict definition of digital trade can cause uncertainty and confusion in many. Even WTO and OECD do not share one common understanding of digital trade, or e-commerce.

WTO in its paper on *Work Programme on Electronic Commerce*, adopted by the General Council on 25 September 1998 gives a broader definition to electronic commerce (e-commerce) and says “the term "electronic commerce" is understood to mean the production, distribution, marketing, sale or delivery of goods and services by electronic means.”¹ In its Guide to *Measuring the Information Society* (2011) OECD defines e-commerce as a “sale or purchase of goods or services, conducted over computer networks by methods specifically designed for the purpose of receiving or placing orders.”² On the other hand, U.S International Trade Commission defines digital trade as “international trade in which the internet and internet-based technologies play a particularly significant role in ordering, producing, or delivering products and services.”

Leading international organizations have been coming together in recent years to develop one coherent definition and framework of what we refer to as "digital trade". The conceptual framework is tremendously large and measuring cross-border transactions in e-commerce is a commonly recognized important aspect of

¹ WT/L/274, (30 September 1998), par. 1.3

² Javier López González, Marie-Agnes Jouanjean, *Digital Trade Developing a Framework for Analysis* (OECD trade policy paper OECD 2017), 12.

digital trade. Organizations such as OECD, WTO, UPU, and UNCTAD launched a new project in 2016 to measure these transactions.³

One must keep in mind that no matter how digital trade is defined by international organizations internet and digital platforms remain to be the main elements of every single definition.

E-commerce, digital trade, and the digital economy, all these terms are often used to refer to the process of digitalization in manufacturing and import-export. However, the absence of one single legal framework that would regulate the process of digitally modernizing trade makes it difficult to agree on one term or on the scope of it. Paper does not seek to identify one common term for the new era in trade, however, we at least need to define its scope for the sake of further research. For this reason, the following sub-chapters will discuss how or it digitalization has changed *how, why and who* in trade, as well as what are the 3 main ways it used to change how we trade.

2. Why is it so important? (3 ways how digitalization changes trade)

At one glance it is clear, internet and advanced technology make life easier. Trade is far not an exception. To put it in easy words internets enables bigger data to be

³ *Measuring Digital Trade: Towards a Conceptual Framework*. (Working Party on International Trade in Goods and Trade in Services 2017), 2-3.

moved across borders faster and easier, increasing trade volume. In other words, individuals can have easier access to goods and services, as well as for enterprises to participate in a supply chain is a less complicated process.

But this, of course, is a tip of the iceberg. As mentioned in the previous chapter definition of digital trade is very broad and lack of preciseness and comprehensive measurement framework sets a number of challenges to be overcome. This chapter focuses on the positive impact technology has on trade.

Internet is just another tool for consumers and business to connect, making the process time and resource saving and it seems that a variety of goods and services has no limits, anything is accessible, starting from electronic and physical goods, to wide range of services that can be provided online and even finance, from online microloans to crowd funding.

The Internet makes the distance shorter, information easily accessible and trade costs lower. Particularly small and medium enterprises (SMEs) and developing countries have been highly benefiting their business using the internet. SMEs have easier access to advanced technology, products, services, even labour force as well as distant markets.

Advanced technologies may have less impact on why we trade, but it definitely changed how we trade today. While the first group of impact is definitely communication goods, digital goods, and online services, there is far more to look

into. Not everything has to be physical nowadays. Goods and services can be pretty digital, such as books, online education, and even labour force can be digitized (freelancing), transforming a physical worker into a virtual workforce.

Based on the analyses of big data flows Mckinsey Global Institute suggested three ways how technologies are transforming trade: Creating purely digital goods; using “digital wrappers” and digital platforms.⁴ The paper will follow the mentioned pattern and discuss each one in more details below, to identify incentives and challenges advanced technologies can bring along.

2.1. Trade in digital goods and services

Digital good can be anything that is obtained using exclusively by information technology and the process does not involve an exchange of physical goods. It can be anything starting from information, to art. Even architecture has become 100 % digital. A consumer just needs to go online to buy a house or office building plan. One click to choose the desired item, and a few more clicks to make it his property and done. Trade in digital goods is time, resource and money saving. A number of digital goods are being used to create this paper, including digital goods, statistical information, and computer software and all obtained solely from the internet. Here we are discussing not only purely digital but digitally enable goods and services together.

⁴ Susan Lund and James Manyika, *How Digital Trade is Transforming Globalisation, The scope, and dynamism of digital trade* (2016)

The list of digital goods and services is tremendously long and includes information, education, media, photography, computer software, games, consulting and payment services, as well as goods that are completely virtual and can be obtained, sold or gifted in a virtual world, such as games or other type of virtual community.

While data localization makes it hard to calculate trade flows some estimations can be still made. EU and the USA are topping the list of countries with the highest percentage in import-export of digitally deliverable services. About 45 % of the US digitally deliverable services end up in the EU market and on the other hand, 46% of US imports are from the EU.⁵

The idea of digitizing goods is of tremendous importance not only because of its impact on trade costs but in many cases, it makes certain goods and services that were untradeable before, tradable with the help of technology. Once goods that were only available in a physical tradable can be purely electronic now. Sales of goods such as books that once were only available in a printed version, or music-available as a CD or recording is still soaring and no indications that it will decrease in the future. (Figure 1. illustrates the growth in physical goods that can be digitized)

⁵ Kati Suominen, *Where the Money Is: The Transatlantic Digital Market* (Center for Strategic and International Studies, 2017) sourced from <https://www.csis.org/blogs/future-digital-trade-policy-and-role-us-and-uk/where-money-transatlantic-digital-market> (accessed on April 15th, 2018)

Sales of software have had some serious decline in recent years, however, games, sound media, and printed materials have been maintaining the status of a multi-billion business. Monster platforms like Amazon now allow not only companies but individuals as well to sell digital content on the internet. Going beyond electronic books, music, and movies, Amazon now offers apps, games, software and etc. sold by individuals as well.

Complicated and uncoordinated law on digital content across the world is one of the reasons to digital goods being mostly sold in the country of production, however, no doubt more and more electronic content is flowing across the borders, increasing the available diversity of goods and services even more broad for international consumers.

2.2. “Digital wrappers” - moving physical goods around the globe

If we put all the difficult terms aside digital wrapper (DW) is an online wrapping format, making possible all types of transitions, including moving physical goods to any part of the world. A digital client signal that can be transmitted to an optical channel anywhere, hence companies can use the DW to not only collect information on goods and services, also make it easier, faster to physically transport goods through the global value chain using the installed sensors at lower costs.

Radio-frequency identification (RFID) technology is used in wrappers as a way of following the flow of the goods through GVC. The RFDI enables trackers to uniquely identify goods, decreasing the number of lost good in transportation.

2.3.Digital platforms

Multiple digital platforms change not the volume of trade, but the whole nature of international trade starting from the subjects. While large-scale trade was usually possible to be carried out by large companies, platforms allow small and medium companies to trade big, as the digital nature of the online tools increases efficiency, speed and decreases time and expenditure required for large flows of goods around the globe. Mega platforms such as Amazon and eBay are a clear example of how SMEs can increase trade volume using online platforms.

McKinsey & Company researchers estimated that over 90% of sellers (except for Australia) export to foreign countries and the same indicator is very low for the companies to trade traditional ways not online. The reach was based on eBay annual reports. (Figure 2.)

Digital platforms are a marketplace for business to consumer, business to business and for, peer to peer trade. The nature of such platforms is not limited to online giants like Amazon and Alibaba of course, it can be anything from online shops to libraries, any online source that allows sourcing goods, services, and information through the internet.

The economic cost of digital trade and data localization

1. Digital Trade

Low input leading to higher output it is all it takes to have a successful business, sounds simple but it harder in the real world out there. Digitalization has come as a huge advantage to the companies that managed to utilize it at least at a certain extent. The low marginal cost of a digital trade is what it makes it so important, shrinking distance and time between a consumer and product or service, between an intermediate good to final good and etc. Most of the states still are at an infant stage in digital trade looking into the best ways of how digitalization can enable trade and increase turnout.

Digitalization has been slowly but steadily changing the whole nature of manufacturing and trade, most importantly advanced technologies are making the advantage of low production cost less important. This claim might be challenging for the time being as production cost still matters and for the developing world it is one effective way to involve in the global value chain (later GVC). Then how would one support the common idea of seeing the digitization the most helpful for the developing economies? The developing world can shift its focus from low-cost manufacturing to manufacturing in a smarter way with the help of the high technology. Thus, this is a plan for a future, as for now more developed the economy more benefits it can have from the digital trade, the reason is simple, these

economies can afford to go digital. While most of the opportunity in digital trade is hidden in the developing world, nearly 2/3 of the population there still does not have access to the internet. ⁶

Digitalization cuts first of all transportation costs, as well as costs for starting a business. It increases the speed of trade and lowers barriers, while increasing consumers' choice in goods and services, hence increasing competition.

The downside of the digitalization is the security concerns. In a greedy world when compromise is not favored finding a golden middle is a must. Data localization is one trusted way of protecting, personal information, intellectual right, state security and many more.

Cross-border flow is a base for it all, new job creation, investment, exchange of information, basically, it is turning into a key to economic success and many products and services depend on data exchange. On the other hand, if access to data is not secured and a consumer does not feel safe to surf online there is no consumption, hence no trade. Being an advantage and disadvantage at the same time data localization if being elaborated through an inefficient strategy may be a double-edged sword for business, consumer and state as well.

⁶ Jeff Horowitz, *U.S. International Trade Commission's Digital Trade Roundtable: Discussion Summary* (Journal of International Commerce & Economics, 2015)

2. *Data Localization*

How about the costs of data protection or effectiveness? According to the European Center for International Political Economy (ECIPE), the negative impact of not coordinated data localization policy between the states is great enough to be concerned. While many states may use a unilateral data localization as a trade barrier to keep market safe, the policymakers should ask a question if their plan is actually beneficial for their economy.

While many organizations have tried various methods to quantify the impact of data localization on markets, due to the distortion in data or small scale of a group of examination it is hard to agree on numbers, however, most of the results show a negative impact on the economies.

According to simulations carried out by ECIPE an economy-wide data localization would cause -1.1% loss in GDP in the EU and Korea, while the number would be 0.8% for India.⁷

Just similar to politics, data localization strategy groups vary in their approach, from liberals to more conservative and closed types of regulators. While US may be perceived as more of a liberal type of actor preaching more online openness EU takes its usual approach putting security forward to the extent when its consumers

⁷ Matthias Bauer, Hosuk Lee-Makiyama, Erik van der Marel, Bert Vershelde, *The Costs of Data Localisation: Friendly Fire on Economic Recovery*, (ECIPE occasional paper, 2014), 2.

still have a lot of freedom in online trade. Without one common pool of international regulations in e-commerce, different actors have more freedom in their strategy.

According to the US International Trade Commission just in 2012 digitally intensive firms sold \$935.2 billion in products and services and purchased \$471.4 billion in products and services over the Internet. SMEs sales totaled \$227.1 billion, which makes around one-fourth of the total sales. While purchases were \$162.2 billion, one-third of the total sales.⁸

Security and protection of personal information vs. restricted trade and costs is the major issue to be solved. In this paragraph, we will try to create a brief idea of how much it actually costs to the economy to restrict data flows. Estimates are not steady and completely trustworthy as many countries are still in a working process on data regulations and the international world still cannot offer one common legal framework on data flows or other regulations on digital trade, so it takes tremendous work to put statistics to work. However, case by case examination can give at least an estimated idea of how expensive it is to protect and monitor cross-border data flows. Many studies suggest that the negative impact of data localization is big enough not to be neglected.

Costs caused by the data localization vary in its nature and subject, apart from the state expenditure spent on implementing regulations, restricted data flow has a

⁸ United States International Trade Commission, *Digital Trade in the U.S. and Global Economies, Part 2*. (2014) 14.

direct impact on consumer's accessibility to goods and services and company operational expenses. Companies have to overspend on accessing even local data as well as local and international value chains. SMEs are the most vulnerable to internet regulations as they usually do not have enough resources to withstand changes in regulations.

According to the ECIPE data localization has a direct impact on welfare, investment, GDP and many more. “Welfare losses (expressed as actual economic losses by the citizens) amount to up to \$63 bn for China and \$193 bn for the EU. For India, the loss per worker is equivalent to 11% of the average month salary, and almost 13 percent in China and around 20% in Korea and Brazil,”⁹ stated the 2014 report, after looking into few simulation scenarios in the case governments would start massively implementing data localization rules.

On the other hand data, localization increases cost on a firm level as well, increasing the cost of data hosting. Data centers located within the EU are at least 50% more expensive than anywhere in the world.¹⁰ Data flow regulations disrupt and cause fragmentation of the internet within the borders, hence decreasing the efficiency and increasing the cost of hosting.

⁹ Matthias Bauer, Hosuk Lee-Makiyama, Erik van der Marel, Bert Verschelde, *The Costs of Data Localisation: Friendly Fire on Economic Recovery*, (ECIPE occasional paper, 2014) 2.

¹⁰ *Quantifying the Cost of Forced Localization* (Leviathan Security Group, 2015), 10.

SMEs in a virtual world

1. Stumbling upon the localized data barrier

Hosting its first roundtable on digital trade U.S. International Trade Commission reported that many of the companies had complained about various barriers they have to face on business or governmental level when trying to penetrate foreign markets. All barriers have legitimate rationales intellectual property rights, national security and etc. Most of the US-based enterprises put data localization measures, together with intellectual property protection measures as well as shortcomings in infrastructure as the main barriers to digital trade. Data localization was particularly emphasized for its lack of efficiency and failure to meet the rationale behind it.¹¹ Participants of the roundtable stressed the burden SMEs feel in emerging economies when they are requested to store data locally rather than taking it to the data servers located in a foreign country and offering its service at a lower cost. Also, the benefit of data localization regulations to state security or protection of personal information was questioned.

OECD in its recent study on Digital Trade and Market Openness ranked information openness as the major problem, followed immediately by trade facilitation.¹² SMEs and particularly micro enterprises find restriction of

¹¹ Jeff Horowitz, *U.S. International Trade Commission's Digital Trade Roundtable: Discussion Summary*, (Journal of International Commerce and Economics. Published electronically 2015) 3.

¹² OECD drove results based on responses from 62 firms (33 micros, 14 large and 15 SME)

information flow and financial transactions and one of the biggest barriers for them to penetrate new markets or operate locally.

Costs related to setting up online payment systems which itself is linked to protection of personal data and restrictions on financial transactions is another issues for SMEs, causing quite a large number of such companies still relying on cash-on-delivery payment method. Which is not a problem for large e-commerce companies with subsequent resources. Restrictions on data exchange have been on a rise so is the gains from lifting these restrictions.

Companies find themselves quite confused in the digital world of trade. There are few reasons to it, low is still in an infant stage, technology rush is huge, together with increased competition, traditional business models may require to be refreshed. Therefore, most of the companies simply are not ready for the big changes either financially, technologically or both, or simply do not wish to change the traditional face of the business, as digitalization is often seen as a threat to employment, rather than an opportunity.

The situation is more complicated in small and medium companies, as most of them do not possess enough resources to catch up with the digital revolution. In addition data localization makes access to the internet more expensive. Especially in places with more regulations accessing servers and storing information there is becoming more and more expensive for the companies. In the attempt to cope with the new

reality, many companies have tried to alter their strategy, which once again proves to be efficient in the case of larger enterprises, which are in possession of enough capital and infrastructure.

2. Breaking down digitalization in the case of SMEs

Digitalization is an ongoing process in every aspect of the trade, from a movement of physical goods to financial transactions. Hence, technology opens as well as closes many doors for the SMEs. Governments tend to be particularly sensitive with regards personal information, and financial details, locking such information within the borders makes trade more difficult as well as pricey. SMEs use the internet to internationalize easily but they find that the environment has become highly competitive and more dominated by large enterprises using the same internet technologies.

While technology is helping SMEs to develop quicker, meanwhile it is helping already developed large enterprises to capture larger shares of the market. The situation is the same as the states. Digitalization has always been seen as a key to economic breakthrough for the developing world, however, developed countries claim more and more benefits from the digital economy. According to UNTCAD 2017 report China, USA and UK have owned at least 70% of 1.6 trillion worth of e-commerce market by 2017.¹³

¹³ UNTCAD *Rising Product Digitalisation and Losing Trade Competitiveness*, (2017), 18.

The forecast is mostly positive, reports issued by ICC, World Bank and OECD mostly focus on benefits of digital trade, while none of the organizations neglects accompanying difficulties for SMEs, efficient solutions are far from being offered or tested in the real world.

The larger scope of trade and easier access is one of the first benefits of doing trade through the internet. Facilitated access to information, easier and faster financial transactions, electronic systems used in warehouses, logistics make trade faster and cheaper. Starting with the manufacturing to final delivery of goods, digital way of trade proved to be way more efficient compared to traditional methods. E-commerce giants such as Amazon, Alibaba, eBay enable SMEs to become international and expand their market to global sizes pretty instantly. Cross-border trade in services is still way larger in volume than cross-border trade in goods but it is growing.

Analyzing eBay trade the benefits of online trade compared to offline trade is obvious (Lendle, 2012). Apart from increasing cost efficiency, the internet makes it possible to disregard the distance factor. eBay experience shows that entry cost, cost to become an exporter, destination-specific entry costs are lower in e-commerce than in offline trade. As well cost to establish a buyer-seller relationship is lower online and independent of distance, while in traditional offline trade costs increase with a distance between the buyer and seller.¹⁴

¹⁴ Andreas Lendle, *An Anatomy of Online Trade: Evidence from eBay Exporters* (2013), 7.

Most of the companies may be struggling to reach economies of scale and costs may remain to be a burden but SMEs are proving to be a large power of a small size. In other words, the efficient exploitation of technology makes the size of the enterprise as well as distance insignificant.

Digital trade can carry more challenges to SMEs than benefits, because of a lack of information or in the case of sufficient information existing, lack of access to it. UEAPME¹⁵ an organisation representing Crafts and SMEs from the EU and accession countries is concerned with the lack of communication between the lawmakers and SMEs in Europe, additionally the fact that different EU members show different level of interest and are involved in structuring e-commerce regulations in EU at a different level can be a challenge for the future of trade. President of the organization, Ulrike Rabmer-Koller proposed to start a Digital Knowledge Center to help SMEs adapt with the new data regulations and be more prepared for trading online.¹⁶

Regulations are essential for curving well-ordered digital economy, however, it comes with complicated implementation procedures, programs and penalties in the case of infringement. EU SMEs fear it will be too expensive to be a law obedient

¹⁵ UEAPME has 64 member organisations covering about 12 million enterprises with 55 million employees.

¹⁶ UEAPME, *Digitalisation is a key challenge for SMEs*, (2018), <https://www.eubusiness.com/Members/UEAPME/digitalisation-3> (accessed on November 2nd).

enterprise and may take owning a whole legal department to follow the regulations.¹⁷

Some EU states such as Luxemburg tend to be more supportive of SMEs in abandoning their traditional ways to trade. The government launched a new program "Go Digital" to support its enterprises by offering a number of workshops covering business diagnostics, and assistance with implementation of appropriate recommendations.

Lack of awareness is one of the problems SMEs face, but data localization rules may be posing the biggest threat to increasing gains from the digital economy. Over the recent changes in data localization policy initiated and implemented by a number of large economies such as EU, China, Russia, Brazil and Canada on various types of data has paused some restrictions on business. Policy makers use quite a wide range of bans and restrictions in order to keep data from spilling beyond their state borders. Restrictions may be of a general character as well as industry or sector-specific, such as personal, financial, tax, e-commerce and etc. Business representatives welcome regulations as it enables them to operate in a more organized economic and legal environment. However, the government should understand that for business strengthening provisions is not the same as making them stricter as well as the outcome can be different. Some countries simply have a comparative advantage and can be benefiting from strict data localization

¹⁷ Ibid.

provision enacted in other countries. US economy has reported large growth in its digital trade share, and data hosting service is on the list.

Digital Trade in EU

EU pursues more of regulatory policy on its digital trade, implementing a number of norms and restrictions in few aspects of trade in order to ensure safety and security of personal information within its borders. However, its trade in the online world is thriving and somehow business is overcoming or adjusting to the regulations with the minimal loss. The paper will be looking into the main strategy SMEs follow to trade with the EU amidst the regulations imposed on customs, transactions, information flow and etc.

EU has been quite strict on its digital business, which makes SMEs suffer the most as a large number of small and medium business representatives do not stand out in their technological capabilities, hence the few large companies with larger resources are taking over the bigger market segments, hampering the growth of domestic digital platforms.

While EU is a single market, member states do vary in development of domestic markets, different levels of infrastructure capability against common regulations in digital trade put members states and their SMEs in unfavourable place in many occasions. Brussels estimated that if an average EU customer could have purchased a basket of 100 items solely online, making 745 EUR (16% of the total cost) in

savings would have been possible, but it is far from happening because of a number of regulations on transactions. ECIPE reported that if restrictive regulations could be abolished with the EU overall consumer gain would reach at least 200 billion EUR per year.¹⁸

EU has been facing political controversy as well as strategy controversy with regards the digital economy regulations while trying to create a single digital market of its members. Brussels has been loading its economy with quite restrictive regulations at the same time. The member states are willing to make their digital economy more open but lack initiatives to ease the regulations.

ECIPE suggests grouping the EU member states into 3 groups based on their policy: “digital managerialists”, “digital frontrunners”, and “digital converters”. Some states like Germany may be seen as a member of two groups of “managerialists” as well as frontrunners. Many governments try to pursue more open policy and outputs of the digital economy have been growing steadily, but EU is still falling back compared to the US as well as Asia.

1. *Regulations as barriers*

Favoring regulations over the openness, EU has more control over its e-commerce and data flow, as well as creates certain barriers to trade.

¹⁸ Fredrik Erixon, Dr Philipp Lamprech, *New Coalitions for Europe's Digital Future – Building Capacity, Improving Performance*, (ECIPE, 2017) 4.

EU regulatory policy can be facilitated by different sources and powers, such as conservative political groups as well as leading large companies of non-ICT (information and community technology) industries. As the fear of losing jobs over advanced technologies has been around for years and the reversed scenario of creating more jobs using advanced technologies has been lacking in popularity.

SMEs usually lack in technology already struggle to catch-up with the growing digitalization of trade, hence member states with a higher concentration of SMEs may be struggling with the new regulations. Also, more regulations make access to data storages in EU more expensive.

2. EU governing digital trade

Europe has been clear with its intention to be fully prepared for the digital era. Considering the huge trade turn-over EU would not want to stand in a way to trade facilitation, however, it has to balance between the human right, security, and economic well-being. Taking the role of a regulator in the field EU needs international support for its data protection policy. In the absence of common international norms on digital trade, single actors may suffer because of their data localization policy. Enterprises, especially small and medium business entities still are fairly ignorant of existing regulation, and the ones that have enough knowledge of the regulations find it to be a difficult process to comply with them, starting from huge paperwork, to hiring new staff members to make sure the company does not

violate the law. Violation of EU regulations on personal data protection can impose huge fines up to 20 million EUR.

Cecilia Malmström, Commissioner for Trade addressed WTO in the speech delivered at European Parliament Conference on Digital Trade and asked for particular attention to be paid to:

- “the regulatory framework in areas like spam, consumer protection or e-payments;
- the liberalization of trade and markets, with non-discriminatory treatment and market access for online services;
- trade facilitation and technical assistance for developing countries in areas like signatures, or e-procurement;
- boosting transparency, by publishing those measures that impact on e-commerce or telecoms.”¹⁹

EU has been incorporating data protection regulations in bilateral trade agreements, as well as implementing regulations on personal data protection since 1995. In its attempt to regulate the digital economy by 2020 EU has decided to impose a number of strict regulations on flows of personal data and lift bans on non-personal data flows, to facilitate the creation of its single digital market, which should

¹⁹ Cecilia Malmström, *Trade in a digital world*, (Conference on Digital Trade, European Parliament, Brussels, 2016)

include not only the member states but associated members and eastern partnership countries as well.

European Parliament listed the following issues to be addressed as a supportive step to fully utilize the capability of the digital economy:

- “Improving the mobility of non-personal data across borders in the single market, which is limited today in the many Member States by localization restrictions or legal uncertainty in the market;
- Ensuring that the powers of competent authorities to request and receive access to data for regulatory control purposes, such as for inspection and audit, remain unaffected;
- Making it easier for professional users of data storage or other processing services to switch service providers and to port data, while not creating an excessive burden on service providers or distorting the market”.²⁰

European Commission estimates 415 billion growth in an economy if harmonization of digital markets is achieved. However, the goal cannot be achieved without certain freedom in a data flow. European Parliament prepared a draft on a “framework for the free flow of non-personal data in the European Union”, but this does not mean that the EU is going to give up on its regulatory policy.

²⁰ European Parliament, *Proposal for a Regulation of the European Parliament and of the Council on a Framework for the Free Flow of Non-personal Data in the European Union*, (Brussels, 13.9.2017 COM(2017) 495 final 2017/0228 (COD), 2.

EU member states regulate data flow independently, which caused a lot of burden to inter-EU trade flow. GDPR or any other regulation on data flows should be more welcomed by the SMEs, as one common legal framework helps with trade facilitation.

EU has allowed free flow of certain data, but extreme importance of a territorial factor in data flow cannot be neglected. Despite being the part of the common single market EU member states regulate data flow on their own, as EU Single digital market is still under construction. Creating their own of chaos member states are losing a lot in their GDP.

International regulations do and will always be superior but in the digital world it has even bigger importance as the notion of a digital world is international in its core and implies connectivity without borders. If EU does not offer a well-balanced regulation to the member states creating a single digital market will be waste of time and resources, if possible at all. The world has been practicing regulating their digital trade through bilateral agreements, which should not be the method EU states would be looking into.

There is a long list of data that is regulated/blocked by the member states, no wonder financial transfer related data is on top of the list. Most of the regulations blocking data flows are justified by the state security concerns. It has to be

mentioned that restrictions are not always incorporated in law, many entities can regulate certain data flow on their own, as far as it does not contradict existing law.

In a very recent 2016 study ECIPE identified as many as 22 different types of restrictions EU states impose on data flows. Hence, a new regulation banning blocking non-personal data flows was introduced in 2018, which can be said to a big breakthrough together with the GDPR.

3. General Data Protection Regulation (GDPR)

In 2016 EU revealed its draft on personal data protection regulations, as a part of its efforts to regulate digital trade not on within its borders and outside as well. EU states protection of its citizens' fundamental rights is the key to new regulations. 90% of EU citizens prefer to have their personal information equally protected everywhere within the EU. Implementation of the General Data Protection Regulation (GDPR) started in May 2018 and it was met with a bit of confusion as there were little preparation and awareness among the enterprises.

It is not the first attempt of the EU to govern the data flows, back in 1995 EU Data Protection Directive (Directive 95/46/EC) was adopted to protect the privacy and all personal data of its citizens. It was a response to OECD recommendations adopted in the 1980s and last updated in 2013. OECD recommendations set up basic principles of collecting data and scopes of regulations related. OECD Guidelines on the Protection of Privacy and Transborder Flows of Personal Data gives the following principles:

- Collection Limitation Principle
- Data Quality Principle
- Purpose Specification Principle
- Use Limitation Principle
- Security Safeguards Principle
- Openness Principle
- Individual Participation Principle
- Accountability Principle

OECD recommendations focus on a person as the main object of regulations and a person's right to be aware that his personal information is being collected and stored in a certain location. In other words, recommendations do not ban or restrict collecting personal information for a certain purpose but it puts emphasis on a see-through the process of doing so. Also, it restricts disclosure the personal information to third parties.²¹ EU legal framework of data protection follows a similar pattern and is based on the following 6 principles:

- Lawfulness, fairness, Transparency
- Purpose Limitation
- data minimization
- accuracy
- storage limitation
- integrity and confidentiality

²¹ *OECD Guidelines on the Protection of Privacy and Transborder Flows of Personal Data* (last updated in 2013)

- accountability²²

EU is looking for higher transparency in a company's privacy policy. The rule is easy to be understood but quite difficult to be practised. Many companies will need to appoint a data security officer to follow the guidebook and checklists prepared by the EU.

Digitalization is altering borders fairly often, personal data protection is not an exception either. GDPR covers personal information obtained and processed not only within the EU but outside its borders as well as far as the information belongs to the EU citizen geography becomes of less importance. Hence, EU regulations will have an impact on business outside of the union.

4. *GDPR and its implications on SMEs*

GDPR applies to companies to any size and application is based on the nature of the company activities. Also, the application of provisions can be selective and only certain obligations may apply. Companies conducting activities causing higher risks of violating rights and freedoms will have to appoint a data protection officer. It will not apply to the process of household activities.

The regulation identifies 'personal data' as "*means any information relating to an identified or identifiable natural person ('data subject'); an identifiable natural person is one who can be identified, directly or indirectly, in particular by*

²² *General Data Protection Regulation (GDPR)*, art. 5

*reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person.*²³ The regulation also identifies what type of activity performed on personal data is falling under its provisions.

The regulation is active for personal data *processing* activities. “Processing” is identified by the regulation as “*means any operation or set of operations which is performed on personal data or on sets of personal data.*”²⁴ In fact, processing is a broad set of activities including collection, recording, storage, alternation, disclosure and etc.

In other words, regulations do not really leave any room for "processing" personal information without the action falling under the GDPR. Companies have to overlook the whole relationship they have with a customer, get signed consent on obtaining, storing and processing personal information, also the owner has to have access to its information stored with the company and have an option to delete it if he wishes so. Different business questionnaires and surveys may identify various issues but there are few very common problems SMEs will have to face in order to comply with the EU regulations. We will discuss below.

²³ Ibid, art. 3

²⁴ Ibid.

Information vacuum – The regulation package was introduced in 2016 and companies were given 2 year period for transition and getting ready to fully adjust to new rules, however not every firm was, in fact, aware of the change by May 2018 when the regulations actually came into force. EU has launched a special website to help business with adapting to changes in personal data protection rules and each member state has a special officer to help companies, but this turns out to insufficient. Member states have failed to reach out to most of the SMEs based within their borders.

Bureaucracy (too much of paperwork) and increased costs - Not to forget in many member countries, including the leading economic power Germany family-owned enterprises make the largest group. Such companies usually do not have enough resources especially human resources to cope with complicated legal norms. Brun-Hagen Hennerkes, chairman of The Foundation for Family Businesses in Germany and Europe, an organization that helps family-owned enterprises said in one of his interviews, that half of the firms cannot afford to have a staff member to monitor the company activities with regards processing the personal information.²⁵

The actual problem is that company owners cannot hold enough knowledge to follow the regulations, and considering its very specific nature many will require help from a person with a very specific education to comply with it. Such services come with a high fee. While the regulation does not oblige SMEs to appoint a data

²⁵ Dietmar Neuerer, Heike Anger, EU data-privacy rules create a burden for SMEs, (2018) <https://global.handelsblatt.com/companies/eu-data-privacy-rules-burden-smes-mittelstand-921980>

protection officer, many would want to do so. Additionally, many companies may have to deal with fake experts on technical regulations. The fear of violating technical legislation may force many companies to hire "fake" experts, which can cost a company a lot in the form of a fine for regulation violation.

The cost of simply preparing and processing the related paperwork is too expensive for a large number of SMEs, additionally, a specially trained data protection officer needs to be employed to catch up the regulations. Companies cannot risk with paperwork or with accidental mistakes in processing data, as fines can be huge (4% of the annual sales and can go up to 20 million EUR).

Security - Companies will need to work on a detailed data plan that has to be documented, carry out a thorough check of the systems and outlets they obtain data through, these may include security cameras even (internet is not the only way personal information can flow through), as well as have their employees and computers and laptops in check, to prevent leak of data.

GDPR is applied to all companies but the application is risk-based. Taking into account the complicity of the regulation it seems to be more designed for e-commerce giants like eBay, but in fact, it equally applies to all companies registered within the EU or the one outside as far as they process the data belonging to EU citizens. Companies have to estimate risks and implement measures according to "implement protective measures corresponding to the level of risk of

their data processing activities.’²⁶ Also, the nature of data and the purpose of use is more important, than its volume. Application of regulations and deviation from it is not based on the size of the company or even on the nature of its activities, but instead of the nature of data the company has to process in its relationship with the customer. Large companies have to process data in larger volumes usually and they are equipped with technical skills to do so, hence new rules will not be a much of a hassle, however, SMEs that mostly process a smaller volume of data are not in the same situation and changing it comes with the price.

“Complying with GDPR will exact a significant cost, particularly for small and medium-sized enterprises and consumers who rely on digital services and may lose access and choice as a result of the guidelines. US companies have already invested billions of dollars to comply with the new rules. But even as companies update their privacy policies to bring themselves in line, many uncertainties remain,” said the US Commerce Secretary, Wilbur Ross, in Financial Times.

One way or another GDPR has caused quite a controversy not only among the enterprises but in EU trade partners as well. The US Commerce Secretariat has openly expressed its dissatisfaction with the regulations and predicted it might harm EU-US trade relations.

²⁶ *Are the obligations the same regardless of the amount of data my company/ organization handles?* https://ec.europa.eu/info/law/law-topic/data-protection/reform/rules-business-and-organisations/obligations/are-obligations-same-regardless-amount-data-my-company-organisation-handles_en

5. GDPR reshaping business strategy and marketing tactics

GDPR poses risks for companies not only because of increased expenses or complicated bureaucracy. Consumer trust and company reputation may not be far away from being jeopardized. However, the purpose of the paper is anything but diminishing the importance of effective regulations or particularly GDPR, the coin has 2 sides and so does the law it erects barriers but a good legal norm is always directed to serve a purpose of making things easier, more appropriate, and easily accessible and etc. GDPR is not an exception, it comes with some solid benefits for the SMEs which should not be overshadowed by other factors.

Could there be a push for many companies to alter their business strategy and more lean towards differentiation? Quite possibly, companies can utilize the law in their favour, especially by altering marketing strategies.

SMEs strategy importance for growth may be often diminished, as many take it as a way of maintaining or surviving the business activity rather than a way of further growth and maybe even turning a small or medium business into a large one.

First, of all, it would be increased effectiveness in company business and marketing strategy. The regulation requires a clear concept to be obtained from a customer, one can assume this is the person genuinely interested in the goods or services offered. Differentiation approach could be beneficial, narrowing the target groups and saving expenses at the same time. To do so companies will need to embrace

the necessity of reviewing and reshuffling the data they obtain and store. EU requires from companies to be very specific in the type of data they work with and very precise in the length of time they do so. The activity should be based on necessity only. Hence companies need to look into their database and destroy excessive data they have been storing for some time.

Google, the absolute giant of the online world has been using personalization as a way of diversification. Search results Google users obtain on their screen is not a random choice, it appears based on a very complicated system that filters the information available on the consumer and offers the search results accordingly. In other words, if two friends google the exact same word on their own computers the search result will most probably be very different. Consumers can receive a better quality service if they reveal more personal detail information of personal character, however, they want it to be safe. This leads us to another issue with data localization, consumer trust.

Introduction of the DGPR may leave some in confusion and decrease their trust in businesses, however, companies could play this in their favor. Proving the company is a trustworthy can be easily achievable by just giving the customers more control over their personal information stored with the company, tools like, edit, withdraw or temporarily/permanently delete could be good enough to give consumers the sense of feeling safe in the relationship with a company, while not compromising on a quality of goods or services provided.

Will the retail sector benefit from the GDPR?

GDPR will impact all industries, but the ones that are not exactly focused on data issues may be the most vulnerable. Industries such as financial or manufacturing sector are more or less prepared for tighter regulations on data protection, but representatives of industries such as retail or hospitality can find themselves quite lost. Industries that work with individual customers most commonly have to obtain and process large data of personal character.

If we say that SMEs are the backbone of the EU economy, it is safe to say that retail is the backbone of the SMEs and more than 93% of it are micro enterprises that are extremely active in the import-export market and create a huge pool of employees. Around 29 million EU citizens are employed in retail SMEs.²⁷ E-commerce is a huge boost to the retail industry, online space saves business from the costs that come with opening physical shops and getting access to a larger group of consumers at a low cost and bring personalized services to them. Digital transformation carries quite a bit of challenge for SMEs, as most of them lack the skills or have limited access to skilled staff. Most of these enterprises are family-owned small companies, with limited resources compared to larger counterparts. In its special guide for small retailers in EU the European Commission puts a particular

²⁷ *A contribution of retail and wholesale SMEs to the EU economy* (Euro Commerce for retail and wholesale, position paper)
https://www.eurocommerce.eu/media/135423/contribution_of_retail_and_wholesale_sme_s_to_the_eu_economy.pdf

emphasis on the role of digital economy and importance of enterprises having a will to adapt to new technology.

It is hard to name an industry that more relies on obtaining and processing personal data, than the retail. Retailers use personal information to improve customer care, or launch and manage loyalty programs, or do target marketing and advertising and etc.

1. *Identifying consumer request and filtering personal data*

The idea of implementing GDPR is to ensure data privacy protection by forcing companies to have the data they store “well groomed”. Keeping the data well refined and organized automatically increases company agility in B2B as well as in B2C, making first of all the communication swifter. Not having its activity aligned with the GDPR may lead to a dead end in business strategy, especially in marketing planning data quality can be crucial. Retailers need to process personal information on their consumers, for better business planning, earning the trust becomes even more important since the implementation of GDPR.

Boston Consulting Group found in its study *Bridging the Trust Gap in Personal Data*, that “consumers are five times as likely to share data with the company they trust.”²⁸ However, it takes quite a bit of work to become a trusted business under the GDPR, starting with carrying out a complete data audit to mastering and

²⁸ *Bridging the Trust Gap in Personal Data* (Boston Consulting Group, 2018), 6.

implementing new digital tools, such as various online security standard systems. The first thing every company will have to do is to make their terms and conditions very clear and every consent form should be matching to the new standards.

First of all, retailers will find it hard to identify consumer requests. The regulation does not state that a written request has to be made by the customer so the one could exercise the right given by the law, such as the right to be forgotten, or right to have data erased, subject access request and etc. and to make sure these rights are fully executed at a request is a retailer responsibility. Company management may have to come up with a new plan, or identification methods, to make sure the request coming from the customer is spotted immediately, even in the unwritten form. Retailers will sometimes need to perform consumer research and customer care at a totally new level. If the request is not identified on time, it may lead to an unintended breach of law and high fines.

Also, let's say consumer request with regards the data processor storage is identified, small retailers and that have limited sources and manpower will find it difficult to fulfil the request, the rights EU citizens have under the GDPR are extremely enhanced so is the technical requirements. Retailers will need to identify the nature of information and decide what data can be deleted upon the request and what has to be kept for legal reasons, or at what technical bases will a consumer be given a chance to access, manage and delete the personal data stored with the retailer.

Another issue can be the increased value of personal data, it becomes an asset hardly to obtain, hence the target of competitors. Retailers regardless their size should be technically prepared to protect the data they hold, as a highly valued commodity.

When we talk about retailers in EU which counts around 800.000 entities, we do not put much emphasis on large representatives, instead attention is focused on small and micro representatives that make a very large portion of the industry. Micro enterprises that employ under 10 people, do not hold enough information, technology or technical skills to fully comply with GDPR. Families that have been running a company for generations and trade at a small scale, have never had to deal with this level of complicated personal right protection, neither have their manufacturers, who most probably are as well family-owned small businesses. Intended or unintended breach of law may cost any enterprise anywhere from 4% of its annual turnover to few million EUR.

The situation is a bit more complicated as the GDPR is not an industry-specific, and it does impose stricter regulations based on the volume of data processed or purpose, the data nature is what counts, as far as it is personal regulations apply to all and at the same level.

Conclusion

There is no question about the grave importance of security and protection of personal and non-personal information. Facebook, Panama and other scandals related to leaking data of various nature, including personal and financial information have alarmed governments everywhere. EU's motivation to be the lead regulator in the digital world is something member states can benefit from, but they should also remember that taking part in drafting and adopting regulations is not enough. The first subjects for GDPR are enterprises and their customers, therefore more involvement in the pre-implementation process would have been desirable.

SMEs are now left face to face with strict regulations that still remain to be vague in many ways, bureaucracy, increased costs for human resources and complicated data planning and scheduling. Apart from increasing costs, regulations make the actual process of business to business and business to customer relations more complicated. Audit and once in every 3 years and a mandatory certification process is baring additional costs.

The process is becoming complicated for consumers as well. Most importantly regulations will limit choice in digital services. Also, obtaining an “explicit” consent for processing or transferring data will be impossible in many cases.

The biggest problem following the regulations like GDPR is that it may cause wider segregation among the trading partners. Facing barriers in data flows with trading

partner states may be encouraged to develop own regulations locally, and in the absence of international law on digital economy, legal chaos will disrupt GVC and lower trade turnover in many places.

Data localization policy is a bundle of regulations imposing high legal obligations not only on business, but also on consumers, and government, locally and internationally. With the correct planning, small enterprises could actually turn their disadvantages into an advantage, being bound by the GDPR can be an asset as the value of data increases even more and turns it into a valuable commodity, which can be used for implementing narrow target and more efficient business strategies.

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Appendix

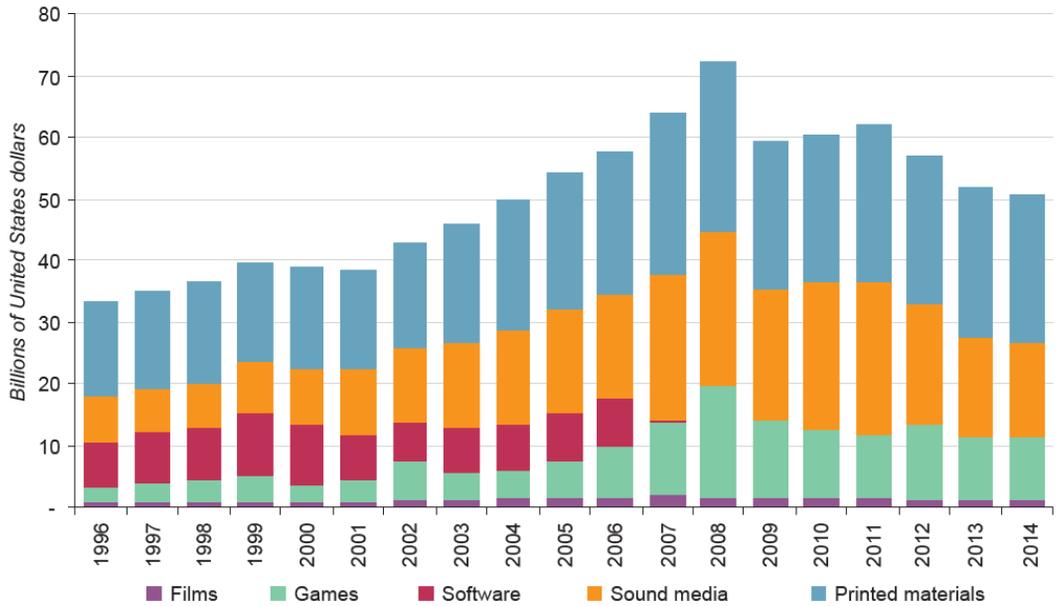


Figure 1. World export of goods that can be digitized
Source: ESCAP calculation using data from United Nations COMTRADE, sourced from Asia-Pacific Trade and Investment Report 2016.

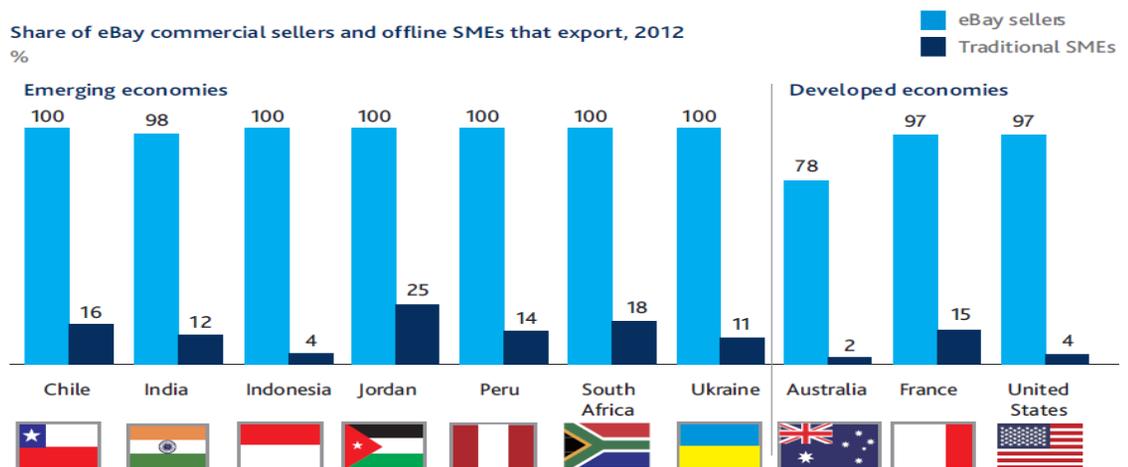


Figure 2: Share of eBay commercial sellers and offline SMEs that export, 2012
Source: How Digital Trade is Transforming Globalisation, Susan Lund and James Manyika, McKinsey & Company 2016