


Digital Innovation and Cross-Border Information Flows



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We are living in a world where information is commonly gathered online and transferred across borders. With the global economy going digital, cross-border bandwidth has increased 45 times in the past decade. In terms of absolute quantity, it has reached 211.3 terabits per second (Tbps) in 2014, up from 4.7 Tbps in 2005.¹ Though the largest share of cross-border data flows (about three-quarters) are accounted for by internet content industries, cross-border data flows are crucial in almost every industrial sector. For example, cloud computing is now being used in a wide range of industries from internet services to manufacturing. It is a service providing IT functions such as data storage and software programs over the internet by external servers. The storage location is often neither known to users nor definable. It is therefore perceived as if data is kept somewhere in the "clouds". Through cloud computing, information are often transferred across borders and stored in servers outside national boundaries.

Against this background, the global regulatory framework on data flow

¹ McKinsey Global Institute. 2016. "Digital Globalization: The New Era of Global Flows". p.30.

across borders is now being actively discussed, as it is not fully regulated by the GATT (General Agreement on Tariff and Trade) and GATS (General Agreement on trade in Services) rules. It has been recently dealt in the WTO (World Trade Organization) TiSA (Trade in Services Agreement), KORUS FTA (Free Trade Agreement), TPP (Trans-Pacific partnership) and so forth. In particular, chapter 14th of the TPP agreement establishes free flows of data across borders and prevents member states from using measures unreasonably restricting cross-border data flows.

From the viewpoint of industrial innovation as well as market expansion and efficiency, there is much to benefit from the cross-border flow of data. By gathering and analyzing consumer information on a massive scale (big data analytics), firms can provide personalized services to individual consumers, develop new services, penetrate new markets, and even start entirely new businesses. Users of internet services also stand to gain. For example, cloud users, especially SMEs and start-ups, can save considerable costs on building servers (hardware) and purchasing software.

However, there lie diverse policy challenges amid such benefits. One of the most important policy issues is constructing an adequate personal data protection system. As data-driven innovation makes swift advancements, it is necessary to achieve both the policy goals of protecting personal information and promoting its usage. On the one hand, without a proper personal data protection system, a firm cannot bring that data from other countries into its national territory. On the other hand, unnecessary or inefficient restrictions on cross-border flows of data should be examined. For instance, Korea did not allow firms to transfer personal information of its citizens to foreign countries without the informed consent of data providers. Having received constant criticism for this to be a restrictive opt-in way, in 2016 the Korean government improved its privacy law and permitted other ways to transfer personal information.

We also need to consider issues of cross-border information flows from strategic perspectives. The US has a very competitive internet platform service sector, including cloud computing, search engines, social media, e-commerce, etc. In this respect, the US takes a strong position on freer cross-border data flows in international trade negotiations including the WTO TiSA and TPP. Meanwhile Sweden, for instance, who has competitive manufacturing bases, is interested in innovating entire manufacturing processes and value chains by applying IoT (Internet of Things) and cloud computing technologies. The Swedish National Board of Trade backs freer cross-border flows of information from the viewpoint of promoting global

value chains, based on the idea that restriction on cross-border data flows would undermine optimal value chain functioning.²

Meanwhile, regional cooperation is required to build a larger market with regulatory harmonization. The European Union (EU)'s Digital Single Market Strategy for Europe in 2015 aims to accelerate innovation in the EU area by removing online legal barriers among member countries and creating a single market. In 2015, Korea also initiated the Korea-China-Japan Digital Single Market to facilitate cross-border e-commerce and build a common basis for digital innovation in East Asia.

The flow of Information on the internet is now becoming a core source of innovation, and will bring about fundamental economic changes. The global economy must reform the regulatory environment in order to accelerate data and ICT-based innovation. Furthermore, we should give more thought to building a global economy that enjoys the fruits of digital innovation in a more balanced way, given its winner-takes-all tendency. **KIEP**

² Kommerskollegium (Swedish National Board of trade). 2015. "No Transfer, No production – A report on Cross-border Data Transfers, Global Value Chains, and the Production of Goods."