



Benefits of Data

Data is driving innovation, creating economic opportunity, and improving standards of living around the world. Private companies, governments, and non-governmental organizations are using data to improve efficiency, develop new products, and deliver goods and services to their customers, taxpayers, and members. This data is collected, analyzed, processed, stored, and transmitted on a global network, without regard to national boundaries.

Data Localization Requirements

Despite the clear benefits of a global data network, an increasing number of governments are imposing or considering restrictions on flows of data across national borders.¹ Such “data localization” provisions, for example, may require a company to:

- store any data (e.g., relating to customers, employees, companies, or specific sectors) that the company collects in a country on computer servers located in that country;
- refrain from transmitting data outside the country where it is collected; or
- establish a data center within the territory of a country as a condition of being allowed to operate in that country.

Government Policy Objectives Concerning Data

Governments have a legitimate interest in protecting their citizens against the misuse of data. Data localization restrictions, however, whether intended to prevent espionage or protect data privacy and security, will not advance, and in many cases will hinder, the achievement of these objectives. In particular, a requirement to store data locally (i) would not prevent foreign intelligence agencies from accessing personal data; and (ii) would undermine data privacy and security by concentrating data within a single jurisdiction, making it more susceptible to security breaches and natural disasters than if it were dispersed across many jurisdictions.²

* Coalition members include Citigroup, Deloitte, Facebook, IBM, Oracle, Salesforce, Sanofi, SAP, and Walmart.

¹ The Information Technology & Innovation Foundation, “Localization Barriers to Trade: Threat to the Global Innovation Economy” (2013).

² Chander, Anupam and Uyen P. Le, “Breaking the Web: Data Localization vs. the Global Internet” (2014); United States Chamber of Commerce and Hunton & Williams LLP, “Business Without Borders: The Importance of Cross-Border Data Transfers to Global Prosperity” (2014).

In some cases, governments may impose data localization requirements not to protect data but to protect domestic technology firms from foreign competition. Such restrictions, as with other protectionist measures, harm the domestic economy, in this case, by reducing domestic firms' access to global data flows and by discouraging foreign companies from including the country in their global supply chains.

Harmful Effects of Data Localization Requirements

Although data localization restrictions are often associated with the information technology industry, these measures also have major implications for entities in several other areas – public and private – including agriculture, autos, education, energy and the environment, finance, healthcare, retail and transportation. By walling off data behind national boundaries, these restrictions would:

- limit the ability of companies to synthesize large data sets that could provide important contributions to public safety, research, education, resource conservation and other social goods;
- reduce the ability of citizens and consumers to access and contribute to valuable online resources and opportunities beyond their national borders;
- limit the access of domestic companies to digital commerce networks, reducing the ability of such companies to grow and compete globally;
- decrease the efficiency and increase the cost of doing business, thereby reducing the desirability of investing in countries that maintain such restrictions; and
- encourage other jurisdictions to adopt similar restrictions, further balkanizing data networks.

The European Center for International Political Economy projects that data localization requirements that have been recently proposed or enacted would reduce GDP by 0.4 percent in the EU, 0.5 percent in Indonesia, 0.4 percent in Korea, and 0.1 percent in India. If data localization requirements were applied to all sectors of those economies, such restrictions would further harm economic output, reducing GDP by 1.1 percent in the EU and Korea, 0.8 percent in Brazil and India, and 0.7 percent in Indonesia. These restrictions would also cause substantial harm to many countries' investments (domestic and foreign) and exports due to loss of competitiveness.³

³ European Centre for International Economic Policy, "The Costs of Data Localization: Friendly Fire on Economic Recovery" (2014).

The Path Forward

Given the economic and social harm these restrictions would cause, governments should refrain from imposing data localization policies and consider alternatives that enhance data security and privacy without jeopardizing open data flows, such as encryption technology, surveillance reform, and government transparency initiatives.

To help ensure that information flows remain unrestricted, governments should consider including in international accords (e.g., bilateral and regional trade and investment agreements and World Trade Organization agreements) provisions that prohibit the imposition of harmful and discriminatory restrictions on the movement of data across borders.

To the extent that cross-border data flows are regulated, such regulations should be non-discriminatory, transparent, and the least trade restrictive means available to achieve a legitimate public policy goal.

Specific Examples

An increasing number of businesses, public institutions, and other organizations collect, process, analyze, and store data to advance both commercial and public objectives. Free flows of data across borders allow these entities to:

- access new or remote markets;
- utilize global data resources such as cloud computing;
- reduce transactions costs;
- increase the productivity of land, labor and capital;
- develop and deliver new and innovative products and services;
- grow their economies and create jobs; and
- promote socially beneficial goods, such as health, safety, and education.

Some examples include:

Agriculture

Data is revolutionizing agriculture, including through “prescriptive planting,” a technology that allows farmers to implement finely-tuned techniques to maximize their crop yields. Data on crop spacing and soil are collected from individual farmers, aggregated, and combined with detailed information on weather patterns, topography and crop performance. After analyzing this comprehensive data set, companies deliver planting advice directly to farmers and their machinery to guide the implementation of yield-maximizing techniques. With the ability to collect data from various jurisdictions, companies have the opportunity to expand their data sets and improve their analytics. Farmers around the world will be able to access prescriptive planting technology to increase their crop yields, help grow their local economies, and improve global food security.

Autos

Most cars on the road today are already connected to some degree to the internet, with newer vehicles being increasingly linked to global data networks. These networks enable data to be collected from individual vehicles in various jurisdictions and, in many cases, transferred to a single global processing hub, where it is analyzed and stored. This integrated data architecture can generate prognostic data capable of predicting part failure, real-time safety diagnostics, and crash data that can help improve location-based assistance, accelerate emergency response and save lives. In addition, aggregate data collected globally from warranty and repair records permits engineering improvements that enhance safety.

Communications

Individuals across the globe increasingly rely on the ability to communicate with friends and family in foreign jurisdictions via phone, email, and voice/image-over-internet services such as Skype. International Skype call minutes, for example, have increased 500 percent since 2008. In order for this communication to take place, service providers must be permitted to transfer across borders a variety of personal information. Such information includes users' IP addresses, email addresses, cell phone numbers and – more fundamentally – the content (e.g., audio and/or images) that users choose to transmit. Indeed, by its very nature, international communication entails the flow of data across borders.

Crisis Response

Quick access to cross-border data is critical for humanitarian relief organizations successfully to deliver assistance in target countries. These organizations rely on cross-border technologies to locate suppliers of specific resources such as water, food and medicine, and ensure efficient delivery to recipients in regions plagued by war, famine, and disease. In many cases, the desired resource is not readily available within the target country, requiring relief personnel to coordinate with suppliers in multiple jurisdictions. Restrictions on cross-border data flows would significantly impede this process, which could result in life-threatening delays and increased costs of aid delivery services.

Education

Universities and other educational institutions are at the cutting-edge of the digital revolution. Millions of people are learning online across geographies, including residents of underserved and developing communities. With the advent of “massive open online courses,” for example, a student from Ethiopia can take courses offered by America's leading universities. Because of free flows of data across borders, she can register for classes, view lectures, exchange ideas with other students around the world and upload papers and exam responses for feedback. As a result, she has the opportunity to acquire new knowledge and skills that will enable her to make meaningful contributions to her local economy.

Energy

Energy and utility companies are under increasing pressure to deliver cost-effective, reliable and sustainable energy. Energy analytics that enable producers and consumers to understand and predict energy consumption patterns is an important component of future energy management. The quality of analysis is substantially enhanced when energy companies are able to access data from multiple jurisdictions, allowing them to gain a better understanding of how consumption varies by region and how global energy resources can be most effectively deployed.

Global energy companies also rely on cross-border data flows to address safety concerns, including those that arise on oil rigs in remote locations. Because of open data flows, engineers in Texas can monitor in real time the performance of equipment on rigs off the coast of West Africa or Russia and, should any safety issues arise, respond promptly with requests for maintenance, new parts, or broader system adjustments. By centralizing these functions in a global analysis center, companies are able to more efficiently identify and address localized safety concerns (e.g., a part requiring repair), as well as systemic threats to the company's operations (e.g., a faulty part utilized by rigs on multiple continents, or weather patterns that affect entire regions).

Environment

Comprehensive data on carbon emissions within and across jurisdictions is vital to public and private efforts to address climate change. Because carbon emissions are not contained by national boundaries, data on the subject must also be permitted to flow between jurisdictions. Open data flows allow governments, research entities, and private companies to exchange information on emissions and assess its relationship with changing weather patterns and rising temperatures on a regional and global scale. In addition, such entities rely on cross-border data flows to address environmental concerns relating to the world's oceans and other international waterways. Free flows of information allow public and private groups to share and analyze data globally regarding water pollutants, including their sources and their effects on human health.

Financial Services

Both personal and corporate finance have been revolutionized by the Internet and the ability to collect and analyze data on markets and corporate performance. A digitally-connected global financial system improves the efficiency of lending as well as underwriting and trading of debt and equity securities, thus expanding access to and lowering the cost of capital. Unrestricted data flows enable individuals and businesses to access account information and funds from anywhere in the world. Due to cross-border flows, an American tourist can check the balance of his US-based bank account at an ATM in Berlin; a small business in a developing country can access financial services from New York, London and Hong Kong; multinational banks can transfer funds to customer accounts around world; and pension funds can invest globally to seek the best return for their members.

Insurance

Insurance companies also depend on data in order to operate globally. Open cross-border-data flows allow insurance companies to establish a large, worldwide client base, and thereby spread risk across geographies. Without the ability to maintain policies in multiple jurisdictions, insurers would be forced to concentrate their risk domestically, leaving them vulnerable to a spike in claims arising from a natural disaster or epidemic - an occurrence that could pose significant financial difficulty for an insurer.

Information Technology-Enabled Services

Information technology companies rely on cross-border data flows to produce and deliver myriad products and services, including computer hardware and software, cloud computing services, data analytics and social media platforms. In some business areas, such as hardware manufacturing, restrictions on data flows would reduce efficiency and raise costs. In others, such as cloud computing, restrictions on data flows would prevent companies from providing services to clients that operate in multiple jurisdictions. In still others, such as social media platforms, an inability to move data across borders would fundamentally alter the consumer experience by preventing online connections among users of different nationalities. Because of these consequences, restrictions on cross-border data flows would reduce the profitability of information technology companies, hamper new investment in research and development, and eliminate countless jobs in the global technology sector.

Global Supply Chains

Manufacturers depend on cross-border data flows to utilize global supply chains in their manufacturing processes. Because the availability and price of natural resources, labor, and other inputs vary dramatically across regions and countries, automotive companies, for example, conduct procurement, manufacturing, and assembly operations in numerous jurisdictions across the globe in order to maximize efficiency and minimize costs. Key to this strategy, however, is the ability of these various operations effectively to communicate with one another. By transmitting data on part availability, transportation times, and customer demand in real time, these operations are able to expedite production and delivery while also helping to ensure that quality, cost, and safety standards are maintained.

Mobile Health (“mHealth”)

Data flows enable doctors to diagnose patients in remote locations, often across borders, through the collection, monitoring and analysis of patient data. Wearable healthcare technology, for example, can improve care by alerting users to irregular heartbeats and transmitting real-time electrocardiogram data to healthcare facilities, thereby increasing patient awareness and accelerating potentially life-saving treatment. Open data flows are necessary to protect these kinds of services from being interrupted when individuals cross borders.

Cross-border data flows also facilitate knowledge sharing among medical professionals. For example, a leading hospital specializing in the treatment of children is partnering with the world's first cloud-based global education technology platform that equips doctors and nurses with the knowledge and skills they need to save children's lives during intensive care situations. In its pilot phase, the platform is being used by more than 1,000 doctors and nurses in 74 countries on six continents. This type of information sharing eliminates, in many cases, the need for medical professionals to travel across borders, thereby reducing costs and ultimately expanding access to reliable healthcare.

News and Entertainment

Consumers of entertainment and news have unprecedented access to television channels, news websites, movies, and music due in part to the ability of internet and cable service providers to collect and store customer data such as location, payment and log-in information. Because companies are able to collect, transmit, and store this information across jurisdictions, consumers experience an uninterrupted flow of news and entertainment from around the world. Restrictions on the cross-border movement of such data would restrict consumers' access to foreign news sites and other media platforms and drastically reduce the number of markets available to news and entertainment producers.

Pharmaceuticals

For the manufacturers of innovative pharmaceuticals and medical devices, multi-jurisdictional research and clinical trials are essential components in the development of new products. Cross-border data flows facilitate much basic research, for instance, on genetic variation within and among different populations. Such research helps to clarify how genes contribute to disease susceptibility in humans, which ultimately will lead to new treatments.

Multisite trials are often a means of ensuring access to sufficient patients to be able to draw scientifically-valid conclusions, particularly regarding subpopulations where a variation in genetic make-up may affect the efficacy and/or safety of a product. As a result, regulatory agencies in various jurisdictions often require that a drug has been tested in the same ethnic population as the one in which marketing authorization is being sought.

Thus, any restriction on cross-border data transfer would run counter to the regulatory frameworks under which the pharmaceutical industry operates. Moreover, the cost of developing new pharmaceuticals would increase substantially and pharmaceutical companies would be forced to make difficult choices about which countries and populations to involve in the R&D enterprise. Ultimately, restricting the cross-border flow of R&D data would slow the speed with which new drugs and devices could be delivered to the patients who need them.

Professional services

The ability to collect and transmit data digitally and seamlessly across borders is critical for the supply of professional services, such as accounting, audit, legal, engineering and consulting services. Professional service firms depend on the intensive use of digital resources –including hardware, software and access to the internet and its infrastructure – to communicate and collaborate with clients, suppliers and other stakeholders at home and across the globe. Conducting an audit, completing a consulting assignment, and preparing engineering drawings each requires the sharing of data, often across national boundaries.

Moreover, data flows are essential to professional service firm’s access to talent, which is increasingly global in nature. The ability to recruit, retain, and fully utilize talent in multiple jurisdictions necessitates the cross-border flow of human resources and other data. Ultimately, an inability to use digital technologies and information flows through today’s global value chains would significantly impede professional services firms’ capacity to meet the needs of businesses, non-profits, governments and other organizations around the world.

Retail

Hundreds of millions of people around the world shop online. The global environment for e-commerce growth is well advanced and expanding in both developed and developing markets due to greater penetration of credit cards, the Internet, and personal computers. Small businesses in countries throughout the world are using online sales platforms to reach customers globally.

Research from eBay, for example, found that online sellers in Chile using eBay export to an average of 98 countries. The disparity between technology-enabled exporting and traditional exporting in Chile is phenomenal: nearly 95 percent of Chile’s technology-enabled companies are exporting their products and services while just 15 percent of traditional companies (i.e., those not connected to foreign customers via the Internet) are exporters of their goods and services. Restrictions on cross-border data flows would reduce the ability of retailers to conduct business transactions with foreign customers, harming sales and diminishing customers’ access to goods beyond their national borders.

Small Business

Data transfer technologies are also being used to help connect small farmers in developing countries market with global markets. In Ghana, for example, Shea nut harvesters are using mobile apps to scan and provide product traceability for Shea nut products that will be exported. These apps depend on cloud computing services, with data collected from farmers often stored and processed on servers in foreign jurisdictions. Moreover, regardless of where the data is initially housed, these apps facilitate the transmission of Shea nut price and market information directly to buyers around the world, leading to more efficient transactions and increased ease of business for all parties. The use of this cross-border technology has contributed to a boost in these farmers’ output, an increase in their incomes, and the creation of new jobs.

Travel and Transportation

The ability to transfer data across borders is of fundamental importance to the safety of air travel. Data pertaining to airplanes and their passengers, accessible across geographies, is critical to monitoring and managing airline safety. Similarly, the monitoring of rail systems – including those that traverse national boundaries – allows for increased safety, more optimized traffic patterns and increased fuel efficiency. Cross-border data flows have also dramatically improved the efficiency of international travel by enabling passengers and the travel industry to send and receive personal information around the world to purchase rail and airline tickets, reserve accommodations, rent cars, and make other arrangements.

About the Coalition

The Coalition for Cross-Border Data Flows (“Coalition”) is an informal group of companies headquartered in Europe, North America, and Asia representing a wide cross-section of business sectors including manufacturing, consumer goods, financial services, retail, pharmaceuticals, telecommunications, and information technology. These companies, like millions of others, receive, process, store, and transmit data every day around the world in the ordinary course of business. The Coalition was formed to inform policymakers about the importance of cross-border data flows and the harmful effects of data localization measures. Members of the Coalition include Citigroup, Deloitte, Facebook, IBM, Oracle, Salesforce, Sanofi, SAP, and Walmart.

