

**GLOBALIZATION OF FINANCIAL MARKETS,  
INFORMATION SECURITY AND DATA PROTECTION:  
ADJUSTMENTS TO THE NEW REALITIES**

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This timely and important article takes a serious view of adjustments to the new realities be made. This paper analyzes the impact of globalization on financial markets' information security and data protection.

In this age of globalization, the key to survival and success for many financial institutions is to spend on big data solutions and quantitative approaches. As we anticipated risk, compliance, and marketing are the focus for financial institutions globally. Risk and compliance obviously remain to be most urgent for SIFIs (systemically important financial institutions) or G-SIBs (global systemically important banks), as important guaranty tied to heightened capital controls, risk oversight, and data management are coming into effect (e.g. Basel III, FRTB (Fundamental Review of the Trading Book), and MiFID II (Markets in Financial Instruments Directive)).

The unprecedented changes in world's financial markets have had significant implications for information security and data protection<sup>1</sup>. Thus, authors suggest that institutions and companies need to look forward and adjust to the new realities.

As the two terms 'Data protection' and 'Information security' are often used together, they are often misused. Data protection is "a set of laws, regulations and best practice directing the collection, access, update, store and dispose of personal data about individuals". Information security is defined as "the practice of defending all data from unauthorised access, use, modification or disruption". It is important to understand that the requirements of the data protection go above and beyond the way information is stored or transmitted.

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<sup>1</sup> In 2013, while about 40% of the information in the digital universe required some type of data protection, less than 20% of the digital universe actually had these protections.

However, the most obvious challenges ahead are data storage<sup>2</sup> and security<sup>3</sup>. In this regards we analyzed data challenges as four Vs: volume, velocity, variety, and veracity<sup>4</sup>.

As consequence of our analysis, the following key trends can be mentioned, which financial institutions will have to take into account rather sooner than later: *hybrid cloud environments; risk data aggregation, model risk, and data analytics; financial data governance; real-time financial data; Internet of Things (IoT) and event streaming; blockchain technology; operational automation; predictive analytics*<sup>5</sup>; *cybersecurity*.

Technologies such as blockchain, advanced analytics, machine learning, and event streaming will increasingly underpin the next generation of data-driven processes. On one hand, this will give impetus to more ‘Data protection’ and ‘Information security’ issues. And on other hand will create opportunities to improve the financial market structure, elasticity, and efficiency objectives, which serve as key areas for financial utilities.

#### **Bibliography:**

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<sup>2</sup> IDC estimates that the amount of information stored in the world's IT systems is doubling about every two years. By 2020, the total amount will be enough to fill a stack of tablets that reaches from the earth to the moon 6.6 times. The digital universe between mature and emerging markets (e.g., China) will switch – from 60% accounted for by mature markets to 60% of the data in the digital universe coming from emerging markets. And enterprises have responsibility or liability for about 85 percent of that information.

<sup>3</sup> Security is also a big concern for organizations with big data stores. Malware, viruses, hacking and loss or damage can all affect and ultimately ruin a company. It's been estimated that data loss is costing organisations an estimated \$1.7 trillion dollars a year, and 60% of the organisations that experience severe data loss or damage cease trading and fold within a year.

<sup>4</sup> Volume reflects the size of information. Velocity reflects the speed at which data is generated and used. Variety represents the diversity of the data. Veracity refers to the biases, noise and abnormality in data.

<sup>5</sup> Risk management (i.e., underwriting modeling), has and will continue to be one of the strongest areas of predictive use.