

The Fourth Industrial Revolution (Industry 4.0) has brought rapid technological advancements in various sectors, including Fintech. According to Schwab (2016), Industry 4.0. Characterized by a blend of technologies that blur the lines between the physical, digital, and biological spheres. As Fintech leverages these new technologies to disrupt traditional financial services, there are potential risks involved, such as the failure of information systems, which can have significant implications for customers, the economy, and the reputation of the affected companies.

A particular incident where the failure of an information system had a significant impact on the Fintech sector was the 2019 Capital One data breach (CBS, 2019). This breach exposed the personal information of approximately 106 million customers in the United States and Canada. The data compromised comprised social security numbers, bank account numbers, credit scores, and transaction data. The hacker exploited Capital One's misconfigured web application firewall (WAF) vulnerability in their cloud-based infrastructure.

The Capital One data breach had many implications. Customers were exposed to potential identity theft and financial fraud, leading to losing trust in the company. According to Romanosky et al. (2011), customers are more likely to terminate their relationship with a company following a data breach, which can lead to a significant loss of revenue. Capital One estimated the economic cost of the breach to be around \$150 million, which includes customer notifications, credit monitoring services, technology costs, and legal support (CBS, 2019). Furthermore, data breaches can have long-term economic impacts on a company's stock price (Acquisti et al., 2006).

The reputational cost of the Capital One data breach was also substantial. As Fichter (2021) suggests, the reputational damage from a data breach can have long-lasting effects on a company's brand image and customer trust. The negative publicity and the potential loss of customers can further impact the company's market share and profitability. In addition, regulatory fines and legal actions can further harm the company's reputation (Romanosky et al., 2011).

In conclusion, the Fourth Industrial Revolution has led to significant advancements in the Fintech sector; however, these advancements come with risks. The Capital One data breach is a cautionary tale of the potential impacts of information system failures, including customer implications, economic costs, and reputational damage. As Industry 4.0 continues to reshape the Fintech landscape, companies must prioritize the security and resilience of their information systems to mitigate these risks and safeguard customer trust.

References:

CBS. (2019). Capital One data breach hits more than 100 million people applying for credit. Available from:

<https://www.cbsnews.com/news/capital-one-data-breach-2019-more-than-100-million-people-applying-for-credit-affected-today-2019-07-29/> [Accessed 3 May 2023].

Romanosky, S., Telang, R., & Acquisti, A. (2011). Do data breach disclosure laws reduce identity theft? *Journal of Policy Analysis and Management*, 30(2), 256-286.

Acquisti, A., Friedman, A., & Telang, R. (2006). Is there a cost to privacy breaches? An event study. Available from: <https://www.heinz.cmu.edu/~acquisti/papers/acquisti-friedman-telang-privacy-breaches.pdf>. [Accessed 3 May 2023]

Fichter, D. (2021). The Impact of Data Breaches on Reputation & Share Value. *Security Magazine*. Available from: <https://www.securitymagazine.com/articles/95084-the-impact-of-data-breaches-on-reputation-share-value>. [Accessed 3 May 2023]

Schwab, K. (2016). The Fourth Industrial Revolution: What it means, how to respond. Available from: <https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond/>. [Accessed 3 May 2023]

Capital One. (2019). Capital One Announces Data Security Incident. Available from: <https://www.capitalone.com/facts2019/>. [Accessed 3 May 2023]