



FINTECH AND FINTECH ENVIRONMENT WITH INNOVATION: A REVIEW OF LITERATURE

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Abstract: The word FinTech has been derived from the combination of finance and technology. As the name signifies this industry came into existence with the collaboration of the IT and finance industry. From the literature, it is clear that FinTech is an ITbased company coming up with innovative financial products where the traditional financial institutions had a drawback. These drawbacks were in terms of efficiency, cost and regulations. The innovative products provided by FinTech are customer-centric and customer friendly.

Keywords: FinTech, Financial Environment, digital Innovation, IT, Financial Institutions.

1.Introduction: The FinTech environment is the network where several stakeholders meet to where FinTech provides innovative solutions. FinTech ecosystem includes traditional financial institutions, consumers, regulators, NGOs, the general public, government, IT industry, media and investors. Some of the FinTech businesses identified were in the field of wealth management, lending, big data, insurance and exchanges. These stakeholders tend to impact FinTech either directly or indirectly. FinTech is identified as a disruptive innovation leading to industry innovation. Most of the research papers studied was more in favour of disruptive innovation. The biggest benefit of FinTech is the decreased cost or increased profitability, innovative solutions, efficiency and convenience.

On contrary, the biggest challenges faced by FinTech are cyber risk, future in terms of stability and sustainability, legality and the increasing interest of the regulators. However, less evidence was found to identify FinTech as the industry convergence. There are some limitations of this research. Firstly, the number of research papers used is

limited to 22. Secondly, FinTech itself is a very new topic in the world of academia and therefore, the research done on this topic is very limited. Lastly, the field of FinTech is in the transformation stage and hence, it is difficult to distinguish it as a financial or IT company.

The first applications of technologies used by banks and trading companies relied on physical media containing the information/value (e.g., paper, coins). Since transferring these documents and values across distances was only feasible via physical modes of transportation, markets were primarily limited to a regional scope. This changed with innovations in information and communication technology (short “IT”). In particular, the visual and later the electrical telegraph, enabled to separate information from its physical representation and to transmit it faster over larger distances. The economic implications were fundamental, and the telegraph was recognized as an element of industrialization in modern societies (Malone et al. 1987).

For example, a simple query on Google Trends reveals that it was only in 2014 that the compound term “FinTech” emerged on a broad scale and made the transformation of the financial industry visible to everybody (Arner et al. 2016). An industry that had remained rather stable over decades was apparently confronted all of a sudden with new market participants and the acceleration of digital innovation. A surge in the foundation of new companies (“start-ups”) occurred, which promised to change the entire industry with some even claiming that this will be the beginning of the end of banks. This would confirm statements from the 1990s whereby “banking is essential, banks are not” or whereby “banks are the steel industry of the [nineteen]nineties” (Beck 2001, p. 7). Some 25 years later, we may see the beginning of this (digital) transformation. Although the financial industry as a whole and many of the traditional players from the world of “big banks” exist, the “FinTech” movement has substantially influenced this sector.

2. LITERATURE REVIEW

2.1. What is FinTech?

FinTech is a company that is using technology to provide financial solutions using the internet and automated processing of information (Gabor & Brooks, 2017; Milian, Spinola, & de Carvalho, 2019; Zavolokina et al., 2016; Alt, Beck, & Smits, 2018; Gomber, Kauffman, Parker, & Weber, 2018; Puschmann, 2017).

The Electronic Markets special issue in 2012 concluded that banks were only at the beginning of seeing the potential offered by mobile and Internet technology (Bons et al. 2012; Alt and Puschmann 2012).

At the external organization level, regulation changes from lower equity requirements, less supervision, and high protection from national legislation towards stricter rules for held equity, more supervision on an international level, and less protection offered by national laws (Alt and Puschmann 2016, pp. 25–27; Arner et al. 2017; Lawrence 2016; Pousttchi and Dehnert 2018). This is also required since the key infrastructures (e.g., central bank, payment networks) will no longer be provided by centralized national bodies or focal firms but by electronic systems that are operated by various network partners for specific tasks (e.g., payments, investment, financing) or even work on a fully decentralized basis (e.g., blockchains) (Alt and Puschmann 2016, pp. 94–102; Němcová and Dvořák 2013). The widespread use of digital infrastructures allows cost-efficient operations and the move towards cashless societies.

In 2018, we may say that this development has taken place. Besides a further growth of FinTech start-up funding, many incumbents have increased the digitalization of their processes and sometimes even introduced new products and services (e.g., enhanced online banking, customer apps and video conferencing, crypto assets). Thus, the emergence of FinTech is impressive, but has not come “all of a sudden” and relies on a long legacy of financial technology. Is it a revolution or rather an evolution? FinTech may indeed be conceived as a simple evolution if a linear development path could be observed.

3. RESEARCH METHODOLOGY

In this research paper, the authors have conducted a SLR to summarize the main sources of literature for each of the mentioned research questions. The SLR was followed by QCA and frequency analysis. The authors did a SLR based on a sample of 22 research papers. These papers were shortlisted from 80 papers initially chosen from Google Scholar, Web of Science and Scopus. The criteria on which the papers were shortlisted were the number of citations in Google Scholar and Scopus and the impact factor of the journals in Scopus. Moreover, to summarize the literature and answer each research question authors conducted the QCA. As FinTech is an emerging industry and most of the academic work is done in the last decade, the authors chose the most recent papers, i.e., from 2017 to 2020 except for one paper which was cited by many researchers.

According to Okoli and Schabram (2010), the SLR is a systematic, explicit, comprehensive and reproducible method used to identify, evaluate, and synthesize the existing literature produced by researchers, scholars, and practitioners. The process of conducting the SLR has three major stages: planning the review, conducting the review and reporting the review. Planning the review includes two steps: formulating the review and developing and validating the review protocol. Planning the review is followed by conducting the review which has five steps: searching the literature, screening for inclusion, assessing the quality, extracting data and analyzing and synthesizing the data. Lastly, conducting is followed by reporting the review, which reports the findings (Xiao & Watson, 2019)

4. Benefits and challenges of FinTech

Due to the factors of innovation, convenience and less cost, FinTech is getting popular at a fast rate (Goldstein et al., 2019; Leong et al., 2017; Milian et al., 2019; Lee & Shin, 2018). Thus, low cost leads to higher profitability (Gomber et al., 2018). One another reason behind this popularity is the lack of trust in the incumbent (banks) (Leong et al., 2017). Therefore, transparency is identified as one important key to the success of FinTech (Gomber et al., 2018). Also, FinTech has eliminated intermediation for example, in crowdfunding the lenders and borrowers can meet more directly on different electronic platforms with very small service charges as compared to banks (Au & Kauffman, 2008). Services by FinTech are cheap due to fewer regulations in this industry (Au & Kauffman, 2008). Over time the competition is getting intense between FinTech and the incumbents as the incumbents have started in-house research and are transforming their offerings (Alt et al., 2018; Goldstein et al., 2019; Leong et al., 2017). FinTech is risky due to a lack of collateral (Lee & Shin, 2018; Gomber et al., 2017; Anagnostopoulos, 2018; Goldstein et al., 2019; Leong et al., 2017) as their target audience is very risky (Jagtiani & Lemieux, 2018) and FinTech lacks financial data required to measure credit risk correctly (Leong et al., 2017). The solutions

offered by FinTech like cryptocurrency are accused of feeding illegal transactions (Goldstein et al., 2019). Also, there is a high-security risk as all the data is stored in the cloud and just one glitch in technology can cause havoc (Thakor, 2020; Ozili, 2018; Lee & Shin, 2018; Goldstein et al., 2019). People still do not trust

5. Conclusion

This research has summarised previous literature to suggest a comprehensive definition of FinTech which makes it easy for the investors and academicians to differentiate it from other financial institutions as it highlights all the attributes of FinTech identified earlier. Also, the FinTech ecosystem could help investors and banks who are willing to invest or who are affected by these new entrants (FinTech). This paper is beneficial for a researcher who is pursuing their research in the same field. Lastly, it may be useful for regulators who are trying to understand FinTech and its industry.

Some of the topics that could be used for further research are as follows. First, the integration of FinTech in the financial environment with innovation. Secondly, what is the future of FinTech, i.e., if it will be the acquisition by the traditional financial institutions or will they play a separate role in the financial ecosystem. Thirdly, who will be regulating FinTech: the IT industry or the finance industry? Fourthly, what does the entrepreneurial FinTech model look like? Fifthly, in which stage is FinTech from the perspective of the concerns-based adoption model (CBAM).

References

Alt, R. (2018). Electronic Markets and current general research. *Electronic Markets*, 28(2), 123–128. <https://doi.org/10.1007/s12525-018-0299-0>.

Book Google Scholar

Arner, D. W., Barberis, J., & Buckley, R. P. (2016). The evolution of FinTech: A new post-crisis paradigm? *Georgetown Journal of International Law*, 47(4), 1271–1319.

Google Scholar

Arner, D. W., Barberis, J., & Buckley, R. P. (2017). FinTech, RegTech and the reconceptualisation of financial regulation. *Northwestern Journal of International Law and Business*, 37(3), 371–413.

Google Scholar

Bain & Company (2017). Evolving the customer experience in banking. http://www.bain.de/en/Images/BAIN_REPORT_Evolving_the_Customer_Experience_in_Banking.pdf, accessed July, 23, 2018.

Beck, H. (2001). Banking is essential, banks are not. The future of financial intermediation in the age of the internet. *Netnomics*, 3(1), 7–22. <https://doi.org/10.1023/A:1009927623530>.

Article Google Scholar

Bons, R. W. H., Alt, R., Lee, H. G., & Weber, B. (2012). Banking in the internet and mobile era. *Electronic Markets*, 22(4), 197–202. <https://doi.org/10.1007/s12525-012-0110-6>.

Article Google Scholar

Bouwman, H., den Hooff, V., van de Wijngaert, L., & van Dijk, J. (2005). *Information and communication technology in organizations: Adoption, implementation, use and effects*. Sage Publications. <https://doi.org/10.4135/9781446211519>.

CBInsights (2018). Global Fintech report Q1 2018. <https://www.cbinsights.com/research/report/fintech-trends-q1-2018/>, accessed July, 23, 2018.

Davies, S., Jackett, D., Kashyap, M., Nicolacakis, D., Qureshi, M., & Shipman, J., (2016). Customers in the spotlight: How FinTech is reshaping banking - Global FinTech Survey 2016. PricewaterhouseCoopers. <https://www.pwc.com/il/he/bankim/assets/fin-tech-banking.pdf>, Accessed June 9, 2018.

Deloitte (2016). RegTech is the new FinTech: How regulatory technology is helping firms better understand and manage their risks.

Deloitte. https://www2.deloitte.com/content/dam/Deloitte/ie/Documents/FinancialServices/IE_2016_FS_RegTech_is_the_new_FinTech.pdf, Accessed July, 23, 2018.

Derks, J., Gordijn, J., & Siegmann, A. (2018). From chaining blocks to breaking even: A study on the profitability of bitcoin mining from 2012 to 2016. *Electronic Markets* 28(3).

Dhar, V., & Stein, R. M. (2017). FinTech platforms and strategy - integrating trust and automation in finance. *Communications of the ACM*, 60(10), 32–35. <https://doi.org/10.1145/3132726>.

Article Google Scholar

Du, K. (2018). Complacency, capabilities, and institutional pressure: Understanding financial institutions' participation in the nascent mobile payments ecosystem. *Electronic Markets*, 28(3). <https://doi.org/10.1007/s12525-017-0267-0>.

Article Google Scholar

Ehrenfeld, J. (2017). Securities market automation from standards to self-learning machines: Current state and future perspectives. *Journal of Securities Operations & Custody*, 9(3), 245–252.

Google Scholar

Gellrich, T., Hackethal, A., & Holzhäuser, M. (2005). Vertical integration and bank performance. In O. K. Ferstl, E. J. Sinz, S. Eckert, & T. Isselhorst (Eds.), *Wirtschaftsinformatik 2005* (pp. 547–566). Heidelberg: Physica. https://doi.org/10.1007/3-7908-1624-8_29.

Chapter Google Scholar

Gimpel, H., Rau, D., & Röglinger, M. (2018). Understanding FinTech start-ups - a taxonomy of consumer-oriented service offerings. *Electronic Markets*, 28(3). <https://doi.org/10.1007/s12525-017-0275-0>.

Article Google Scholar

Gomber, P., Koch, J.-A., & Siering, M. (2017). Digital finance and FinTech: Current research and future research directions. *Journal of Business Economics*, 87(5), 537–580. <https://doi.org/10.1007/s11573-017-0852-x>.

Article Google Scholar

Gomber, P., Kauffman, R. J., Parker, C., & Weber, B. W. (2018). On the FinTech revolution: Interpreting the forces of innovation, disruption, and transformation in financial services. *Journal of Management Information Systems*, 35(1), 220–265. <https://doi.org/10.1080/07421222.2018.1440766>.

Article Google Scholar

Goodale, J. (2012). Bank 1.0 and Bank 2.0 success entails learning from each other's best practices. Whitepaper TSYS, <https://digitalpayments.files.wordpress.com/2013/03/bank-1-0-and-bank-2-0.pdf>, Accessed June 9, 2018.

Gopalan, S., Jain, G., Kalani, G., & Tan, J. (2012). Breakthrough IT banking. *McKinsey on Business Technology*, 26(Spring), 30–35.

Google Scholar

Hoegen, A., Steininger, D.M., & Veit, D. (2018). How do investors decide? An interdisciplinary review of decision-making in crowdfunding. *Electronic Markets*, 28(3). <https://doi.org/10.1007/s12525-017-0269-y>

Article Google Scholar

Jung, D., Dorner, V., Weinhardt, C., & Puzmaz, H. (2018). Designing a robo-advisor for risk-averse, low-budget consumers. *Electronic Markets*, 28(3). <https://doi.org/10.1007/s12525-017-0279-9>

Article Google Scholar

Lawrence, G. B. (2016). Adaptive financial regulation and RegTech - a concept article on realistic protection for victims of bank failures. *Duke Law Journal*, 66(3), 567–604.

Google Scholar

Lee, I., & Shin, Y. J. (2018). Fintech: Ecosystem, business models, investment decisions, and challenges. *Business Horizons*, 61(1), 35–46. <https://doi.org/10.1016/j.bushor.2017.09.003>.

Article Google Scholar

Malone, T. W., Yates, J., & Benjamin, R. I. (1987). Electronic markets and electronic hierarchies. *Communications of the ACM*, 30(6), 484–497. <https://doi.org/10.1145/214762.214766>.

Article Google Scholar

Marinč, M. (2013). Banks and information technology: Marketability vs. relationships. *Electronic Commerce Research*, 13(1), 71–101. <https://doi.org/10.1007/s10660-013-9107-2>.

Article Google Scholar

Marjanovic, O., & Murthy, V. (2016). From product-centric to customer-centric services in a financial institution – Exploring the organizational challenges of the transition process. *Information Systems Frontiers*, 18(3), 479–497. <https://doi.org/10.1007/s10796-015-9606-x>.

Article Google Scholar

Němcová, Z., & Dvořák, J. (2013). Technology payment cards communication with banking institutions in the field of cashless payment. Scientific papers of the University of Pardubice. *Series D, Faculty of Economics & Administration*, 18(26), 116–128.

Google Scholar

OECD (2018). Income statement and balance sheet. <https://stats.oecd.org/>, accessed July, 23, 2018.

Olanrewaju, T. (2013). The rise of the digital bank. *Financial Times*, Oct. 25.

Peppard, J., & Ward, J. (1999). ‘Mind the gap’: Diagnosing the relationship between the IT organisation and the rest of the business. *Journal of Strategic Information Systems*, 8(1), 29–60. [https://doi.org/10.1016/S0963-8687\(99\)00013-X](https://doi.org/10.1016/S0963-8687(99)00013-X).

Article Google Scholar

Pousttchi, K., & Dehnert, M. (2018). Exploring the digitalization impact on consumer decision making in retail banking. *Electronic Markets*, 28(3). <https://doi.org/10.1007/s12525-017-0283-0>.

research. <https://doi.org/10.2139/ssrn.1954824> 20. Ozili, P. K. (2018). Impact of digital finance on financial inclusion and stability. *Borsa Istanbul Review*, 18(4), 329–340.

<https://doi.org/10.1016/j.bir.2017.12.003> 21. Puschmann, T. (2017). Fintech. *Business & Information Systems Engineering*, 59(1), 69–76. <https://doi.org/10.1007/s12599-017-0464-6> 22.

Shim, Y., & Shin, D.-H. (2016). Analyzing China’s fintech industry from the perspective of actor-network theory. *Telecommunications Policy*, 40(2–3), 168–181.

<https://doi.org/10.1016/j.telpol.2015.11.005> 23. Shin, D.-H., & Lee, C.-W. (2011). Disruptive innovation for social change: how technology innovation can be best managed in social context. *Telematics and Informatics*, 28(2), 86–100. <https://doi.org/10.1016/j.tele.2010.08.002> 24.

Thakor, A. (2020). Fintech and banking: What do we know? *Journal of Financial Intermediation*, 41, 100833. <https://doi.org/10.1016/j.jfi.2019.100833> 25. Weaver, B. (2007). Research proposal: Industry convergence — Driving forces, factors and consequences. Paper presented at the 19th Business Administration Conference (NFF). Retrieved from <https://lucris.lub.lu.se/ws/portalfiles/portal/6305586/1578598.pdf>