

FinTechs on Blockchain: Can we Assess the Scope?

Bachelorarbeit

zur Erlangung des akademischen Grades „Bachelor of Science (B. Sc.)“ im Studiengang
Wirtschaftswissenschaft der Wirtschaftswissenschaftlichen Fakultät der Leibniz Universität Hannover

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Hannover, den 11.08.2016

Abstract

Bitcoin has been left behind and the focus now is on the blockchain. As the underlying core technology behind Bitcoin, the blockchain as an isolated construct is able to offer features going far beyond Bitcoin. Smart contracts and smart value for example are functions, the blockchain is able to offer in the future. In addition to this trend, the finance sector is getting more and more lethargic, meanwhile new so far unknown competitors have entered the market: The fintechs. Fintechs act within a dynamic, developing environment and are heading towards the blockchain, meanwhile banks are still relying on their old business models and strategies. By now, banks have realized the necessity of taking part in this change and thus are trying to participate. This elaboration aims to find an answer on the question, whether it is possible to assess the scope or not in regards to the interaction between banks and fintechs, meanwhile the SCOPE planning model is used as methodology. Furthermore, examined research questions have the aim to support finding an answer on the main question. All in all, assessing the scope of a topic, which is at its peak in regards to the surrounding hype, is not possible, because further experiences from practise need to be made to find an adequate answer on this question. The existing structures are too fragile, too many new entrants are entering the market, and regulatory aspects are only marginally clarified, which is leading to an overall higher complexity within this emerging sector.

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List of Abbreviations

AML	Anti Money Laundering
ATMs	Automated Teller Machines
B2B	Business-to-business
B2C	Business-to-clients
CSV	Comma Separated Values
DAC	Decentralized Autonomous Company
DAO	Decentralized Autonomous Organization
Dapp	Decentralized App
DNS	Domain Name System
IoV	Internet of Value
IT	Information Technology
KYC	Know Your Customer
NASDAQ	National Association of Securities Dealers Automated Quotations
RQ	Research Question
RTGS	Real-time Gross Settlement System
SEPA	Single Euro Payments Area
SWIFT	Society for Worldwide Interbank Financial Telecommunication

1. Introduction and Motivation

Back in 1994, Bill Gates provoked that ‘Banking is necessary, Banks are not’ and in 2016, banks are still existing and nothing has changed so far. Nowadays, the finance sector with its defensible and outdated business models and strategies can be considered as one of the most technology-averse sectors (McKinsey, 2015). When banks firstly introduced automatic teller machines (ATMs), credit cards, securities, swaps, and mobile banking, it seemed that all of these innovations had the aim to pioneer and revolutionize the previous established system, but none of those technologies had the potential to initiate a disruptive change (Wyman, Anthemis and Santander, 2015). Banks nowadays are inefficient and unloved, people would prefer going to the dentist instead of going to their bank, hence it seems that banks are getting into the background and a big swift is coming. What banks have done wrong so far, is what the new evolving player within the financial sector are trying to improve: The fintechs. Finance and technology is what fintechs are trying to combine and improve by the use of technological innovations used within the finance sector. Simplification, transparency, analytics, and reduced friction are the four maxims standing behind this change (Moldow, 2016 and Allen & Overy, 2015). In addition to this trend, the age of cryptocurrencies was called out in 2008, when Satoshi Nakamoto introduced Bitcoin, a new cryptocurrency based on the blockchain as the underlying distributed ledger. Discussions surrounding Bitcoin were omnipresent, people were trying to analyse and understand the hype about this viral topic (Locke and Lorde, 2016). Recently, the focus has shifted from Bitcoin to the blockchain, which has the potential to create a fundamental change. Consensus, provenance, immutability, and finality leading to lower costs, improved security, more transparency, higher speed, and reduced complexity is what the blockchain is able to offer and therefore, it is inevitable for financial institutes to keep up with the process (Capgemini, 2015 and IBM, 2016). A pioneering technology and the new, so far unknown fintechs are currently affecting the environment surrounding the finance sector with its long-established banks and thus, all actors need position themselves as effectively as possible (Wyman and Euroclear, 2016). Competing forms the core behind economy, but in this case the actors may need to rethink this approach and follow examples of collaboration or mandated innovation, instead of challenging (Skan, Dickerson and Masood, 2015 and Wyman and Euroclear, 2016). As for all trends, the blockchain in its infancy can offer opportunities, chances, threats, and strength, which firstly need to be identified with patience and hence, actors need to go deeper into the subject to eradicate potential risks (Capgemini, 2015). Right now, there are still many unanswered questions, for example in regards to regulatory aspects, scalability, and standardization (Wyman and Euroclear, 2016). At what stage are we currently and where is the journey going to take us is the main question right now and leads on to the research subject of this elaboration: Can we assess the scope?

The structure of this elaboration is built up as follows: After the introduction, the blockchain will be examined by giving an overview of Bitcoin, the origin of the blockchain. Afterwards, the blockchain will be defined in an isolated manner, the phases of the evolution are going to be outlined, and the functionalities will be clarified. General application groupings of the blockchain will be presented and public and private blockchains are going to be delimited within the following subchapter. The blockchain then will be linked with fintechs in the following chapter. Providing an overview of fintechs and giving an insight into fintechs aims to give general knowledge about this topic and leads over to the symbiosis of fintechs and the blockchain in the next subchapter. Existing fintechs based on the blockchain and the presentation of selected examples is linked to the previous subchapter and afterwards, an interim conclusion forms the basis for the elaborated research questions, which will be answered after the next chapter. The chapter ‘SCOPE Planning Model and Results’ aims to provide additional knowledge about fintechs based on the blockchain and is directly linked to the research questions with the intention to find adequate results on these. As the penultimate chapter, the discussion part has the object to critically argue the results and the research subject. The conclusion and outlook will be provided in the last chapter by summing up the examined results, answering still unanswered questions, and giving an outlook for the future.

2. The Blockchain

The blockchain in a literal sense consists of blocks stringed together to a chain. Each block stores a number of events, which then are validated by the mining process. The position of every single block proves that the previous ones are at the right position and hence the blockchain is not manipulated and the syntax is correct (Chuen, 2015).

As the heart of Bitcoin, the term blockchain first gathered attention by forming the underlying core technology behind this cryptocurrency. As subset of digital currencies, a cryptocurrency is secured by the cryptographic proof-of-work process and works in a peer-to-peer manner, thus it is one of the purest versions of digital money. The blockchain therefore functions as the distributed ledger of Bitcoin, but nowadays, the focus is shifting from Bitcoin to the blockchain and right now, the hype is on its peak (Umeh, 2016).

This process of change may be further underlined after Mike Hearn, one of the leading Bitcoin developers, sold his whole Bitcoin fortune, after expressing that in a long-term perspective, Bitcoin may not offer the efficiency and utility expected and promised (Hurlburt, 2016). To give an insight on how the blockchain was separated from Bitcoin, a short overview about this cryptocurrency will be given.

To answer the key and last research question is very complex, because rating one of the most hyped topics is quite difficult. Kept simple, there are two possible scenarios which can happen in the future, the first one is the scenario of success, in which actors are able to offer added value for the whole environment. The second possibility is the scenario of failure, in which the blockchain disappears from the screen, for example because of negative impacts or overestimation. Both scenarios can offer an added value, because people can profit from succeeding or learn through failure. The blockchain can be a big game changer, which has the potential to overhaul complete industries, but it also needs to be considered with caution. It therefore is difficult to predict the final status, but by now, the development is too fast and error prone, the actors are acting in a too competing way, and there is a need of standardization to establish a functioning framework to work in. Projects by now are succeeding, others are failing, but this experience is necessary to test whether this technology is ready for the use in a professional environment. Like for the introduction of the world wide web, nobody was able to estimate how successful the internet will be in 20 years, but right now, the internet is one of the most disruptive ideas existing. If the actors decelerate, collaborate, invest, and act open, meanwhile standardization within a regulatory framework is established, the potentials can be unfolded and thus are rising the hope for a big change.

6. Conclusion and Outlook

With the creation of Bitcoin as the first milestone, the blockchain first gathered attention. In his white paper, Nakamoto already mentioned that ‘any needed rules and incentives can be enforced with this consensus mechanism’ and therefore, the idea of going beyond the blockchain already existed in 2008. Based on Bitcoin and the blockchain as the underlying distributed, public ledger, many start-ups, fintechs, innovators, and companies followed the example of Bitcoin and built new protocols upon the isolated blockchain with the aim to establish new ideas. The Blockchain 1.0, as the basis to transfer virtual currencies, is getting more and more left behind and the industry by now is heading towards Blockchain 2.0 and 3.0. Smart contracts, smart property, DAOs, Dapps, justice, efficiency, and coordination are the new topics the extended blockchain is going to face in the future. Fintechs are the answer of dynamic and flexible start-ups to react on the finance sector with its defensible economics and unchangeable business models. With the help of the blockchain, a revolution has started with the aim to change the financial sector fundamentally. The result is fintech 2.0, based on the blockchain and ready to apply the ‘Internet of Things’ and smart data. Besides the fintechs themselves, banks are also expressing their interest in this new technology and the ironic behind this development is that the group, which should be eliminated, by now is investing the highest amount of money to get in touch with this technology. By now, the developing side creates innovations and intellectual property, which it tries to protect from the competitors, the financial

institutes are trying to find the right positioning by creating business plans and strategies, and the remaining actors are also trying to find a position within this process. Impressive examples of fintechs based on the blockchain are Ethereum, The DAO, Ripple, and Colored Coins, which are offering new approaches for different existing and non-existing solutions. The SCOPE planning model therefore was first used to further examine the situation, core competencies, obstacles, prospects, and expectations and second, to answer the created research questions. The current situation is an interplay between the fintechs and the banks. Banks are trying to keep up with the current process by the use of new business models and strategies to overcome the regulatory burdens and shrinking physical advantages, meanwhile the flexible and dynamic fintechs are part of a creative and nurturing environment. At the moment, fintechs can act within a zone of low regulatory constraints, but dealing with this topic right now is as important as it is going to be in the future. The core competencies the blockchain is able to offer for the financial sector mainly are lower costs, better auditability, tamper proof methods, high speed transactions, improved monitoring, more transparency, and a higher consensus, which in general are highlights all applications based on the blockchain can rely on, but the fact of importance is the support of smart contracts, smart property, DAOs, and artificial intelligence, leading to automated and accelerated processes. Obstacles, fintechs have to face right now are a general lack of knowledge, problems in regards to the scalability, missing investors, and the overall missing standardization, which sooner or later will have an impact. Banks need to rethink and rework the status quo and therefore have to restructure existing business models and strategies. If banks are able to overcome the existing hurdles, the possibility to keep up with fintechs is reasonable. As discussed in RQ1, banks need to play an active role again by taking risks when experimenting, trying to understand and analyse the underlying technology, and by acting open minded. Fintechs should improve their long-term coordination, should build up a customer base, and hence get funds by finding partners. As discussed in RQ2, both actors should find the right strategies to improve their current working methods and as mentioned previously and discussed in RQ4 again, following the collaboration approach seems to fit better than the challenger and mandated policy approach. All in all, the expectations in regards to the blockchain are high, people believe that it can change the market sustainable and could cause a paradigm shift. An added value is what all affected participants are hoping to receive by a successful implementation into the current environment. The beginning has been made and the blockchain caused a stir. Banks therefore need to prepare for the ongoing happenings to not lose the connection, which already happened when financial institutes missed the digitalization. Losing the connection in this context means to completely fail, because in case of the blockchain succeeds, there is only one direction left. A shift in the banks way of thinking is needed, acting active and open minded is necessary to get connected with the young and dynamic fintechs, which have the potential to revolutionize. At first glance, it seems that both actors are following different goals, but after taking a closer look, it is obvious that the weaknesses of fintechs match the strengths of banks and contrary. Therefore, the challenger

approach is too radically, meanwhile the mandated policy approach is too weak. Thus, there is only one option - collaboration. Banks benefit from the fintechs innovativeness, meanwhile banks can offer experience, a customer base, and existing infrastructures. Collaboration would create a higher output for all and would fasten the development, but to do this, a general regulatory framework needs to be established first. Fintechs by now can interact in a zone of low regulatory, while banks are repressed by a high level of regulatory burdens and therefore, there is no equilibrium. Building transparent regulatory and legal aspects would create a stable base for a healthy growth. At the moment, events are overturning, which again calls for a deceleration by standardization. More and more questions are coming up and can not be answered, problems and cases of fraud come to light, and the majority is left behind, because most people are not able to keep up with the current development. In this context, further investigations in regards to the selected strategies by banks and fintechs can be made and therefore, it would be interesting to get to know to which degree collaborations were made. Furthermore, empirical analyses on the growth of banks in regards to the growth of fintechs could give information about a shift in shares within the financial sector.

Can we assess the scope? The answer is no. The environment surrounding the blockchain is too dynamic, too fast, and by now overloaded. At the moment, no one is able to predict what will happen within the next month or the next days, but two scenarios are conceivable for the future: In the end, all is going to be well or the blockchain will be a forgotten approach.