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FINTECH IN POLAND: FINTECH START-UPS VERSUS TRADITIONAL BANKING IN POLAND

Introduction

We are in the middle of the fourth industrial revolution[1], or the technological revolution that is irreversibly changing the world. Like the steam engine in the 18th century, mass production in the 19th century, the internet in the 20th century, the technological transformation taking place today has drastically transformed the way we live and work[2]. It has created radically new approaches that revolutionize the way in which individuals and institutions engage and collaborate. One area significantly impacted by this technological revolution is financial services[3]. In this paper, the topic of innovation in the financial services is explored. It is an industry that is rapidly changing and needs to be understood as it is drastically changing the way businesses are run and how households function. A comparison between financial technology (fintech) start ups and traditional banking in Poland is undertaken to identity the main advantages and disadvantages of the two, and to see whether there is room for collaboration.

Innovation in Financial services in Poland

Financial services in the fourth industrial revolution are being completely redesigned with the onset of the Fintech revolution. Fintech, which is a combination of the words finance and technology, is understood as technological solutions that both facilitate and create the financial industry[4]; or as a new financial industry

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[1] K. Schwab, *The Fourth Industrial Revolution*, World Economic Forum Cologny/Geneva 2016.

[2] M. A. Cavallo, *The FinTech effect and the disruption of financial service*, CIO 2016.

[3] *Blurred lines: how FinTech is shaping financial services*, Global FinTech Report, PricewaterhouseCoopers, March 2016.

[4] P. Widawski, M. Brakoniecki, *Fintech in Poland: Barriers and Opportunities*, Fintech Polska Foundation, Obserwatorium.biz, Centre for New Technology Regulations at the Faculty of Law and Administration, the University of Warsaw, 2016, p. 6.

that applies technology to improve financial activities[5]. Fintech has improved traditional ways of doing business and banking, but also introduced completely new solutions to allow for greater financial inclusion. Financial inclusion is recognized as critical in reducing poverty and achieving inclusive economic growth[6]. In order to be able to start and develop a business, invest in education, manage risk, and absorb financial shocks, financial inclusion is key. Access to accounts and to savings and payment mechanisms increases savings and boosts productive investment and consumption. In Poland, Fintech start-ups are allowing businesses to better work together and provide end users with better products at more competitive prices.

Table 1. **Level of Innovation in Warsaw, Ranked on a Global Scale**

Indicator	**Ranking of Warsaw**
Global Financial Centre Index (GFCI)	45th
Doing Business 2017	24th
Global Innovation Index (GII)	39th

Source: based on data from P. Widawski, M. Brakoniecki, *Fintech in Poland: Barriers and Opportunities*, Fintech Polska Foundation, Obserwatorium.biz, Centre for New Technology Regulations at the Faculty of Law and Administration, the University of Warsaw, 2016, p. 6.

On the Global Financial Centre Index (GFCI), which aims to examine the competitiveness of major financial centres, Warsaw ranks 45th globally and 12th in Europe. Polish banks are some the most innovative in the world, and non-bank FinTech companies have also been experiencing dynamic growth in recent years through efficient collaboration with the banks[7]. Online and mobile platforms allow banks to offer a wider range of services, which allows customers to feel better about their services. Because Polish consumers fall below the average found in Western Europe with regard to the percentage of households with Internet access (75% vs. 87%) and the percentage of smartphone users (41% vs. 62%)[8], as access to technology increases, so will the demand for innovative financial products. Small fintech startups can be the perfect partner for larger banks looking to innovate and improve their customer experience.

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[5] P. Schueffel, *Taming the Beast: A Scientific Definition of Fintech*. Journal of Innovation Management, Schueffel JIM 4, 4/2016, p. 32.

[6] A. Demirguc-Kunt, et. al., *The Global Findex Database 2014 Measuring Financial Inclusion around the World*, Policy Research Working Paper 7255, World Bank Group 2015, p. 10.

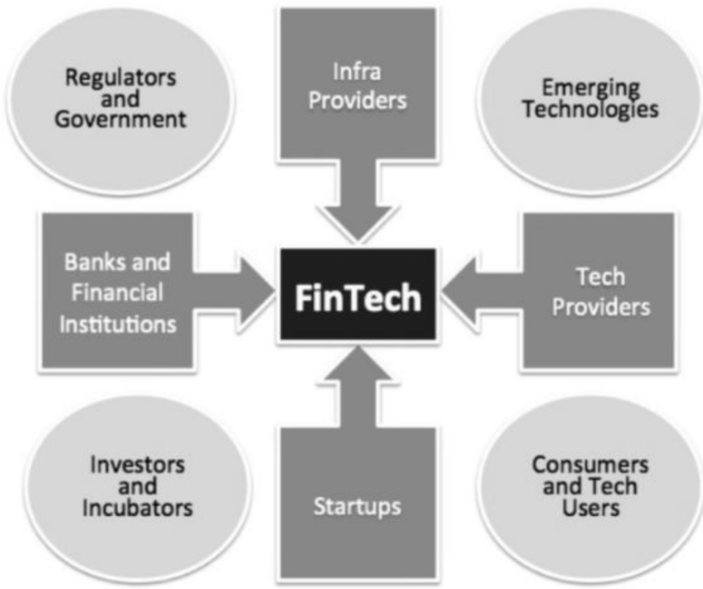
[7] P. Widawski, M. Brakoniecki, Fintech in Poland…op. cit, p. 9.

[8] *Digital Poland Capturing the opportunity to join leading global economies*, McKinsey & Company, Forbes Polska 2016, p. 30.

The Fintech ecosystem

Wider use of mobile telephony and internet use, the availability of high-speed computing, advances in cryptography, and innovations in machine learning and data analytics are some of the elements that make the fintech revolution possible, as well as the activities of non-bank financial firms and non-financial firms like tech companies and network operators[9].

Figure 1. **The Fintech ecosystem**



Source: M. A. Cavallo, *The FinTech effect and the disruption of financial service*, CIO 2016.

There are a number of players that make up the Fintech ecosystem. Various studies have divided the ecosystem in various ways. Cavallo[10] presents a number of players that directly and indirectly affect Fintech. Among players directly involved in creating and improving Fintech services are Startups, Tech providers, infrastructure (infra) providers, and traditional banks and financial institutions. Consumers and tech users, emerging technology, the influence of regulators and support from the government, as well as from investors and incubators all have an indirect yet powerful influence on this ecosystem.

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[9] J. Caruana, *Financial inclusion and the fintech revolution: implications for supervision and oversight*, Bank for International Settlements 2016.

[10] M. A. Cavallo, *The FinTech effect and the disruption of financial service*, CIO 2016.

On the other hand, In Lee[11] divides the fintech ecosystem into five elements: (1) fintech startups (e.g., payment, wealth management, lending, crowdfunding, capital market, and insurances fintech companies), (2) technology developers (e.g., big data analytics, cloud computing, cryptocurrency, and social media developers), (3) government (e.g., financial regulators and legislature), (4) financial customers (individuals and organizations), and (5) traditional financial institutions (e.g., traditional banks, insurance companies, stock brokerage firms, and venture capitalists). He also breaks up the fintech sector into six business models: payment, wealth management, crowdfunding, lending, capital market, and insurance services.

While the internet significantly lowered the cost of communication in the third industrial revolution, Fintech solutions like the blockchain give the promise of doing the same to the cost of transactions[12]. Blockchain technology, often described as a "distributed ledger", is a secure protocol where a network of computers collectively verifies a transaction before it can be recorded and approved. The technology that supports the blockchain allows people who do not know each other (and have no reason to trust one another) to collaborate without having to go through a neutral central authority like a bank or notary public, greatly reducing transaction costs. In essence, the blockchain is a shared, programmable, cryptographically secure and therefore trusted ledger that no single user can control and can be inspected by anyone who wishes to. Currently, the most popular use of blockchain are cryptocurriencies. In the future, blockchain technology will serve as a registrar for documents such as birth and death certificates, titles of ownership, marriage licenses, educational degrees, insurance claims, medical procedures and votes – any kind of transaction that can be put into code.

Fintech "ecosystems" can stimulate technological innovation, make financial markets and systems more efficient, and improved the overall customer experience. Nurturing such ecosystems is important and beneficial for the local and regional economy. When incubators, enterprise development funds and innovation hubs support the creation and growth of local entrepreneurs, the whole economy benefits.

[11] I. Lee, *Fintech: Ecosystem and Business Models*, "Advanced Science and Technology Letters" Vol.142/2016, p. 57.
[12] A. Mackenzie, *The Fintech Revolution*, London Business School Review, Vol. 26, 2015, p. 50.

Collaboration between Fintech start-ups and Traditional Banking in Poland

In Poland, the most innovative banks consider themselves to be a part of the FinTech sector, and even if they represent many different companies, the current Polish market is characterized by positive attitude of banks towards FinTech companies and by a mutual desire to work together, with electronic payments and financial platforms as the primary areas of the Polish FinTech market.

Within the Polish market, the main types of services provided by FinTech companies are electronic payments and financial platforms, loans, budget planning, as well as access to currency transactions, cryptocurrencies or investment. When fintech companies in Poland were asked to identify their main area of business activity, 25% claimed to be financial platforms; 13% electronic payments intermediaries; 13% crowdfunding/P2P Lending initiators; 13% analytics/machine learning organizations; 6% dealt with cryptocurrencies, while another 6% identified Personal Finance Management as their main business activity. The remaining 25 per cent chose fields such as Account Information Service Providers (AISPs), InsurTech/P2P insurance and sales automation[13].

In general, Fintech start-ups will not replace traditional banking, since they cannot complete when it comes to the convenience and security of having a current account at a bank, but they will allow the banking industry to offer better products to their customers[14]. There are three fundamental advantages fintech start ups have over traditional banks. One advantage is their ability to cut costs and improve the quality of financial services. Fintechs do not face as much regulation as traditional banks. They do not have to upgrade legacy IT systems that are no longer relevant but were a costly expense. They do not have to maintain branch networks. They do not have to protect existing businesses.

Another difference is the way the two institutions assess risk. While traditional banks use credit scores and meetings with clients to assess the risk of a loan, fintechs can leverage the power of the internet to make data-driven assessments of customers before lending them funds. A third advantage is fintechs can create a more diverse and stable credit landscape that is less concentrated geographically. Two intrinsic risks in traditional banking include mismatched maturities and leverage. Traditional banks take short-term liabilities like deposits and use them to create long-term assests like mortgages. Traditional banks must borrow heavily to finance their loans. Crowdfunding websites

[13] P. Widawski, M. Brakoniecki, *Fintech in Poland*…, op. cit, p. 19

[14] *The Fintech Revolution,* "The Economist", May 9, 2015.

connect lenders and borrowers directly in peer to peer lending, with individual lenders bearing the risk of default on the loan, not the intermediary.

Table 2. **Comparison of Fintech start-ups to Traditional Banking**

	Fintech	**Traditional Banking**
Costs	-Less regulation - Business done online, lower overhead costs	-Must follow stringent regulations - brick and mortar branches
Risk assessment	**Data-driven assessment**: - Assesment based on many factors; creative forms of gathering information about borrowers (social media, internet presence) - Objective Algorithm responsible for making decisions about the provision of loans and conditions of the agreement	**Relationship-driven assessment**: - one source of information about borrower: credit score - Subjective humans responsible for making decisions about the provision of loans and conditions of the agreement
Credit landscape	Decentralized - risk spread among many in case of default on loan	Centralized - bank solely bears the risk of default on loan

Source: based on information from *The Fintech Revolution,* “The Economist”, May 9, 2015.

However, fintech start-ups also face many challenges. Some of these include complying with regulations, resistance among companies to adopt new technologies, changing comsumer behavior, and access to funding. This was confirmed in Widawski & Brakoniecki’s study on the Polish market. They found that the FinTech market in Poland face three major barriers to its growth: (1) lack of new knowledge on emerging financial technologies; (2) ambiguous regulations and lack of binding interpretations made by the supervisory authority, meaning higher business risk; and (3) lack of incentives for both banks and start ups. The Polish Financial Supervision Authority (Polish FSA) was one of the largest reasons traditional banks and Fintech start-ups were cautious about implementing financial innovation. Almost 19 per cent of respondents of their survey would like to see the establishment of a regulatory sandbox – a solution which will allow entrepreneurs to test new products safely, without the need to meet all regulatory requirements.

There are various other ways to support the development of innovation of the Fintech industry in Poland. Hackathons and application competitions, usually lasting one or two days, are a way to encourage programmers and application developers to create innovative sector related projects for financial institutions. Innovation Laboratories and acceleration programs can also be a useful space for Fintech entrepreneurs to develop projects. Programmers have a number of weeks to collaborate on projects with the ability to use both hard and soft skills of the financial institution sponsoring the program. In Poland, two examples of accelerator programs are the PKO Bank Polski initiative prepared with MIT Enterprise Forum and the D-RAFT FinTech Program for mature projects looking for growth opportunities[15].

The report, "Connecting Global FinTech: Hub Review 2016"[16] commissioned by the Global FinTech Hubs Federation, an organization that associates leading global FinTech hubs, expressly indicates that the active role of the state, progressive regulations, innovation and cooperation culture, strong financial sector, and private investors are all conducive to the development of FinTech hubs. In June 2016, the #StartInPoland programme was announced. This is to be a program that provides the most important tools for supporting start-ups in Poland. Activities related to capital instruments will be conducted by the Polish Development Fund. As for accelerator programmes, the Polish Agency for Developing Entrepreneurship will play a major role.

There are many factors that affect whether a region or a nation can be an innovation hub. Poland can be a major center of innovation if the regulatory burden on small entities is limited. The application of the principle of proportionality is necessary to allow small start-ups to take risks and develop new ideas without the fear of regulatory backlash. Entrepreneurs need simplified and effective cooperation with government authorities. Only then will Poland be able to reap all the benefits of the fintech revolution.

Conclusions

The fourth industrial revolution has brought about many changes, fueled by the adaption of technology by companies and households. The growing fintech industry has democratized access to financial services and has helped lower transaction costs and improve customer experience in terms of banking and insurance services. Investment opportunities which were once only available to wealthy investors are now available to a larger group of citizens, increasing financial inclusion. Fintech startups and banks in Poland have been able to collaborate, but still face major challenges. The biggest challenge is receiving clear regulations from the government about what services such organizations can legally offer.

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[15] P. Widawski, M. Brakoniecki, *Fintech in Poland…*, op. cit, p. 38.
[16] *Connecting Global FinTech: Hub Review 2016*, "Deloitte", September 2016.

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Summary

The Fintech revolution has created many tools that enable banking to be done more effectively, and has increased financial inclusion of those who previously had limited access to various financial instruments. The evolution of finance and technology have led to many incremental and disruptive innovations. In Poland, Fintech startups have been working closely with traditional banks to provide better products and services to clients. As a nation with a highly educated population of IT specialists, Poland is in a strong position to be a leader in the Fintech industry. For Fintech to thrive in Poland, start ups must have the support of the state and regulators in order to decrease the risk of doing business. The biggest barriers to growth of Fintech in Poland are unclear regulations in terms of taxing and oversight by the Polish Financial Supervision Authority.

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Streszczenie

Rewolucja Fintech stworzyła wiele narzędzi, które umożliwiają bardziej efektywną bankowość i zwiększyła integrację finansową tych, którzy wcześniej mieli ograniczony dostęp do różnych instrumentów finansowych. Ewolucja finansów i technologii doprowadziła do wielu inkrementalnych i destrukcyjnych innowacji. W Polsce, startupy Fintech ściśle współpracują z tradycyjnymi bankami, aby zapewnić lepsze produkty i usługi klientom. Jako kraj z wysoko wykształconą populacją specjalistów IT, Polska ma silną pozycję lidera w branży Fintech. Aby Fintech mógł dobrze prosperować w Polsce, startupy muszą mieć wsparcie państwa i organów regulacyjnych, aby zmniejszyć ryzyko prowadzenia działalności. Największymi barierami dla rozwoju Fintech w Polsce są niejasne przepisy dotyczące opodatkowania i nadzoru przez Komisję Nadzoru Finansowego.