UNIVERSITY OF TURKU
Turku School of Economics

The rise of FinTech: Transforming the Financial Services Industry

International Business
Bachelor's thesis
Turku School of Economics

Author:
Venla Varjonen 2100121

Supervisor:
D.Sc. Johanna Raitis

30.5.2025
Turku

The originality of this thesis has been checked in accordance with the University of Turku quality assurance system using the Turnitin Originality Check service.

Artificial intelligence (ChatGPT and QuillBot) was used in this thesis to assist in ideation on subject matter, structure, and grammar (see Appendix 1 for detailed report on the use of AI in this thesis).

Bachelor's thesis

Subject: International Business
Author: Venla Varjonen
Title: The Rise of FinTech: Transforming the Financial Services Industry
Supervisor: D.Sc. Johanna Raitis
Number of pages: 23 pages + 1 appendix
Date: 30.5.2025

This thesis examines the rapidly growing role of financial technology (FinTech) in the modern financial services industry. The central research question is: “What kind of role does FinTech play in the financial services industry today?”. The study explores how FinTech innovations such as artificial intelligence, blockchain, big data analytics and digital platforms are reshaping the traditional financial services industry. The topic is relevant due to the increasing digitization of finance and the emerging role of FinTech in enabling both new business models and market access.

The study is conducted as a literature review that utilizes recent academic sources to explore the impact of FinTech on the financial services industry. The findings highlight how FinTech provides greater efficiency, increased accessibility and possibilities for internationalization for both established companies and startups. In particular, FinTech has enabled faster internationalization and improved financial inclusion, especially in developing markets. At the same time, the rise of FinTech introduces new risks and challenges, including cybersecurity concerns, regulatory issues and ethical issues such as algorithmic bias. The growing influence of Big Tech and FinTech startups has also intensified competition by forcing traditional financial institutions to rethink their strategies.

In conclusion, the study highlights FinTech’s dual role as both an enabler of innovation and a source of disruption. To remain competitive, traditional financial institutions must invest in digital transformation and leverage FinTech in their operations. The study suggests that flexibility, responsible technological development and the adoption of new business models are key to leveraging FinTech’s potential.

Key words: FinTech, financial technology, financial sector, internationalization, artificial intelligence

Kandidaatintutkielma

Oppiaine: Kansainvälinen liiketoiminta
Tekijä: Venla Varjonen
Otsikko: FinTechin nousu: finanssialan yritysten toimintaympäristön muutos
Ohjaaja: KTT Johanna Raitis
Sivumäärä: 23 sivua + 1 sivun liite
Päivämäärä: 30.5.2025

Tämä kandidaatintutkielma tarkastelee finanssiteknologian (FinTech) nopeasti kasvavaa merkitystä nykypäivän finanssialalla. Tutkimuskysymys on: ”Millainen rooli FinTechillä on finanssialalla tänä päivänä?”. Tutkielmassa analysoidaan, miten FinTech-innovaatiot, kuten tekoäly, lohkoketjuteknologia, big data -analytiikka sekä digitaaliset alustat uudistavat perinteisiä finanssipalveluja ja muovaavat alan toimintaympäristöä. Aihe on ajankohtainen, sillä finanssiala digitalisoituu nopeasti ja FinTechillä on yhä suurempi rooli uusien liiketoimintamallien ja markkinoille pääsyn mahdollistajana.

Tutkielma on toteutettu kirjallisuuskatsauksena, joka hyödyntää ajankohtaisia tieteellisiä lähteitä FinTechin vaikutusten tarkastelussa. Tutkimus osoittaa, kuinka FinTech edistää tehokkuutta, lisää saavutettavuutta ja laajentaa globaalia ulottuvuutta sekä pitkään toimineille yrityksille että startup-yrityksille. FinTech on mahdollistanut monille alan yrityksille nopeamman kansainvälistymisen ja edistänyt läsnäoloa kehittyvillä markkinoilla. FinTechin nousu tuo kuitenkin mukanaan myös uusia riskejä ja haasteita, kuten kyberturvallisuusuhkia, sääntelykysymyksiä ja eettisiä ongelmia. Suurten teknologiayritysten ja FinTech-startupien kasvava vaikutusvalta on myös kiristänyt kilpailua pakottamalla perinteiset finanssialan yritykset pohtimaan strategioitaan uudelleen.

Tutkielman löydökset korostavat FinTechin kaksijakoista roolia: se toimii sekä innovaatioiden mahdollistajana että alan toimintatapoja haastavana tekijänä. Kilpailukyvyn säilyttämiseksi perinteisten rahoituslaitosten on panostettava teknologiseen kehitykseen ja hyödynnettävä FinTech-ratkaisuja liiketoiminnassaan. Tutkielma osoittaa, että FinTechin tarjoaman potentiaalin hyödyntäminen edellyttää sopeutumiskykyä, teknologian vastuullista kehittämistä sekä uusien liiketoimintamallien omaksumista.

Key words: FinTech, finanssiteknologia, finanssiala, rahoitusala, kansainvälistyminen, tekoäly

TABLE OF CONTENTS

1 Introduction

1.1 Background and relevance

The financial industry is in a state of transformation. The rapid evolution of financial technology, also known as FinTech, has significantly transformed the global financial services industry. The term FinTech, short for financial technology refers to the use of technology to improve financial services, making them more efficient, accessible and innovative. It covers a wide range of solutions, from digital banking and mobile payments to investment platforms and cryptocurrencies. FinTech companies develop new ways to handle financial transactions, making services faster, cheaper and more user-friendly. Although FinTech is not a new invention and has roots in earlier technological advancements, such as the introduction of early financial technologies like credit cards, ATMs and electronic trading systems (Vasiljeva et al. 2016, 26), it gained widespread public attention around 2016. This marked the beginning of a new phase in its development, where financial services, IT and innovation became more closely connected than ever before. This shift led to an acceleration of new solutions that not only improved traditional financial services but also created entirely new business models. The growing collaboration between the IT sector, financial sector companies and startups has driven continuous innovation, making FinTech a key driver of transformation in the global financial industry. (Mogaji et al. 2024, 39; Giglio 2021, 2.)

The industry consists of a diverse range of institutions, including banks, insurance companies, investment firms and payment service providers that facilitate economic activities. Traditional financial sector companies that used to depend on outdated systems and physical locations are now adopting FinTech solutions to improve services, boost efficiency and reach more customers. At the same time, the nature of the key players in the industry has shifted: where once large and established banks dominated, today new FinTech startups play a significant role in shaping the financial services industry. This transformation has intensified competition as both traditional institutions and new entrants compete to offer faster, cheaper and more innovative financial services. The rise of FinTech has facilitated seamless cross-border transactions, innovative digital banking solutions and enhanced customer experiences, making internationalization more accessible and scalable than ever before. Given the increasing reliance on digital financial services, understanding the role of FinTech in shaping the international expansion of financial sector companies is crucial. (Drummer et al. 2016, 1-2.)

FinTech is not only transforming how financial institutions operate but also redefining the competitive landscape of the industry. The use of artificial intelligence (AI), blockchain, cloud computing and big data in financial services is transforming the industry. These technologies help financial institutions operate more efficiently, reduce costs and better meet customer needs. They enable banks to offer digital banking services across borders, simplify regulatory processes through automation, and create new financial products designed for international markets. For example, according to the African Digital Banking Transformation Report (2023), only about 48% of the African population have access to banking services, which highlights a significant gap in financial inclusions but also offers immense growth opportunities for FinTech companies. However, the difficult access to banking services is not only an issue in developing countries, but for example, also in the United States. According to a 2023 report by the Federal Deposit Insurance Corporation, 12,2% of American Indian or Alaska Native individuals and 10,6% of African Americans are still without banking services. The report suggests that some of the reasons for this include the poor locations of banks and low-income levels, which could be addressed with FinTech solutions. As a result, many financial companies are looking to leverage these innovations not only to enhance their service offerings but also to expand their operations beyond local markets, and that way accelerate internationalization. Despite its potential benefits, the integration of FinTech into business strategies also has its challenges, including cybersecurity threats, regulatory uncertainties and competition from companies that already specialize in digital services. Understanding the role of FinTech in financial sector companies is therefore critical to be able to leverage it effectively in business.

This study will explore the phenomenon of FinTech by examining its key technologies, main actors and how it differs from traditional financial services. The study also looks at how FinTech may influence the internationalization of financial sector companies by providing new opportunities for growth and market access. Overall, this study will provide an overview of the current FinTech landscape and its role within the financial services industry. The study will also address the challenges that come with the adoption of FinTech in international operations, including concerns about cybersecurity, regulatory issues and the competitive landscape. By focusing on both the opportunities and the risks, this study offers a balanced perspective on how financial companies can leverage FinTech. The research question for this thesis is: "What kind of role does FinTech play in the financial services industry today?" To address this question, the study will also examine the sub-questions: "What is FinTech and how is it already being used?", “What kind of impact does FinTech have on the internationalization of financial services industry companies?” and “What kinds of risks and challenges does FinTech come with?”. These sub-questions will provide the

necessary context to understand the concept of FinTech and everything it includes, as well as how it is already being used.

In this thesis, the second chapter will address the concept of FinTech. It will explore the various definitions of FinTech and show its evolution over time. Additionally, this chapter will study how FinTech is currently being used within the financial services industry, highlighting real-world examples of how companies are leveraging these technologies to improve efficiency, customer experience and expand their market reach. Chapter two will also study the internationalization of financial sector companies. Here, the study will address the various ways in which financial institutions are expanding into global markets and how digitalization, along with FinTech innovations, can boost this process. Lastly, chapter two will study risks and challenges that the use of FinTech may come with, such as concerns around cybersecurity, regulation, competition, ethical implications and the impact on both traditional institutions and labor markets. The third and final chapter of the thesis will provide conclusions of the key findings and insights from the previous chapters.

2 Understanding FinTech in the Financial Services Industry

2.1 Evolution of FinTech

FinTech has developed in several phases, each characterized by technological advancements that reshaped the financial industry. The origins of financial technology can be traced back to ancient civilizations, where early forms of record-keeping laid the base for modern financial systems. The development of money and the introduction of double-entry accounting during the Renaissance all contributed to the foundation of financial globalization. The late 1600s marked a significant point in financial history, when innovations such as banking, insurance and stock trading fueled the Industrial revolution. During this time, finance played a crucial role in supporting the development of infrastructure, which illustrates the longstanding connection between financial services and technological progress. (Arner et al 2015, 5-8.)

The late 19th century marked the first period of financial globalization, driven by groundbreaking technological advancements such as the telegraph, railroads, canals, and steamships. The financial services industry played a key role in funding these technological advancements, creating a mutually reinforcing cycle of financial and technological progress. During this period, investors could allocate capital globally with unprecedented ease, contributing to the expansion of international trade and financial markets. During the post-war period financial globalization slowed, but technological advancements in computing and telecommunications paved the way for future developments in FinTech. Finally, the introduction of credit cards in the 1950s and automated teller machines (ATMs) in the 1960s revolutionized customer access to financial services, which paved way for the modern meaning of FinTech. (Arner et al. 2015, 8-10.)

The period from 1967 to 2008, known as FinTech 2.0, saw a big transformation in financial services industry due to the digitization of banking and financial transactions. During this era, financial institutions started to integrate technology into their operations, shifting from manual processes to computer systems. The rise of electronic payment systems, online banking and financial software greatly improved efficiency and accessibility in the financial services industry. (Arner et al. 2015, 9-14.) Companies such as PayPal and Alipay introduced new digital payment solutions, challenging traditional banking models. The 2008 global financial crisis further accelerated the growth of FinTech as trust in traditional banks declined and consumers started finding alternative financial solutions (Atsuyoshi et al 2021, 68).

The third and current wave of FinTech started in the 2010s and was fueled by rapid advances in AI, blockchain, cloud computing and big data analytics. These technologies have made it possible to create digital-only banks, decentralized finance (DeFi) and automated financial advisory services. Regarding internationalization, the rise of digital-only banks has created new opportunities for financial institutions to expand beyond domestic markets. FinTech startups have become major disruptors, competing with traditional banks by providing more accessible, cost-effective and user-friendly financial solutions. Today, FinTech is essential in areas like mobile payments, peer-to-peer lending, automated advisory services and cryptocurrency transactions. (Kou et al. 2025, 2.)

As the meaning of FinTech continues to evolve with ongoing technological advancements, there is no single universally agreed-upon definition of the term. Industry organizations such as the Financial Stability Board (FSB) define FinTech as "technological innovation in financial services that can result in new business models, applications, processes or products." Similarly, the Bank for International Settlements (BIS) describes FinTech as "Fintech refers to technology-enabled innovation in financial services." These definitions highlight how innovation is changing the financial services industry and how FinTech continuously has the potential to disrupt traditional financial models. (Bank for International Settlements Website 2025; Financial Stability Board Website 2025.)

2.2 Key players in the FinTech ecosystem

The International Organization of Securities Commissions (2017, 4) divides the FinTech landscape into eight categories: payments, insurance, planning, lending / crowdfunding, blockchain, trading & investments, data & analytics and security. This classification highlights the broad scope of FinTech, demonstrating how it spans a wide range of financial services (including insurance services) and plays a crucial role across multiple sectors within the industry. Within this industry, there are three key players that this study will focus on: FinTech startups, Big Tech companies and traditional banks (Karim et al. 2024, 1). However, they all have the same goal with FinTech: to leverage disruptive technologies and use technology to improve the quality of financial service delivery (Duque-Méndez et al. 2023, 175).

Startups are at the heart of FinTech innovation. These tech-driven companies often emerge to solve specific problems in the traditional financial system by offering services that are more user-friendly, cost-effective and accessible. FinTech startups strongly emerged following the financial crisis of 2008, due to the loss of trust to traditional banks and hope for new systems to take place (Goldstein 2019, 1658-1659). Startups often bring new ideas and challenge the dominance of established

financial institutions. Many of today's leading FinTech firms, such as Klarna, which provides buy-now-pay-later payment solutions, and Wise, that offers low-cost international money transfers, began as small startups and have since then grown globally, reshaping the financial services industry. (Klarna Website 2025; Wise Website 2025.)

As FinTech has evolved in the past years, large Big Tech companies like Google, Apple, Meta and Alibaba have also entered the financial services industry. They are large and established technology companies that are traditionally non-financial, but having big user bases, advanced technological infrastructure and data capabilities has quickly made them a serious competitor for traditional financial institutions. These Big Tech firms have launched their own payment systems, digital wallets, wealth management services and even insurance products. For example, Apple Pay has become a mainstream digital payment solution in many parts of the world. Their involvement intensifies competition in the industry and also raises regulatory concerns due to their size and influence. Unlike FinTech startups, Big Tech companies usually enter the markets with distinctive advantages, such as access to low-cost capital and a big user base. (Armstrong 2020, 48-51.)

The final and maybe most established key players in the FinTech ecosystem are traditional financial sector companies. Unlike FinTech startups and Big Tech firms, which are often innovation-driven and focused on technology, traditional banks have operated with strict regulations, old systems and a customer base built over decades. However, the rise of digital finance has significantly challenged their dominant position in the financial industry. (Sharbek 2022, 840.) To stay competitive and relevant in this evolving landscape, many traditional banks have begun to invest heavily in financial technology. Some banks partner with FinTech startups, while others choose to develop their own FinTech solutions. For example, the Finnish wealth management company Evli has launched its own FinTech service called Evli Digital. It offers clients an automated investment plan tailored to their financial goals. The service combines digital tools with Evli's investment expertise, making it a simple and affordable way for clients to manage their investments. (Evli Website 2025.)

2.3 Key FinTech technologies and their applications today

Barroso et al. (2022, 4-5) suggest that the main digital finance technologies are artificial intelligence (AI), big data, distributed ledger technology, smart contracts, cloud computing and robo-advisors. Atsuyoshi et al. (2021, 81) alternatively suggest that some of the main FinTech technologies include blockchain technology, authentication technologies, application programming interfaces (APIs), payment technologies (like peer-to-peer lending and crowdfunding), mobile technologies, big data analytics and processing and AI. As the technologies surrounding FinTech are constantly evolving

and new innovations continue to emerge, it is not possible to determine a definitive set of core advancements in the field. Given the wide range of technologies that will be discussed and the categories of FinTech landscape outlined by the International Organization of Securities Commissions, this chapter will explore the key FinTech technologies and their roles within the different landscapes of the financial services industry.

Starting off with artificial intelligence (AI) and machine learning (ML), which have become a fundamental part to FinTech by offering financial institutions and startups to optimize operations and provide enhanced customer experiences. AI-powered chatbots and virtual assistants, for example, allow financial service providers to offer real-time customer support while also reducing operational costs. Machine learning, on the other hand, focuses on using a set of algorithms to identify patterns, predict market trends and automate decision-making processes. (Chakraborty et al. 2017, 5-8.) ML is also used in areas like credit scoring and lending. FinTech companies such as Upstart, which is an AI-powered lending platform, uses ML algorithms to determine creditworthiness and goes beyond traditional credit scores by using a wider range of data information, including educational background and employment history. This has allowed Upstart to offer loans to individuals who might otherwise have been denied by traditional banks. (Upstart Website 2025.)

Blockchain technology and distributed ledgers have generated significant attention across various industries and the financial services industry has become one of the most prominent adopters. Blockchain is a type of digital database where information is stored in a series of linked “blocks”. These blocks contain records of transactions, and each one is connected to the previous one through a unique code, which makes it very difficult to change the data once it's added. The key idea is that once information is written into a block, it is considered permanent and secure. The most famous example of this is a cryptocurrency, Bitcoin, that introduced a decentralized digital currency, independent of any central authority, to the mainstream public. (Gomber et al. 2017, 183-186.)

Distributed ledger is a kind of digital record-keeping system where the same set of data is shared across multiple computers instead of being stored in a single location, making it decentralized. Because each participant has access to the same data and updates it in real-time, it creates a system that is highly transparent and resistant to fraud or errors. One of the big problems in the financial industry has been the difficulty of tracking the true ownership of assets – especially over long chains of transactions. For example, during the 2008 financial crisis, the failure of Bear Stearns revealed inconsistencies in share ownership records, resulting in accounting errors that caused

financial losses for JP Morgan Chase, the acquiring bank. (Gomber et al. 2017, 183-186.) These technologies have led to the rise of decentralized finance, which essentially is a concept in the financial industry that uses blockchain technology and cryptocurrencies to recreate and improve upon traditional financial services without relying on central authorities like banks or governments. (Arner et al. 2020, 172-174.)

Big data refers to the big amounts of structured and unstructured data that are generated from various sources, such as online transactions, social media and more. This data is often too large or complex for traditional data-processing methods to handle effectively. Big data plays a crucial role in the FinTech ecosystem by enabling the collection, processing, and interpretation of big amounts of financial data. Through advanced analytics, companies can become more familiar with customer behavior patterns, detect fraud, assess credit risk and make decisions based on data. The "3Vs" of big data, which are variety, velocity and volume, make it possible for companies to handle more diverse and fast-moving data, which leads to more accurate predictions, personalized services, and more improved operational efficiency than ever before. For example, Ant Group, which is the "FinTech arm" of Alibaba and a great example of a FinTech company overall, heavily relies on big data analytics to offer microloans and insurance products to individuals and businesses in China. By analyzing user activity across its platforms (like payment history, browsing behavior and social connections) Ant Group can evaluate risk more accurately than traditional banks. Similarly, big data is central to fraud detection systems that monitor millions of transactions in real time to identify suspicious activities. (Calic et al. 2020, 147-151; International Finance Corporation 2025.)

Cloud computing has revolutionized the FinTech industry by providing scalable, cost-effective and secure infrastructure for financial companies. Through cloud-based platforms, financial institutions can store and process big amounts of data without the need for in-person infrastructure. One of the key benefits of cloud computing in FinTech is its ability to facilitate real-time financial transactions and services. Payment processors, trading platforms and online banking services use cloud technology to ensure seamless transactions. Cloud computing also enhances cybersecurity by offering advanced encryption and authentication measures which also reduces the risk of data breaches. In addition to that, cloud-based banking solutions enable financial institutions to expand their services globally. Digital-only banks, or neobanks, rely on cloud infrastructure to provide seamless banking experiences without the overhead costs associated with traditional banks. This sets a threat to existing, more traditional banks, but also offers new possibilities in internationalization. (Ignat et al. 2022, 141-149.) Cloud computing is often categorized into three main models: Software as a Service (SaaS), where software is accessed over the internet without

local installation; Infrastructure as a Service (IaaS), where computing resources are provided on a pay-as-you-go -service; and Platform as a Service (PaaS), where developers are given tools and frameworks to build, test and deploy applications without managing the underlying infrastructure. (Ibis et al. 2021, 1–3). A great example is SAP, a multinational software corporation that provides cloud-based enterprise resource planning (ERP) solutions for financial institutions. SAP's cloud platform supports all three models, helping banks and other financial service providers manage operations such as risk and compliance, customer relationship management and real-time financial analytics. (SAP website, 2025.)

Peer-to-peer (P2P) lending is an important FinTech innovation that connects borrowers directly with individual lenders through online platforms, cutting out the traditional role of banks. These platforms use automated systems and alternative data to evaluate borrowers which makes loans more accessible to people who might not qualify at a regular bank. This approach gives more people access to credit and allows investors to spread their money across different loans. Examples like Lending Club has shown that this model works well and helps increase financial inclusion and competition. (Morse 2015, 763-764.) In a similar way, crowdfunding has become a helpful tool, especially for FinTech startups. It lets them raise money from individual supporters through online platforms. By collecting small contributions from lots of people, crowdfunding opens up funding opportunities beyond traditional banks and helps businesses reach investors from all over the world. (Chemla 2020, 1783.)

The final key technology this study will address is robo-advisors and other uses of AI in FinTech. Robo-advisors are digital platforms that use artificial intelligence and data analytics to provide automated financial planning and investment management services. These services are often used in customer service in the entire scale of financial services, including banks, insurance companies, investment firms and payment service providers. Robo-advisers can evaluate an individual's needs and goals, and offer services based on that without the need of a human interaction. The primary benefit of robo-advisors lies in their accessibility and cost-efficiency. By reducing the reliance on traditional human-provided advisory services, these platforms become more accessible to a wider audience, and that way expand access to services such as wealth management, banking and insurance planning. As stated, AI-driven automation extends to all scales of financial services. In loan underwriting, for example, automated systems assess applicant data to determine creditworthiness quickly and efficiently. Insurance firms use AI to process claims while compliance departments apply AI tools to ensure adherence to financial regulations. By reducing manual

intervention, these applications increase speed, lower operational costs and minimize human error. (Söderberg et al. 2024, 1-3.)

2.4 FinTech as a driver of internationalization

FinTech has emerged as a significant driver for the internationalization of financial services industry businesses. By leveraging digital platforms and innovative financial solutions, FinTech enables companies to operate beyond traditional geographic and financial boundaries, facilitating global expansion and market entry. Forsberg et al. (2024) suggest that financial technology not only makes internationalization easier for established firms, but also enables smaller startup companies to expand globally at a faster pace by skipping stages of the traditional Uppsala model, which describes internationalization as a gradual and incremental process. Rapid internationalization can provide a competitive advantage, especially in cases where domestic markets alone may not offer enough opportunities for growth. According to Cumming et al. (2023, 423) crowdfunding platforms are a prime example of how FinTech supports the internationalization of startups within and outside of the financial sector. By reducing cross-national barriers and enabling global market access, FinTech has made it easier for entrepreneurs to raise capital and expand their businesses internationally by finding a wider range of potential investors.

Another way FinTech supports internationalization is by enhancing financial inclusion. In many developing and emerging markets, access to traditional banking services remains limited. FinTech platforms can fill this gap by offering digital wallets, mobile banking apps and alternative credit scoring models. These services not only help local consumers but also create new market opportunities for financial sector companies that are hoping to internationalize. (Dinçer 2024, 1-2.) As previously mentioned, regions such as Africa and poorer areas of the United States suffer from a lack of financial services, creating a significant opportunity for low-barrier FinTech solutions to step in. By addressing this gap, financial sector companies that leverage FinTech, enable financial inclusion by connecting unbanked populations to essential financial services. In turn, this opens up new growth prospects for companies looking to expand internationally.

The use of big data and advanced analytics in FinTech enables businesses to make better decisions when entering new international markets. By analyzing consumer behavior, market trends and economic data from different regions, businesses can make sure their products and services meet the specific needs of each market. Predictive analytics can also help businesses anticipate demand, optimize pricing and minimize risks, which are all critical when expanding internationally within and outside of the financial sector. In addition to that, new technology helps businesses lower their

operational costs by automating processes and eliminating unnecessary steps in the supply chain (Dinçer 2024, 1). FinTech not only facilitates the internationalization of non-financial companies but also significantly aids financial sector firms in expanding globally. The scalability of digital financial services allows financial sector companies to enter new markets without the need for extensive physical infrastructure. Empirical studies have demonstrated FinTech's impact on internationalization within the financial sector. For example, Hammerschlag et al. (2020, 299-313) conducted a study on African FinTech firms and found that these companies adapt their marketing strategies, such as collaborating with local partners and leveraging social media, to successfully expand into new African countries. This research highlights FinTech's role in facilitating expansion by overcoming traditional market entry challenges. In the European context, recent research shows that FinTech firms are often able to demonstrate rapid internationalization strategies. Forsberg et al. (2024) highlight that European FinTech startups often enter multiple markets simultaneously by leveraging scalable business models, like using universal websites and only increasing commitment by setting up local domains once demand becomes established. European FinTechs often also have a digital nature which provides a competitive edge over traditional financial institutions that may face more significant regulatory and infrastructural issues. These studies illustrate that FinTech serves as a driver for internationalization, enabling both financial and non-financial firms to overcome traditional barriers to global expansion through digital innovation and strategic adaptability.

2.5 Risks and challenges

While FinTech offers great opportunities for innovation and growth within the financial industry, its rapid development also presents a range of risks and challenges that must be considered. FinTech companies often operate across borders which makes regulatory compliance particularly complicated. This is one of the biggest issues that FinTech companies must learn to tackle while navigating their operations. National regulations are different all around the world, and what may be allowed in one country may be restricted or heavily regulated in another. According to Forsberg et al. (2024, 21), even within the European Union there is a lack of harmonization between some fields which makes it harder for companies to internationalize in the financial services industry. The pace of innovation also sets challenges to regulation, as new innovations sometimes create grey areas where existing laws may not clearly apply. For example, crowdfunding platforms may operate in legal grey zones where investor protections and disclosure requirements are still evolving. These gaps force regulators to catch-up while FinTech firms must navigate a changing landscape that varies from country to country. Though regulations may complicate the operations of FinTech

companies, they are needed to prevent harmful and illegal activities. For example, cryptocurrencies – which are often hailed as one of the most disruptive FinTech innovations – have not only introduced a new type of transaction, but also raised concern due to their association with illegal activities. Cryptocurrencies have been found to be used in money laundering, tax evasion and other illegal actions, largely due to their anonymity and lack of centralized oversight. This dark side of crypto creates a challenge for regulators. (Cumming 2023, 431.)

One of the other major concerns in the FinTech landscape is cybersecurity. As financial services have started to move into digital platforms, the volume of sensitive personal and financial data stored online grows significantly. This creates attractive targets for cybercriminals. FinTech companies, especially startups, may not always have the resources or expertise to implement the strongest security systems, making them vulnerable to data breaches. In addition to security breaches, concerns around user privacy and the misuse of data have called for stricter data protection laws and more transparent data handling processes. (AlBenJasim 2023, 830-840.)

As FinTech solutions become more popular, they challenge the traditional roles of banks and other financial institutions. Automation and AI reduce the need for human labor in functions such as customer service, investment advising and risk assessment. While this boosts efficiency, it also raises concerns about more traditional jobs. Traditional institutions are forced to either adapt by integrating new technologies or risk losing competitiveness. The change from traditional finance services to FinTech solutions also may create financial exclusion in those who do not have access to digital services. FinTech does not only create internal disruption within the finance industry, but it also invites competition from outside. Large technology companies such as Meta, WeChat and other Big Tech companies are entering financial services industry by leveraging their massive user bases and data resources to offer payment systems, lending and more. This sets a threat to traditional banks and other financial sector companies, and it is yet to be determined whether in the future Big Tech companies will take over the financial services industry by providing easy and practical solutions. (Kapron 2018, 68-73.)

One of the emerging risks associated with the use of FinTech, especially those technologies that use artificial intelligence and machine learning, is the potential for algorithm bias and other ethical concerns. As financial services increasingly rely on automated decision-making, from robo-advisors to AI-driven credit scoring systems, there may be an underlying problem of how these models might unintentionally boost societal inequalities. AI models are often trained based on historical data that reflects past behaviour. If this data contains biases, they can be inherited by the algorithm

and then used in automated decisions. For example, if a credit scoring model uses zip codes or employment history as key variables, it may unintentionally harm individuals from minority-dominated areas, which only reinforces existing issues to financial inclusion. (Alì 2019, 4.)

3 Conclusions

This study set out to answer the research question: “What kind of role does FinTech play in the financial services industry today?” The research question was examined through studying how FinTech has influenced the operations, structure and internationalization of the financial services industry by analyzing current technologies, their applications and the opportunities and challenges they offer. Through this study, it became clear that FinTech is not only an addition to existing financial services but a transformative force that is redefining the industry’s core structures.

One of the central findings of this study is that FinTech plays a key role in driving innovation and change within the financial services sector. Emerging technologies such as artificial intelligence, blockchain, big data analytics and cloud computing have enabled financial institutions and startups to improve efficiency, reduce operational costs and deliver more personalized and accessible services. These technologies are not only enhancing traditional business models but also creating entirely new ones. Another significant finding relates to FinTech’s ability to promote financial inclusion. By offering low-cost and user-friendly digital financial services, FinTech has reached populations that may be disadvantaged in financial access or entirely unbanked. In emerging and developing markets in particular, FinTech solutions such as mobile banking apps have made it possible for individuals to access essential financial tools. This not only contributes to individual financial wellbeing, but also creates new opportunities for firms aiming to expand into emerging markets.

The study also highlighted the role of FinTech as a driver of internationalization. By removing traditional barriers to market entry, for example with the mobile banking apps, FinTech enables firms to enter foreign markets more rapidly and flexibly than ever. Digital platforms, scalable business models and data-driven strategies allow financial service providers to expand globally. With this, FinTech challenges the assumptions of traditional internationalization models and emphasizes the importance of agility and innovation in today’s global economy.

However, with these opportunities, FinTech also presents significant challenges like cybersecurity threats, inconsistent global regulation and ethical concerns. Regulatory complexity is one of the major issues, as the fast pace of innovation makes it hard for regulatory bodies to respond quickly creating legal uncertainties that can affect both companies and consumers. Furthermore, things like algorithmic bias require continuous attention and responsible development. The increasing reliance on automated decision-making in credit scoring, insurance and investment advisory services raises

questions about transparency. If not properly addressed, these issues may deepen existing social inequalities and make advancing economic fairness more difficult. At the same time, the competitive landscape is evolving. It remains to be seen whether Big Tech companies and FinTech startups will dominate the future of financial services industry. For traditional banks, the key will be to respond proactively by investing in innovation, improving their own digital capabilities and potentially collaborating with new players in the industry.

Overall, this study confirms that FinTech plays a transformative role in the financial services industry. As technological development continues to accelerate, the sector must navigate a complex landscape of opportunities and risks. It remains to be seen whether FinTech companies, traditional banks or Big Tech firms will define the future of financial services, but it is clear that digital innovation will be a key to driving the future evolution of the financial services industry. Future research could explore the long-term effects of FinTech on financial market stability and its role in social and economic inequality. It would also be valuable to study how regulations can keep pace with rapid technological change while ensuring consumer protection and fostering sustainable innovation.

References

African Banker (2023) The African Digital Banking Transformation Report 2023. <https://african.business/wp-content/uploads/2023/05/Backbase_Report23_Digital.pdf>

AlBenJasim, S. – Dargahi, T. – Takruri, H. - Al-Zaidi, R. (2023) FinTech Cybersecurity Challenges and Regulations: Bahrain Case Study. *Journal of Computer Information Systems*, Vol 64, 835-851.

Alì, G. – Ronald, Y. (2019) What's Inside the Black Box? AI Challenges for Lawyers and Researchers. *Legal information management,* Vol 19, 2-13.

Armstrong, P. – Balitzky, S. – Harris, A. (2020) BigTech – implications for the financial sector. *ESMA Report on Trends, Risks and Vulnerabilities*, Vol 1, 48-59.

Arner, D – Barberis, J. – Buckley, R. (2016) The evolution of FinTech: A new post-crisis paradigm? *Georgetown journal of international law,* Vol 47, 1-44.

Arner, D. – Buckley, R. – Zetzsche, D. (2020) Decentralized Finance. *Journal of financial regulation,* Vol. 6.

Atsuyoshi, T. – Yoshihiro, I. (2021) A review of FinTech research. *International Journal of Technology Management*, Vol 86, 67-88.

Bank for International Settlements (2025) <https://www.bis.org/topic/fintech.htm?m=263>

Calic, C. – Ghasemaghaei, M. (2020) Assessing the impact of big data on firm innovation performance: Big data is not always better data. *Journal of Business Research,* Vol 108, 147-162.

Chakraborty, C. – Joseph A. (2017) Machine learning at central banks. Bank of England. Staff Working Paper, Vol. 674.

Chemla, G. – Tinn, K. (2020) Learning Through Crowdfunding. *Management science*, Vol 66, 1783-1801.

Cumming, D. – Johan, S. – Reardon, R. (2023) Global fintech trends and their impact on international business: a review. *Multinational Business Review*, Vol 31, 413-436.

Dinçer, H. – Firli, A. – Rahadian, D. – Yüksel, S. (2024) Fintech competencies in emerging markets: Cognitive hybrid decision-making approach. *Emerging markets review*, Vol 63, 1-8.

Drummer, D. – Jerenz, A. – Siebelt, P. – Thaten, M. (2016) FinTech: Challenges and Opportunities – How digitization is transforming the financial sector. McKinsey, Dusseldorf.

Duque-Méndez, N. – Sánchez-Obando, J. – Tapasco-Rueda, A. (2023) Fintech and Start-ups: A Systematic Literature Review. *Apuntes del CENES*, Vol. 42, 173-198.

Evli Oyj Website (2025) <https://www.evli.com/tuotteet-ja-palvelut/varainhoito/digitaalinen-varainhoito> 11.4.2025

Federal Deposit Insurance Corporation (2023) FDIC National Survey of Unbanked and Underbanked Households. <https://www.fdic.gov/household-survey/2023-fdic-national-survey-unbanked-and-underbanked-households-report>

Financial Stability Board (2024) <https://www.fsb.org/work-of-the-fsb/financial-innovation-and-structural-change/financial-innovation/> 1.4.2025

Forsberg, P. – Hulsink, W. (2024) Footloose and fancy-free in FinTech? Internationalization strategies of born regional and born global firms in the European financial service sector. *Journal of International Entrepreneurship*, Vol 1.

Giglio, F. (2021) Fintech: A Literature Review. *European Research Studies Journal*, Vol 24, 600-627.

Goldstein, I. – Jiang, W. – Karolyi, G. (2019) To FinTech and Beyond. *The Review of Financial Studies*, Vol 31, 1647-1661.

Gomber, P. – Hinz. O. – Nofer, M. – Schierek, D. (2017) Blockchain. *Business & information systems engineering,* Vol 59, 183-187.

Bick, G. – Hammerschlag, Z. – Luiz, J. (2020) The internationalization of African fintech firms: marketing strategies for successful intra-Africa expansion. *International marketing review*, Vol 37, 299-317.

Ibis, M. – Kazancoglu. Y. – Omurgonulsen. M. – Singla, P. (2021) Cloud Computing: A Systematic Literature Review and Future Agenda. *Journal of Global Information Management,* Vol 29, 1-25.

Ignat, G. – Prigoreanu, I. – Șargu, L. (2022) Cloud Computing Technologies and the Economic Impact of Digitalization. *EuroEconomica,* Vol 41, 141-151.

International Organization of Securities Commissions (IOSCO) (2017) IOSCO Research Report on Financial Technologies (Fintech). <https://www.iosco.org/library/pubdocs/pdf/ioscopd554.pdf>

International Finance Corporation (2025) Leveraging Big Data for Lending in China (Ant Financial Case Study). <https://digilabfinance.org/sites/default/files/case-studies/2019-11/antfinancialcasestudy-1.pdf>

Kapron, Z. (2018) From digital payments to digital finance: How China's tech companies are redefining banking. *Journal of Payments Strategy & Systems,* Vol 12, 68-73.

in Asia and soon Europe

Karim, S. – Lucey, B. (2024) BigTech, FinTech, and banks: A tangle or unity? *Finance research letters,* Vol 64, 1-10.

Klarna (2025) Website < https://www.klarna.com/fi/?grs=%2F&grr=https%3A%2F%2Fwww.google.com%2F>

Kou, G – Lu, Y. (2025) FinTech: a literature review of emerging financial technologies and applications. *Financial Innovation*, Vol. 11.

Lukanova, K. – Vasiljeva, T. (2016) Commercial banks and FinTech companies in the digital transformation: challenges for the future. *Journal of Business Management*, Vol 11, 25-33.

Mogaji, E – Nguyen, P. – Sampat, B. (2024) The dark side of FinTech in financial services: a qualitative enquiry into FinTech developers' perspective. International journal of bank marketing, Vol 42 (1), 38-65.

Morse, A. (2015) Peer-to-Peer Crowdfunding: Information and the Potential for Disruption in Consumer Lending. *The Annual Review of Financial Economics,* Vol 7, 763-782.

SAP (2025) Website <https://www.sap.com/finland/industries/banking.html> 10.4.2025.

Sharbek, N. (2022) How Traditional Financial Institutions have adapted to Artificial Intelligence, Machine Learning and FinTech? *Proceedings of the 16th International Conference on Business Excellence,* Vol 16, 837-848.

Södeberg, I. – Vigren, O. – Zhu, H. (2024) Implementing artificial intelligence empowered financial advisory services: A literature review and critical research agenda. *Journal of Business Research*, Vol 174, 1-18.

Upstart (2025) Website <https://www.upstart.com/lenders/ai-lending-knowledge-hub/ai-machine-learning> 5.4.2025

Wise (2025) Website <https://wise.com/>

Appendices

Use of artificial intelligence

In this study, I have used ChatGPT to help with brainstorming, structure design and grammar. The prompts I have used are as follows:

“My bachelor’s thesis is about the use of FinTech in the internationalization of financial sector companies. Give me ideas on how I could structure my thesis.” The structures I have received from ChatGPT are not in use, but I have used the ideas to formulate my own structure.

“Why do you think FinTech is relevant for financial sector companies wanting to internationalize”

Throughout this thesis I have asked ChatGPT and QuillBot to make my sentences polished, with a prompt: “Rewrite this sentence so that it is easier to read: ….”

“Find peer-reviewed studies that talk about FinTech” (Only one study found through ChatGPT and confirmed to be peer reviewed through UTUVolter.