Dutch FinTech census 2019

A profile of the Dutch FinTech sector and the factors that can stimulate growth and innovation

December 2019

EY
Building a better working world

Table of contents

1. Preface

The Dutch FinTech sector has developed into approximately 635 FinTech companies in 2019[1]. In addition to startups, a growing number of FinTech companies have transcended the level of "disruptor" and developed to mature competitors or suppliers of existing financial institutions. In addition, many FinTech propositions have been developed by the financial institutions themselves to offer a more diverse range of services or to offer more effective or efficient ways of working. Firms outside of the financial sector are also increasingly more active in FinTech. For instance BigTech companies (such as Google and Apple) have, in addition to their technological services, expanded to financial services.

This development stems from the digitization of the sector, evolving consumer behavior and changes in laws and regulations. Firstly, continuous innovations have been taking place in financial services with digitization of the sector. The 2019[2] trend report from the Dutch Authority for the Financial Markets (AFM) shows that a growing number of new financial services is driven by FinTech. In addition, evolving behavior of consumers indicate a high demand for solutions that offer convenience, insight and advice, to which FinTech companies have responded. The global rise in adoption of FinTech services by consumers confirms this shift in demand, increasing from 15% in 2015 to 64% in 2019, with a Dutch average of 73%[3]. Finally, changes in laws and regulations and new policies affect the financial market and directly influence the role of new providers. Important developments are amongst others the Payment Services Directive 2 (PSD2), Open Banking from the United Kingdom (UK), and the General Data Protection Regulation (GDPR). These developments stimulate the entry of new players in the financial sector while at the same time protecting the privacy of the consumer.

Background and purpose

To gain more insight in the Dutch FinTech sector, the Ministry of Finance commissioned EY to conduct the Dutch FinTech census 2019. The investigation was already announced by the minister of Finance in a letter to Parliament on 9th of April 2019[4]. This report contributes to a greater awareness and understanding of the Dutch FinTech sector by profiling the sector and publishing aggregated statistics. Next to mapping the development of the sector, the census provides a platform for FinTech companies to share their opinion about the opportunities and obstacles that affect their business.

Based on the insights from this research, the Ministry of Finance aims to implement new policy measures that contribute to innovation and the entry of new players in the financial sector in a responsible manner.
These measures can facilitate more innovation in services and technology, and can therefore have positive effects on the financial stability, competitiveness and growth of the financial sector in the Netherlands.

EY conducted this research in the second half of 2019, commissioned by, and in collaboration with, the Ministry of Finance, with De Nederlandsche Bank (DNB) and the AFM. The following research questions have been investigated:

1. What is the size and nature of the FinTech sector in the Netherlands?
2. Which factors do FinTech experience as stimulating or hindering the entry and / or development of innovative products and services in the Netherlands?
3. How does the Netherlands perform in the FinTech area compared to other countries?

[1] *Dutch FinTech Infographic, Holland FinTech, EY analysis*
[2] *Trendzicht 2019, Een verkenning van de trends en risico's op de financiële markten, AFM, 2019*
[3] *Global FinTech Adoption Index, EY 2019*
[4] *Innovatie in de financiële sector, Letter Ministry of Finance to parliament, 9th of April 2019*

Structure of the report

The Dutch FinTech census 2019 is constructed to gather important insights from FinTech companies and to map important areas of growth and potential challenges. In line with previous international FinTech investigations of EY[5], data was collected based on the five driving forces that determine the success of a FinTech company:

- Talent
- Capital
- Market demand
- Policy
- Environment

Every FinTech company strives for success and to have impact on the segment in which they operate. The abovementioned driving forces will be researched to address in which areas Dutch FinTech companies can develop successfully and where further support is desired.

The Dutch FinTech census is structured as follows. Chapter two highlights the development of FinTech services, as well as the evolving demand for these services. Chapter three provides an overview of the FinTech services and companies in the Netherlands. Chapter four focuses on the required talent and skills for FinTech companies. Chapter five goes on to describe FinTech companies within the boundaries of the financial sector, including rules and regulation, government and regulators. Chapter six dives deeper into the FinTech climate of the Netherlands, where environment and capital are covered. This chapter also includes a comparison between several countries to learn from local FinTech developments. Chapter seven identifies the challenges that FinTech companies experience in the current financial sector. Finally, chapter eight forecasts the opportunities for development and innovation for FinTech companies. Chapters three to six start with an overview of stimulating and hindering factors, which emerged from the research, in line with research question two.

Reading guide

Chapter	Research question	Driving force
1 – Introduction	-	-
2 – Developments in usage and size of FinTech services	1	Market demand
3 – Overview of Dutch FinTech companies and their services	1, 2	Market demand, Capital
4 – Required talent and skills	1, 2	Talent
5 – FinTech within the boundaries of the financial sector	1, 2	Policy
6 – FinTech climate in the Netherlands	1, 2, 3	Environment, Capital
7 – Challenges in the FinTech market	2	Policy
8 – Opportunities for development and innovation in FinTech companies	2	Policy

Research questions

1. What is the size and nature of the FinTech sector in the Netherlands?
2. Which factors do FinTech experience as stimulating or hindering the entry and / or development of innovative products and services in the Netherlands?
3. How does the Netherlands perform in the FinTech area compared to other countries?

[5] *EY FinTech Census UK 2017, 2019; EY FinTech Census Australia 2016, 2018*

Scope

The FinTech sector is a diverse and dynamic industry that is constantly changing. Defining FinTech is a challenge because of the fragmented nature of the sector and the diversity of startups that offer innovations within financial services. Hence, the focus of the research is based on the following scope:

- For 'FinTech' the definition of the Financial Stability Board (FSB) was applied, in line with the letter to the Parliament on the 9th of April: 'FinTech is a technology-driven financial innovation that can lead to new business models, applications, processes or products with a material impact on financial markets, institutions and services[6].'
- The FinTech innovations and services can be offered by a wide range of firms, from new entrants, existing financial institutions, suppliers of software, to BigTech companies. These providers of FinTech innovations and services fall within the scope of this research.
- Geographically, the scope is limited to companies and services that are founded or developed in the Netherlands, or international FinTech companies that have a branch in the Netherlands.
- In terms of type of service, FinTech services and activities are included that can be used by consumers, by business customers such as SMEs, or by financial institutions.
- The survey includes both independent FinTech companies and FinTech firms that are part of a financial institution. In addition, regulated and non-regulated FinTech institutions are included in the study.

Interpretation of the study

- The term established players refers to the existing banks, insurers and other financial institutions
- The figures in the Dutch FinTech census 2019 represent the data of the 121 participants in the survey
- Percentages are rounded to whole numbers
- Highlighted quotes are from the interviews conducted with FinTechs
- The stimulating and hindering factors included as a summary in chapters three to six are based on information from the interviews and the (open) questions of the survey
- Due to the sample size of the survey, cross sections have been created where the sample size justifies it

[6] *https://www.fsb.org/work-of-the-fsb/policy-development/additional-policy-areas/monitoring-of-fintech/, FSB*

Approach of the study

The Dutch FinTech census 2019 is comprised of a survey among Dutch FinTech companies, of interviews with FinTech companies and stakeholders and of existing studies and sources.

1 Quantitative research - online survey

- 121 online respondents (19% response rate) via a 45-minute survey
- Completed by respondents who were working at a FinTech company at the time
- Survey could be completed from 25th of September to 13th of November 2019
- Topics of the survey: profile, target group and services, talent, capital, laws and regulations, government and regulators, and environment
- 635 FinTech companies personally invited via LinkedIn or e-mail
- Promotion took place via LinkedIn, amongst others by the Ministry of Finance, AFM, DNB and EY
- Incomplete questionnaires are not included in the analysis

2 Qualitative research - interviews

- 21 focus interviews of one hour
- Conducted with FinTechs, interest groups, regulators and BigTech
- FinTech companies involved are a good reflection of the sector. They stem from different subsectors (from lending to InsurTech) and consist of different sizes. Both regulated and non-regulated parties were interviewed

FinTech companies	10
Interest groups	6
Regulators	4
BigTech	1

3 Secondary research - desk research

- Extensive analysis of existing, publicly available studies and information
- References to these sources are included throughout the report

Factsheet: The FinTech landscape of the Netherlands 2019

Profile respondents

Respondents at C-level 67%

Founded in the Netherlands 86%

Average age of the FinTech firm **7** years

48% Between 1-10 employees in the Netherlands

58% Founded in the last 5 years

Financing and investment

56% Has raised capital

31% Are investments from founders

66% Will invest more in software

Most commonly raised amount (on average) **2-5** miljoen

Attracting talent

FinTech companies are looking for:
1. Software developers
2. Data analysts
3. Commercial skills

85% Wants to expand the number of employees

53% State it is not easy to find qualified employees

Most attractive factors about the Netherlands

Level of English 83%

(Digital) Infrastructure and location 82%

Culture 70%

Least attractive are the costs to comply to regulations

Laws and regulation

43% Experiences no issues in complying to laws and regulations

24% Experiences issues in complying to laws and regulations

GDPR is perceived as the biggest impediment

Top three FinTech services

14% Financial software

9% Analytics & big data

9% Payments and remittances

Growth expectations for the next 12 months

Expect to grow in profit in 2020 **65%**

Expect to grow more than 100% in revenue in 2020 **28%**

Opportunities for the FinTech sector

1. International expansion
2. Partnerships
3. New opportunities in the market

Biggest challenges as experienced by FinTech firms

1. Attracting talent
2. Partnerships with established players
3. Customer adoption

2. Developments in usage and size of FinTech services

Within the financial sector, both consumers (B2C) and companies (B2B) express a need for solutions that provide convenience, insight and advice. FinTech companies respond to this need, for instance by providing new ways to process payments, to save and to insure. New digital technologies, e.g. Artificial Intelligence, changes in the market, e.g. Open Banking, and evolving consumer behavior, e.g. an increase in demand in online investment, are motivators to continuously develop financial services.

Global increase in the use of FinTech services

Consumer behavior is noticeably evolving, resulting in increased adoption of FinTech solutions. The EY FinTech Adoption Index[1] shows that the adoption of FinTech services by consumers worldwide was still 15% in 2015. In 2017 the adoption increased to 33% and almost doubled in 2019 to 64% (figure 1). The Netherlands has the highest rate of Europe, with an adoption of 73% (figure 3). From this adoption index, an investigation among 27,000 consumers in 27 countries, it emerged that FinTech is mainly applied for payments, insurance, and saving or investing. The main motivations to start using FinTech services was also investigated (figure 2). The most important aspect in 2019, is a better price or lower costs of the FinTech service. The ease of opening a new account ranks second whereas this was the main motivator in 2017. This shift can be attributed to established players who have caught up by incorporating new financial technologies to increase user-friendliness of their services.

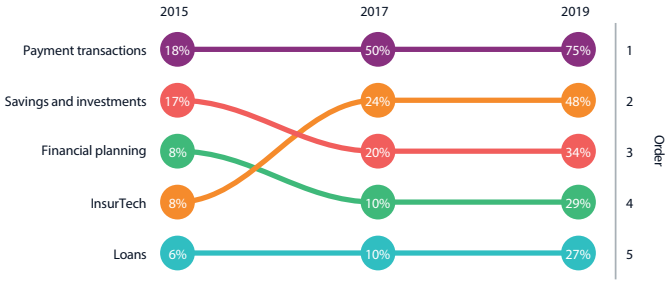


Figure 1. Most used FinTech services worldwide (Global FinTech Adoption Index, EY 2019)

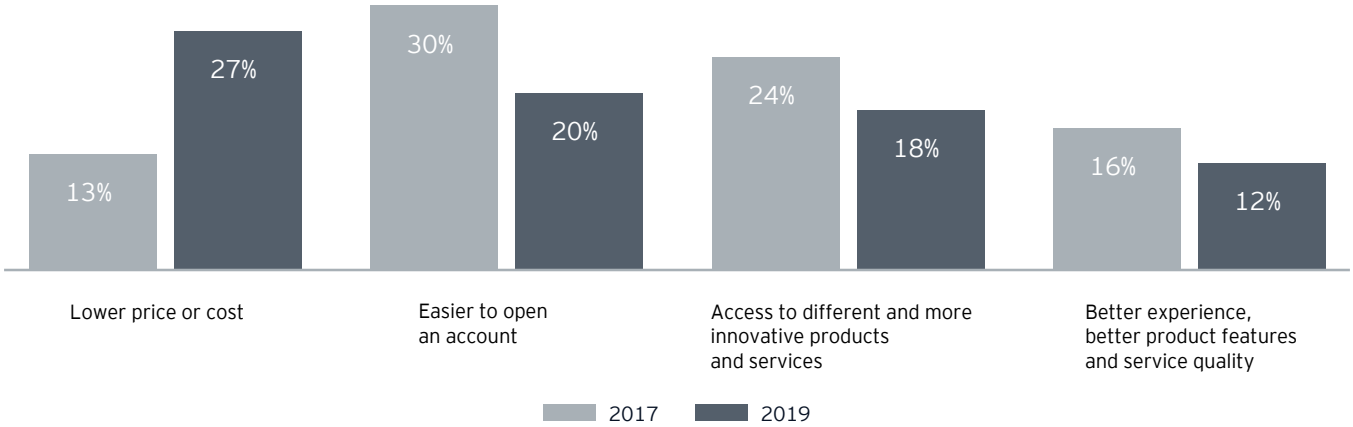
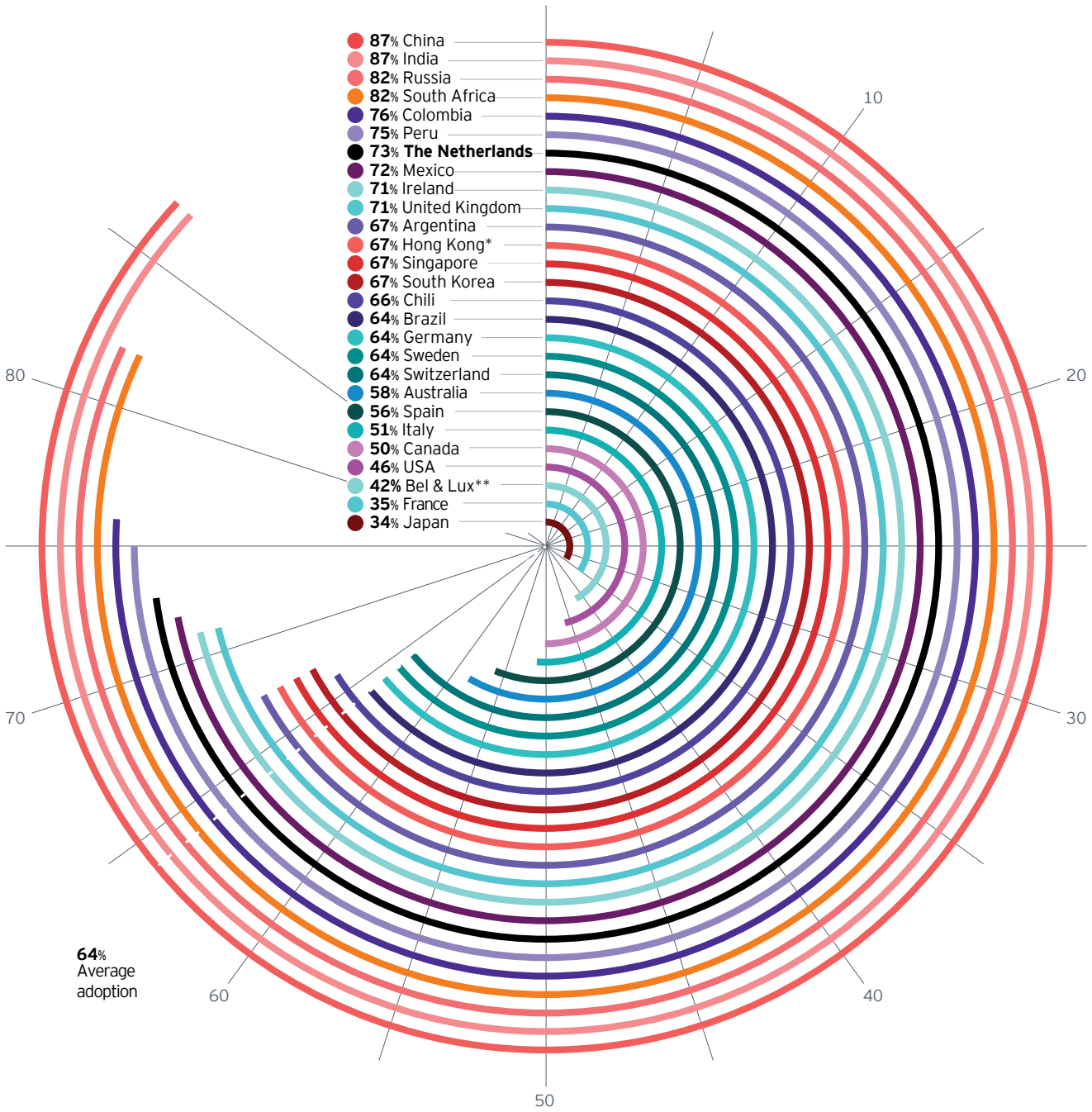


Figure 2. Most important reasons to use FinTech services in 2017 and 2019 (Global FinTech Adoption Index, EY 2019)

[1] *Global FinTech Adoption Index, EY 2019*



* Hong Kong, Special Administrative Region
** Belgium & Luxembourg

Figure 3. Global FinTech Adoption Index, EY 2019

Digital technology as innovation driver

FinTech companies with disruptive business models can conquer a place in the financial market. In addition to these new entrants, a market has emerged where parties innovate with digital technologies in new partnerships. The most important driver for innovation within this playing field is the development in digital technology. The following technologies play an important role:

Digital channels and mobile apps

The internet facilitates the use of financial services from a distance, without physical office or limitations by borders. Through apps everyone can use financial services on the road and from his or her pocket. Meanwhile, data is frequently exchanged between parties through so-called Application Programming Interface (APIs).

Data, analytics and Artifical Intelligence (AI)

By analyzing and utilizing digital data, patterns become visible in transactions, behavior and personal data. As a result, financial providers can for instance respond better to customer needs. AI is the next step where learning systems draw conclusions or give advice about data. There are high expectations of AI possibilities in the financial sector because better advice and pattern recognition, for instance in the event of fraud, become possible. Smart algorithms are already being used in claim settlements for car damage where AI, by scanning photos, estimates the required reparation and costs.

Robotization and chatbots

Software robots are used in the financial sector to relieve repetitive work or for customer interaction. At the moment there are many financial players who use chatbots to answer simple questions from customers. It is expected that robots will also be deployed to give financial advice, using AI to comprehend the financial situation of customers.

Sensors and Internet of Things

In insurance there are several objects at risk, such as a house or a car. With digital sensors connected via the Internet (Internet of Things) they can be monitored remotely to detect water damage or burglary. Such techniques are frequently applied by InsurTech companies. Other examples are adjusting the insurance based on the user's driving behavior or analyzing camera images.

Blockchain and cryptos

Through blockchain transactions can publicly be monitored digitally, leading to new services such as cryptos. Cryptos, for example the bitcoin, are used as a digital currency or are seen as an investment. To reduce the risk of crime with cryptos, the fourth European anti-money laundering directive has been revised and will be effective from 10th of January 2020.

Digital identity

To start or use a financial service your identity must be verified. This requirement results in innovations, ranging from secure bank cards to biometric scans. In the Netherlands iDIN is introduced to remotely identify a person through banks. In several countries there are more extensive forms of a digital passport or digital identity use, for example in Estonia.

> “Customer adoption of InsurTech has noticeably increased over the last six years. Especially the group that sees the added value of using data in the field of insurance is enthusiastic.

New policy as innovation driver

In addition to new technology, new policy or regulation are also market drivers for innovation. New laws and regulations have been implemented, which directly influences the financial market and the role of new providers. A few important developments are:

PSD2

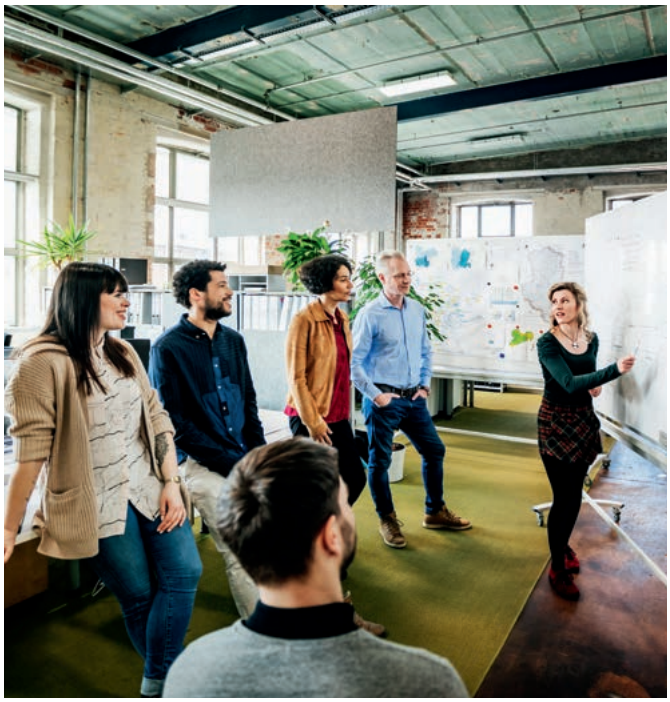
PSD2 is a new European directive for payments from consumers and businesses[2]. This law is effective from January 2018 onwards and ensures that new parties can gain access to transaction data (Account Information Service Provider) and that they can make payments for customers (Payment Initiation Service Provider). These services are only allowed if the company has a license and if the consumer has given explicit consent to access the transaction data. The first PSD2 licenses in the Netherlands were issued in 2019. This law allows innovations such as combining transaction data of multiple accounts, or providing insight to customers into their transactions. The UK introduced a more extensive regulation called Open Banking, which includes more financial products than just payment transactions.

GDPR

GDPR has been in force since May 2018, resulting in the same privacy protection throughout Europe[3]. GDPR is primarily intended for the protection of personal data and privacy of consumers. Therefore, the impact for FinTech companies is large and it is key for them to handle financial data structured and with care. This, however, also leads to new opportunities for innovation. It has contributed to the quality of utilizing customer data and trust in handling financial data by FinTech companies with innovative services[4].

Anti-money Laundering (AML)

AML, including Know-Your-Customer (KYC), is regulation that financial institutions must comply with to prevent money laundering. The foundation is the law on the prevention of money laundering and financing of terrorism (Wwft) [5]. Financial institutions must, among other things, deal effectively and efficiently with the onboarding and screening of new customers to comply. As a result, new opportunities are spotted in the market. FinTech companies focus specifically on identity services and Regtech, allowing effective checks of new customers. Examples are digital onboarding with passport scans or scanning for suspicious transactions using Artificial Intelligence.



[2] *https://www.dnb.nl/betalingsverkeer/psd2/*
[3] *https://autoriteitpersoonsgegevens.nl/nl/onderwerpen/algemene-informatie-avg/algemene-informatie-avg*
[4] *AVG, een jaar later, EYE on Finance, nummer 2, 2019*
[5] *https://www.afm.nl/nl-nl/professionals/onderwerpen/wwft-wet*

The range of FinTech services

FinTech services are developed for and offered to consumers (B2C) and companies (B2B). In addition, increasingly more FinTech companies offer products and services B2B2C, which indicates that a FinTech company is focused on the consumer through a B2B relationship. The reason for this growth is that it is easier to reach those customers through the established players who have already gathered a large customer base. This report is based on the range of services and specializations or subsectors displayed on the right (figure 4), in line with previous FinTech census studies[6]:

Type of services from FinTech firms (random order)	
1.	Online investments
2.	Lending – consumer finance
3	Digital banking
4	Digital wallet and prepaid cards
5.	Online aggregator or broker
6.	Payments and remittances
7	Credit reference data and scoring
8.	Asset management solutions
9.	InsurTech
10.	Lending SME or corporate
11.	Personal financial management
12.	Capital markets data and technology
13.	Financial software
14.	Trade finance and supply chain solutions
15.	Cryptocurrencies
16.	Blockchain solutions
17.	Data analytics and big data
18.	RegTech and digital identity
19.	Artificial Intelligence and Machine Learning
20.	Other

Figure 4. Type of services of FinTech companies

[6] *UK FinTech Census 2017, UK FinTech Census 2019, Ireland FinTech Census 2018*

Size of the Dutch FinTech sector

The FinTech sector in the Netherlands has expanded rapidly. Over the past few years Holland FinTech has charted the growth in Fintech companies since 2016[7]. The sector grew from approximately 200 companies in 2016 to 635 FinTech companies that were identified for the Dutch FinTech census 2019.

These 635 firms have been mapped by their main activity, using the types of services from FinTech companies from figure 4. The subsector representation across the FinTech market is depicted in figure 5. The greatest subsector representation came from payments and remittances, financial software and lending SME or corporate. FinTech companies are least active in Artificial Intelligence and Machine Learning, credit reference data and scoring, and trade finance and supply chain solutions.

The top five types of service from Dutch FinTech companies, as shown in the figure (figure 5) below, is in B2C perspective in line with the most used FinTech services worldwide from the Global FinTech Adoption Index 2019[8]. For both, payments and remittances is number one, indicating that innovations in payments responds to market demand. InsurTech is on the fifth place in the Netherlands, compared to the second place worldwide. The relatively low place in ranking is due to the Dutch insurance industry increasingly consolidating, as emerged from the interviews. The number of competitors become smaller, so fewer parties challenge each other and are not forced to innovate. Moreover, other countries have greater incentive for InsurTech to thrive due to the presence of strong industries, such as the automotive industry. In Germany, insurers cooperate with the automotive industry to invest heavily in InsurTech. There is relatively more interest from such industries to introduce innovative insurance solutions.

The top five types of services for Dutch FinTech companies highlights a focus on B2B FinTech services. Financial software, lending for SMEs / Corporates and RegTech is not represented in the Global FinTech Adoption Index[8] because of the research focus on FinTech services for the consumer.

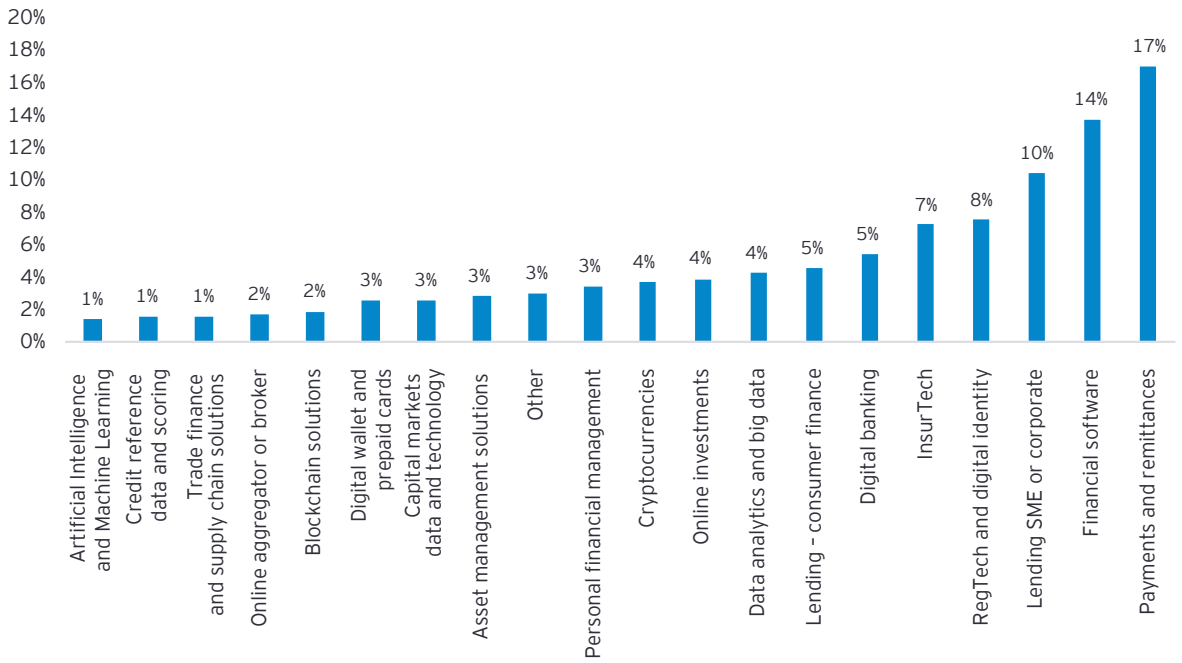


Figure 5. Type of services of the 635 FinTech companies identified[9]

[7] *Dutch FinTech Infographic, Holland FinTech 2016, 2017, 2018*
[8] *Global FinTech Adoption Index, EY 2019*
[9] *EY analyse*

3. Overview of Dutch FinTech companies and their services

The Netherlands has relatively many FinTech companies that are focused on business services (B2B). Growth expectation of the companies is high. The sector has indicated that a more positive image of FinTech in society and the media is desired.

Stimulating factors:

- The Netherlands is seen as a springboard to Europe, with access to European consumers
- FinTech activities vary greatly in content
- Trust in a FinTech service increases if it is linked to the brand of an established bank or insurer
- Strong financial sector and economy, which means there is a lot of attention to FinTech, specifically B2B
- The Dutch (entrepreneurial) mentality and culture stimulates innovation and cooperation
- Attractive, innovative climate in the Netherlands (specifically in Amsterdam) and good infrastructure for establishing FinTech companies
- Positive forecasts of growth in both revenue and profitability

Hindering factors:

- The Netherlands as society could be prouder of the FinTech sector. In the media, the financial sector, or specific services, is too often negatively exposed
- (European) laws and regulations / regulatory pressure is often cited as an obstacle to innovations and market demand development
- The Netherlands has a relatively small market for consumers, causing scale and growth challenges within the Netherlands

The Dutch FinTech census 2019 has collected the most important statistics to provide a profile of the sector. The insights include amongst others location, services, revenue and profit expectations and investment needs.

The 121 FinTech companies that participated in the survey are a good reflection of the Dutch FinTech sector. The participants are startups that have recently entered the market, mature companies, scale-ups that focus on growth, and FinTech services that are offered by financial institutions. 67% of the respondents are at C-suite level[1], director, founder or owner (figure 6)

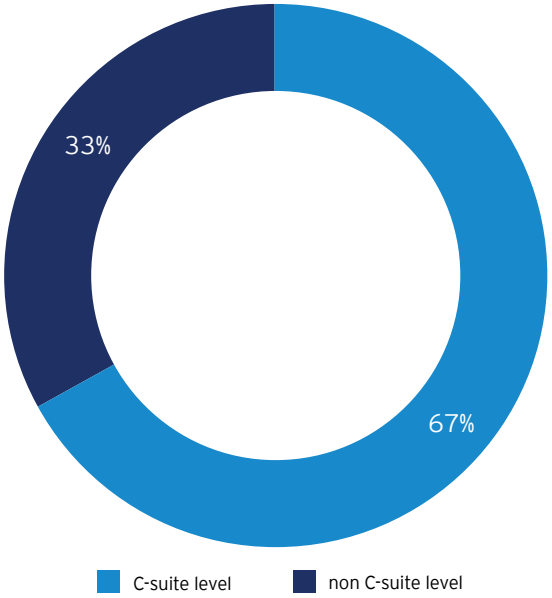


Figure 6. Role of the respondent

[1] *A phrase for the most important directors of a company (for example CEO).*

Young, independent FinTech companies

After the financial crisis (2008) the number of FinTech companies increased sharply, in particular from 2011 onwards. As shown in figure 7, the peak was in 2017, with 13% of the FinTech companies being established in that year. After this the pace seems to have slowed down. The decrease in the number of new companies in 2018 and 2019 may be due to less good coverage of the survey among more recently established companies, because they have not yet reached the maturity level to be detected (promotion occurred mainly via LinkedIn). Another reason may be the high growth of new companies between 2014-2017. As a result, the market has become more saturated, also because the already established FinTech companies are continuing to grow.

58% of FinTech companies have been established in the last five years and are therefore relatively young. 82% exist ten years or less. A single company has been around for decades. Some organisations involved only recently view themselves as a FinTech company, because there is not a set definition of FinTech in the market.

> We exist for almost 20 years already but only recently have started to see ourselves as a FinTech company.

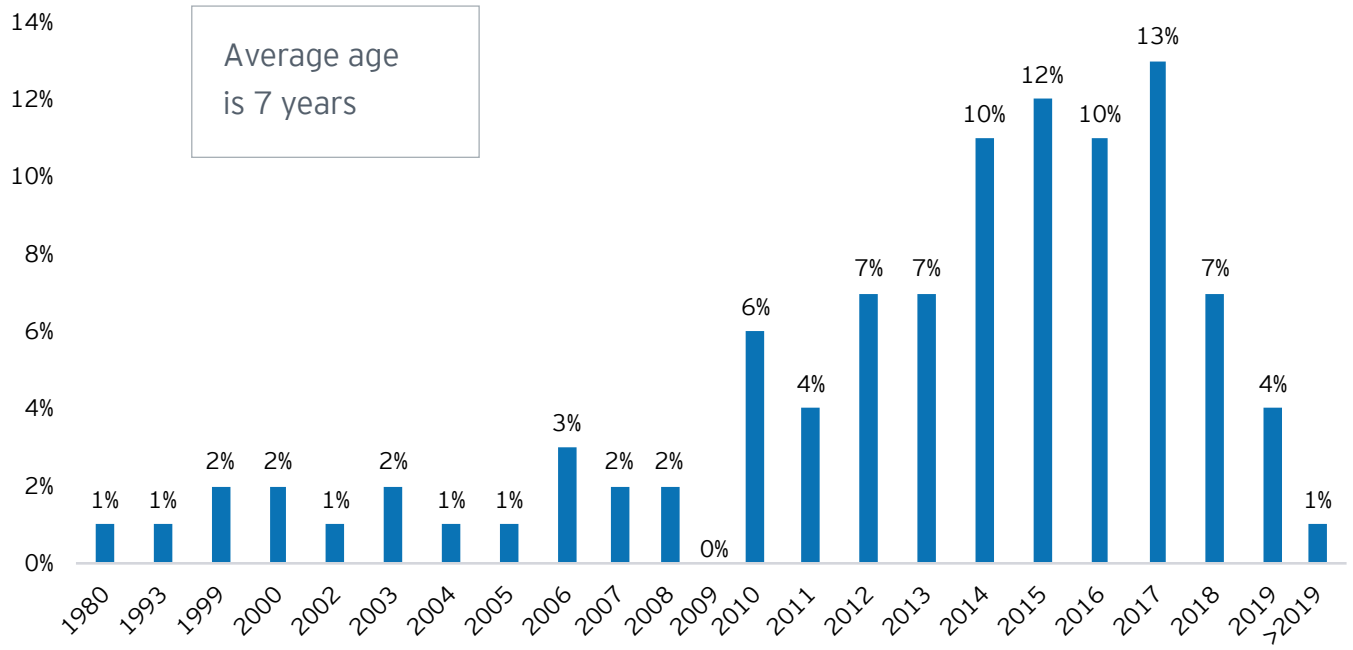
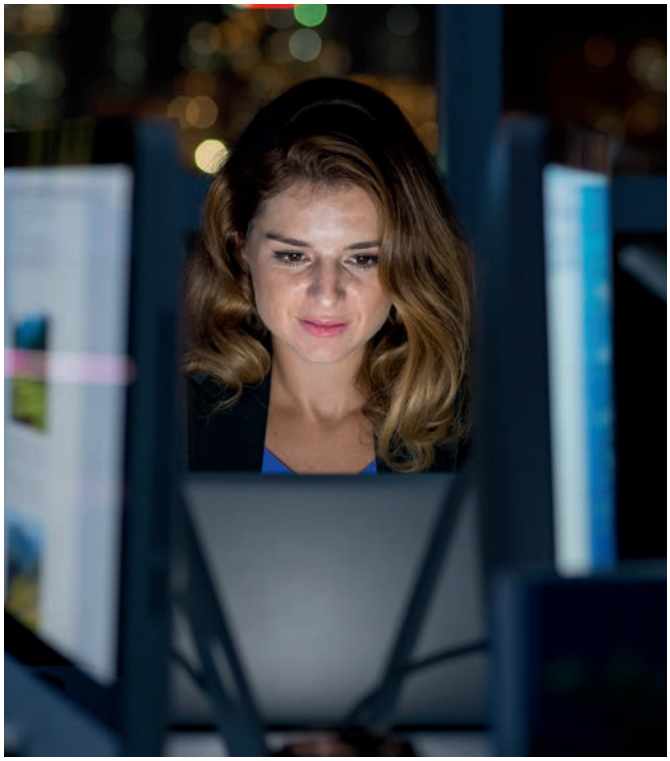


Figure 7. Founding year

As shown in figure 9, 79% of the participating FinTech companies are independent, compared to 11% of the participants in the FinTech census who are part of an established player in the financial sector. This group notes that the link to the brand of a large bank or insurer increases the level of trust in the FinTech service. The table shows some examples of FinTech parties that are affiliated with established players in the financial market. Under "Other", also in figure 9, it is mentioned for example that the company is part of a global FinTech or an independent firm within a group of digital agencies. Finally, the vast majority (86%) is founded in the Netherlands (figure 8). The remaining 14% have a branch in the Netherlands but are established outside the Netherlands.

Established player	Linked FinTech company
Rabobank	Peaks, Tellow
ING	Yolt, Cobase
ABN Amro	New10, Grip
Nationale Nederlanden	BeFrank, Bundelz
Aegon	Knab



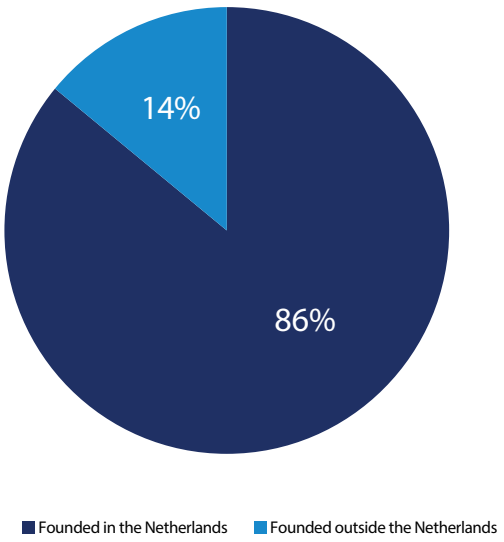


Figure 8. Percentage of companies founded in the Netherlands

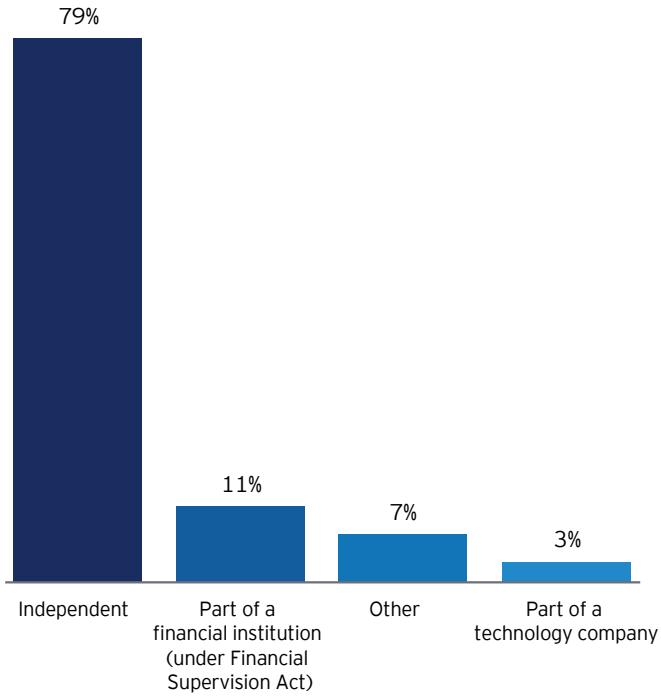


Figure 9. Organisational structure

Where are the companies located?

85% have a headquarter in the Netherlands (figure 12). Amsterdam is most often mentioned as location, for 27% of all locations (n = 121). Figure 10 shows that of all locations in the Netherlands (n = 103), 32% are based in Amsterdam. The Hague and Utrecht are the most popular locations after Amsterdam, where respectively 11% and 10% of the companies are established. Over half of the Dutch branches are in the Randstad (Central Business District areas in the Netherlands). This concentration is not surprising since the financial and governmental institutions in the Netherlands are mainly located there. Outside of the Randstad (Central Business District areas in the Netherlands), FinTech companies are spread throughout the Netherlands, with somewhat larger concentrations around universities. Dutch FinTech firms regularly have an international customer base, the location does not limit them to serving customers in multiple regions. From the interviews it clearly emerged that the Netherlands is seen as a springboard to Europe, with access to European consumers.

The Netherlands also has branches of FinTech companies that originated in other countries (figure 11). Examples are some of our neighboring countries such as the United Kingdom and Germany but also Norway and the United States.

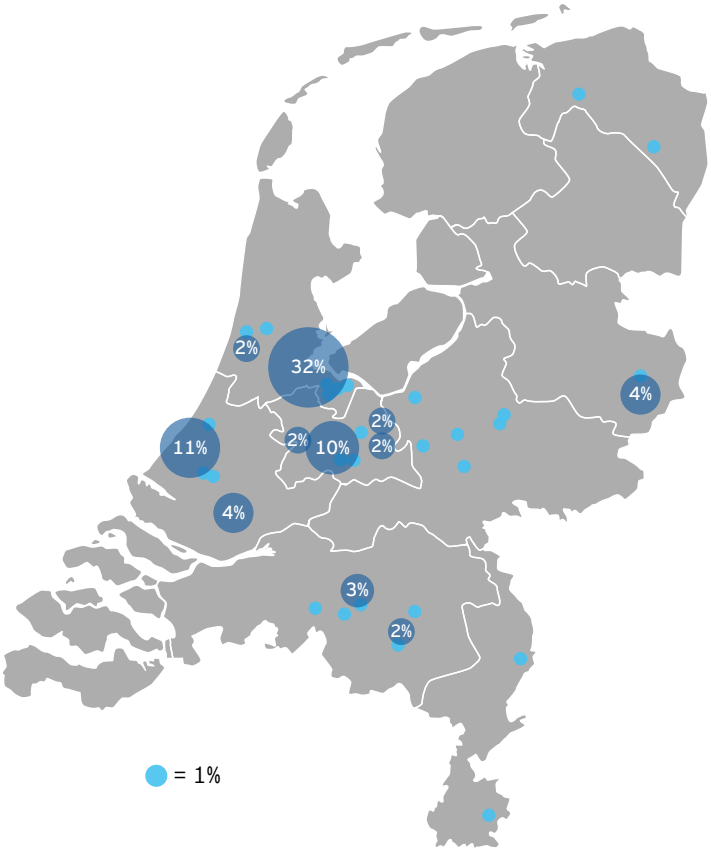


Figure 10. FinTech locations in the Netherlands

Figure 11. Origin of European FinTech firms with a branch in the Netherlands

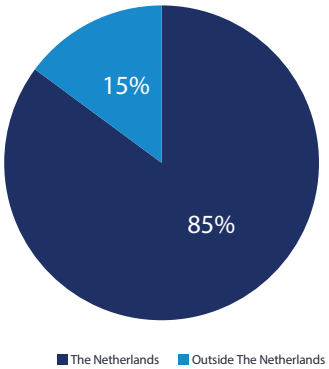


Figure 12. Location of headquarters

Target group and services offered

The majority of Dutch FinTech companies are B2B organisations that offer their services to business customers. The most frequently cited target groups are financial institutions (27%) and small and medium-sized enterprises (SMEs), 24% (figure 13). Only 13% of the participants in the FinTech census 2019 focus directly on the consumer market. As stated earlier, the established financial services players have a large customer base that is not easily accessible by the FinTech companies. Also in the FinTech census 2019 of the United Kingdom, the largest target group is financial institutions[2]. In addition, the European license overview for PSD2 shows a lot of attention for B2B. Of the 243 parties that have obtained a PSD2 license in Europe (status of autumn 2019), around 60% have a B2B focus[3].

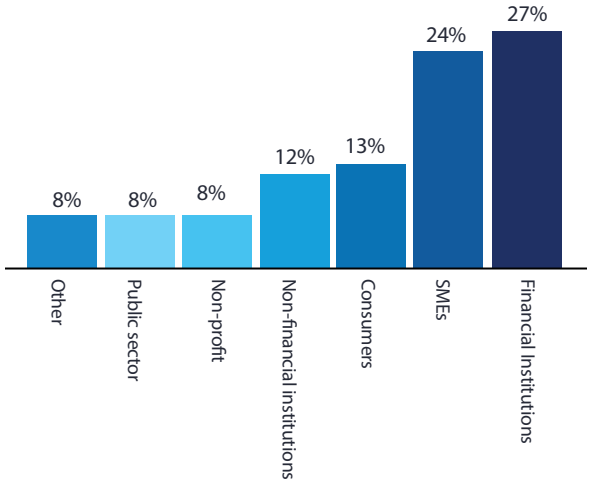


Figure 13. Target groups of the FinTech companies (multiple answers possible)

The services offered are also strongly aimed at B2B customers. Of the top five most-mentioned FinTech services, at least four are specifically focused on the business market, such as financial software and analytics services. The strong financial sector in the Netherlands, which is highly digitized, contributes to the focus of FinTech companies for B2B FinTech services. The FinTech firms have also focused on sectors or niches in the market that have not yet been optimally served, such as the provision of small loans to SMEs. Figure 14 shows an overview of the FinTech services offered.

[2] *UK FinTech Census 2019*
[3] *EY PSD2 Licenses monthly analysis*

The top three most offered services consist of: financial software (for example for SMEs, or for financial institutions), analytics and big data, and payments and remittances (figure 14). Payments and remittances applies to both payment services for consumers and the provision of a platform for financial institutions. This top three is in line with the most common services of the 635 FinTech companies, as shown in figure 5. Financial software and payments and remittances, as displayed, are the most common services. Analytics and big data are lower in figure 5 than in the figure below. Because the question in the survey allowed multiple answers, analytics and big data was often chosen alongside other types of services. This indicates that analytics and big data is an integral part of financial services for FinTech companies. The category "Other" includes services such as mortgage advice, e-invoicing and AuditTech.

RegTech and digital identity services also feature in the top five. With the increased focus on Anti-money Laundering (AML) [4] requirements in the financial sector, FinTech companies see opportunities to support, for example through technology to identify suspicious transactions, or by automatically generating reports. In addition to the existing business lending that banks offer, there are several FinTech companies that provide smaller loans to SMEs, for example through crowdfunding.

The other services are offered less often. It is striking that InsurTech services are not as common in the Netherlands compared to the rest of the world. As stated earlier, there is probably less of an incentive for innovation due to the consolidation of the insurance sector. It is also remarkable that crypto services are ranked low in the list. Cryptos are not as much in the spotlight compared to two years ago, mainly because of risk factors such as volatility, price manipulation, and lack of a specific regulatory framework as identified by the AFM[5].

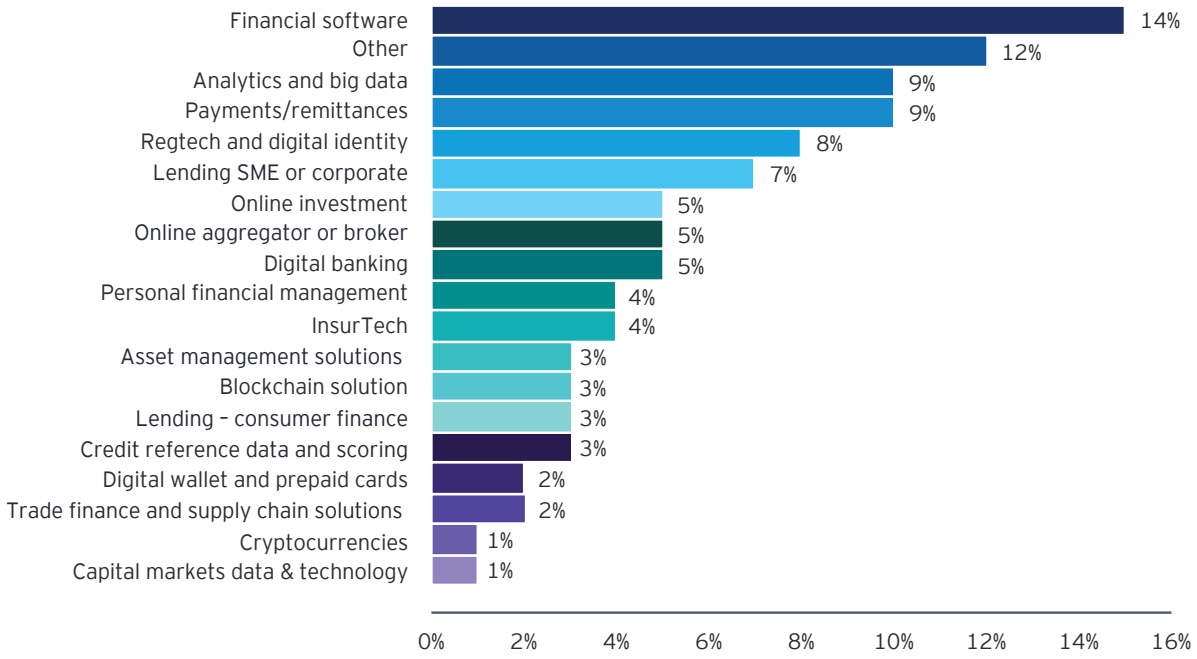


Figure 14. FinTech services offered (multiple answers possible)

[4] *Verscherpte Wwft vereist aanpassingen, newsletter DNB, 30th of August 2018*
[5] *De stand van zaken op de cryptomarkt, AFM, 2018*

Strong growth expectations in revenue and profit

Almost all companies that participated in the FinTech census 2019 expect to grow in revenue in 2019 (figure 15). More than sixty percent expect to grow up to 100%, sixteen percent expect to grow more than 100%.

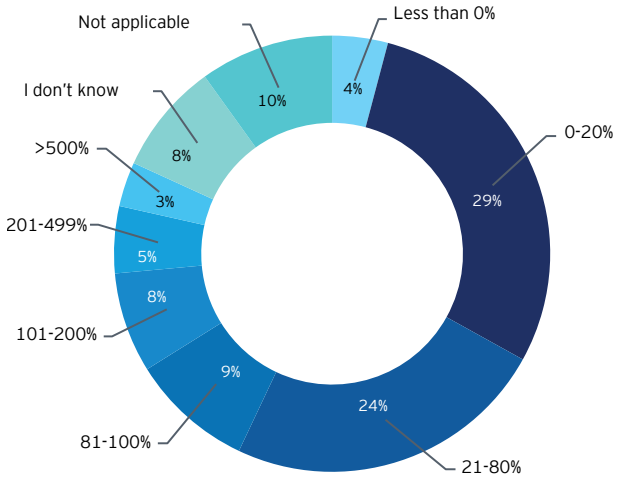


Figure 15. Growth in revenue in 2019

2020 paints a similar picture, with a larger group growing strongly up to 100% (figure 16), while twenty-eight percent will increase more than 100% in revenue. One to four percent expect a decrease in revenue in 2019 or 2020.

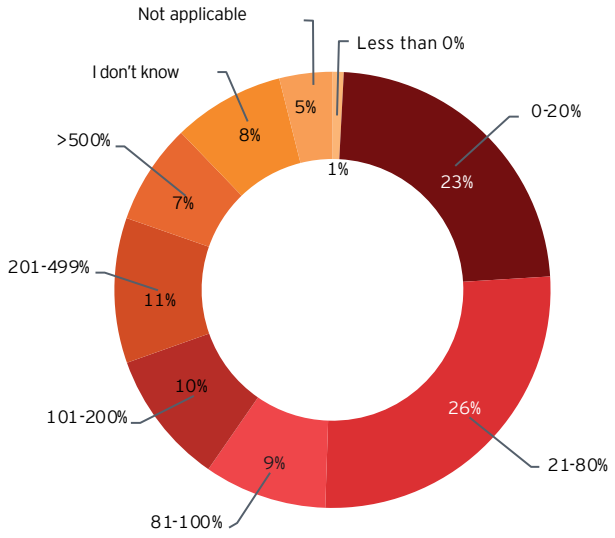


Figure 16. Growth in profit in 2020

> There are good growth possibilities for this year. At the moment our clients, the banks, have a high focus on KYC and compliance.

Over a quarter of the participants expects a worldwide growth in revenue of over 100% in 2020, showing the ambition level of the sector

Regarding profit, a third of the participants expects to grow up to 20% in both 2019 and 2020 (figure 17). Some firms are more cautious, e.g. seventeen percent still expect that the profit will decrease in 2019. More than half of the companies expect to grow in profit. For 2020 seven percent expects a decrease in profit and sixty-five percent expects profit growth (figure 18).

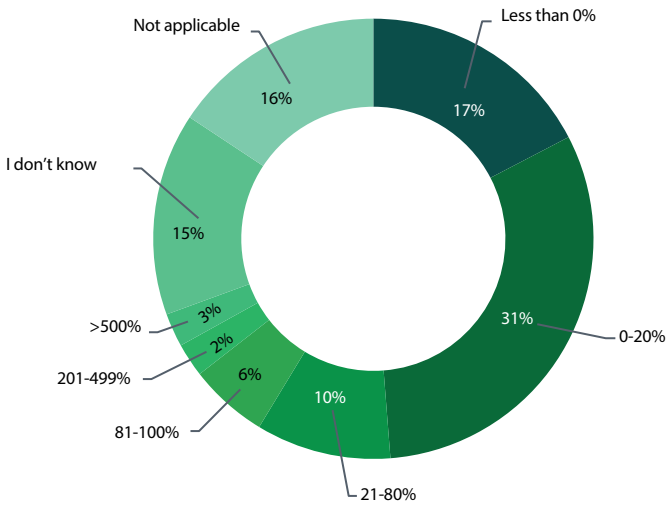


Figure 17. Growth in revenue in 2019

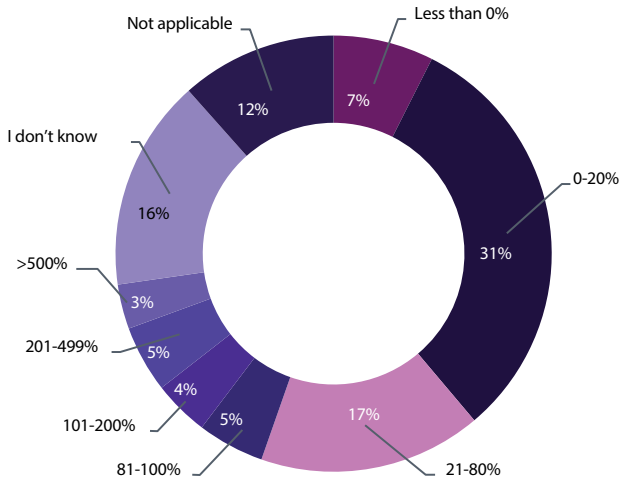
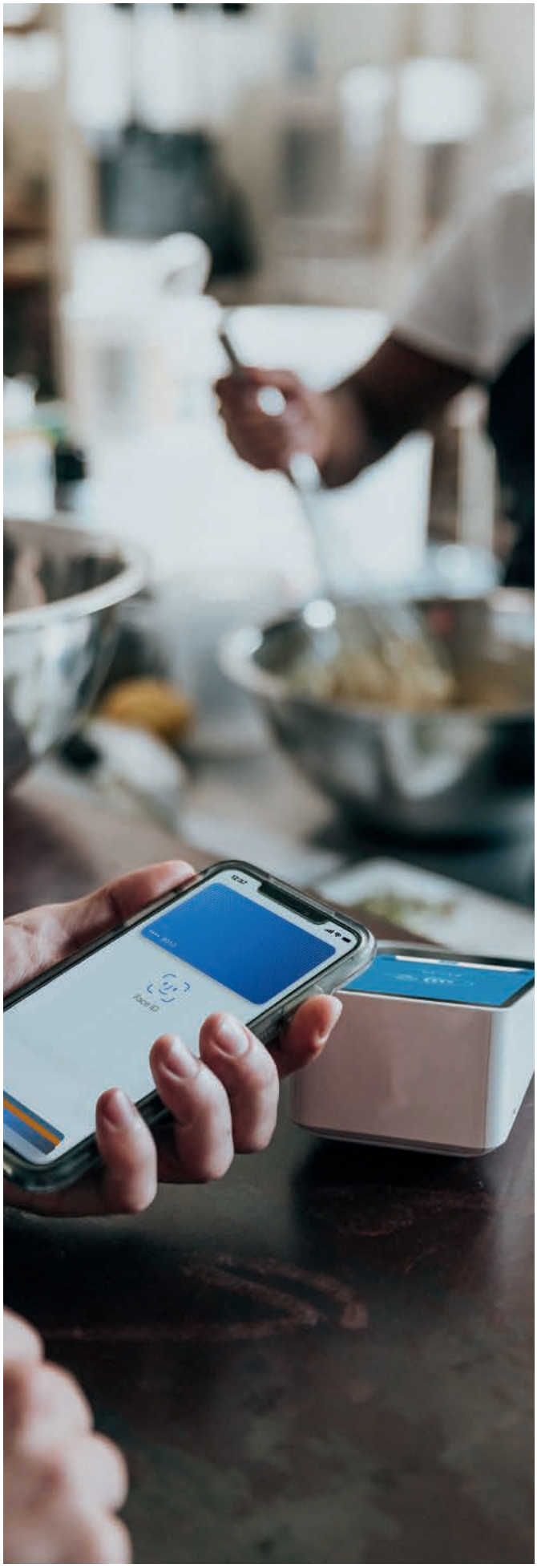
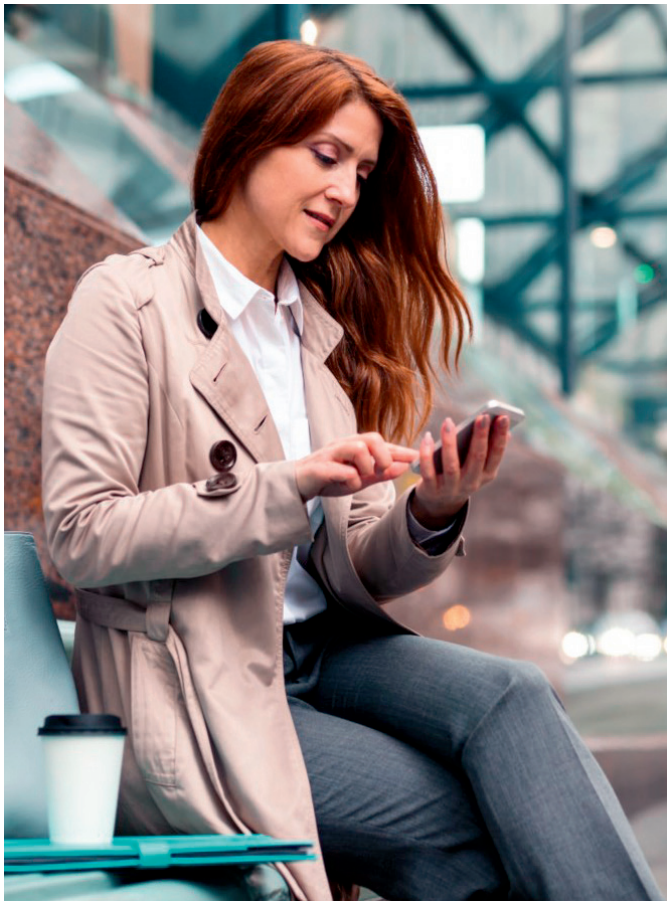


Figure 18. Growth in profit in 2020



The expected growth figure for profit and revenue show that the majority of the FinTech companies that participated in the Dutch FinTech census 2019 are positive about 2020, which emphasizes the ambition of the sector. This ambition is in line with the participants of the FinTech census 2019 from the United Kingdom[6]. New investments are needed to achieve this growth. For 2020, the participants indicated to invest primarily in software. No less than 66% say they will devote more money and attention to this theme (figure 19). Attracting talent is also an investment priority for FinTech companies. Chapter 4 discusses further the talent FinTech companies are looking for.

In addition, the Dutch FinTech census investigated what is hindering FinTech companies in market demand and further development. Factors mentioned are laws and regulations, these are discussed in more detail in chapter five, and the way the financial sector is treated in the media. Financial news is regularly provided from a more negative point of view, such as negligent money laundering checks among banks. FinTech companies have the impression that there are many innovative services which beneficially impact the financial sector, of which we as the Netherlands could be prouder.



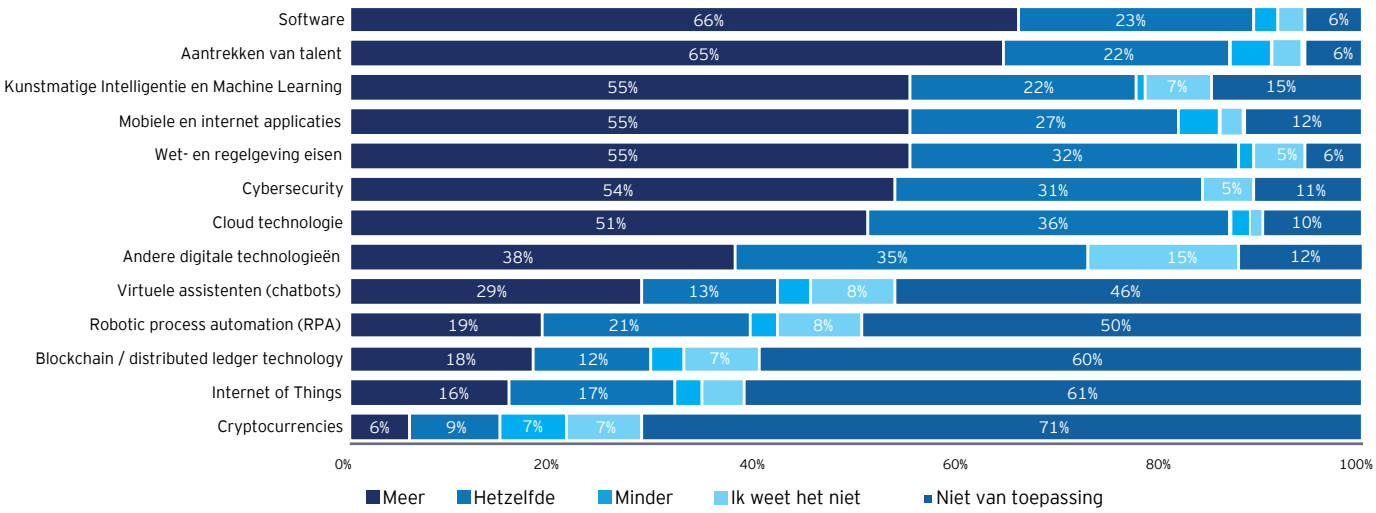


Figure 19. Important themes to invest in

[6] *UK FinTech Census 2019*

4. Required talent and skills

No fewer than 85% of FinTech companies want to increase the number of employees. They experience a lack of digital skills in the Netherlands, despite the positive international appeal of Amsterdam.

Stimulating factors

- Talent wants to work at FinTech companies because of successful companies such as Adyen
- The quality of Dutch talent is high, amongst others because of the quality of universities
- Employees abroad would like to work in Amsterdam. Amsterdam therefore has a relatively large international community of software developers

Hindering factors:

- Challenge to find enough technical staff. This is due to a tight labor market and a lack of digital skills
- Due to a shortage of talent, recruitment also takes place internationally, specifically for scarce skills such as Artificial Intelligence
- Companies indicate it is difficult to retain employees because of the "millennial mentality"
- Strict remuneration rules for FinTech firms that are subject to a license under the AFM or DNB

Number of employees inside and outside the Netherlands

FinTech companies contribute to a growing labor market because the number of companies is expanding, and they want to grow in the number of employees. Most companies currently have relatively few employees. In the Netherlands, 52% of FinTech companies have up to ten employees (figure 20). They are still startups, of which most have started in the last five years. In addition, there are a few larger companies, e.g. 3% of the companies have more than 250 employees.

There are few FinTech companies with employees outside of the Netherlands. 49% indicate they have no employees at all outside the Netherlands, 26% have 1-10 employees outside the Netherlands. There are foreign FinTech firms active in the Netherlands through a small branch, but have a large team abroad. Of the companies with up to ten employees in the Netherlands, 6% have more than 150 employees outside the Netherlands.

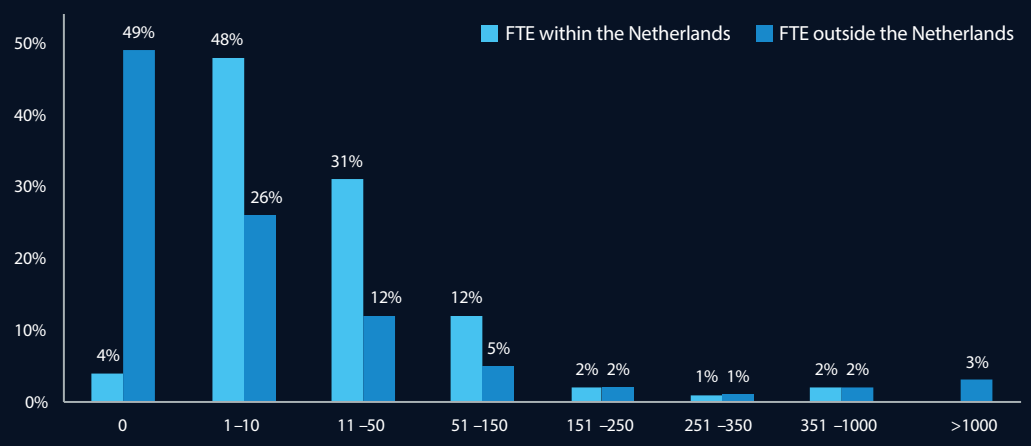


Figure 20. Number of employees at the FinTech company within and outside the Netherlands

Employee growth expectations employees for 2020

The labor market for FinTech companies shows a large potential. 82% of FinTech companies indicate they want to hire up to 50 people by 2020 (figure 21). The anticipated growth in employees is in line with the growth expectations in revenue and profit for 2020. Expected expansion in teams is relatively large compared to the current size of the teams. 70% of the FinTech companies with up to 10 employees want to employ an additional 1-10 people. Also the group that expects to hire 11-50 employees consists for 52% of companies that already have 11-50 employees.

> Young software developers are eager to live and work in Amsterdam, so to attract them is relatively easy. It is more challenging to retain them, while we have a high need for employees with several years of experience.

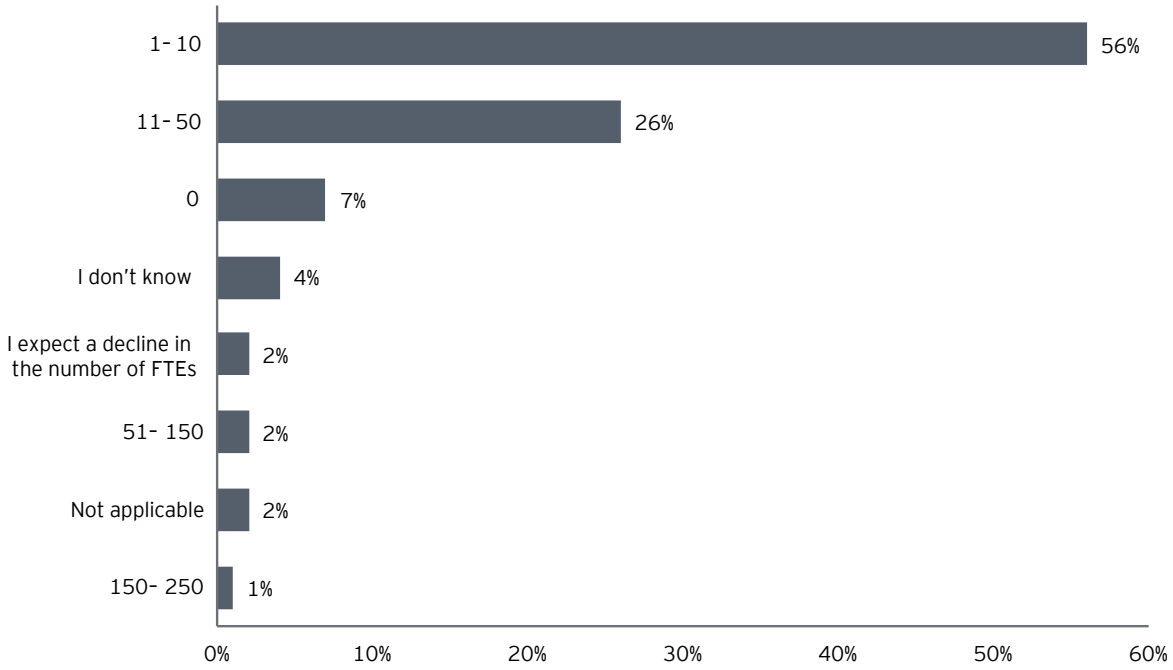


Figure 21. Growth expectations in number of employees for 2020

Access to qualified personnel

FinTech companies employ highly skilled staff and they notice challenges in expansion due to limited availability of qualified employees. The greatest challenge for FinTech companies within the labor market is to find qualified staff: 53% indicate that it is not easy to find personnel with the right skills (figure 22). The availability of labor is an important factor that influences the start of FinTech companies. Research has shown that a large labor market has a positive effect on the number of FinTech startups[1].

In addition, 34% of the responding FinTech companies experience challenges to employ qualified staff. Aspects such as high salary demands and remuneration rules are influencing factors.Startups can grant shares or options in the form of a variable remuneration, up to a maximum of 20 percent of the fixed salary. Also the intended regulation regarding fixed rewards, where a holding period for shares and options is proposed, can contribute to challenges in employing new hires. FinTech firms compete here with startups that are not supervised or do not face this cap on remuneration. In the quest for talent, FinTechs also compete with the banks, who have good labor conditions, and large technology companies such as Booking or Google. Nonetheless, 34% see enough opportunities to find highly skilled and experienced staff in the future. This can be attributed to the fact that FinTech firms also look for new staff members abroad. There is enough supply from international talent who are eager to work in the Netherlands, specifically Amsterdam. The Netherlands is popular among foreign software developers and technical staff to work and live for several years because of the international character, the economy and open culture. Amsterdam therefore already has a relatively large international community of software developers.

Lastly, 36% of the FinTech companies consider it relatively easy to retain their employees. At the moment FinTech is popular among potential employees, thanks to e.g. successful FinTech companies such as Adyen. Those success stories contribute to the desire to work in the FinTech sector. However, some companies also indicate that it is difficult to retain employees because of demands of the millennial generation. From the interviews it emerged that employees from the millennial generation have high job demands, in terms of salary or rewards. A FinTech company cannot always meet these requirements. Specifically licensed companies under the AFM or DNB are restricted in their rewards because of remuneration regulation.

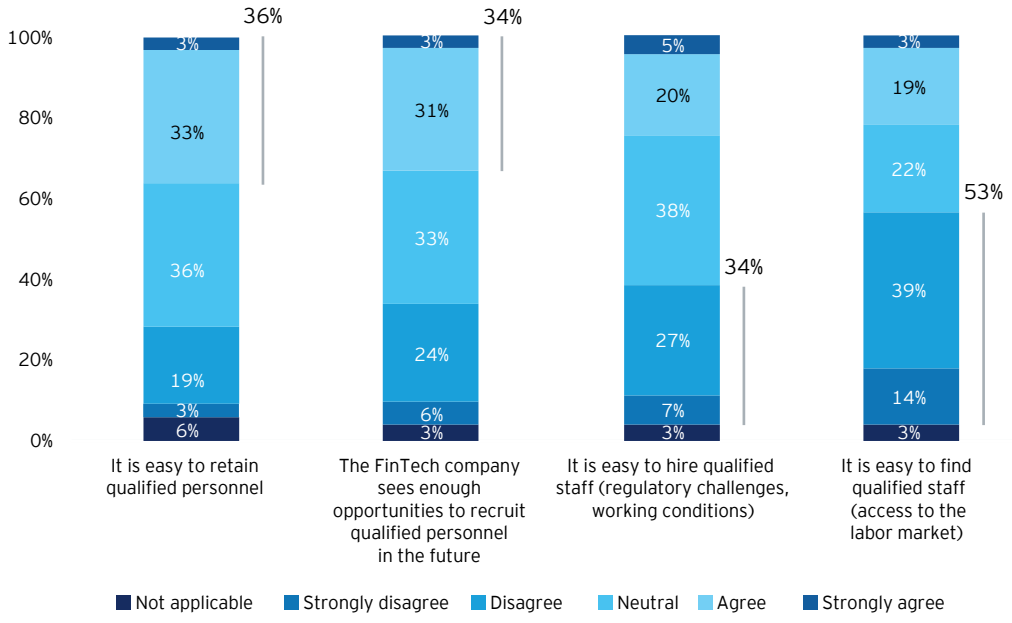


Figure 22. Experience of the labor market

[1] *The emergence of the global fintech market: economic and technological determinants, Small Business Economics – An Entrepreneurship Journal, 2018*

Shortage in skills

The Netherlands has a shortage of employees with digital skills (figure 23). Specifically software development is by far the number one skill that FinTech companies need but cannot find. It is not only most often mentioned as number one, but is also mentioned the most in the top three.

In addition to the need for digital skills, the top five of the figure below shows a demand for employees with commercial skills to merchandize the FinTech services and knowledgeable employees in the field of regulations and risk management. This need is in line with the main themes FinTech companies want to invest in, as shown in figure 18. Vacancies in management, HR and talent management, are least challenging to fulfill.

Respondents of the survey often praised the quality of Dutch talent due to the quality of the universities. Nonetheless, education of digital skills can be further improved. FinTech parties would benefit from talent with more digital skills, including practical experience, and expansion of specific digital skills such as blockchain, cryptos and Artificial Intelligence. FinTech companies are currently recruiting international talent to acquire the right knowledge in the firm.

> “We really do not know where we can find new software developers. We could easily hire 20 this year already.

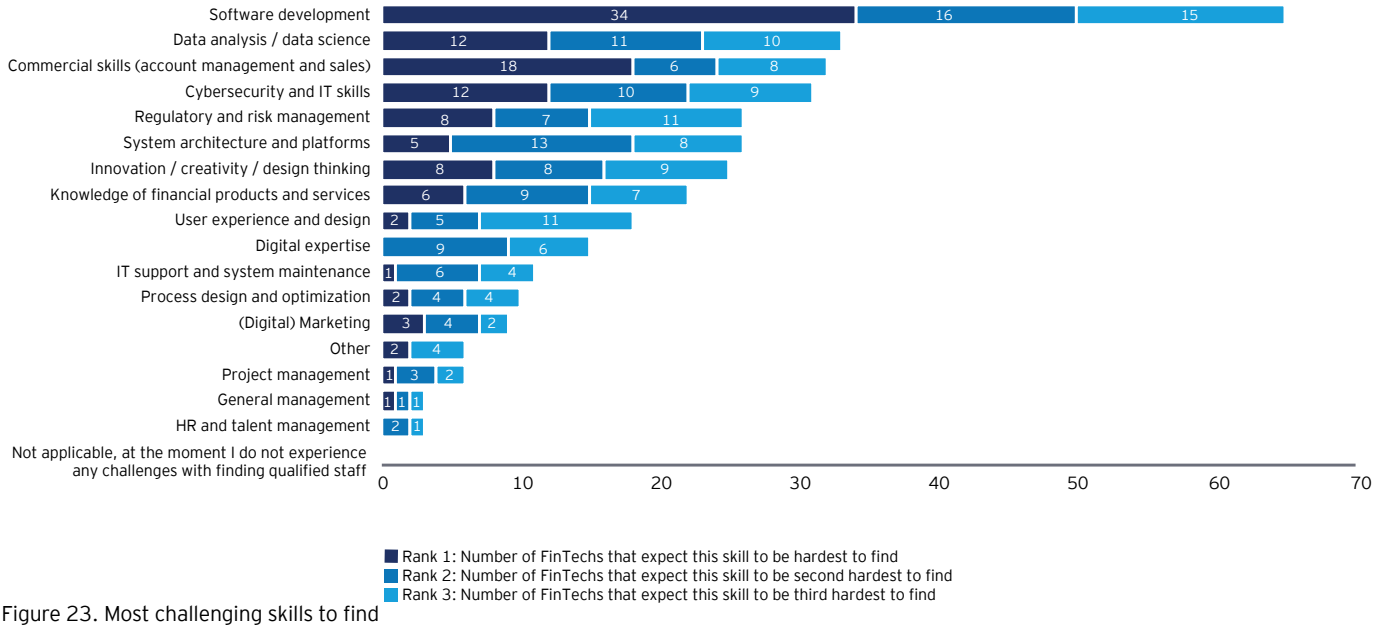


Figure 23. Most challenging skills to find

5. FinTech within the boundaries of the financial sector

The quality of supervision and application of laws and regulations is regarded as high. 43% of FinTech companies do not experience any problems to comply with legislation and regulations within the FinTech domain. On the other hand, the Netherlands is perceived as strict and the costs and lead time for licenses and compliance are considered significant.

Stimulating factor:

- The importance of laws and regulations is acknowledged. FinTech companies want to comply to regulation
- A Dutch license is viewed as a stamp of quality
- GDPR increases transparency and quality with regard to data, but is perceived as difficult
- Positive attention from the government and regulators for FinTech and innovation, high degree of accessibility
- The InnovationHub and Maatwerk voor Innovatie are good initiatives, but more specialist, technological knowledge in relation to current laws and regulations is requested

Hindering factors:

- The costs and lead time for applying for a license are experienced as an obstacle, especially by the small firms[1]
- A more specific interpretation of (European) laws and regulations is requested, to reduce ambiguities
- Interpretation of legislation and regulations are sometimes a gray area, because of which the regulator provides no decision. FinTech companies indicate that they prefer to have transparent rules in advance rather than risking sanctions afterwards
- There is a need for harmonization of regulations and supervision at a European level, e.g. the control of transaction data, and the timely introduction of European regulations
- The perception is that the FinTech companies have to deal with proportionally higher regulatory burden compared to other countries

[1] *Focus is on the perception of the FinTech companies. Costs and processing time differs per country and has not been investigated in this research.*

Required licenses

Although FinTech firms operate in the financial sector, they do not all require a license. From the research it emerged that more than half of the respondents do not require a license or do not (yet) have a license (figure 24). This is in line with the most offered services. A large part of the services offered does not require a financial license, such as financial software or analytics services for business customers. Of the parties that do have a license, a PSD2 license is the most common (14%). Examples of licenses mentioned under "Other" are mortgage credit and blockchain. Interviewees mentioned that a Dutch license is seen as a mark of quality. On the other hand, the investments in time and money for small startups is regarded as non-proportional. The interviews show that, as a solution, FinTech parties hire an external party who provides the service (for example in the area of PSD2) so that they do not need a license themselves.

> “We make use of a third party PDS2 platform. It is too difficult to do it ourselves, the costs are too high and the time-to-market too high.

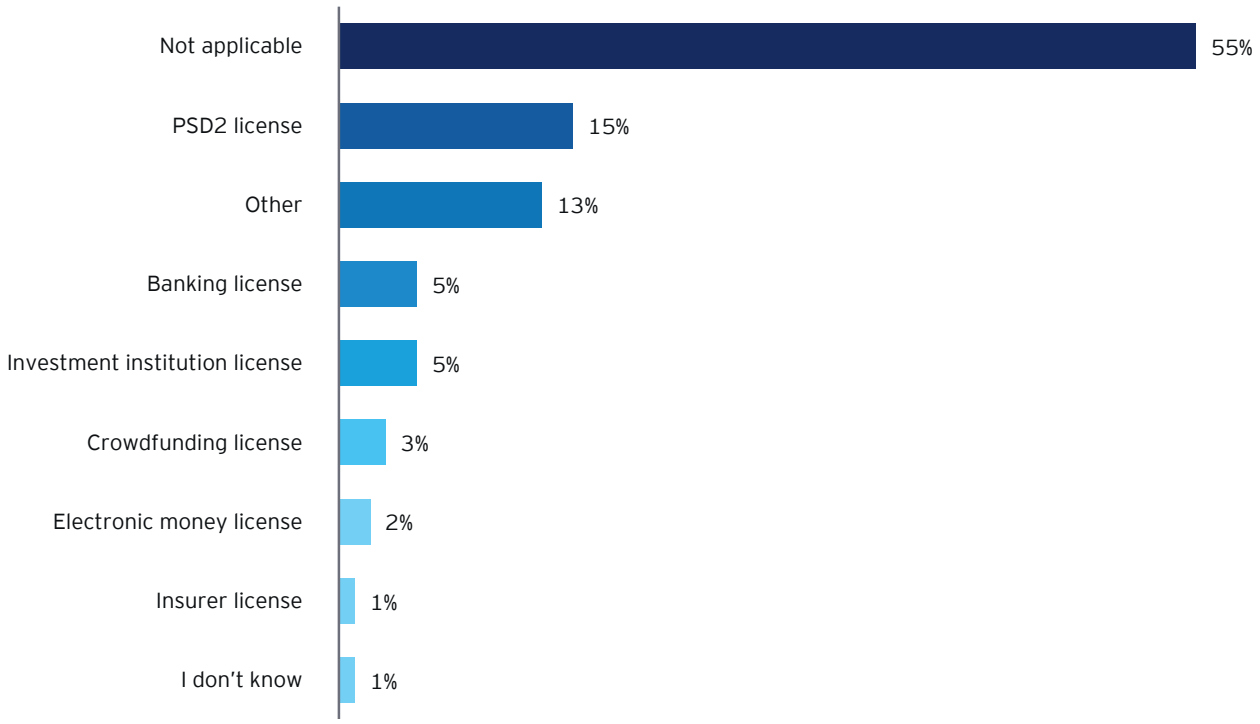


Figure 24. Required license for the FinTech company (multiple answers possible)

Obstacles in laws en regulations

The Dutch FinTech census 2019 investigated where FinTech companies experience the most obstacles in the field of laws and regulations (by completing a top three). The largest group of FinTech companies actually experience no obstacles by the current laws and regulations (figure 25). 81% of this group consists of FinTech parties that do not require a license under the supervision of the AFM or DNB, which means that the firms are to a lesser extent subject to laws and regulations. The qualitative side of the research shows that FinTech companies, also those that are not subject to licensing, recognize the importance and usefulness of supervision and regulations (Wft) but that Dutch implementation of European laws and regulations is perceived as strict. In the Dutch FinTech census 2019 the most frequently mentioned laws and regulations with challenging aspects are GDPR, the legislation on licenses such as a banking license or PSD2 license and remuneration legislation[2].

GDPR is perceived as the biggest obstacle. This topic is most often chosen as number one, two and three together. Reason is that it is a recent law affecting all parties. Despite the perceived obstacles of this law (e.g. customers who need to provide explicit permission for newsletters) there are also positive sounds about GDPR. In particular the transparency and quality of the data as a result of the law is appreciated by the FinTech firms. Under "Other" in figure 25 the following barriers in the field of legislation and regulations are mentioned: it is considered too complex, too detailed or too unclear. The interviews also show that the current remuneration regulation impedes the recruitment or retention of talent. Also mentioned is that legislation such as PSD2 is relatively late introduced in the Netherlands compared to other countries, causing ambiguity and uncertainty. The timely introduction of laws and regulations is therefore requested, which could strengthen the competitive position.

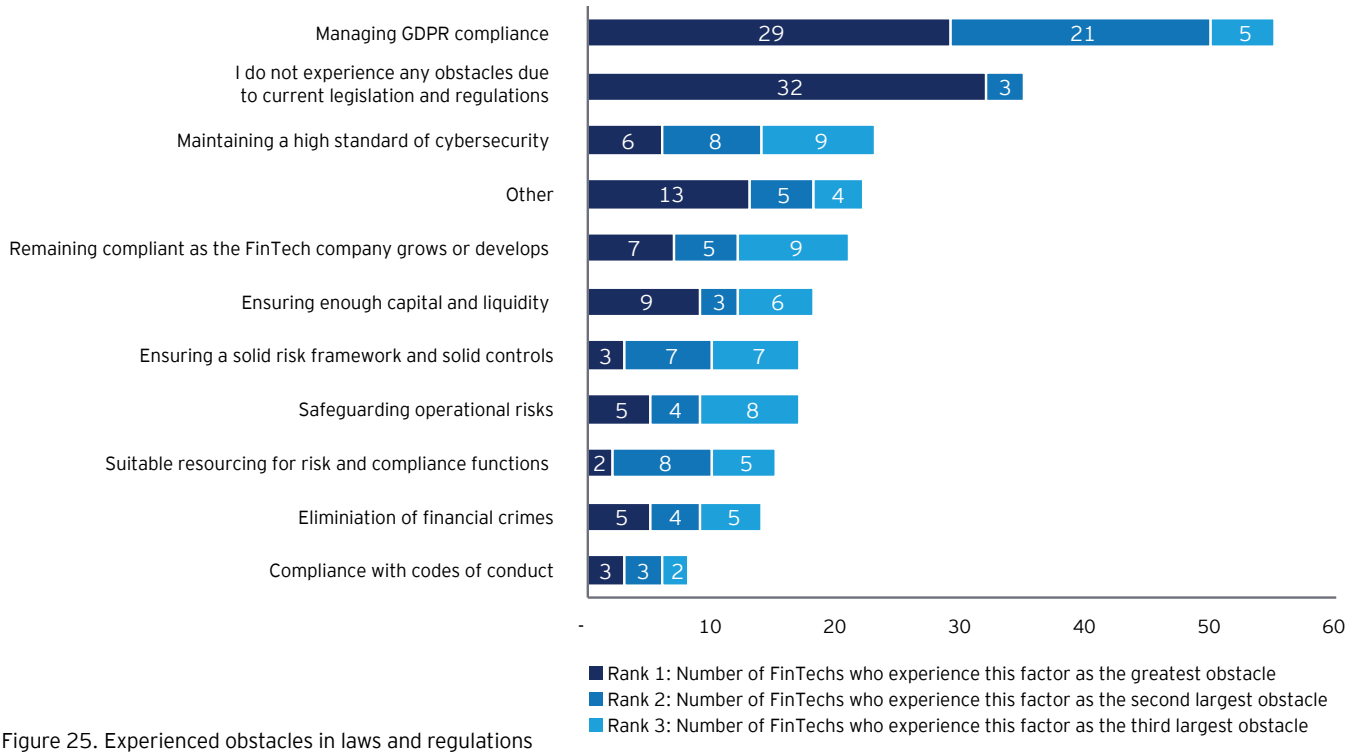


Figure 25. Experienced obstacles in laws and regulations

[2] *These items are mentioned in the interviews and the qualitative questions of the survey. This study did not explore those topics in more detail. Please note that the remuneration rules generally apply to all financial companies with their registered office in the Netherlands. Investment fund managers, UCITS managers, and investment firms that solely trade for their own account with their own resources and capital, do not have any external clients and are local businesses, are excluded from the remuneration cap.*

In addition, the participating FinTech companies desire a more concrete implementation of (European) legislation and regulations, to reduce ambiguities what to comply with. FinTech companies indicate that they prefer transparent rules in advance, rather than testing afterwards with the risk of a warning. Many FinTech companies also note that there is a difference at European level in the interpretation of laws and regulations. There is a demand for harmonization of regulations at a European level for further efficiency. A cited example is that in securities transactions, different data must be sent to regulators in different countries.

> “Because of own interpretation of regulation, differences arise between different countries. This makes it challenging to operate internationally.

Practical experience with laws and regulation

In the Netherlands, the experiences of FinTech companies with laws and regulations are reasonably positive (figure 26). Relatively many FinTech companies experience no problems to comply with legislation and regulations (43%). Contributing factors are the accessibility of the government for questions and clear information on laws and regulations provided by the regulators. For an equal group of participants (43%) it is clear which measures are necessary for the FinTech company to comply with legislation. Also, all the required information can easily be found online.

In addition, 33% indicate that the administrative requirements for laws and regulations are proportional, but an approximately equal percentage disagrees. The image that the Netherlands wants to be best in class is regularly mentioned, including relatively many administrative requirements. At the moment a lot of time and money is spent, according to the FinTech companies, on complying with laws and regulations, putting innovation in the shadow of regulation.

Lastly, the largest group (37%) states there is sufficient regulation in the field of FinTech. Regulation, however, evolves with the developments in the market. From January 2020 onwards , providers of crypto services will be supervised by DNB, following the European anti-money laundering directive[3].

> “The Dutch regulators are relatively strict in interpreting the laws and regulations in comparison to regulators in other European countries.

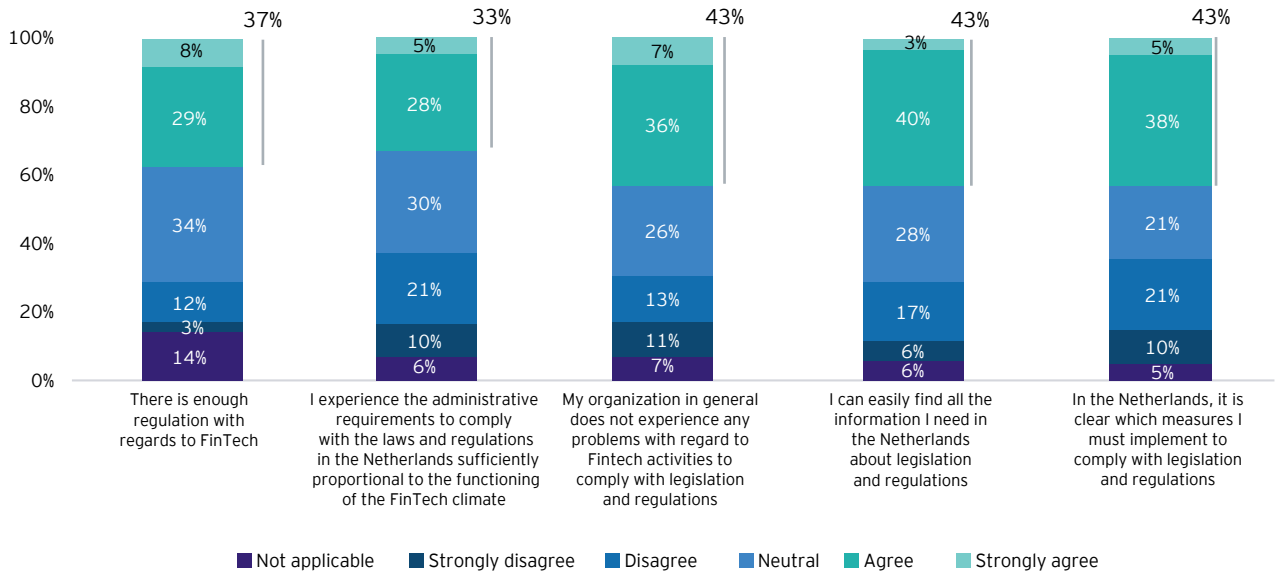


Figure 26. Limitations due to current laws and regulations

[3] *Aanbieders van cryptodiensten dienen zich voor te bereiden op toezicht DNB, news item DNB, 3rd of September 2019*

Government interaction

FinTech companies indicate it is relatively easy to find all the necessary information about legislation and regulations online (figure 26), but for 46% it is not clear where FinTech companies can address their questions to the government (figure 27). The largest group (40%) responded neutral to the amount of information that the government provides concerning relevant laws and regulations. This indicates there are at least some ambiguities about the provision of information.

FinTech companies are most positive about the attitude of the government (figure 27). 46% think that the government has a positive attitude towards FinTech, compared to 19% who disagree. It is deemed important that the government pays visible attention to innovation and FinTech, such as the PSD2 campaign. Nonetheless, many FinTech companies (46%) would like a more active role for the government. The interviewed FinTech companies often expressed the desire for a clear FinTech ambition and vision, as well as further stimulating the sector through, for example, further tax benefits for investors.

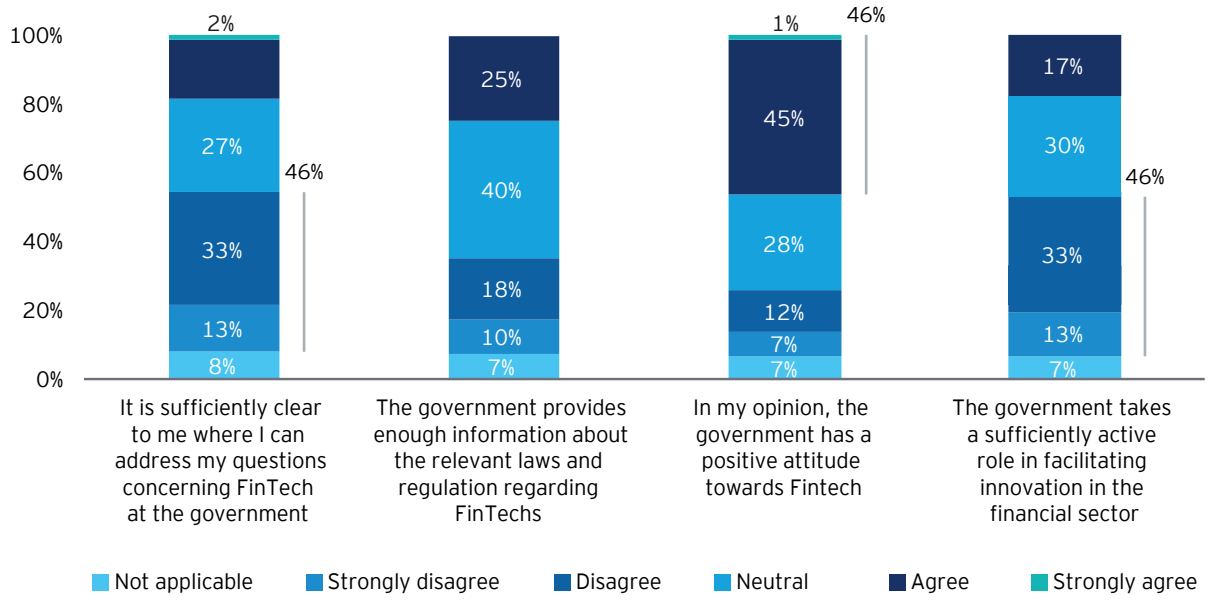


Figure 27. Role and attitude of the Dutch government

Interaction with regulators

The Dutch FinTech Census 2019 researched how FinTech parties experienced the licensing process with the regulator. Most firms however, did not require contact with the AFM and DNB because 55% of the participating FinTech companies are not subject to a license. In addition, there is relatively little to no contact with the ACM and AP.

The licensed FinTech companies view the AFM and DNB as accessible institutions with close attention to innovation. An example mentioned in the interviews is "FinTech meets the regulators" [4], seminars where FinTech companies and authorities meet, exchange knowledge and learn from each other on different financial topics.

Initiatives such as the InnovationHub[5] and Maatwerk voor Innovation[6] further improve the accessibility of the AFM and DNB. New and existing companies can reach out to the InnovationHub (whether or not they fall under supervision of the AFM and DNB) with questions about supervision and related regulations concerning innovative financial products and services. Maatwerk voor Innovatie cooperates with licensed parties to examine the underlying purpose of rules to (potentially) create more room and remove unnecessary barriers.

Respectively 44% and 30% are familiar with the InnovationHub and Maatwerk voor Innovation (figure 28). A relatively small group actually made use of the initiatives, which is in line with the sample where more than half do not fall under supervision and in that context is out of the scope of these initiatives. To further improve the service, FinTech firms suggested that the regulator should develop further specialist knowledge. This concerns technological knowledge in relation to current laws and regulations and the interpretation of laws and regulations at a European level.

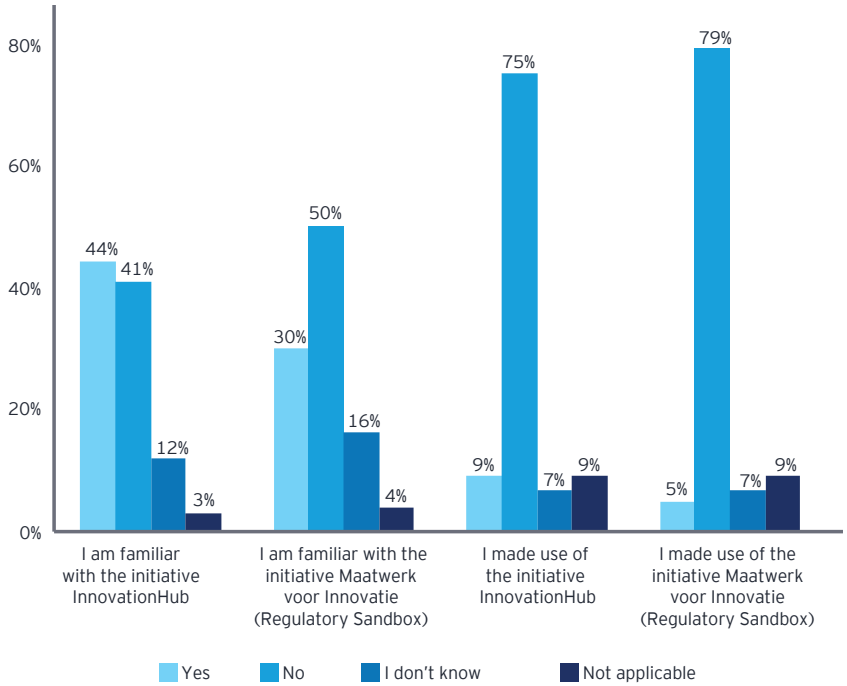


Figure 28. Initiatives of Dutch government and regulators

[4] *FinTech meets the regulators, https://www.dnb.nl/betalingsverkeer/Actueel-en-innovaties/dnb386066.jsp, DNB*
[5] *https://www.dnb.nl/toezichtprofessioneel/innovationhub/index.js*
[6] *https://www.dnb.nl/toezichtprofessioneel/innovationhub/maatwerk-voor-innovatie-regulatory-sandbox/index.js*

6. FinTech climate in the Netherlands

The Netherlands has a good investment and business climate for FinTech companies. The international competitive position of the Netherlands can thus be emphasized more strongly.

Stimulating factors:

- The current economic climate contributes to a favorable investment climate
- Sufficient capital is available, also due to interest from international investors
- Successfully collecting debt indicates a stamp of quality
- The Netherlands is very digital, both in terms of infrastructure and the use of digital services
- High level of English proficiency and high adoption of digital financial services
- Easy to access and travel, both internationally and within national borders
- The Netherlands, and specifically Amsterdam, has a strong image for FinTech companies and their employees: modern, open culture, good English proficiency and an international community

Hindering factors:

- The perception is that the Dutch government stimulates and invests less compared to other countries, for example through subsidies or tax measures
- Dutch investors have a high degree of risk aversion in the field of FinTech financing
- Small parties have more difficulty raising capital
- Scale-ups are looking for recognition of their professional services. FinTech companies are now too often regarded as startups
- Housing is a challenge for starting companies in Amsterdam: high costs, complicated to find and long leases

Important factors for country of residence

FinTech companies consider how they can best develop their business and serve their market. The Netherlands can serve as a springboard for the rest of Europe. According to the results of the survey, the most important factors in choosing a country of residence are (figure 29):

1. English proficiency
2. (Digital) infrastructure and location
3. Sufficient market demand in the current sector

These three factors are important for successfully establishing a (foreign) location. English language proficiency ensures an international team and scalability. Good (digital) infrastructure guarantees (online) accessibility. Sufficient market demand in the sector is essential for the scalability of the service and therefore for profitability. The least important factors when choosing the country of residence are:

1. Own nationality
2. Supervisory costs
3. Compliance costs

The Netherlands as country of residence

In addition, the Dutch FinTech census 2019 investigated what contributes to the attractiveness of the Netherlands as a country of residence. Specifically for the Netherlands, the main motivators for FinTech companies (figure 30) to establish themselves here are:

1. English proficiency
2. (Digital) infrastructure and location
3. Dutch culture

These main motivators are in line with the factors that emerged from EY's annual survey[1] about the attractiveness of the Netherlands to foreign investors. Both studies show confidence in the Dutch business climate. The Netherlands is a digital ("tech-savvy") country with a relatively high adoption of digital financial services and good digital infrastructure (high use of smartphones and high density of fast internet). The good accessibility of the country, both internationally and within national borders, is an attractive factor. The Dutch market is relatively small compared to the rest of Europe. It is therefore not surprising that the market demand of the sector, although indicated as an important factor for a country of residence, is replaced by Dutch culture in the above top three. The Dutch culture is described as attractive due to modern views, openness and entrepreneurship.

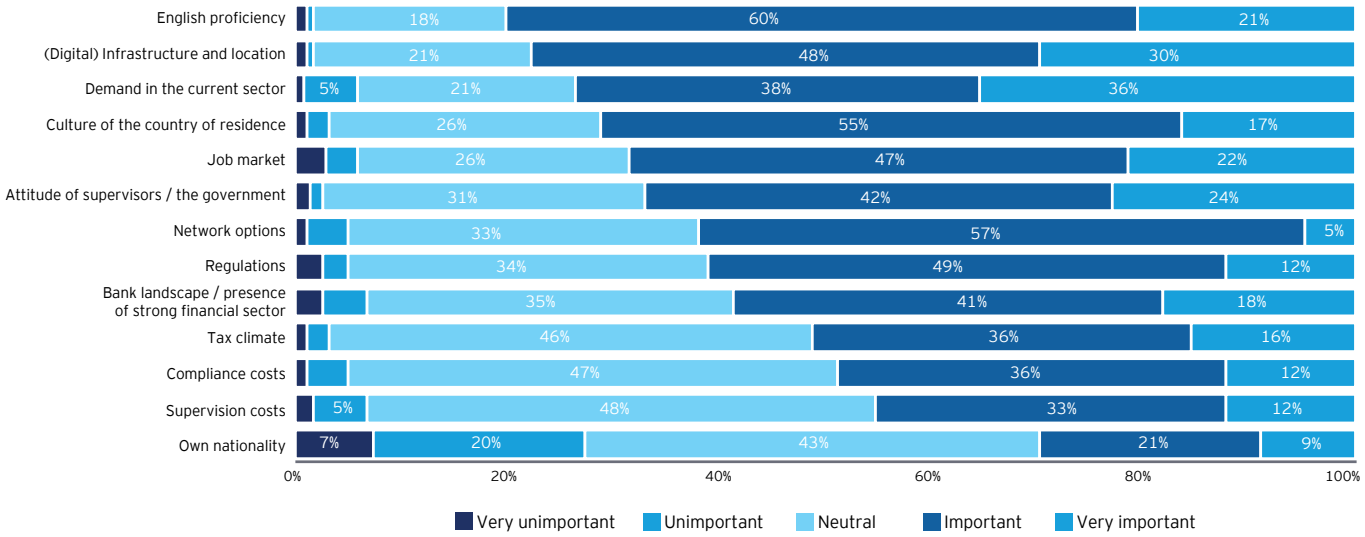


Figure 29. Important factors for country of residence

[1] *Nederland blijft overtuigen als investeringsland, EY Barometer Nederlands vestigingsklimaat 2018*

Within the Netherlands, the largest group of FinTech companies is in Amsterdam (27% of all 121 participants). Amsterdam is a popular location because of its international character, central location (close to Schiphol), and foreign employees are eager to work in the capital. However, the popularity of Amsterdam has a downside. Housing is a challenge for starting FinTech companies. Finding a good location is complicated, location costs are high, and the leases are often long. The least attractive factors for settling in the Netherlands are:

1. Proportionality of costs to be compliant with the Anti-Money Laundering and Anti-Terrorist Financing Act
2. Proportionality of supervisory costs
3. Regulations

These factors are in line with research[2] by the AFM and DNB that, despite the establishment of the InnovationHub and Maatwerk voor Innovation, the multitude of European laws and regulations is still perceived as a barrier. It is interesting that the proportionality of supervisory costs in the Netherlands (figure 30) is perceived as an unattractive factor, while this factor is not indicated as a determining factor in the choice of country (figure 29). Moreover, the same figure (29) indicates that no less than 48% are neutral about supervisory costs. This corresponds to earlier research[3] by EY on behalf of the ACM, which showed that the supervisory costs have no significant effect on the number of FinTech founded or developing in the Netherlands. The least attractive factors in the Netherlands are all linked to laws, regulations and supervision. Although 43% of FinTech companies have indicated that they do not experience any problems in complying with laws and regulations, it is not a factor that contributes very positively to the business climate in the Netherlands.

Most attractive aspects of the Netherlands are English proficiency, (digital) infrastructure and location and Dutch culture

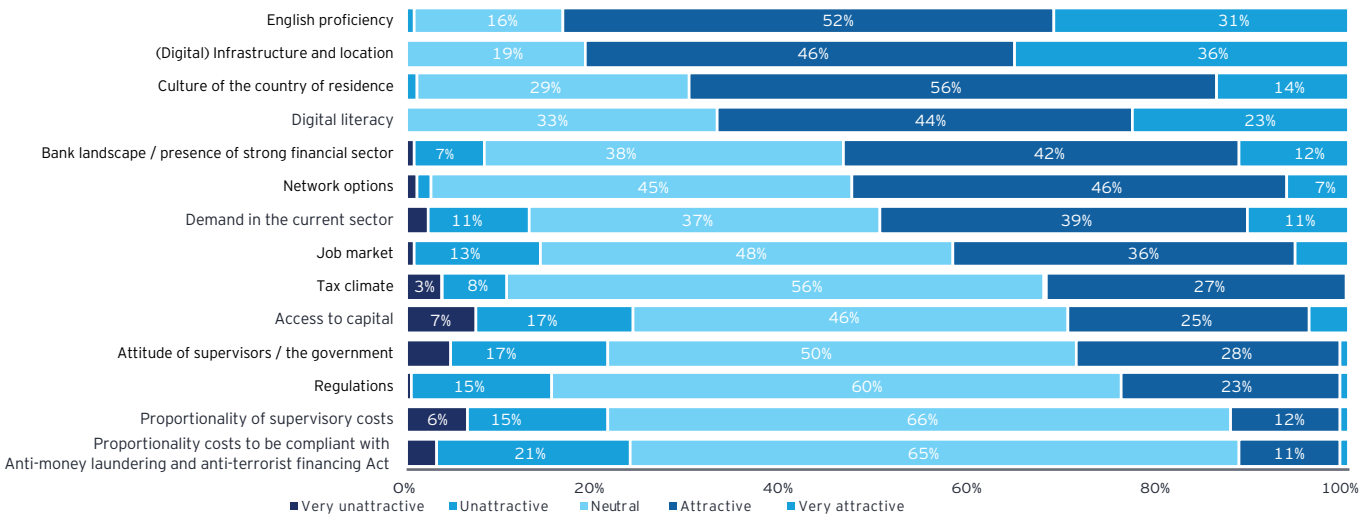


Figure 30. Attractive factors of the Netherlands

[2] *Continu in dialoog - lessons learned na drie jaar InnovationHub en Maatwerk voor Innovatie, DNB and AFM, 2019*
[3] *Are FinTechs hindered by supervisory fees in the Netherlands? The impact of supervisory fees on FinTech businesses in the Netherlands, EY, 2017*

Investment climate of the Netherlands

Research[4] shows that in countries with enough venture capital, more FinTech companies are being established. A well-developed market for investments offers (financially) the possibility of implementing innovations in current business models. Dutch FinTech companies benefit from a favorable investment climate and see enough opportunities raise investments, partly due to the current economic climate. From 2014 to the first half of 2019, FinTech companies received $969 million in investments in the Netherlands[5]. 39% of these investments were collected by companies active in payments. A total of 120 investments were made during this period. Adyen is the front runner with a raised amount of $250 million. Afterpay ranks second with $117 million and Bitfury closes the top three with $80 million. In the aforementioned $969 million, the internal investments of the established players are not included, so the total investments will be much higher. A wide variety of partnerships are being established to bring new services to the market[6].

> We are currently raising capital because it is regarded as a stamp of quality in the market - while we are making profit since day one, which is in fact the healthiest approach.

[4] *The emergence of the global fintech market: economic and technological determinants, Small Business Economics – An Entrepreneurship Journal, 2018*
[5] *Payments & Remittances funding drives FinTech investment in the Netherland to $969m since 2014, FinTech Global, 2019*
[6] *Een start-up over de vloer maakt de oude bank weer lenig, NRC Handelsblad, 2019*

Raising financing

In the Dutch FinTech census 2019, 56% of the FinTech companies indicated that they have raised funding (figure 32). The interviews reveal that successfully raising funding indicates a certain degree of maturity and a "stamp of approval". Funding is raised from various sources. Investment from founders is the most common (figure 31). An initial public offering (IPO) and leasing, on the other hand, are the least common. This ratio between sources of financing reflects the fact that most firms opt for sources of financing that suit a startup, such as investment from founders or grants. This is in line with earlier research by EY, which showed that small (SMEs) companies have difficulty gaining access to the capital market[7]. On average, most firms have received a total investment of between 2 and 5 million euros (figure 33).

A large proportion (44%) have not raised any financing and have been funded with equity (figure 32). These companies want to remain completely independent, partly due to a long-term vision. A group of FinTech companies developed under the wing of a large bank or insurer. This approach is very beneficial to them as it allows a longer timeframe in which to develop the service and ensure that compliance requirements are in place. The interest of the established players in FinTech is evident not only from their partnerships but also from their investment policies, although with different approaches. The investment fund at ABN Amro for instance doubled in November to more than € 100 million, while Rabobank transferred part of its investment fund to a venture investor[8]. Insurers, such as Aegon[9] and Achmea, also have funds to stimulate and invest in FinTech.

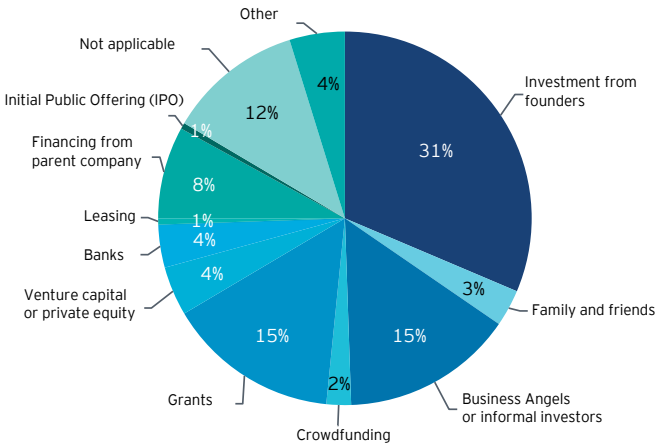


Figure 31. Sources of financing (multiple answers possible)

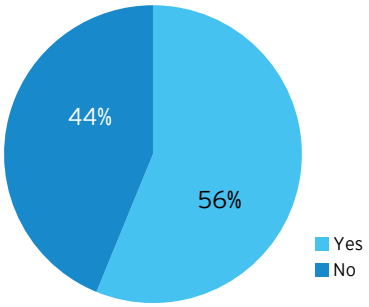


Figure 32. Percentage which raised funding

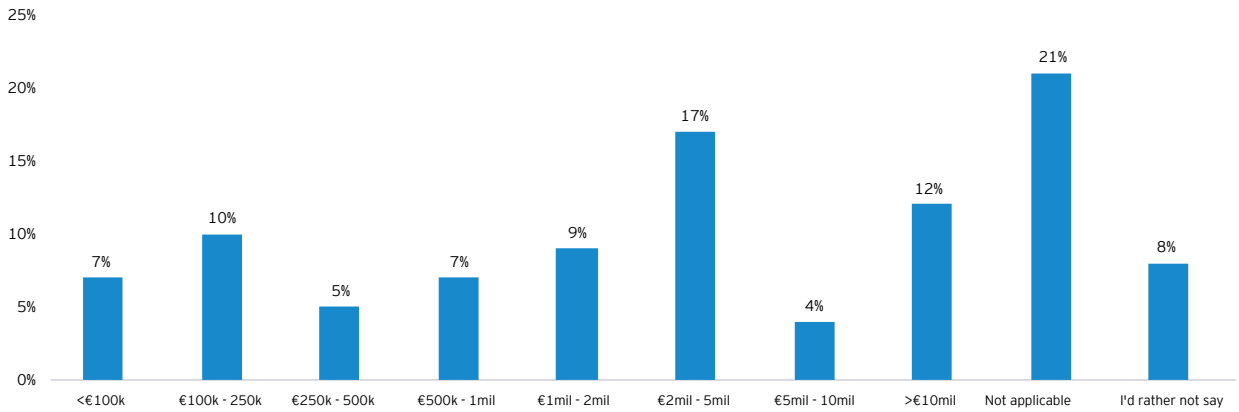


Figure 33. Amount of investments received up to date

[7] *Vier kansen om te investeren in de kapitaalmarkt voor het middenbedrijf, EY, 2016*
[8] *ABN Amro en Rabobank varen andere koers bij fintech-investeringen, het FD, 2019*
[9] *Nu gaan ook de verzekeraars overstag voor het techgeweld, het FD, 2019*

FinTech companies have different views on access to capital (figure 34). 29% state that it is not easy to raise enough capital in the Netherlands. Some indicate that it is difficult for small firms to raise capital, for example because of strict equity requirements at banks, while they in fact have a high need. Often mentioned is the high degree of risk aversion within the Netherlands in the field of (FinTech) financing. Still, 36% report that they can access the required capital, in part via foreign investors who are very interested in FinTech companies.

The Dutch FinTech census shows there is significant interest in Dutch FinTech companies from (foreign) investors. In Europe, FinTech is even the largest category (20%) venture capital invests in[10]. Unfortunately, some investors do not understand the FinTech services offered, and thus are not able to appreciate their full potential and value. Moreover, it is challenging with B2C propositions in the Dutch market to achieve the scalability investors are looking for. It is therefore important that the service can be offered in several countries.

On average the most firms have received a total investment between two and five million euro.

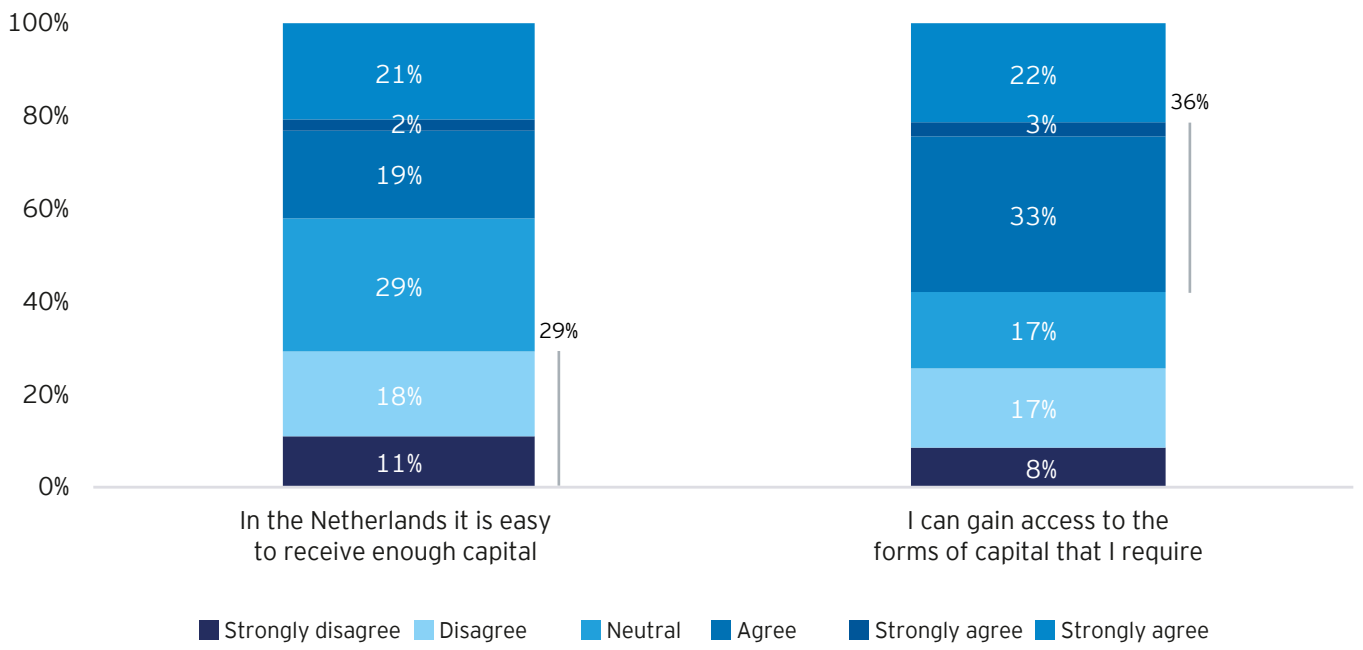


Figure 34. Access to capital

[10] *The State of European FinTech 2019, Finch Capital en Dealroom.co, 2019*

The Dutch FinTech census also looked at the experience of raising capital (figure 35). The FinTech companies are satisfied with the opportunities for networking within the Netherlands and the investment climate. From the interviews it emerged that network organisations, such as Holland FinTech, and the current economic climate are contributing factors. In general, they are most unsatisfied with government stimulation. Although the Promoting Research and Development Work Act ('WBSO') was mentioned a few times as a positive factor, the general opinion is that the Dutch government stimulates and invests less in FinTech, for example through subsidies or tax measures, compared to other countries. The UK's Enterprise Investment Scheme (EIS), which grants tax benefits for investing in smaller companies[11], is cited as an example for providing more tax benefits for investors.

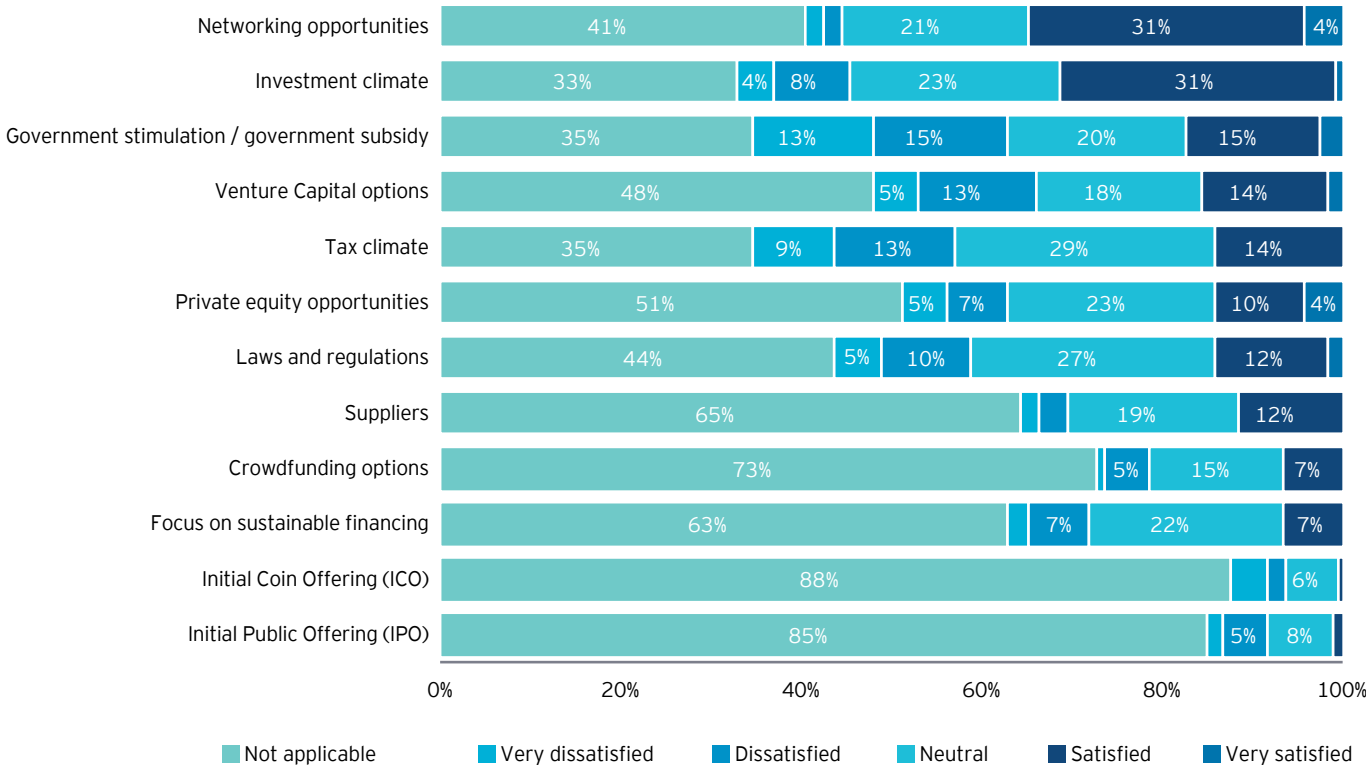


Figure 35. Experience with raising capital

[11] *https://www.gov.uk/guidance/venture-capital-schemes-apply-for-the-enterprise-investment-scheme*

How does the Netherlands perform in the FinTech field compared to other countries?

The Dutch FinTech census reflects a positive climate for FinTech companies in the Netherlands. Several countries in Europe focus on FinTech as an important market and have developed policies to further grow the sector or to facilitate innovation. In the field of FinTech, the Netherlands has been compared with a selection of other European countries to assess differences in FinTech climate. The following countries are included in the comparison because they have seen remarkable developments in the FinTech sector, as well as a relatively high number of PSD2 licenses issued:

- Lithuania
- United Kingdom
- France
- Germany
- Sweden

After a description of the relevant developments, the factors are compared per country.

A simplified banking license

Lithuania is characterized by the active stimulation and promotion of the FinTech sector by the government[12]. Stimulating measures include the setup of a firm within three days and an exemption from legal sanctions during the first year in Lithuania. In addition, the country has several regulatory sandboxes: from a FinTech sandbox to a Blockchain sandbox. Lithuania is also known for the specialized "light" banking license for challenger banks, where the starting capital requirements are up to five times smaller. Both Revolut and Google obtained bank licenses in 2019 in Lithuania, resulting in a high level of media attention [13]. Lastly, the government is investigating whether monitoring procedures can be automated and whether regulation can be further streamlined with the license application process.

> “Our ambition is to make the UK the best place in the world to start and grow a FinTech business[14].

[12] *FinTech sector in Lithuania, Invest Lithuania, 2019*
[13] *Google mag betaaltransacties Europeanen gaan bekijken, FD, 9 January 2019*
[14] *FinTech Sector Strategy: Securing the Future of UK FinTech, HM Treasury, 2018*

FinTech ambition

The United Kingdom has the outspoken ambition to become the international capital of FinTech. Due to early adoption, a high level of financial activity and government stimulation, the UK is ahead in the number of FinTech parties and in new developments such as Open Banking. Due to the strong financial sector and the stimulating measures, no fewer than 1,600 FinTech companies were active in the United Kingdom in 2019. In addition to the stated ambition[15], there is concrete support for the sector that partly coincides with a broader digital strategy. Policy includes stimulation of digital education, support of AI, and Open Banking. The Open Banking initiative has forced the nine largest banks to open their accounts to third-party services before the PSD2 legislation, putting the United Kingdom at the forefront of Europe in the newest (PSD2) services. In addition, there are tax benefits for investments in startups and several initiatives to get FinTech companies into contact with regulators and interested parties abroad: InnovationHub, Advice Unit, Regulatory Sandbox and FinTech bridges.

"Tech" visa

France has implemented some policy measures to stimulate startups and technology companies. After his election, President Macron announced he would turn the country in a nation of unicorns[16]. In addition to tax measures for startups, a "tech" visa has been developed to attract talent from abroad more easily (also interesting for FinTech companies). In addition, conscious of Brexit, France has made it attractive for FinTech parties from the UK to re-settle in France. For example, for existing activities that are already under supervision, the licensing process is simplified and accelerated[17]. However, the adoption of FinTech is lagging compared to other countries. The EY FinTech Adoption Index 2019[18] finds that France only reaches a FinTech adoption of 35%.

Innovation hubs connected to industry

The number of FinTech companies in Germany grew to around 800 in 2019[19]. Although no national policy for FinTech exists, the companies are benefiting from stimulation measures for investing in startups via the 16 federal states. In addition, 12 innovation hubs throughout Germany incentivize further development in various areas. Thanks to the presence of large industries, there is additional motivation in Germany to invest in FinTech. Large insurers, for example, cooperate with parties from the automotive industry to invest in FinTech. In addition, a FinTech council of 29 independent digital technology experts has been set up to advise the Ministry of Finance on digital financial technology.

> International FinTech: 'The regulators of the Netherlands are of high quality, whereas other countries are more focused on marketing.'

[15] *FinTech Sector Strategy: Securing the Future of UK FinTech, HM Treasury, 2018*
[16] *Paris overtakes Berlin for tech start-up after boost from macron, Financial Times, 2019*
[17] *https://www.businessinsider.in/French-regulators-are-trying-to-lure-British-finance-firms-to-Paris-after-Brexit/articleshow/54580143.cms*
[18] *Global FinTech Adoption Index 2019 – As FinTech becomes the norm, you need to stand out from the crowd, 2019*
[19] *FinTech in Germany, Germany Trade & Invest (GTAI), 2019*

Digital identity

Sweden also has a favorable climate for FinTech. The FinTech consumer adoption of 64% corresponds to the worldwide average. The country has a clear digital focus for financial services. In 2017, for example, only 13% of all payments were still in cash and the central bank is currently investigating the possibility of a digital currency, the e-krona[20]. In addition, Sweden has a widely adopted digital identity, BankID[21]. It has the status of a passport and 8 million Swedes can use this for government and private services. Moreover, the country issued 25 PSD2 licenses, a relatively high number compared to the total number of FinTech firms (status autumn 2019). Sweden wants to further improve the FinTech climate by expanding housing, reducing corporate tax and offering scholarships and training for FinTech talent.

Unique position for the Netherlands

The Netherlands has a relatively strong starting position for FinTech companies compared to the other countries examined above. The strong growth to 635 FinTech companies in 2019 underlines the favorable FinTech climate. Relative to population size, there are more FinTech companies present than, for example, in France and Germany. The Netherlands is the first European country in the ranking of the Global FinTech Adoption Index, with an adoption of 73%. Dutch consumers are embracing digitization and innovations in the financial sector. The countries looked at in the survey, however, seem to focus more on promotion and marketing of the FinTech sector. With its unique features such as location, digital infrastructure, and attractiveness of the culture, the Netherlands can be promoted more extensively among international FinTech companies.

[20] *Stockholm FinTech Guide, Invest Stockholm, 2019*
[21] *This is BankID, https://www.bankid.com/en/om-bankid/detta-ar-bankid*

Overview country comparison*

Country	Nature and size	Capital	Environment	Talent	Government and regulators
United kingdom	▸ 1,600 FinTech companies in 2019 ▸ Largest sectors: Financial software, SME financing and payments ▸ 115 PSD2 licenses ▸ 71% FinTech adoption consumers	▸ $3.3 US billion worth of (C)VC and PE investments was received in 2018	▸ Innovation Hub ▸ Advice Unit ▸ Regulatory Sandbox ▸ FinTech bridges	▸ Approx. 76,500 employees in FinTech, will grow to 105,500 in 2030 ▸ In general between 11-50 employees	▸ No specific regulations for FinTech firms ▸ Tax benefits for (startup) investments ((Seed) Enterprise Investment Scheme, Enterprise Management Incentives)
Lithuania	▸ 170 FinTech companies in 2018 ▸ Largest sector: payments ▸ A company can be established within three days ▸ 8 PSD2 licenses	▸ 51% of FinTech companies have funded income	▸ 5 Sandboxes ▸ 5 institutions that facilitate the FinTech ecosystem, e.g. FINTECH HUB LT	▸ + 2,600 employees in the FinTech sector	▸ Regulation to streamline license application and automatisaton of supervisory procedures ▸ Specialized 'light' banking license for challenger banks
France	▸ 775 FinTech companies in 2019 ▸ 13 PSD2 licenses ▸ 35% FinTech adoption consumers	▸ Favorable VC climate: € 365 million raised in 2018 ▸ From 2014 up to 2019, $1.7 billion raised in capital within FinTech	▸ No 'sandbox', but a FinTech Innovation Unit	▸ Only 1 in 4 French citizens are familiar with innovative financial services ▸ Special tech visa	▸ Digital Republic law: stimulates FinTech development ▸ 'One-stop shop' established by ACPR and FFMA ▸ 'Regulatory passport' ▸ Financial incentive through tax credit in research (CIR) and employment (CICE) ▸ Invest up to €150,000 while benefiting from preferential tax conditions (PEA-PME scheme)
Germany	▸ 800 FinTech companies in 2019 ▸ Largest sector: payments ▸ 26 PSD2 licenses ▸ 64% FinTech adoption consumers	▸ 477 million raised in funding in the first 9 months of 2018 with 49 deals ▸ From 2014 up to the first half of 2019, $4.9 billion was raised in capital within FinTech	▸ 12 innovation hubs throughout Germany ▸ No "sandbox" ▸ Accelerator supporting German startups with expansion to America and Asia	▸ > 13,000 employees in the FinTech sector in 2017	▸ Few FinTech tax initiatives (incentive) ▸ Own incentive schemes within the 16 federal states to invest in startups ▸ Expensive and intensive application process ▸ The FinTech council (established in 2017) advises the Ministry of Finance on digital financial technologies
Sweden	▸ 387 FinTech companies in 2019 ▸ Only 13% of all payments are cash ▸ Largest sector: payments ▸ 25 PSD2 licenses ▸ 64% FinTech adoption consumers	▸ Between 2014 and Q3 2018, the Nordics raised approximately $1.7 billion in capital within FinTech ▸ Sweden raised € 174 million in FinTech capital in 2018	▸ Stockholm FinTech Hub ▸ Currently researching the e-krona, a digital central bank currency ▸ Stockholm is promoted as 'The unicorn factory' via investstockholm.com	▸ The number of FinTech employees has risen to 6,206 in 2016	▸ Focus on scholarships and training for FinTech talent ▸ FinTech innovation center of the SFSA as first contact for FinTech companies in the field of regulation ▸ The government has set out a strategy for sustainable growth for housing and attractiveness of Sweden until 2020 ▸ Corporation tax will be reduced to 20.6% within 2 years
The Netherlands	▸ 635 FinTech companies in 2019 ▸ Largest sectors: financial software, payments and lending for SME/corporates ▸ 7 PSD2 licenses ▸ 73% FinTech adoption consumers	▸ From 2014 to the first half of 2019, $ 969 million was raised in FinTech investments	▸ InnovationHub ▸ Maatwerk voor Innovatie	▸ Most FinTech companies have between 1-10 employees	▸ Positive attitude from the government and regulators towards FinTech ▸ Accessible thanks to (presence at) events such as "FinTech meets the regulator" ▸ WBSO scheme

*Sources are included in the appendix

7. Challenges in the FinTech market

Greatest challenges for FinTech companies

The FinTech market is evolving on a large scale. In further growing and developing their business, FinTech companies face certain challenges- indirectly also by new technology and renewed business models. The Dutch FinTech census 2019 investigated what FinTech firms see as the biggest challenges for 2020 (figure 36). Most frequently mentioned are:

1. Attracting qualified or suitable talent
2. Partnerships with established players
3. Client adoption

Firstly, attracting qualified talent emerges as a challenge. Growth and further development seems to depend on employees with the right skills. The research shows that FinTech companies will invest more in attracting talent as well as recruiting talent from abroad to meet the demand.

An influencing factor is a knowledge deficit in specialist digital skills. Earlier research[1] by EY also emphasized that a greater focus on improving education and training, focusing on new technology, is important to continuously attract innovation.

> “We disrupt the current sector, which is why they see us more as a threat. We therefore see little potential for partnerships

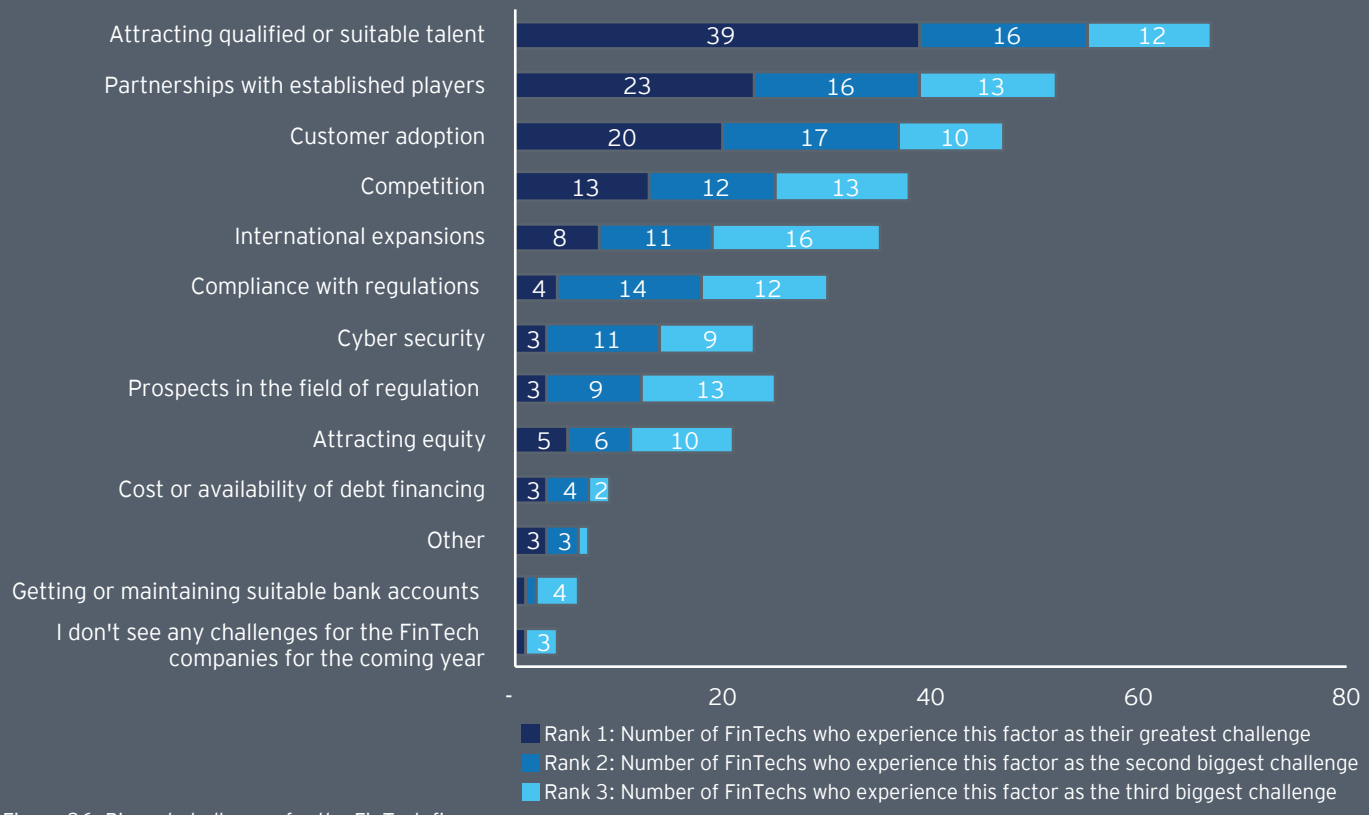


Figure 36. Biggest challenges for the FinTech firms

[1] *Nederland blijft overtuigen als investeringsland – Barometer Nederlands vestigingsklimaat, 2018*

The second challenge is to realize partnerships with established players in the sector. FinTech companies are eager to cooperate with these parties because they provide access to customers in the market and because of possible funding. Parties such as ING, ABN Amro, Rabobank, Aegon and Nationale Nederlanden are investing in FinTech and selecting which innovation to embed for their clients. Recent research by DNB[2] and EY[3] shows that customers still trust the existing banks more than new FinTech companies, for example for using payment data (figure 37). A collaboration with a large bank or insurer is thus seen as a stamp of trust from the consumer.

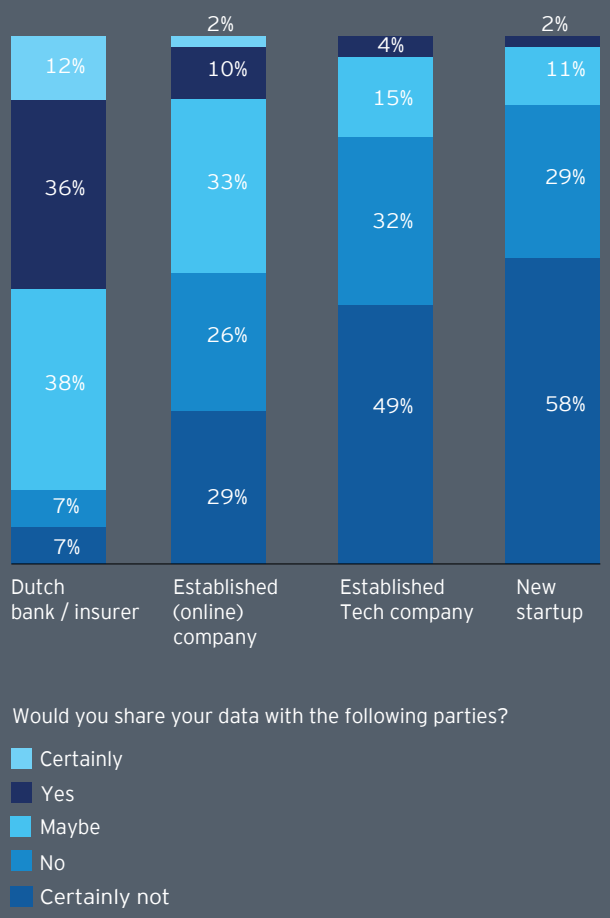


Figure 37. Consumer trust in different parties for data sharing

The third challenge is directly related to the above: adoption by customers. Despite the high FinTech adoption rate among the Dutch, FinTech companies (B2B and B2C) are looking for more customers. The challenge is, among others, that the service and the corresponding brand are not yet well established in the market, while there is no big marketing budget. In addition, the service is still under development and customers are required to learn from their experience.

[2] *DNBulletin: Nederlandse consumenten voelen weinig voor het delen van bankdata, DNB, 3 October 2019*
[3] *EY VODW Trendmonitor Vermogen, Consumer panel EY VODW in cooperation with SAMR, 2019*

Risks in the FinTech market

In addition to the challenges experienced by FinTech companies, several risks can also have an impact on users (both consumers and business customers), on the financial market, or on society. Several risks are also applicable outside the FinTech sector. A description of the risks is provided below, as they were identified in the interviews or emerged from the desk research[4].

Violating privacy with financial data

Innovations in the financial sector have led to extensive use of data and have allowed more parties access to data. As a result, more situations arise with a risk of privacy issues. For example, PSD2 provided new parties in the market access to financial transactions. Also, more parties are jointly responsible for data traffic. Collateral has been built in, such as the explicit and repeated consent that customers have to give, but experience with the practical application is still limited.

Misuse of financial data or customer data

Financial data will be used in more services and analysis than currently is the case. The interviews address a slight fear of the increasing risk of misusing sensitive data. For instance data about consumers with debts or high assets might be abused or can be resold. Also financial data that is combined with medical data such as a higher chance of a hereditary disease creates a sensitive situation, which in theory could lead to a differentiation in premiums based on genetic characteristics.

Duality in society in the use of FinTech services

Many FinTech services ensure easier access and good user-friendliness. Nevertheless, the options are increasing and, with that, the urgency and complexity to "keep up." This can lead to a division between the group that has excellent access to digital financial services and the group that finds it challenging.

Unwanted (international) services on the Dutch market

Consumers have access to FinTech services outside of the Netherlands via the internet, leading to undesirable financial services outside the scope of Dutch supervision. This includes unwanted investment services, gambling sites, or unregulated cryptos.

Reach of BigTech companies compared to FinTech companies

BigTech companies already have a large reach in the market through the services they offer via smartphones, e-mail accounts or cloud services. The cooperation between banks and BigTech results in a rapid rollout of new payment services or entirely new FinTech services. Since the roll-out of Apple Pay at ING, a substantial proportion of the 4.5 million app users have been using this feature[5]. It is notable that Asian BigTech was hardly mentioned in the interviews, even though these parties are expanding their operations in Europe. Schiphol, for example, already allows transactions with WeChat Pay[6]. The risk mentioned in the interviews is that small FinTech companies cannot participate in this market sufficiently, let alone compete, leading to the a risk of an unbalanced market and possible abuse thereof.

[4] *O.a. in Financial Stability Implications from FinTech, Financial Stability Board, 21 June 2017, EBA report on the impact of FinTech on incumbent credit institutions' business models, EBA, 3 July 2018, FinTech Action plan: For a more competitive and innovative European financial sector, European Commission, 8 March 2018, Trendzicht 2019 - Een verkenning van trends en risico's op financiële markten, AFM, 2019, FinTech and market structure in financial services: market development and potential financial stability implicatios, FSB, 14 February 2019*

[5] *Apple Pay zorgt ervoor dat bankpas uitsterft, het AD, 2 October 2019*

[6] *Op Schiphol kun je nu betalen via WeChat Pay, Het Parool, 17 May 2019*

More international players on the Dutch and European market

There is a large market for FinTech and BigTech parties worldwide. Due to their digital nature, FinTech services are easy to use and export across borders. This allows parties, not just financial institutions, from other countries to expand relatively easily into the European and Dutch markets. As a result, competition increases and the control that can be exercised over these players decreases.

Fragmented responsibilities in the value chain

FinTech companies and stakeholders mentioned frequently that more and more parties play a role in the financial value chain. Parties for example offer an overview of accounts through apps, or can conduct payments via PSD2. FinTech companies outsource parts of their process to third parties who, e.g., arrange PSD2 access for multiple providers to obtain data. The distribution can lead to fragmentation, making it more difficult to guarantee a consistent level of quality of the service or product. There is no longer one party responsible for a financial service.

Data breaches or theft due to poor cyber security

Due to the increase in digital services, more attention needs to be paid to cyber security to strengthen the resilience of the systems and of the users. Phishing campaigns, for example, entice customers to share their login details or hackers try to break into systems. Cyber security is often still insufficient among companies and employees. Remarkably, cyber security is not often mentioned in the interviews.

> “It is still unknown what BigTech exactly envision with financial services, but when they introduce something it happens internationally and on a large scale.

8. Opportunities for development and innovation in FinTech companies

Opportunities for FinTech companies

Both the survey and the interviews confirm that FinTech companies in the Netherlands are positive about their development and expect strong growth. The expectations for revenue, profit and the demand for new employees as described earlier in this FinTech census underline this optimistic outlook. With regard to the question of what FinTech parties see as the most important opportunities in the coming three years, the most common answer was to expand internationally (figure 38). The growth opportunities for Dutch FinTech parties are primarily seen internationally. Peaks, an investment app, spotted for instance a large market in Germany[1]: "The German market is huge. Almost 60% of Germans are worried about their financial future and retirement. At the same time, more than 80% of Germans do not invest yet. "

Secondly, partnerships with financial institutions are seen as an opportunity. FinTech companies offer B2B services to these financial institutions and it allows them to reach the customers of the established players. In addition, there are opportunities for cooperating with other organisations outside the financial sector. The interviews show, for example, that FinTech firms would like to collaborate with technology companies. InsurTech parties can for instance develop sensors together with technological companies to monitor a house or car.

Thirdly, new chances in the market are indicated as an opportunity. For example, PSD2 results in entirely new services in the market. Customers can get an overview of multiple accounts or receive financial advice based on insights into their transaction data. The execution of payments can also be outsourced to FinTech companies.

> "Our platform for digital payments and banking is implemented over the entire world, especially outside of the Netherlands, because those banks still have to catch up digitally.

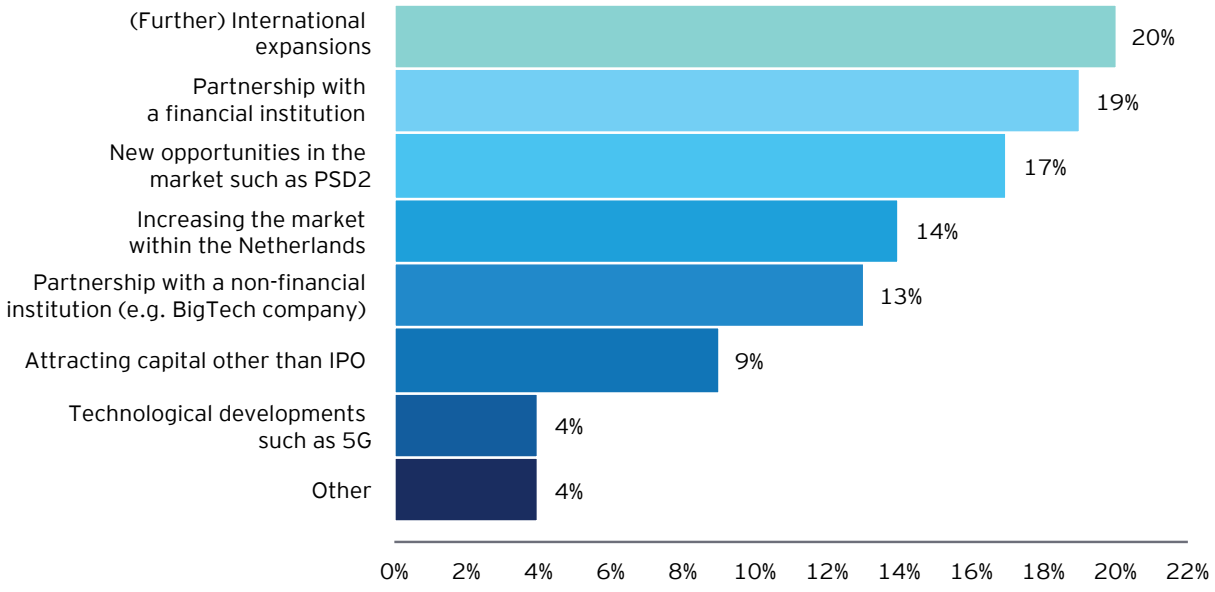


Figure 38. Most important opportunities for the Dutch FinTech sector the coming three years (multiple answers possible)

[1] *Persbericht Peaks, 31 October 2019*

Development of FinTech companies

Which aspects are needed to stimulate further development? Two factors stand out in particular: access to new markets and opportunities for collaboration (figure 39). This is consistent with the aforementioned challenges in the Dutch FinTech census. First of all, international expansion and new markets contribute to economies of scale and the results of the FinTech company.

Secondly, FinTech companies are eager to establish partnerships. Whether and how existing financial institutions want to collaborate strongly depends on the business model of the FinTech company. Banks and insurers are currently collaborating with and investing in some FinTech companies, for example to expand the portfolio of a bank[2]. The established players make targeted choices about which FinTech services match their own focus and business model. Rabobank, for example focuses on FinTech parties that are active in the Food & Agri sector[3].

New investments are also necessary for growth opportunities. Companies that have been around for several years and scale-ups indicate there is sufficient capital in the market for investments. Small, recently established FinTech parties find it more difficult to gain access to capital in the Netherlands. Those companies can benefit from more support.

> “There is enough capital in the market. Many investors are looking for a good return. However, it remains to be seen whether they really invest in the best companies and fully understand what the FinTech firms are doing.

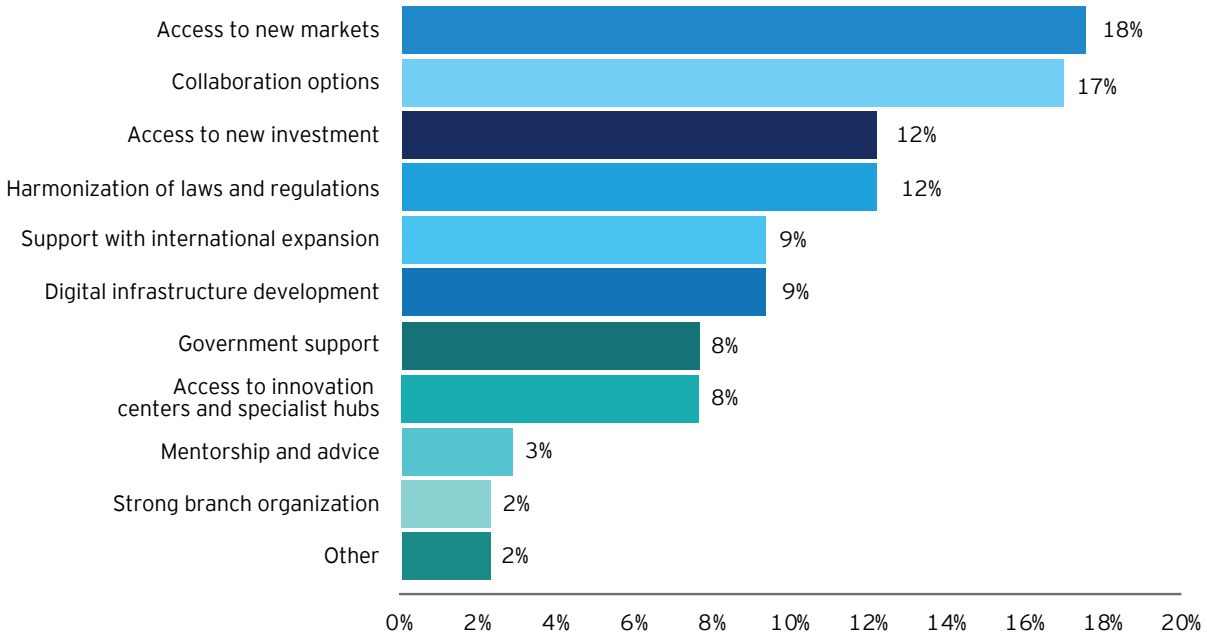


Figure 39. Important aspects that contribute to the development of the FinTech company (multiple answers possible)

[2] *The State of European FinTech, Finch Capital en Dealroom.co, October 2019*
[3] *Rabobank lanceert risicokapitaalfonds gericht op innovatieve food & agri-bedrijven, Rabobank, 2017*

Suggested themes for the improvement of FinTech firms in the Netherlands

The FinTech census also asked which improvement points and advice FinTech companies would suggest in the Netherlands. The most frequently mentioned recommendations are summarized below in overarching themes.

1. Develop a strong ambition and vision for FinTech in the Netherlands

Often mentioned was that the Netherlands would benefit from a stronger ambition and a more concrete vision. This would allow the FinTech market to develop further. The current position in the market is strong, but the great diversity of subsectors within the FinTech sector makes it more difficult to formulate a clear vision. In addition, FinTech policy is divided among several ministries and regulators, leaving the impression among FinTech firms that FinTech may end up falling between two stools.

2. Supporting international growth and development

Dutch FinTech companies expanding internationally could be better supported through contacts and access to other countries. Dutch FinTech companies could be promoted more abroad, for example through FinTech specific trade missions or as a visible sector in new trade relationships. Connecting with important FinTech regions such as London and Singapore is one example. Startups or companies expanding to a new region could be supported with practical and logistical expertise with regard to setting up a branch locally or finding customers.

3. Facilitate FinTech startups

There are FinTech startups who experience barriers to being active in the market, varying from applying for a bank account, high costs for licenses or high capital requirements from banks. This group of FinTech companies finds it disproportionate that as new firms they have to comply with the same measures as the large, established players with a greater budget. There could be research into possible adjustments in certain cases. Other issues mentioned included the remuneration policy and capital requirements.

4. Speed, realization and harmonization of laws and regulations

The Dutch FinTech market can be further stimulated by striving for faster implementations of laws and regulations and by working together with the market. The respondents desire further (European) harmonization, where laws and regulations are applied in the same way across the different European countries.

5. Stimulate/invest in new developments and adoption

Investments or subsidies are requested specifically in two areas. First of all for truly innovative technological developments. For example, a public-private action plan has recently been developed for Artificial Intelligence[4]. Secondly, investments or subsidies are requested for stimulating adoption in the market because of the challenge FinTech companies face in attracting new customers.

6. Stimulate knowledge about FinTech and digital technology

The market requires more practical digital skills to reduce the shortage of qualified staff. These skills can be further stimulated at universities and colleges, for example by developing curriculum programs that focus on the practical application of new technologies, such as Artificial Intelligence. Next to that, FinTech could be included as a topic within education about the financial sector. Most urgent, however, is support in attracting more software developers and digital talent.

[4] *Actieplan: intensieve publiek-private samenwerking en -investeringen voor AI, rijksoverheid.nl, 18 October 2019*

Looking ahead and questions for the sector

The first Dutch FinTech census shows a positive and growing market. A wide range of services has emerged, many new innovative companies have been founded, new partnerships with existing financial players have been established and there is great growth potential in the labor market. A few established and respected companies such as Adyen have projected an innovative and successful image for FinTech sector. As a result, more entrepreneurs are exploring possibilities in the sector, and digital, innovative talent is eager to work at FinTech companies.

The Dutch climate consists of a strong B2B FinTech market, with an emphasis on financial software, payments and remittances, RegTech & digital identity, analytics and lending for SME/corporate. The financial stability of the Dutch market and the innovative, competitive offerings benefit from the heterogeneity of the sector.

This research provides further insight into the sector and thereby introduces some new discussion points for policy.

- First of all, the question is which type of growth is desired and whether specific focus is necessary. Does the sector benefit from more startups or are the scale-ups ensuring a strong growth and labor market?

- The research shows a high need for digital talent. What is the best way to fulfill this need? Within which timeframe can education evolve to further educate scholars in digital skills?

- A healthy financial sector benefits from a healthy FinTech sector. There are, however, differences in how FinTech services contribute to this, certainly when it comes to recession-proof services. Is there a split between higher-risk and lower-risk products? Should the vision of FinTech also focus on the areas to further develop within the Netherlands?

- The strong role of Amsterdam in FinTech is explained in the FinTech census. Nonetheless, there are other regions where a link with FinTech could lead to innovation and cooperation. What will the role of other cities and regions be and how will that fit into the new policy?

- In the Dutch FinTech census 2019, legislation and regulations are one of the most frequently mentioned and discussed topics. Although 43% do not experience any problems in complying with laws and regulations, it is also often described as a hindering factor in the interviews and survey. Laws and regulations are described as too complex, too strict and disproportionate. FinTech companies certainly have this perception. The question is which part of it is justified and which part consists of perception. This research does not indicate an absolute level for investments in compliance and whether it is too high compared to other countries. With more clarification, support and interaction, perception of the topic can be improved.

- Is the FinTech sector really a job generator and how can we benefit from it optimally?

Appendices

Sources country comparison

Sources Lithuania

- #FinTech in Lithuania – Fast-track EU entry for your FinTech, Invest Lithuania, 2018
- The FinTech Landscape in Lithuania – Invest Lithuania, Rise Vilnius, 2019
- EY PSD2 licenses monthly analysis
- Bank of Lithuania, https://www.lb.lt/en/authorisation-of-banks#ex-1-2

Sources United Kingdom

- UK FinTech Census 2017, EY, 2017
- UK FinTech Census 2019, EY, 2019
- EY PSD2 licenses monthly analysis
- Global FinTech Adoption Index 2019 – As FinTech becomes the norm, you need to stand out from the crowd, 2019
- UK FinTech - State of the Nation, department of International Trade, april 2019
- ICLG.com, https://iclg.com/practice-areas/fintech-laws-and-regulations/united-kingdom
- https://www.gov.uk/guidance/venture-capital-schemes-apply-for-the-enterprise-investment-scheme
- https://www.gov.uk/tax-employee-share-schemes/enterprise-management-incentives-emis

Sources France

- Tracxn, https://tracxn.com/explore/FinTech-Startups-in-France/
- EY PSD2 licenses monthly analysis
- Paris, France – General Overview & FinTech Landscape, BHIVE, 2017
- Global FinTech Adoption Index 2019 – As FinTech becomes the norm, you need to stand out from the crowd, 2019
- The promosing future of fintech in France, https://nordic.businessfrance.com/the-promising-future-of-fintech-in-france
- FinTech investment in France has grown almost ten-fold since 2014, Global FinTech, https://fintech.global/fintech-investment-in-france-has-grown-more-than-ten-fold-since-2014/
- ICLG.com, https://iclg.com/practice-areas/fintech-laws-and-regulations/france
- The Future of Finance is Emerging: New Hubs, New Landscapes - Global FinTech Hub Report, university of Cambridge
- FinTech in France, Business France
- Welcome to the New French Revolution, La French Tech
- https://www.service-public.fr/professionnels-entreprises/vosdroits/F23533
- The PEA-PME at a glance, Euronext
- https://rio.jrc.ec.europa.eu/en/library/tax-credit-employment-and-competitiveness-cice

Sources Germany

- FinTech in Germany, Germany Trade & Investment, 2019
- Germany FinTech Landscape – EY, september 2017
- EY PSD2 licenses monthly analysis
- Global FinTech Adoption Index 2019 – As FinTech becomes the norm, you need to stand out from the crowd, 2019
- Germany finTech Landscape – EY, november 2018
- Large FinTech deals drive investment in Germany to a record high in the first six months of the year, Global FinTech, https://fintech.global/large-fintech-deals-drive-investment-in-germany-to-a-record-high-in-the-first-six-months-of-the-year/
- ICLG.com, https://iclg.com/practice-areas/fintech-laws-and-regulations/germany
- Notice on the granting of authorisation to provide financial services pursuant to section 32 (1) of the German Banking Act, Deutsche Bundesbank, 18 november 2016

Sources Sweden

- EY PSD2 licenses monthly analysis
- Global FinTech Adoption Index 2019 – As FinTech becomes the norm, you need to stand out from the crowd, 2019
- An overview of the financial technology (FinTech) market in Sweden, EY, 31 oktober 2018
- Stockholm FinTech Report 2018, Stockholm School of Economics, januari 2018
- FinTech investments in the Nordics set to decline in 2018, Global FinTech, https://fintech.global/fintech-investments-in-the-nordics-set-to-decline-in-2018/
- Stockholm FinTech Guide, Invest Stockholm, 2019
- Kamerbrief 'Rol, gebruik en acceptatie van contant geld in Nederland', december 2018
- ICLG.com, https://iclg.com/practice-areas/fintech-laws-and-regulations/sweden

Sources the Netherlands

- EY research of the FinTech sector, as commissioned by the Ministry of Finance
- EY PSD2 licenses monthly analysis
- Global FinTech Adoption Index 2019 – As FinTech becomes the norm, you need to stand out from the crowd, 2019

- Payments & Remittances funding drives FinTech investment in The Netherlands to $969m since 2014, https://member.fintech.global/2019/09/25/payments-remittances-funding-drives-fintech-investment-in-the-netherlands-to-969m-since-2014/
- https://www.rvo.nl/subsidie-en-financieringswijzer/wbso

Overview of figures

Authors

Jeroen van der Kroft
Manfred van Gurchom
Daphne Sweers

Your contacts

Jeroen van der Kroft
Associate Partner
EY Financial Services Advisory
+ 31 6 2125 1175
jeroen.van.der.kroft@nl.ey.com

Lysanne Jurjens
Senior Manager
EY Financial Services Advisory
+ 31 6 2125 2532
lysanne.jurjens@nl.ey.com

Nikki Paes
Senior Advisor
EY Financial Services Advisory
+31 6 2908 4187
nikki.paes@nl.ey.com

Daphne Sweers
Advisor
EY Financial Services Advisory
+ 31 6 2908 3185
daphne.sweers@nl.ey.com

EY | Assurance | Tax | Transactions | Advisory

About EY
EY is a global leader in assurance, tax, transaction and advisory services. The insights and quality services we deliver help build trust and confidence in the capital markets and in economies the world over. We develop outstanding leaders who team to deliver on our promises to all of our stakeholders. In so doing, we play a critical role in building a better working world for our people, for our clients and for our communities.

EY refers to the global organization and may refer to one or more of the member firms of Ernst & Young Global Limited, each of which is a separate Legal entity. Ernst & Young Global Limited, a UK company limited by guarantee, does not provide services to clients. For more information about our organization, please visit ey.com/nl.

ey.com/nl

ED none
155010597