FinTech Report Estonia 2021

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FINTECH REPORT ESTONIA 2021

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FINTECH REPORT ESTONIA 2021

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IN CO-OPERATION WITH

FINANCE ESTONIA.EU

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1. PREFACE

The Estonian FinTech sector has been characterised by speedy development both locally and globally (Laidroo and Avarmaa, 2020; Laidroo et al., 2021). Two years have passed since the first report on the Estonian FinTech sector was prepared (for reference see Tirmaste et al., 2019). There have been rapid developments in the sector, and the recent COVID-19 outbreak has influenced the ordinary course of business. This report aims to provide an overview of the recent developments influencing the Estonian FinTech sector and the main characteristics and challenges of the FinTechs. This report is prepared in co-operation between TalTech School of Business and Governance and FinanceEstonia, which is a non-profit organisation representing the financial sector. As mapping the FinTech landscape is a challenge, because of the difficulties in distinguishing FinTechs from non-FinTechs, we would urge the Estonian FinTechs not mentioned in this report to let us know of their existence, so they can provide input for future reports.

The report is divided into several sections. Section 2 provides the definitions and the overall framework of the report. Section 3 presents an overview of the current Estonian FinTech environment with the main focus on changes in the legal environment and characteristics of the local FinTech ecosystem. Section 4 presents an overview of Estonian FinTechs and the results of the survey conducted in spring 2021. Section 5 concludes the report by presenting the most important findings.

We greatly appreciate the support provided by the FinanceEstonia FinTech workgroup in contacting the FinTechs, and by the FinTechs who participated in the survey or agreed to be interviewed. We would like to thank Andrus Alber, Anu Müürsepp, Taavi Tamkivi and Tiina Hiller for their feedback on this report. We acknowledge the contribution of Sten Kevin Lehtsalu, Tairi Tuulik, and Kristjan Kirs in preparing this report. We would like to thank our colleagues Thomas Ankenbrand, Andreas Dietrich, and Denis Bieri from the Institute of Financial Services Zug IFZ for igniting our interest in preparing a FinTech report. We also appreciate the financial support from Tallinn University of Technology under the grant BHV1 “Digital Development in Finance”.

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2. DEFINITION AND FRAMEWORK OF THE STUDY

2.1. Definition of FinTech

There are numerous definitions of FinTech but no consensus about which is the most appropriate. In the 2021 report, we rely on the definition by EBA (2017) p.4: "technologically enabled financial innovation that could result in new business models, applications, processes or products with an associated material effect on financial markets and institutions and the provision of financial services". This means that this report continues to cover both startups and established firms involved in or supporting the provision of financial services. To be included in the report, the FinTech companies had to be incorporated in Estonia meaning that we are omitting all branches (e.g., Wise, Monese).

To capture the developments in the FinTech sector more accurately, this report relies on a categorisation similar to the one introduced in CCAF, World Bank and World Economic Forum (2020). The latter report divides FinTechs into two broad categories – retail facing and market provisioning – which we treat in this report as **providers of financial services** and **providers of technology and support services**.

Providers of financial services include companies involved in:

- **Digital lending** – P2P lending, balance sheet lending, including invoice trading, leasing, consumer credit.
- **Digital capital raising** – equity-based, reward-based, or donation-based crowdfunding, unsecured debt or equity or real-estate crowdfunding, ICO platforms.
- **Digital banking** – fully digital banks, providers of banking as a service (BaaS).
- **Digital savings** – digital savings solutions, savings-as-a-service.
- **Digital payments** – mobile payments, money transfers, e-money issuers, points of access, other payment-related services.
- **Digital asset exchange** – trading and brokerage services including different platforms, exchanges, Bitcoin Teller Machines etc.
- **Digital custody** - digital wallets, key management services.
- **WealthTech** – robo-advisors, social trading, personal financial management, financial comparison sites.
- **InsurTech** – insurance-related products and services, including digital brokers or agents, peer-to-peer insurance, insurance comparison portals etc.

Providers of technology and support services include:

- **Credit & data analytics** – credit scoring based on alternative data, solutions based on analysis of biometric and social data.
- **RegTech** – solutions for meeting regulatory requirements, including profiling and due diligence, risk analytics, regulatory reporting, market monitoring etc.
- **Digital identity** – services related to biometric security, KYC, fraud prevention.
- **Enterprise technology provisioning** – technological solutions for financial service providers including back-office solutions, API management, cloud computing, AI, BI tools, enterprise blockchain etc.

Compared to the initial categorisations by CCAF, World Bank and World Economic Forum (2020), we exclude providers of digital accounting solutions as these are not specifically targeted at providers of financial services. Also, our interpretation of some of the sub-categories includes some modifications. All companies covered by this report had to fall into one of the sub-categories which we initially determined in the course of desk research based on public data in different registries and companies' web pages. For those companies that responded to the survey, we cross-checked the initial categorisations based on the responses.

The above-mentioned categorisation differs from the one used in FinTech Report Estonia 2019, which relied on IFZ FinTech Study 2018 (Ankenbrand et al., 2018). To provide some comparison with the earlier period, we transformed the categorisation of companies mentioned in the 2019 report.

2.2. Research methods

This report draws mainly on a survey that was carried out in spring 2021. The 2021 survey concentrated, similarly to the 2019 survey, on the business model characteristics of Estonian FinTechs. These were analysed using the business model canvas of Osterwalder and Pigneur (2010), covering the key activities, key resources, value proposition, customer channels and segments, and revenue streams. However, compared to the survey instrument used in 2019, significant improvements were made. Firstly, the analysis of business model attributes is more in-depth, covering technology, value proposition, and product / service delivery classifications introduced in Eickhoff et al. (2017). Secondly, the opinions and evaluations of the future outlook are more detailed. Thirdly, the survey included entirely new sections devoted to COVID-19 impacts and location choices of FinTechs.

In addition to the survey, this report contains the results of a set of interviews that were conducted by Elina Tasa while preparing her Master's thesis (for details see Tasa, 2021). These interviews focused on how the FinTech sector participants see the Estonian FinTech ecosystem. Semi-structured interviews were carried out in summer 2020 with 19 FinTech entrepreneurs, banks, representatives of the public sector and different organisations supporting the activities of FinTechs. The main insights of these interviews with conclusions are presented in Section 3.2.

3. ESTONIAN FINTECH ENVIRONMENT

3.1. Changes in the legal environment

Understanding the rules applicable is of key importance to any new entrant in an industry, but even more so in the financial sector, which is known to be subject to vast amounts of legislation. For FinTechs, this is made all the more difficult by the fact that deep-rooted traditional rules are not very clear on how these new business models should be treated. In the EU, most financial sector legislation has been developed with a single market in mind, and is, therefore, adopted directly by all member states. However, the lack of explicit coverage of newer business models in these laws has led to notable differences in interpretations by the member states locally.

For the most part, the regulatory framework concerning FinTechs in Estonia remains similar to what was described in the 2019 report (see Tirmaste et al., 2019). Still, there is an observable uptake in initiatives focused on accommodating FinTech-related matters in regulations. Overall, it seems FinTechs are no longer flying under the regulatory radar and will be subjected to growing levels of supervisory scrutiny over the next few years.

As noted in the previous report, much of these initiatives are driven on the EU level, with Estonia mainly incorporating the single market rules in local legislation. However, there are also some additional local rules currently in development, which must be focused on separately. As such, changes to the legal environment are covered in two parts. Firstly, Section 3.1.1. describes the FinTech-related changes currently being implemented in the EU law. Then, Section 3.1.2. discusses new additions to the local Estonian legislative framework.

3.1.1. Changes in European Union Law

As noted in the previous edition of this report, the European Commission introduced its FinTech action plan in March 2018. This has now been supplemented by the digital finance package, which was adopted on September 24, 2020. This package sets out a digital finance strategy and legislative proposals intended to lead to a competitive EU financial sector, which gives consumers access to innovative financial products, all the while ensuring consumer protection and financial stability (European Commission, 2020a). In combination, the FinTech action plan and digital finance package have led to three legislative initiatives either already adopted or currently in development.

The most mature of these initiatives is the Regulation on European Crowdfunding Service Providers (ECSPR), which entered into force on November 10, 2020. After a transition period of exactly 12 months, the rules will be applied directly across the EU starting from November 10, 2021. The ECSPR is aimed at harmonising rules across the single market so that crowdfunding service providers could easily engage in cross-border activities (European Commission, 2020b).

Once the rules are applied, the service providers will need to apply for a license in one home member state and will then be allowed to operate in all other member states without any additional clearance necessary. In parallel, the rules for the MiFIDII directive were also changed to make clear that no market participants falling under the ECSPR would be subject to MiFIDII requirements. However, the ECSPR does not cover all crowdfunding activities. Notably, P2P lending platforms, which in Estonia are regulated by the Creditors and Credit Intermediaries Act, do not fall under the scope of the ECSPR. (Ühisrahastuse ja muude investeerimisinstrumentide ning virtuaalvääringute seaduse eelnõu seletuskiri, 2021)

A second legislative initiative currently being developed is the Markets in Crypto-assets regulation (MiCA), introduced as part of the digital finance package. For purposes of the legislation, crypto-assets are defined as any electronically stored and transferred digital representation of rights or values. The aim of the

MiCA regulation is to introduce a common framework for regulating crypto-assets and related services that are not currently covered in other EU financial services legislation (European Commission, 2020a).

For most issuers of crypto-assets, the early drafts of the proposed regulation do not impose many regulatory changes from the current unregulated field. Notably, MiCA makes it mandatory for all crypto-asset issuers to publish a white paper detailing the offering and to notify the local regulator of such an offering taking place. The issuers must also comply with certain criteria focusing on fair, honest, and professional conduct, aiming to limit market manipulation. Importantly, regulators will not have to pre-approve the contents of the white paper but would have the right to stop offerings. (Ühisrahastuse ja muude investeerimisinstrumentide ning virtuaalvääringute seaduse eelnõu seletuskiri, 2021)

However, MiCA is considerably stricter when it comes to e-money tokens and asset-referenced tokens or so-called stablecoins. Issuers of such assets will have to apply for a license, and the contents of the white paper must be pre-approved by a regulator before the offering can proceed. In some cases, the issuers may fall under the direct supervision of the European supervisory authorities. (Ühisrahastuse ja muude investeerimisinstrumentide ning virtuaalvääringute seaduse eelnõu seletuskiri, 2021)

The third significant legislative initiative launched at EU-level also arises from the digital finance package and is aimed at harmonising standards to prevent and limit incidents related to information communication technologies (ICT). This initiative is named the Digital Operational Resilience Act (DORA) and is intended to apply to all market participants from banks to FinTechs, regardless of their size or stature. The key focus point is ensuring that all market participants have the necessary ICT infrastructure to withstand any disruptions or threats without the loss of operations. Additionally, DORA is aimed at setting out an oversight framework for third-party service providers offering supportive services to financial sector participants. This also includes large technology companies, such as Amazon or Google, which offer services such as cloud computing. (European Commission, 2020a)

3.1.2. Changes in the Estonian regulatory framework

As explained in the previous edition of this report, amendments to the Money Laundering and Terrorist Financing Prevention Act (MLTFP) were being discussed back in 2019. This was deemed necessary, as in 2017, Estonia became one of the first countries in the EU to start issuing activity licenses to companies operating in the field of virtual currencies, which also include cryptocurrencies. With limited regulation, and no comprehensive supervision over licensed companies foreseen, companies dealing with cryptocurrencies were lured by the chance to present themselves as EU-licensed and presumptively trustworthy partners to clients.

This led to a boom of virtual currency service providers being licensed in Estonia, with 1308 unique applicants receiving their license between 2017 and 2019. In response, the amendments to the MLTFP that entered into force on March 10, 2020, demanded that all holders of a virtual currency license must have their registered headquarters in Estonia, and must operate through a company established in Estonia. The amendments also put additional due diligence measures upon service providers. As a result, the Financial Intelligence Unit voided 1296 licenses held by 705 unique companies between the amendments entering into force and July 31, 2020. (Rahapesu andmebüroo, 2020)

To regulate the field of crypto-assets more thoroughly, and to also introduce bespoke local regimes for crowdfunding and other alternative investments not currently specifically regulated, on January 15, 2021, the Ministry of Finance introduced draft legislation for regulating novel methods of obtaining capital. The legislation set out to cover a broad definition of investment instruments not regulated elsewhere, in a bid to ensure investor protection in a wide range of topics including crowdfunding, crypto-assets and

other unregulated instruments. (Ühisrahastuse ja muude investeerimisinstrumentide ning virtuaalvääringute seaduse eelnõu seletuskiri, 2021)

In part, the regulation was intended to locally implement the rules on crowdfunding set out in the ECSPR. However, the proposed legislation would have included a broader definition of crowdfunding than the ECSPR, for instance also including P2P lending service providers in its scope. Additionally, the proposed legislation foresaw the partial implementation of the MiCA framework for regulating crypto-assets locally, with the supervision of such activities intended to be transferred to the Financial Supervision Authority. At the time of writing the report, it is unknown whether the Ministry of Finance intends to proceed with the legislation in similar terms to those that were set out in the initial draft, or whether there will be more fundamental changes made. (Ühisrahastuse ja muude investeerimisinstrumentide ning virtuaalvääringute seaduse eelnõu seletuskiri, 2021)

3.2. The FinTech ecosystem

Based on the interviews with FinTech sector representatives the Estonian FinTech sector is developing and growing rapidly. One of the most important signs of the existence of the Estonian FinTech ecosystem is the abundance and activity of the parties involved in it. Still, some interviewees felt that the ecosystem was non-existent or remained weak and in the early development stage.

Five main players were identified as the Estonian FinTech ecosystem players. Firstly, the central role is played by FinTech companies who themselves feel as being part of the ecosystem. Secondly, an important player in the ecosystem is also the state, which is represented by various ministries, but also by the Financial Supervision Authority and the Enterprise Estonia (EAS). Thirdly, FinanceEstonia could be considered the umbrella organisation of the FinTech ecosystem. Its members are made up of different ecosystem parties: the private sector, the public sector, support organisations and service providers. Still, its role is amplified by other centres and associations like Lift99 and Estonian Founders Society which focus beyond FinTech. Fourth, incubators and accelerators can also be considered a necessary part of the ecosystem. The fifth player in the ecosystem is composed of the R&D and education institutions which are not often viewed as an active part of the ecosystem by existing players. In addition to the players in the ecosystem, the interviewees consider also the entrepreneurship culture, financial and human capital, as well as digital infrastructure as important forces driving the ecosystem development.

One of the main strengths of the Estonian FinTech ecosystem is the ease of informal communication which is facilitated by the small size of Estonia. Most key ecosystem players know each other personally and this also makes it easy to connect with each other and with the public sector. This is further amplified by the participation of globally known FinTechs (e.g., Wise, Veriff) in the ecosystem, which is encouraging the emergence of new startups. However, the ease of communication is not necessarily translated into greater actual co-operation between FinTechs. Many ecosystem players feel that the main obstacle to ecosystem development is the lack and weakness of co-operation and coordinated activities aimed at the development of the ecosystem. Some interviewees felt that this could be achieved only through the joint efforts of different ecosystem players and should not be determined by one single leader or the state. Others felt that someone (e.g., Financial Supervision Authority, Ministry of Economic Affairs and Communications, or FinanceEstonia) should take the lead in creating the vision and determining the goals. Many see FinanceEstonia as the leader of the Estonian FinTech sector. According to the market participants, FinanceEstonia's strengths are structured and coordinated activities, as well as cross-sectoral representation. FinanceEstonia is also seen as an important lobbyist in dealings with public authorities. Still, its activities are restricted by the size of its budget which is dependent on membership fees. As the ecosystem is more important for the newcomers for finding the necessary networks and partners, the weaknesses of the existing ecosystem and

lower possibilities to participate in coordinated activities may reduce the longer-term potential of the Estonian FinTech sector.

The Estonian business environment offers a good breeding ground for a startup entrepreneur due to its small size. However, it also means that the business models of FinTechs need to be scalable globally and the shortage of capital, customers and labour needs to be considered upfront. Due to the high competition for skilled employees, FinTech entrepreneurs have also noticed an increase in the cost of labour. Although foreign labour could be one solution to the situation, the lack of knowledge about the appeal of Estonia is an area of concern. This is related to the preferences of the potential workforce from Western countries and third world countries for larger cities and more diverse living environments. The entry of foreigners may also be restricted by the limited availability of banking services for foreigners due to the severe restrictions imposed by the Money Laundering and Terrorist Financing Prevention Act and internal rules of banks. Despite the abovementioned restrictions, ecosystem players feel that the Estonian entrepreneurship culture is strong. Entrepreneurial mentality, willingness to act, creativity, and tolerance for alternative tools and solutions have created a culture open to innovation and technology. The development of digital infrastructure (e.g., e-residency) and the spread of English as a business language have enabled to speed up the establishment of companies.

FinTechs also feel the support from the state to startups through Enterprise Estonia which offers development programmes, training, and events. Still, the support targeted specifically towards FinTechs has remained low and FinTechs are excluded from some support programmes. It may be due to the belief that the financial sector does not need it, ignoring the fact that the Estonian financial services market is very concentrated around a few Scandinavian banks who prioritise their internal needs and not broader service export opportunities that are the focus of FinTechs. As a result, the unwillingness from the state to focus on the needs of FinTechs may force some FinTechs to search for more suitable environments outside of Estonia for their business establishment and growth.

The main role of the state in the ecosystem is to shape the political and legal framework. There is relative freedom for the activities of FinTechs in Estonia. However, there have been several cases of money laundering in the financial sector in recent years, fraud in co-financing, and explosive growth of virtual currency service providers, which can be seen as the result of ill-considered and inadequate regulation. The aforementioned cases have made state agencies even more cautious in their decisions and activities related to FinTech. This, in turn, could make the sector more closed. On the positive side, the Ministry of Finance, Bank of Estonia and Financial Supervision Authority have become more open in their communication with entrepreneurs in recent years. This could prove to be an important way of overcoming the negative effects outlined above, as it was also highlighted by the FinTechs that co-operation and communication between the state and the private sector could help avoid disadvantageous situations to the sector's development in the future. One proposed solution for co-operation is to map a cross-sectoral development plan.

As a result of the analysis of the Estonian FinTech ecosystem, it can be concluded that a favourable business environment and culture, a strong IT infrastructure, and industry-specific know-how provides good preconditions for the development of the FinTech sector. As for weaknesses, the limited nature of these resources, lack of co-operation, insufficient interest and support by the state, and inadequate legal framework can be significant obstacles to the Estonian FinTech ecosystem development.

4. FINTECH COMPANIES IN ESTONIA

4.1. Overview of Estonian FinTech companies

The discussion in this section is based on the list of FinTechs compiled by the authors of this report using data retrieved from the Crunchbase, Startup Estonia, FinTech Baltic, Key Capital, and FinanceEstonia databases as of December 2020. This data was complemented with companies identified amongst those that have received permits and licenses required for the provision of financial services in Estonia. To ensure a uniform definition of FinTechs, we applied the definitions given in Section 1. In addition, the list of FinTechs was cross-checked against the Estonian Business Registry to ensure that only active[1] FinTechs incorporated in Estonia were considered.

Our final list of Estonian FinTechs as of the end of 2020 contains 215 companies which refers to an increase by 131 companies (1.5 times) compared to the end of 2018.[2]

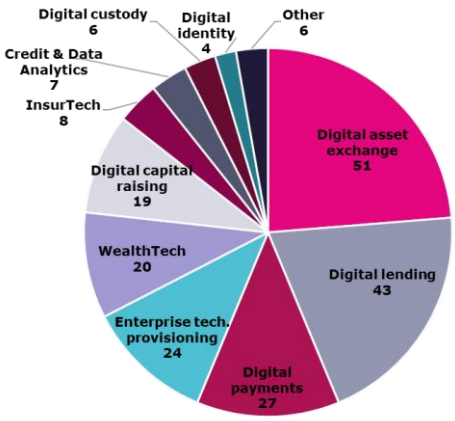


Figure 4.1. Distribution of the number of Estonian FinTechs by type of activity

All FinTechs were classified using the categorisations presented in Section 1. Some of the FinTechs are involved in activities that could be categorised in multiple ways, so an arbitrary decision was made giving preference to one activity above all others. As can be seen from Figure 4.1., there are four categories of FinTechs that take up 67% of the total population. These are digital asset exchange with 51 companies, or 24%, digital lending with 43 companies, or 20%, digital payments with 27 companies, or 13%, and enterprise technology provisioning with 24 companies, or 11% of the total population. WealthTech and digital capital raising each take up 9% of the total population with 20 and 19 companies, respectively. The rest of the companies in the remaining categories take up less than 5% of the total population. A more detailed overview of the population is provided in Appendix 1.

To provide some comparison with the 2019 report, we transformed the categorisation of companies at the end of 2018. At the end of 2018, 32% of the FinTech population was engaged in distributed ledger technology; in this report, the majority of these companies are classified under digital asset exchange, digital payments, and enterprise technology provisioning. These three categories cover 47% of the total population as of 2020, indicating a 15 percentage point increase in the proportion of FinTechs linked to the employment of distributed ledger technology during the past two years. At the end of 2018, 28% of the companies were engaged in deposit and lending, now categorised mainly under digital lending, and covering 20% of the total population. This indicates that the proportion of FinTech service providers focusing on more traditional financial services has decreased. Still, the dominant activities of FinTechs have remained the same.

As can be seen from Figure 4.2., 114 FinTechs, or 53%, are 3 to 5 years old and 33 FinTechs, or 15%, were established less than 2 years ago. This indicates that the majority of FinTechs are relatively young with 32% of all FinTechs being older than 5 years and only 12% being more than 10 years old. When compared to the situation at the end of 2018, the proportion of FinTechs less

[1] We are not covering the companies that have ceased their operations or have no clear signs of operations (e.g., the virtual currency licence holders with no activity or cancelled licences).

[2] Due to data collection and classification difficulties, we acknowledge that some FinTechs registered in Estonia, especially those registered in 2020, may be missing from the list.

than 3 years old has decreased by 28 percentage points. On one hand, it may reflect our improved ability to identify relevant older FinTechs. On the other hand, it refers to the somewhat decreased birth of new FinTech startups.

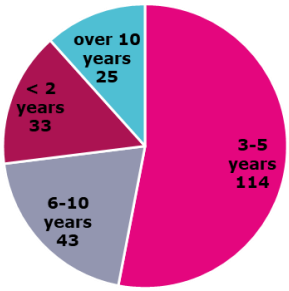


Figure 4.2. Distribution of the number of FinTechs by year of establishment

As can be seen from Figure 4.3., the oldest companies are in enterprise technology provisioning, credit & data analytics, and InsurTech. However, the average age of the companies remains more similar across FinTech categories. The youngest companies are in RegTech, digital custody, and digital identity groups. This can be explained by the growing need for security, KYC procedures, fraud prevention, risk management and analytics, regulatory reporting, etc.

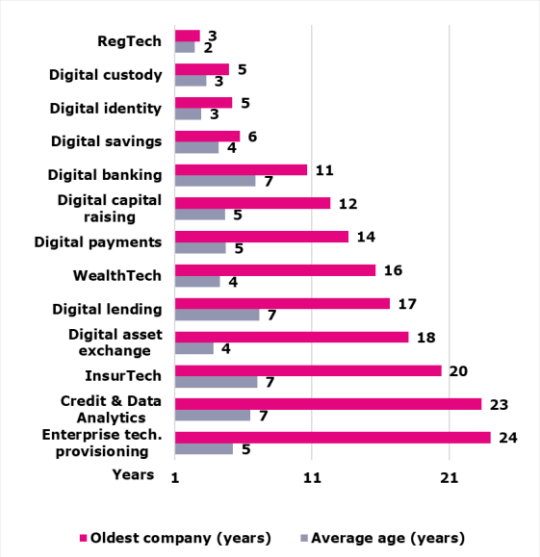


Figure 4.3. The average age of companies by FinTech type

The peak for the establishment of FinTechs was in 2018 with 59 new FinTechs, followed by 2017 with 40 FinTechs and 2019 with 28 FinTechs. The distribution of established companies by type during 2018-2020 can be seen in Figure 4.4. In 2018, digital asset exchange dominated with 26 established companies followed by digital payments with 8 established companies. The same numbers in 2019 were 7 and 5, respectively. In 2020, only 5 FinTechs were established which may be impacted by our poorer possibilities to trace very recently established FinTechs. The remaining categories have been less frequent.

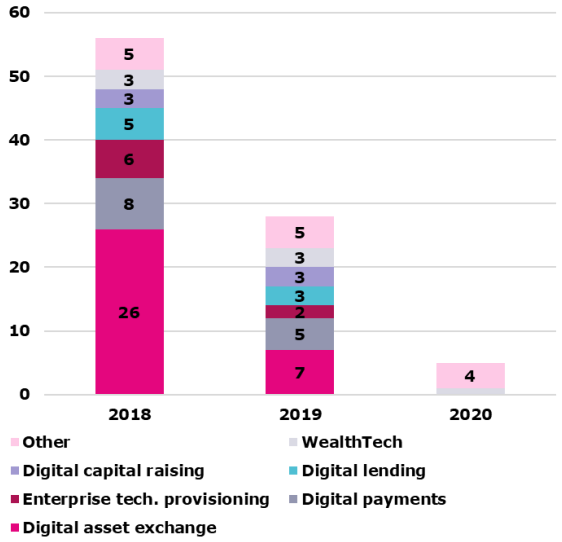


Figure 4.4. The number of FinTechs established in 2018–2020 by type of activity

Based on the data obtained from the Tax and Customs Board as of the 3rd quarter of 2020, 122 FinTechs employed 1984 employees. 93 FinTechs in our list had no employees and, overall, 57% of the FinTechs have employed at least 1 employee. The largest proportion of employees was employed in digital lending with 555 employees, followed by digital asset exchange with 356 employees, enterprise technology provisioning with 262 employees, and digital identity with 236 employees. This indicates that the remaining 29% of all employees were rather evenly divided between the remaining FinTech categories.

The financial indicators of the FinTechs also deserve attention. Financial indicators are available for 172, or 80%, of the firms. Data is available mostly for FinTechs that are more than two years old. The current assessment is based on the latest data available for FinTechs. This

means that most data is from 2019, however, the data of 29 FinTechs was taken from 2016– 2018.

Based on our assessments, the volume of total assets of Estonian FinTechs as of the end of 2019 was around 1.03 billion euros, this is a substantial growth compared to the value of assets as of 2017, which was around 427 million euros. 84% of the total value of assets, comes from FinTechs concentrating either on digital banking or on digital lending.

As can be seen from Figure 4.5., 124 FinTechs, or 72% of FinTechs with available financial data, have assets valued at less than one million euros. Most such companies are involved in digital asset exchange. 15% of FinTechs have assets valued at 1 to 5 million euros. This group has a greater representation of FinTechs from digital payments and enterprise technology provisioning. This shows that Estonian FinTechs tend to be rather small. Companies with more than 51 million euros of assets are only found in digital banking and digital lending due to their asset structure.

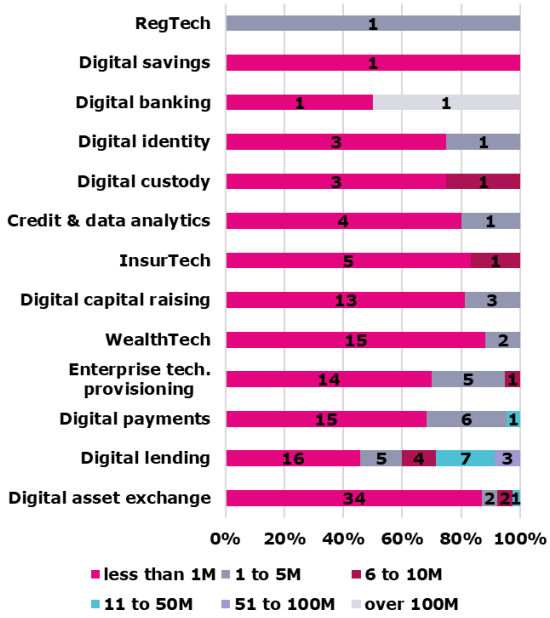


Figure 4.5. Distribution of the number of FinTechs by total assets

The total income generated by Estonian FinTechs as of the end of 2019 was around 282 million euros. This is a 20% increase from 2017 when total income was around 235 million euros. As the number of FinTechs has increased around 61% during the same period, it reflects that the newcomers have been rather slow in providing their annual reports and in increasing their total income.

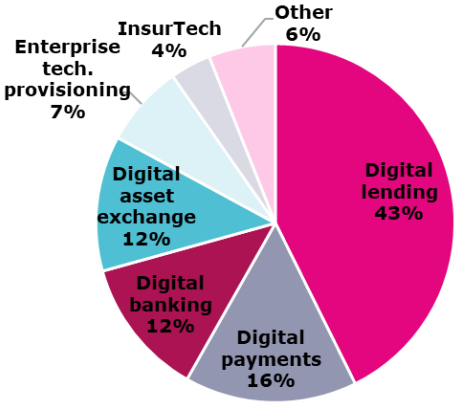


Figure 4.6. Distribution of total income of Estonian FinTechs by type of activity

As can be seen from Figure 4.6., 43% of the total income come from digital lending, followed by digital payments with 16%. Digital asset exchange and digital banking both account for 12% of the total income. Enterprise technology provisioning accounts for 7% of total income and InsurTech accounts for 4%. The "other" section includes all the remaining types of FinTechs.

The majority of Estonian FinTechs are relatively young, therefore, many have not yet become profitable. According to the available data, 28% of the companies that had submitted their annual report reported a positive result, while 9% reported 0 profit. It should also be considered that whether a profit or loss is reported depends on the owners' choices of accounting approaches, for instance, how development costs are capitalised. The total net profit generated by all Estonian FinTechs in 2019 was around 64 million euros. This is a substantial growth compared to 2017, when the total net profit was 8.3 million euros. It has been driven mainly by the inclusion of a fully digital bank in the dataset which alone contributed 10 million euros of profit.

The distribution of average net profit by type of FinTech activity is presented in Figure 4.7. Digital lending is far more profitable than other types of FinTech activities with an average net profit reaching over 1.4 million euros and a total net

profit reaching 51.9 million euros. It is followed by enterprise technology provisioning with an average of 0.25 million euros and digital asset exchange with 0.17 million euros.

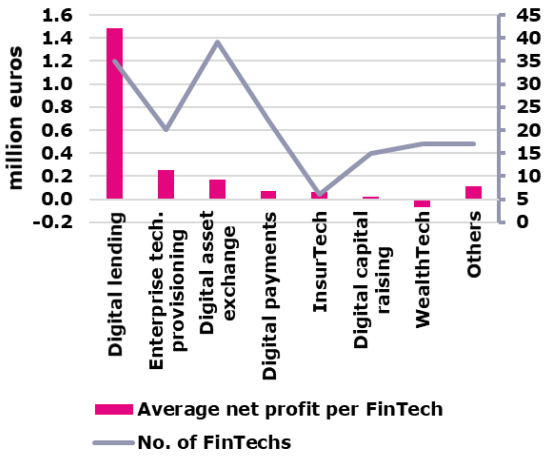


Figure 4.7. Distribution of average net profit of Estonian FinTechs by type of activity

Overall, the latest available statistics show that digital lending FinTechs are currently the most dominant amongst the Estonian FinTechs for their overall economic impact.

4.2. Results of the survey

4.2.1. General characteristics of the respondents

In total, 47 FinTechs responded to the survey in February–March 2021. This accounts for 22% of the total population of Estonian FinTechs. Most of the responses (70%) were given by either the CEO or COO of the company.

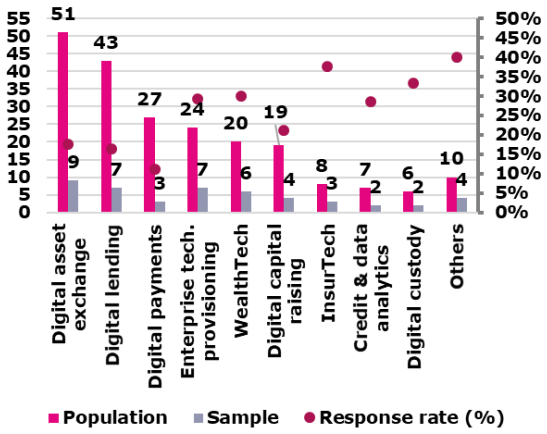


Figure 4.8. Comparison of the survey sample and the total population

The greatest number of responses were received from digital asset exchange companies, followed by digital lending and enterprise technology provisioning companies (see Figure 4.8.). Response rates exceeding 30% were obtained for FinTech activities represented by less than 10 Estonian FinTechs. Amongst more common FinTech activities, 29% of enterprise technology provisioning and 30% of WealthTech FinTechs responded. The lowest 11% response rate was among companies classified as digital payments. Response rates below 20% characterised also FinTechs involved in digital asset exchange and digital lending. This indicates that more popular activity types are crowded by companies that may be difficult to reach if they are in early development phases, or do not consider themselves as FinTechs.

32% of the respondents were from businesses that were already running, 53% from companies in the growth phase and 15% of FinTechs defined themselves as in the construction phase. Those under construction represented very different FinTech activities.

Although all respondents had a legal body in Estonia, seven of them (15%) had headquarters elsewhere. The alternative headquarter locations mentioned included Ireland, Latvia, UK, Singapore, Iceland, and Belgium.

48% of the respondents were active in FinanceEstonia, 38% in Startup Estonia, and 14% in Estonian Founders Society (previously Estonian Startup Leaders Club). Many respondents were involved in several organisations simultaneously and some indicated co-operation on an international level. Still, 23% of respondents were not co-operating with any Estonian organisation uniting FinTechs. Considering that more active attempts to contact FinTechs were made through FinanceEstonia, it reflects that, in reality, the proportion of FinTechs that are not participating in any of the above-mentioned organisations is significantly larger.

4.2.2. Business model attributes

Key activities

As our classification of FinTechs was arbitrary and in reality, FinTechs can be involved in different types of activities, we asked the respondents to indicate whether they were providing financial services themselves and / or are providing support services. 55% of the respondents provide financial services such as lending, capital raising, digital banking, payments, investment / asset management, trading or brokerage services, digital wallets. 55% of the respondents support the provision of financial services by another company such as KYC-related activities, RegTech, data and credit analysis. 11 respondents, or 23%, provide financial services themselves and simultaneously also support the provision of financial services by other companies. The latter result demonstrates the complexity of categorising FinTechs by type of activity.

It appears from the survey that 66% of the FinTechs are engaged in programming and engineering, 62% are engaged in marketing / finding clients and 49% are engaged in running their daily business and providing services for their existing clients. This shows that the activities of FinTechs at their current stage of development require quite significant resources to be devoted to developing the technology needed to support their services or products. Although 30% of the respondents had not outsourced any activities, the remaining FinTechs had outsourced at least some services. Programming and marketing had been outsourced by 40% and 19% of respondents, respectively. Some respondents mentioned also the outsourcing of accounting, legal, cloud computing, PR, and KYC services.

Key resources

The main resources of FinTechs are technology and people. The majority of respondents listed several innovative technologies that they use in their activities. As can be seen from Figure 4.9., more than a third of FinTechs use either a digital platform on which complementary products / services can be developed, marketplaces for exchanging information, products, services and / or database systems. Automated transaction processing systems, decision support systems and blockchain are used less frequently.

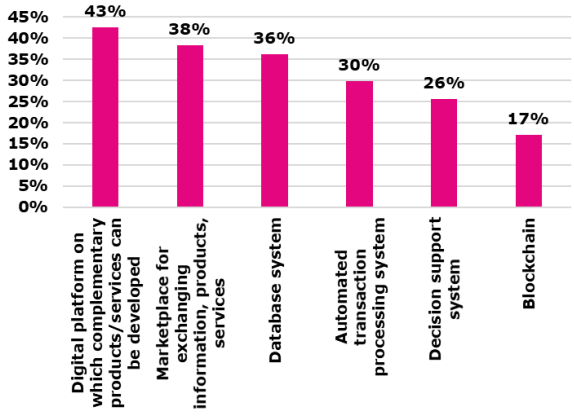


Figure 4.9. Technologies employed by the respondents

The average number of employees working in FinTechs that responded was 25, ranging from 1 to 230. However, over half of the respondents had 10 or fewer employees. It should also be noted that while the total employee count of respondents was 1167, 33% of them were employed outside of Estonia. Compared to the survey conducted in 2019, the average employee count has not changed, however, the proportion of employees outside of Estonia has increased by 4 percentage points.

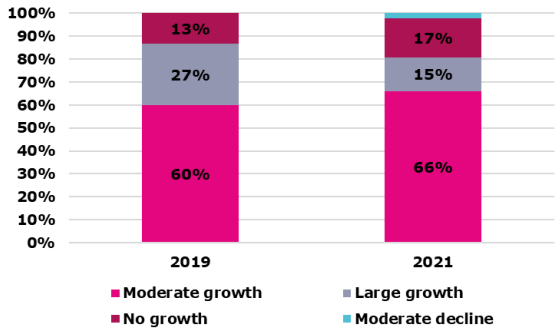


Figure 4.10. Expected change in the workforce for the year ahead from the beginning of 2019 and 2021

As can be seen from Figure 4.10., the majority of the respondents are expecting growth or substantial growth in the number of employees. Compared to the indications obtained in 2019, the proportion of respondents referring to an

increase in the workforce has decreased by 6 percentage points and the share of respondents referring to no change in the workforce has increased. This may be partly related to the increasing maturity of the firms and may partly be driven by the COVID-19 impacts which we will cover in greater detail in Section 4.2.4.

Value proposition

Most of the respondents offer products / services with several value propositions (see Figure 4.11.).

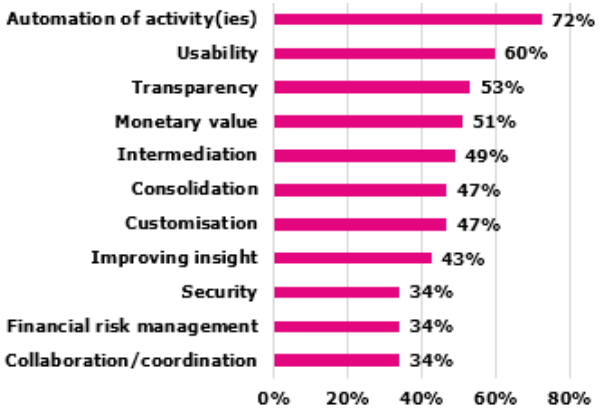


Figure 4.11. Value proposition mentioned by the respondents

The most frequently mentioned was the automation of activities which was mentioned by 72% of the respondents, followed by usability (e.g., improving user experience) mentioned by 60% of the respondents. Transparency (e.g., improving access to timely and sufficient information), monetary value (e.g., financial gain for the customer) and intermediation (e.g., helping to bring the client and seller together) were mentioned by roughly half of the respondents. Value propositions such as consolidation (e.g., combining some things into a more effective and coherent whole), customisation according to the customer's needs (e.g., personalised service) and improving insight (e.g., by enhancing customer awareness) were mentioned slightly less frequently. The three least mentioned value propositions were financial risk management (e.g., improving the client's financial risk management), collaboration / coordination for providing a service and improving user security, all referred to by 34% of the respondents. No clear trend could be identified between a specific type of FinTech and the mentioned value proposition. Still, the results do show that the automation of tasks and user experience remain at the forefront for most Estonian FinTechs. Also, more versatile value propositions can be observed among FinTechs involved in enterprise technology provisioning, WealthTech, digital lending, and digital asset exchange.

Customer segment

When the respondents were asked to indicate where they operate, 64% responded that they operate both in Estonia and internationally, 32% operate only in Estonia and only 4% operate internationally excluding Estonia. When FinTechs were asked to list the countries in which they are already operating, then most European countries were mentioned (including Russia and Ukraine). Several more distant countries and regions were also reported, including the USA, Mexico, Colombia, Argentina, Australia, and African countries. When asked into which countries the company intends to expand its activities in the future, the responses referred, in addition to European countries, also to the USA, Latin America, Middle East, North Africa, Southeast Asia, East Asia.

The activity profile of the respondents shows that 62% of the respondents were involved in business-to-business, 72% in business-to-customer and 26% in business-to-business-to-customer activities. 38% of the respondents were involved in a mix of the aforementioned activities.

The total income of all the respondents in 2020 was estimated to be 73 million euros and only 23% of the respondents' revenue exceeds 1 million euros. On average, 45% of the revenue was from the export of goods and services with 32% of FinTechs having export at 90% to 100% of revenue. Although it is hard to assess the effect of Covid-19 on the FinTech sector's revenue, all the respondents, with the exception of two, expect a rise or similar level of revenue in 2021 compared to 2020. Based on the companies' estimates, total revenue in 2021 could reach 120 million euros, referring to a 65% increase. The

average share of export is also expected to rise from an average of 45% in 2020 to 55% in 2021.

Overall, the results indicate that Estonian FinTechs continue to serve rather diverse customer segments and have a strong international focus on their activities. This can be explained by the small home market which forces to concentrate on global markets from the early phases of business creation.

Delivery channels

As can be seen from figure 4.12., 79% of the respondents indicated that their product and / or service delivery occurs through the web application and 66% indicated the use of an application programming interface (API). These were followed by 47% through mobile app and 4% through instant messaging. Physical contact was indicated only by 5 respondents.

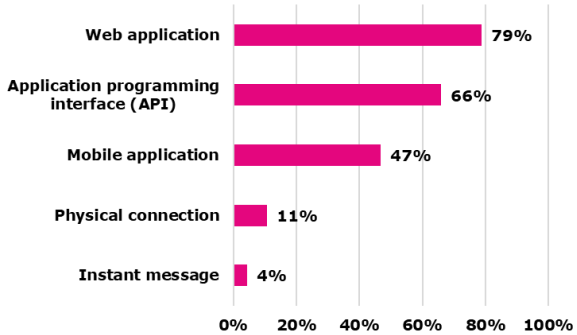


Figure 4.12. Delivery channels mentioned by the respondents

When looking at the use of different delivery channels across FinTech activities, it was possible to observe that less diverse delivery channels, covering a maximum of two channels, were among providers of credit & data analytics, RegTech, and digital savings. Simultaneous use of four different delivery channels could be seen among FinTechs engaged in WealthTech, InsurTech, digital lending, digital capital raising, digital custody, and digital identity. This shows that the main activity of the FinTechs influences strongly the number and set of delivery channels.

Revenue streams

Most respondents listed several items as streams of revenue. As can be seen from Figure 4.13., 64% of the respondents mentioned commission income from services or products delivered. This source of revenue was more dominant in companies involved in WealthTech, digital payments, digital savings, and digital asset exchange.

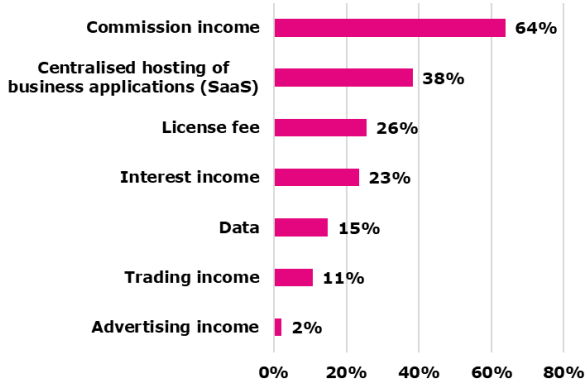


Figure 4.13. Sources of revenue mentioned by the respondents

38% of the respondents mentioned centralised hosting of business applications (SaaS – software as a service). Interest income and license fee from a product of software licencing were both mentioned by slightly more than 20% of the respondents. Interest income dominated the responses of digital lending FinTechs being more common than commission income. License fee, alongside centralised hosting of business applications, had the strongest position among RegTech firms. Income from data, trading and advertising were mentioned less frequently. As nearly 80% of the respondents referred to two or more different revenue sources, the revenue of Estonian FinTechs tends to be rather diversified.

4.2.3. Location choices

The respondents were asked to assess the importance of several different factors that affected their decision to register the company in Estonia from less important to more important on a scale of 1 to 7 (see Figure 4.14. for results). The results show that FinTech entrepreneurs valued the presence of high-quality infrastructure and regulatory clarity the most. Both aspects received an average score above 6. Quite even emphasis, ranging from 5.4 to 5.6 average points, was given to the availability of qualified workforce, ease of establishing the company, Estonia's reputation, knowledge of the

local entrepreneurial environment, low level of corruption, political stability, and reasonable / low costs of doing business. The lowest relevance was put on materials / events introducing Estonia as a place of doing business (evaluated on average at 3.6 points), followed by the sufficiency of customer base and availability of capital. The low relevance of introductory materials and quite significant relevance of the knowledge about the local entrepreneurial environment can be related to a rather large representation of local entrepreneurs among the surveyed companies. This is reflected in the fact that only 8 respondents, representing less than 17% of the respondents, indicated the use of the e-residency programme by their founders.

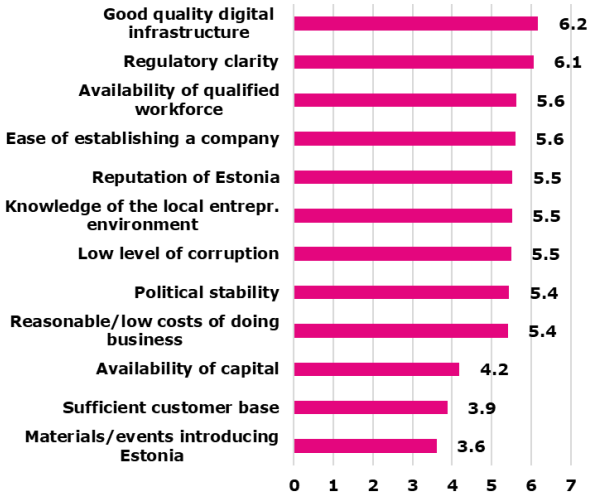


Figure 4.14. Decisive factors for location choice

We also analysed the evaluations across FinTech categories. The greatest number of responses were obtained from FinTechs focusing on digital asset exchange, digital lending, enterprise technology provisioning, and WealthTech. Greater differences in the evaluations made by these types of FinTechs were observed in the following areas. Firstly, companies involved in digital asset exchange evaluated regulatory clarity by 0.8 points lower compared to the average of all FinTechs. Secondly, the same types of FinTechs were also struggling more with the availability of qualified workforce scoring this factor 0.9 points below the average of all FinTechs. Thirdly, companies involved in digital asset exchange were less concerned about the reputation of Estonia as a place of doing business, scoring that factor 0.9 points lower than average. Fourthly, the knowledge of the local entrepreneurial environment was the lowest amongst WealthTech firms who scored that factor 0.8 points below average. Fifthly, the insufficiency of the customer base was brought forward both by FinTechs focusing on digital asset exchange and WealthTech. They scored this factor at 2.5 and 3.3, respectively, compared to the average of all FinTechs at 3.9. In the remaining areas, the differences in the evaluations remained less pronounced. This indicates that FinTechs operating in the digital asset exchange are more critical about the factors characterising the local business environment. Several respondents also highlighted that as the founders were local, other options were not considered.

72%, or 34, of the respondents, had been involved in making the location decisions when the company was founded. Over half of them indicated, that when registering the company, they had communicated with some kind of a public institution. The most mentioned institutions were the Financial Supervision Authority and the Tax and Customs Board. Some respondents mentioned also Enterprise Estonia and Financial Intelligence Unit. On a scale from 1 to 7, the FinTechs felt the strength of the support of these institutions on average at 4.8. A rather similar evaluation was given by the respondents to the strength of co-operation between public institutions.

12 of the 34 respondents mentioned that they considered registering the company in some other country. Other countries mentioned in that context included UK, Malta, Cyprus, Spain, Singapore, Belgium, Lithuania, Finland, Poland, USA. When asked to comment about the decisive factor in preferring Estonia, the most mentioned factors were known culture, corporate tax (no tax is paid on retained earnings), low costs (referring to labour costs and general costs), and simplicity and clarity of administrative activities.

21 of the 40 respondents said that they have considered moving the company out of Estonia. The main reasons included regulatory threats arising from the rigidness of regulatory authorities and strict interpretation of rules, better access to markets, capital elsewhere. Only 2 of the 7 respondents who are currently

headquartered outside of Estonia have considered moving their headquarters here.

Overall, the results indicate that Estonia may be the first choice for local entrepreneurs due to greater familiarity with local conditions and stronger networks. However, the lack of capital, poor access to customers, and regulatory challenges may force companies to select alternative destinations or even re-consider their initial location decisions over time.

4.2.4. Current challenges for FinTechs

The respondents were asked to evaluate the extent that specific problems affect their business on a scale of 1 to 7 from not pressing to extremely pressing.

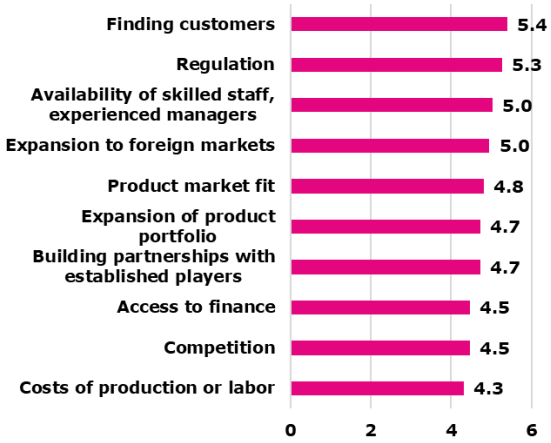


Figure 4.15. Current pressing problems on the scale of 1 to 7

As can be seen from Figure 4.15., the most critical problems are related to finding customers, scoring 5.4, and regulations, scoring 5.3. Quite similar relevance with evaluations ranging between 4.7 and 5 points were attributed to the availability of workforce, expansion to foreign markets, product-market fit, expansion of product portfolio, and building partnerships. The least critical problem was the cost of production or labour, scoring 4.3. Access to finance and competition were considered also relatively less pressing. These results correspond quite well with the results observed in the context of location choices.

We also analysed the answers across FinTech categories. Among the four most relevant respondent groups, the most striking differences were observed for regulation. Pressure from the regulation side was the strongest for FinTechs involved in digital asset exchange, scoring at 6.1, compared to only 4.1 for FinTechs in WealthTech. Digital lending also exceeded the average score of 5.1 having a score of 5.5 and enterprise technology provisioning exhibiting a score of 4.5.

On a scale of 1 to 7, the respondents also evaluated the overall strength of the competitive position of their company. The average score was 5.6 with 91% of the responses remaining at 5 or above. This refers to rather high evaluations and self-confidence.

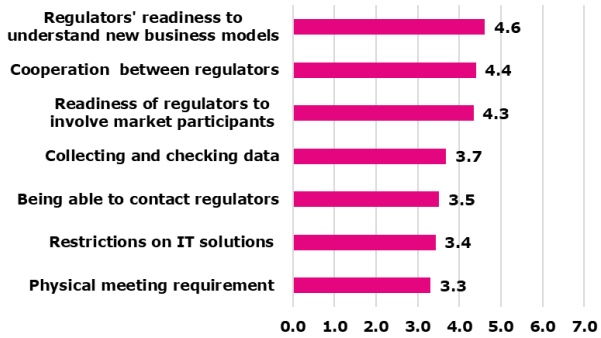


Figure 4.16. Regulative and regulator-related factors restricting the expansion to foreign markets

We also wanted to know what restricts the expansion of FinTechs to foreign markets. When asked about regulative and regulator-related factors (see Figure 4.16.), the most critical was the regulators' readiness to understand novel business models, scoring 4.6 on the scale of 1 to 7. The co-operation between regulators, regulators' readiness to involve market participants were also considered important, scoring above 4.2. More specific regulatory requirements were considered less restrictive with restrictions to IT solutions used for identifying and verifying a person and physical meeting requirement for initiating client relationship receiving an evaluation of 3.4 and 3.3 points, respectively.

As can be seen from Figure 4.17., non-regulation-specific factors receive an even lower score. The highest scores, reaching 3.6, were given to the lack of contact and network and to difficulties in finding employees. An average score of 3 or lower was given to cultural barriers, low experience in exports, poor product fit to a

foreign market and logistical difficulties. This indicates that more "classical" factors inhibiting expansion to the foreign markets are less relevant and the regulation-related factors tend to dominate.

Figure 4.17. Other factors that might restrict the expansion of business to foreign markets

The usual challenges to the activities of FinTech companies have broadened since March 2020 due to the spread of COVID-19. The respondents were asked to evaluate the effect of COVID-19 on the field of their company`s activity, to the activity of their company and to the ease of initiating customer relationships. All these effects were scored below 4 on the scale of 1 with no influence to 7 with strong influence. As 4 is in the middle of the scale, it indicates that COVID-19 has had a rather low impact on the sector and FinTechs that responded to the survey.

When FinTechs were asked to indicate how COVID-19 had impacted their activities, the most frequent answer was remote work for their employees. There has been an increase in online meetings with clients, remote hiring process and finding alternatives to motivational events held for employees as well as improving internal communication within the firm. Some FinTechs indicated that they had benefitted from the crisis by expanding and developing new products for the market. Still, some had halted their expansion plans to new markets and were forced to cancel all business travel.

The Estonian government has provided different support measures for companies severely affected by COVID. 17% of the respondents had benefitted from some kind of support measure. The majority of them had benefitted from payroll support.

We also asked whether any regulations concerning FinTech activities had been changed in response to COVID. Less than 10% of the respondents referred to the introduction of some changes mostly referring to the issues related to payment leaves.

Overall, we can conclude that the main challenges that FinTechs face remain mostly related to the regulation of their activities. Other factors influencing all kinds of businesses have a lower impact, as has had the COVID-19.

4.2.5. FinTech sector outlook

We asked the respondents several questions concerning their views on the development potential, funding sources, and regulatory developments.

32% of the respondents indicated that the greatest development potential in FinTech lies in open banking. Digital currencies were mentioned by 21% and RegTech by 15% of the respondents as attractive areas.

Access to financing was not mentioned as a strongly pressing factor for most FinTechs. However, when we asked to indicate the most important funding sources for FinTechs in the next three years, seed capital and venture capital seemed to prevail. 51% of the respondents marked seed capital as the most important source of funding. Although 21% of the respondents marked venture capital as the most important source of funding, both seed capital and venture capital were positioned as the first two options by over 70% of the respondents. More traditional funding sources like equity funding from financial institutions, equity funding from the company itself, and private funding from other sectors were ranked lower. The lowest importance was attributed to debt funding.

When the respondents were asked to indicate which measures would help to develop their company and / or the Estonian FinTech sector further, better co-operation with regulators and improvement of regulations were the two most highly ranked measures. The following three

measures were tax reliefs, support for hiring foreign workforce, and startup visa. The three measures that were ranked the lowest were sandbox, specialised incubators, and co-operation with education and research institutes. This indicates that addressing the bottlenecks in the regulative environment deserves the most attention. Although tax incentives and measures for more free movement of labour could be beneficial for FinTechs, they are not as burning issues.

We also asked the respondents their views on the usefulness of the sandbox. Some indicated that there is no need for a sandbox, instead, regulators should be more willing to co-think. Also, the small size of the Estonian market would make the sandbox unattractive for FinTechs with an international ambition. Others suggested that sandbox could be a tool for risk-free development and testing of new services (maybe even without yet holding a heavily regulated license) and would allow the regulator to understand the solutions better.

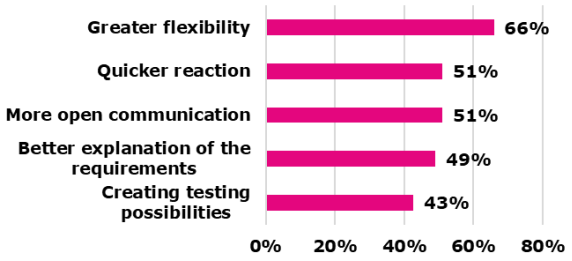


Figure 4.18. How regulators could support FinTechs

As can be seen from Figure 4.18., FinTechs expect greater flexibility from the side of regulators with 66% of the respondents mentioning it. Still, it is important to note that regulators may represent different institutions for FinTechs and their impact may also vary by the type of FinTech activity. For example, among companies involved in digital asset exchange, the need for greater flexibility of regulators was mentioned by 89% of the respondents. Nearly 50% of the respondents also highlighted the need for quicker reaction, more open communication and better explanation of the requirements. Especially requirements in the areas of KYC, AML, PSD2, and identity verification. The least frequently mentioned option was the creation of testing possibilities, which was mentioned by 43% of the respondents.

The respondents brought forward several aspects that should require more attention. The Estonian insurance regulations are broader than in the rest of the EU, creating a competitive disadvantage to Estonian companies. Requirements for digital remote onboarding of customers from other EU countries may require adjustments. It was suggested that the upcoming crowdfunding and virtual asset service providers law should be divided. Some respondents also emphasised that the Estonian regulations should not be more restrictive than those of the EU. AML law may require adjustments, as not all financial sector entities are banks, and annual re-application for licences was seen as a hindrance. In some areas, FinTechs dream of similar rights as the banks already have, e.g., non-bank credit providers having access to official databases. Possibilities were also seen in the creation of positive credit information sharing, easier passporting, and amendment of advertising law to allow more informative advertising of financial services. Although most of the proposals relate to relaxing regulations, some responses also referred to the needs for tightening the regulations in some areas. As an example, a need for restricting activities in the area of virtual currencies was mentioned as it has recently witnessed an explosion of firms with doubtful intentions.

32% of the respondents that are involved in crowdfunding expressed their views on the EU crowdfunding regulation. We asked whether the new regulations would reduce the risks in the sector on a scale of 1 (does not reduce risks at all) to 7 (reduces risks considerably). The average score was 4.9, which indicates that the respondents see some reduction of risk.

32% of the respondents were familiar with the EU proposal for regulating crypto assets. On a scale of 1 (not appropriate at all) to 7 (very appropriate), they evaluated the appropriateness of the application field of crypto-asset regulation. The average score was 4.2. This shows that the respondents see it as somewhat appropriate. Respondents were

slightly more negative regarding the ability of the new regulation in reducing regulation in the sector. When evaluating this aspect on a scale of 1 (does not reduce at all) to 7 (reduces significantly), the average score was 3.9.

As to the co-operation with other market participants such as banks, notaries, and government institutions, two key issues prevailed. Firstly, the respondents expect more co-operation including co-operation with established financial services providers. Banks could be more flexible in their selection of customers and generally more open towards co-operation with FinTechs. Secondly, respondents also indicated that they would like more open co-operation from the side of government (avoiding preference of banks over FinTechs), greater willingness to support FinTech innovation, clearer roadmap about where the regulations are headed and how regulations should be interpreted. This could be achieved, for example, through the creation of different work groups. Some respondents were also concerned about the Estonian IT infrastructure which would require renewal. Also, further attempts should be made to make the data move between providers of financial services and increasing the quality of such data.

5. CONCLUSION

This report aimed to provide an overview of the recent developments influencing the Estonian FinTech sector and the main characteristics and challenges of the FinTechs. A survey of FinTech companies, and interviews with ecosystem participants, were used to draw some general conclusions.

Firstly, the economic impact of FinTech is gradually increasing. Compared to the end of 2018, the number of FinTechs has increased by 1.5 times, reaching 215 firms by the end of 2020. As of the end of 2019, the total assets of FinTechs stood already at 1032 million euros, and total income at 235 million euros. As of the end of 2020 3rd quarter, the total employee count was 1984 with moderate growth expected for 2021.

Secondly, although the field remains dominated by companies involved in digital asset exchange and digital lending, the share of other FinTech activities has increased. There is quite strong presence of FinTechs involved in digital payments, enterprise technology provisioning, WealthTech and digital capital raising. As a result, the business models of FinTechs remain diverse.

Thirdly, entrepreneurs consider high-quality infrastructure and regulatory clarity as the most important items in their decision to register their company in Estonia. However, the lack of capital, poor access to customers, and regulatory challenges (especially for firms in digital asset exchange) may force FinTechs to select alternative destinations or even re-consider their initial location decisions over time. This is especially true for FinTechs with foreign founders as local founders do not often consider alternative location options. On the regulation side, Estonian FinTechs remain impacted both by the EU and country-level regulative acts. On the EU level, Regulation on European Crowdfunding Service Providers, Markets in Crypto-assets regulation, and Digital Operational Resilience Act will determine the future directions. In Estonia, the amendments to the Money Laundering and Terrorist Financing Prevention Act have been introduced in 2020 and a draft regulation focusing on crowdfunding, crypto-assets and other unregulated investment instruments is being negotiated.

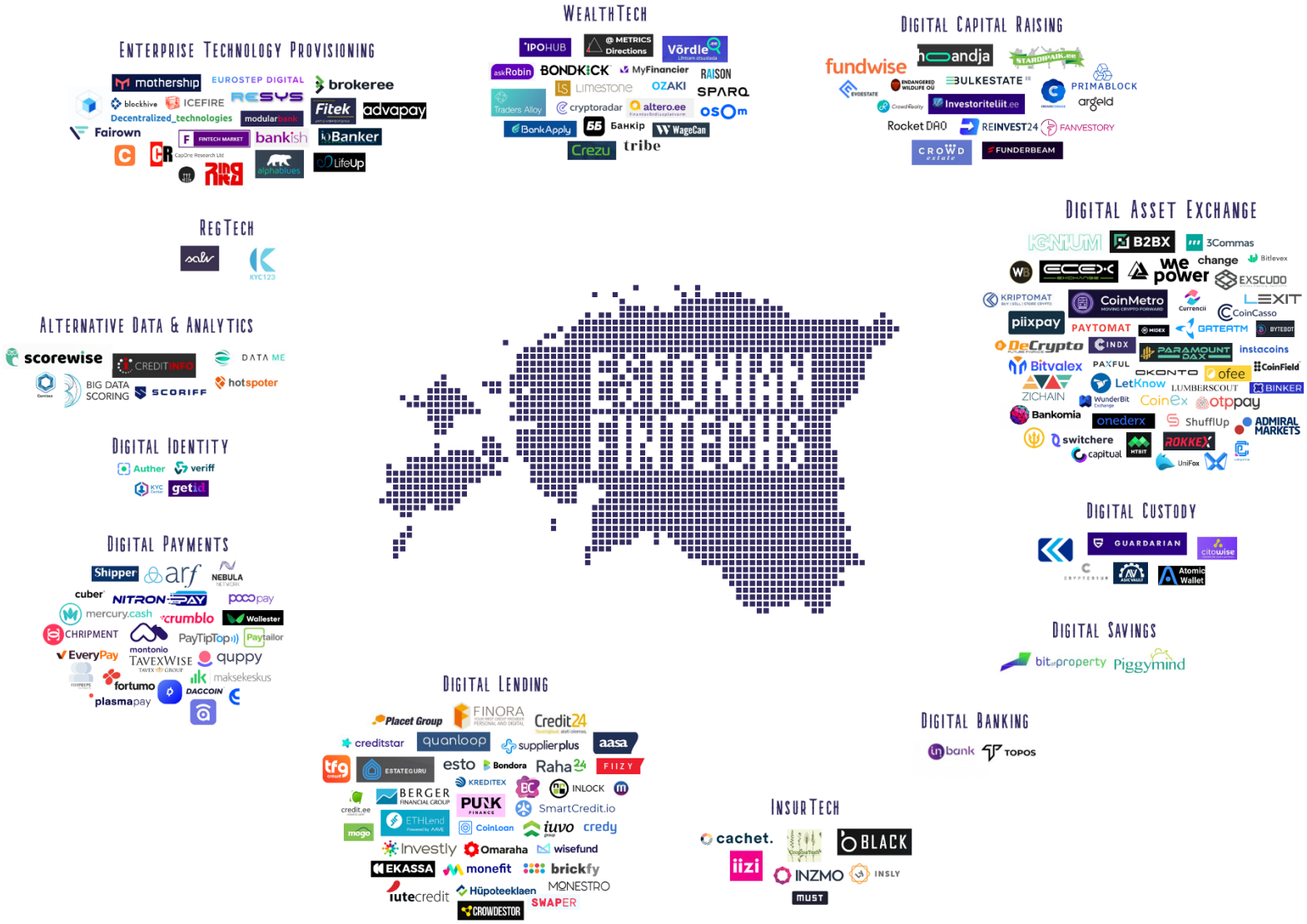
Fourthly, COVID-19 has had a rather low impact on the sector. Although the internal processes of companies have been affected (remote working, hiring, and online meetings with customers) and some plans have been postponed, some FinTechs have tried to turn the crisis in their favour by developing new products and by expanding.

Fifthly, FinTechs see the greatest development potential in open banking followed by digital currencies and RegTech. Still, the overall outlook will remain dependent on the possibilities to solve regulatory bottlenecks. This could be achieved with quicker reaction, more open communication and better explanation of the requirements by regulators. Especially requirements in the areas of KYC, AML, PSD2, and identity verification. The views on the necessity for regulatory sandbox remain mixed. Still, its main benefit is seen in the improved comprehension of FinTech solutions by the regulator.

Sixthly, in terms of ecosystem development, FinTechs expect greater co-operation with established financial service providers. Also, greater co-operation with the government in the form of greater willingness to support FinTech innovation, a clearer roadmap about where the regulations are headed and how regulations should be interpreted is desired.

Overall, the Estonian FinTech sector remains strong and if the challenges can be properly handled, Estonia would remain an attractive location for FinTechs with global ambitions.

APPENDIX 1. MAP OF ESTONIAN FINTECHS



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