FINTECH SURVEY

Republic of North Macedonia

ASSESSING THE FEASIBALITY OF IMPLEMNTING FINTECH IN NORTH MACEDONIA

SPONSORED BY EFSE TECHNICAL FACILITY

LED BY NATIONAL BANK OF THE REPUBLIC OF NORTH MACEDONIA

DELIVERED BY VEDANVI
DECEMBER 2020

НБРМ-NBRM

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1 Executive Summary

During September of 2020, the European Fund for South East Europe's Technical Assistance Facility financially and technically supported a survey to landscape the development of the Fintech sector in North Macedonia. The study was coordinated and led by the National Bank of the Republic of North Macedonia, with support from a United Kingdom based Fintech advisory firm Vedanvi. The study was carried out on behalf of NBRNM with involvement from all other financial services regulators who participated in the Survey.

The aim of the survey was to understand the current landscape for the development of Fintech and alternative finance and to assess the opportunities, barriers and challenges presented for innovation and for new market participants. The outcome of the landscaping exercise is supposed to serve as a basis for the development of a National Fintech Strategy, if it proves that it is feasible to introduce Fintech in the country.

Given COVID related restrictions, the study was carried out through an online survey, which included closed and open questions. We had a total of 220 participants to the survey, grouped into the following stakeholder groups.

1. Banks
2. Non-Bank Financial Institutions, such as Insurers, leasing companies and other non-bank lenders
3. Alternative Finance Firms, such as lending firms as well as Technology Providers to Financial Services
4. Accelerators, Investors and Development Partners, including Consultants
5. Regulators spanning all financial services sectors
6. Relevant Government departments.

To gain further insights we interviewed four Government bodies, namely, Ministry of Finance, Ministry of Information Society and Administration, Financial Intelligence Unit and the Fund for Innovation and Technology Developments.

The survey was designed around five dimensions, namely 1) understanding the drivers for change (why the need for Fintech), then 2) assessing the financial and Fintech environment and mapping the ecosystem, 3) understanding the benefits and opportunities that Fintech can bring, as well as 4) the risks and challenges, and 5) finally to looking directionally at Fintech strategy components, considering the survey findings.

It was encouraging to find that 89% of all respondents agreed that there is a need for Fintech in North Macedonia. It has the potential to bring greater levels of financial accessibility, more competition, greater choice and benefits for individual consumers and small businesses. Fintech will also help align Macedonian financial system with international best practice. Overall, if implemented effectively, Fintech can help the country's ambition to integrate with the European Union. North Macedonia has a small market for financial services. However, all players feel that there is room for growth because there are gaps in financial accessibility and current levels of services are need of improvement.

Fintech is becoming visible in North Macedonia. Alternative finance firms are on the rise, considering themselves as disrupters, bringing better products and services to which traditional players can offer. Traditional players realise the growing competition, and they are themselves experimenting with digital transformation as well as some early stages development of Fintech products. Good examples of Fintech products developments pursued by traditional players, include development of better credit scoring digital solutions, bringing products and services online (digitisation and digitalisation), and facilitating peer to peer payments. However, digitisation and digitalisation are the core focus, rather than digital transformation, that brings completely new products and services and open new markets that were untapped before.

Digital transformation is high on the agenda, as traditional players look to gain operational efficiencies, cut costs, and enhance customer experience. However, it is noteworthy that despite a priority, not many incumbents have dedicated digital transformation departments or indeed a responsible officer who is exclusively taking responsibility for implementing digital transformation.

All stakeholders are experimenting with new technologies. Automation seems to be the biggest focus for majority of the respondents. Innovation in payments is another focus area in anticipation of new PSD2 aligned payment system regulations currently going through the legislative approval process. Big data analytics also features high on the list, together with cloud computing. Artificial intelligence is gaining significant traction across the global financial services sector, and indeed, there are early signs that Macedonian financial services firms are also examining how best to adopt this technology. However, it is still early days and solutions are emerging rather than being in a mature state. None of the firms were doing anything significant in the Blockchain and Distributed Ledger Technology space. This position is understandable, as this technology has still not matured, and experimentation now is relatively expensive.

Traditional players can leapfrog their Fintech and digital transformation efforts by partnering with Fintech newcomers. The survey has highlighted that there is little activity joint venture or acquisition activity. Traditional players are also losing the opportunity to keep abreast of latest developments by establishing an accelerator or incubator that could provide support to Fintech entrepreneurs, but at the same time, act as a cost-effective research and development hub.

Alternative finance providers are also experimenting with Fintech solutions. Again, right now automation appears highest on the list, together with big data analytics and cloud computing. These firms are experimenting with new products and services such as automated loan application process, integrating point of sale application in mobile applications or integrating information systems for insurance companies. These firms have sprung up because they believe that consumers are ready and will start demanding better, cheaper, and faster Fintech based products and services. These firms are inspired by FinTech innovation emerging in tech hubs around the world.

Whilst respondents recognised the sizeable benefits that Fintech can bring, they also recognise the legal and regulatory challenges as well as risks which they are exposed to. There are concerns that Fintech newcomers may not have the same discipline of compliance as incumbents have become accustomed to. Therefore, consumer harm is likely, and the entire financial system could be exposed to unnecessary or unintended risks, without corresponding commercial gains. Cyber security remains the biggest and most feared threat, as financial services becomes more digitized and carried out in the cloud. Consumer protection laws are in place, but there are no specific laws that protect the interests of consumers of financial products and services.

Fintech newcomers are also likely to face hurdles, in addition to the risk and regulatory hurdles identified above. The venture capital market is less well developed, and early-stage Fintech ventures seem to struggle to raise vital funding required at the early stage of any business. Regulatory capital requirements just add to the need for start-up funding and heightens the importance of the availability of venture funding. These capital costs are in addition to other costs such as developing IT solutions, recruiting staff, and acquiring premises.

With such high set up costs, it is almost impossible for bootstrapped Fintech entrepreneurs to set up and successfully grow a Fintech venture that promises to increase financial access and close products and services gaps left open by traditional players. Government have established a fund to drive entrepreneurship and innovation, however this is largely focused on the export market. The Fund realise that Fintech can enable commerce in North Macedonia, so they have expressed an interest to support Fintech ventures. Without funding and high capital requirements early in the cycle of a Fintech venture, will hamper efforts to scale to really make an impact.

Regulators are also urged to consider regulatory changes to lower entry barriers by allowing smaller and less risky Fintech ventures to register with light regulatory and capital requirement, until they scale, when they would need to apply for and successfully get a full license. This will lessen the financial and regulatory burden of companies at early stages in their cycle.

Regulation was commonly seen as a significant challenge for Fintech led innovation and the entry of new players. Unsurprisingly, payment system regulation comes up as a regulation that is in most need of modernisation. Thankfully, the National Bank and the Ministry of Finance have already embarked on a massive regulatory change programme to update payment system regulations. Currently new draft regulation is going through legislative approval process. There is a perception that current regulation makes it challenging to accept electronic signature. The laws are in place, however, differently, and more strictly interpreted by financial services players. Inconsistencies in different laws also push customers to physically identify themselves when opening and account or carrying out transactions. AML regulation is seen to be overly burdensome, however, again, this regulation is currently being overhauled.

The respondents unanimously identified an opportunity for legislators to strengthen protection for consumers of financial services products. However financial services institutions also felt that overly stringent consumer protection rules could stifle the establishment and growth of a market.

Overall, despite challenges and risks along the way, the survey clearly highlights that North Macedonia is ready for Fintech led transformation in the financial services sector.

2 Introduction to the Survey

This survey forms part of a journey that the regulators in the Republic of North Macedonia have embarked on to understand and assess the feasibility of adopting Fintech led transformation in the financial system as well as to understand the associated opportunities and challenges.

The journey began with a Fintech Workshop carried out by Vedanvi for the Senior Leadership Team of the National Bank for the Republic of North Macedonia (NBRNM) in Q4 of 2018. The workshop set the scene for the roll out of a Fintech strategy, if it proved to be feasible. On the back of the workshop, the NBRNM, launched an internal Fintech group that went on to create the Innovation Hub, which successfully engaged with Fintech entrepreneurs, advising them on the regulatory path to licensing for their innovative ideas. The NBRNM is also in the process of rolling out a significant update to payment services and payment systems, bringing them in line with the EU's PSD2 Directive, EMD2, PAD, SFD, IFR and some provisions from SEPA Regulation.

A year later in 2019, the NBRNM coordinated a similar workshop bringing all Macedonia's financial regulators together to engage in discussions to explore FinTech in more detail with a view to developing a national strategy down the line.

The regulators agreed that before embarking on the path to a national Fintech strategy, the country needs to landscape current initiatives in the Fintech space, at the entrepreneurial level as well as within incumbents. They also concurred that a feasibility study was the prudent next step in the process.

In September 2020, the NBRNM led and coordinated a survey to landscape of the Fintech sector in North Macedonia. They were supported by the European Fund for South East Europe's Technical Assistance Facility (EFSE TA), and the survey was designed and carried out by a London based Fintech Advisory firm, Vedanvi.

Between NBRNM, EFSE TA and Vedanvi, we came up with an initial list of participating firms that we wanted to include in the survey. The participants were grouped as follows:

1. Banks
2. Non-Bank Financial Institutions, such as Insurers
3. Alternative Finance Firms, such as lending firms as well as Technology Providers to Financial Services
4. Accelerators, Investors and Development Partners, including Consultants
5. Regulators spanning all financial services sectors
6. Relevant Government departments.

Appendix A contains a detailed list of all identified stakeholders that the NBRNM invited to take part in the survey. Due to its anonymous nature, we were unable to identify exactly those firms that participated.

When selecting firms to participate in the survey, we ensured that we captured all aspects, drivers, and supporters of the Fintech Ecosystem, depicted below. It is crucial for each component in the ecosystem to play their part to ensure that the entire system works as intended.

For example, Government and Regulators need to create policies to encourage new Fintech players in the market. If they do that, then we need a vibrant investor and accelerator eco-system to fund and support these firms. Existence of progressive incumbents, innovative entrepreneurs and intrapreneurs are essential drivers for Fintech development. From that perspective, the NBRNM has taken a bold and forward-looking step in establishing the Innovation Gateway that provides a channel for entrepreneurs and intrapreneurs to engage in dialogue with the regulator, to drive innovation and transformation in the financial services sector.

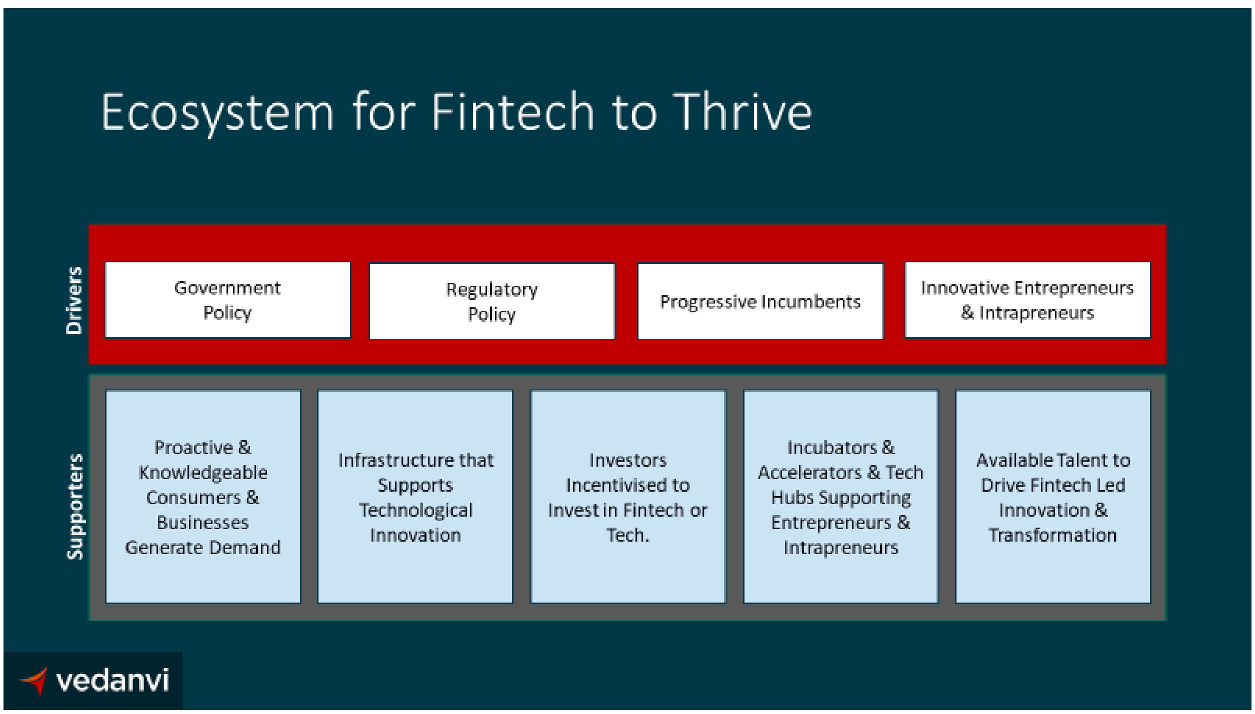


Figure 1 Ecosystem for Fintech to Thrive

Each group had their own separate survey with a few questions that were common across all the surveys. Each firm was asked to nominate a single point of contact by 25th of September 2020. The NBRNM, who were coordinating this project, provided specific instructions to each nominated person, by 30 September 2020. A link to an online survey was provided and the nominated persons were asked to distribute the survey within their organisation. The survey was opened around the 5th of October and closed on the 26th of October 2020. In total we received 220 survey responses broken down as follows:

1. 43 Responses from Banks: 85% or 11 out of 13 privately owned banks responded to the survey.
2. 89 Responses from Non-Bank Financial Institutions, broken down as follows:
    a. 46.07% (or 41) Insurance Firms
    b. 17.90% (or 16) Brokerage Businesses
    c. 14.61% (or 13) Micro Finance Firms
    d. 8.99% (or 8) Alternative Finance Providers
    e. 5.62% (or 5) Invoice Factoring Companies
    f. 1.12% (or 1) Investment Firm, and
    g. 5.62% (or 5) other types of firms

3. 43 Responses from Alternative Finance Firms, broken down as follows:
    a. 21% (or 9) IT Firms providing solutions to the financial sector
    b. 16% (or 7) who were considering launching a Fintech business at the time of the survey
    c. 16% (or 7) were Associations
    d. 14% (or 6) were describing themselves as alternative finance firms providing financial services or some sorts.
    e. 12% (or 5) considered themselves as Fintech firms already operating in the country, and
    f. 21% (or 9) were other types of firms, such as NGO Foundations and Savings Houses.

4. 8 Responses from Accelerators, Investors and Development Partners, including Consultants.
    a. 37.50% (or 3) considered themselves to be an Accelerator, and
    b. 62.50% (or 5) classified themselves as "other", including, an Audit Firm, Consulting or Advisory Firm, and an Investment Fund.

5. 35 Responses from Regulators, broken down as follows:
    a. 28.57% (or 10) regulated the Banking and Payments industry
    b. 28.57 (or 10) regulated the Insurance sector
    c. 22.86% (or 8) regulated the Pensions sector
    d. 14.29% (or 5) regulated Non-Bank Financial Firms.

6. 2 responses from Relevant Government departments

After the survey close, we also engaged with the following Government ministries to gain deeper insights into certain areas related to policy. We interviewed relevant Government officials over a WebEx video call.

1. Ministry of Finance
2. Ministry for information society and administration
3. Financial Intelligence Unit
4. Fund for Innovation & Technology Development

3 The Overall Survey Aimed to Capture Different Insights

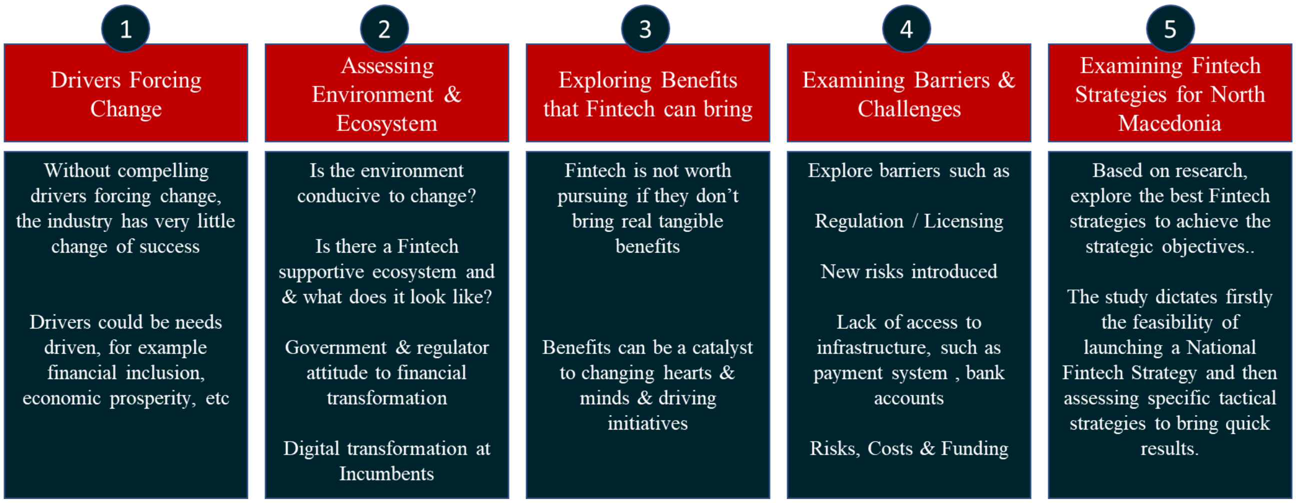


Figure 2: Five Pillar Approach to Landscaping Fintech in North Macedonia

The entire journey thus far was based on 5 different pillars and the survey tried to capture information that gave us insights into the five different dimensions, namely:

1. Understanding the drivers that necessitates the launch of a National Fintech Strategy. We understand the "Why".

2. Assessing whether the environment encourages a National Fintech Strategy to flourish, as well as mapping the current ecosystem, understand the players, as well as Fintech initiatives arising at entrepreneurial and incumbent levels.

3. We explore the specific opportunities that Fintech can bring to North Macedonia. After all, without any benefits, why adopt a National Fintech Strategy.

4. We also examine the barriers and challenges for Fintech newcomers, as well as the risks that they can introduce to the financial system and to consumers, as well as SMEs.

5. Finally, we explore what specific actions are needed to implement a Fintech strategy should it prove feasible.

All survey questions were specifically designed to create a comprehensive view of each of the five dimensions highlighted above. Getting such information will help in the next phase of the project, which is to develop a National Fintech Strategy, if there is unanimous agreement between all stakeholders.

4 Analysis of Survey Results

1

Drivers Forcing Change

4.1 Need for Fintech

There was unanimous agreement that there is a need for Fintech in the Republic of North Macedonia. Out of 220 respondents, 195 agreed, whilst only 5 felt that there was no need, and 20 respondents did not answer this question. Of the five respondents that did not agree, two (4.65% of all bank respondents) were bank respondents, a further 2 (2.44% of all non-bank respondents that completed the question) were from non-banks, and one (3.33% of all regulators that responded to this question) was from a

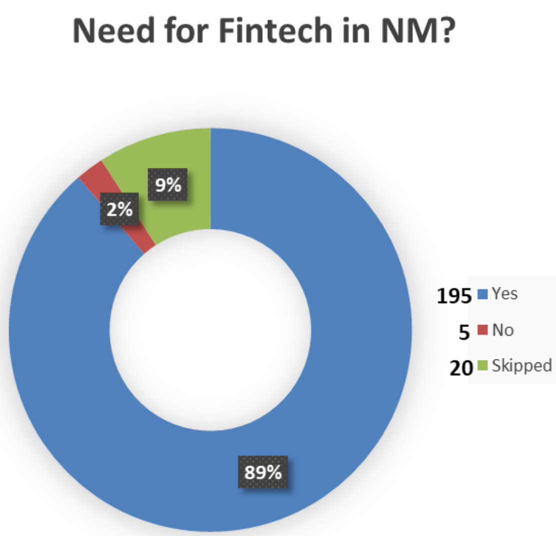


Figure 3: Need for Fintech - an Analysis of Combined Responses

regulator. All other stakeholder groups outside of these three groups, were 100% in agreement for there being a need for Fintech in the country.

The survey highlighted that North Macedonia needs Fintech for the following key reasons (these are the drivers for change):

- The financial system needs modernisation. Some of the laws are outdated and consumers now demand digital financial services.

- End users will have more benefits, use more practical services and will be better able to manage their finances if Fintech is introduced.

- Implementation of Fintech will also align North Macedonia with international best practice. Such a development could help the country's intention to join the European Union.

- From an internal perspective, Fintech brings operational efficiencies and the opportunity to reduce costs.

- Fintech has the potential to increase the levels of financial inclusion or accessibility, empower businesses more, if they can raise finance that banks shy away from, and overall, it has the potential to improve the economy.

- Fintech also brings more choice for consumers and competition will result in better services and a better deal for consumers and small businesses.

Key reasons why respondents felt there was no need for Fintech, included the following:

- The banks have the capacity to meet all the needs of the customers.

- There is a high level of competition with low levels of growth and profitability in the current market. Any additional players would put further pressure on competition.

- Macedonia's market is too small to accommodate too many financial services players.

- Only one respondent felt that people are not ready for Fintech solutions and finance firms have low awareness of cyber risks and weak implementation of anti-money laundering policies, which could introduce risks if they adopted Fintech solutions. It must be highlighted that this is the view of only one person out of 220 that responded to the survey. Whilst they raise valid concerns, these concerns are not shared by the other 99.5%

4.2 Assessing the Environment & Ecosystem

4.2.1 Mapping the Fintech & Financial Ecosystem in North Macedonia

The Fintech ecosystem in North Macedonia is sketched out below. This is a snapshot as at H2 2020. The landscape is ever evolving, and it would be worthwhile for stakeholders to track developments in the ecosystem.

Figure 4: Emerging Fintech Ecosystem in North Macedonia

Whilst there are no clearly identified Fintech firms, the Alternative Financial sector is seemingly moving in that direction. Fintech firms may start appearing on the ecosystem map, once the sector has regulatory certainty, and investor funding readily available.

A larger version of the map can be found in Appendix B.

4.2.2 Traditional Firms are Rising to Digital Transformation Challenge

41 out of 43 (or 95%) of Banks and 80 out of 82 (or 97.56%) of Non-Banks felt that there was a need for Fintech in North Macedonia. Respondents cited the following reasons for a need to implement Fintech in the country:

Banks' Responses

- Banks realise that they may be under threat by nimbler Fintech newcomers.
- The need to modernise Macedonia's financial system. Fintech will drive the financial market into the future.
- There is also a need to accelerate the digitisation of society in general, including the financial and banking system.
- Alignment with international best practice.
- More competition will benefit end customers and small businesses.
- Fintech allows personalisation of products and services for customers and can deliver a better user experience. Big data analytics help make better decisions.
- It allows smoother onboarding and customer authentication.
- Incumbents realise that to attract the millennials and younger generation, digital channels are vital.
- Banks may be slow to innovate and adapt to changing market needs, however, by partnering with Fintech newcomers, they can accelerate such products and services and quickly expand into new markets.
- Fintech provides the opportunity to optimise operations and reduce costs, for example, reducing branches and other physical channels. New technologies can also offer better security (e.g., Blockchain).
- Fintech can reduce cash use and speed up payments as well as reduce cost of digital payments.

Non-Bank Incumbent Responses

- Fintech has the potential to bring greater choice and benefit to the citizens of the Republic of North Macedonia compared with the current products and services offered by traditional financial services firms. Technology provides 24/7 availability, making it convenient for customers to manage their finances and transactions. More competition will also reduce costs and generally deliver a better customer experience.
- Fintech has a key role to play in reducing poverty, creating jobs, and potentially increasing gender equality, through female focused Fintech products (as is the case in some countries, where Fintech firms gear up to only provide business funding to females, as theory suggests that mothers tend to be better managers of household income and expenses). Fintech could also improve food security, by specifically supporting farmers in providing funding and protection in the event of crop damage.
- There is potentially a market gap left open by banks and other financial services providers who are not able to, or unwilling to serve this market. Fintech will make financial services accessible to these untapped segments.

- Fintech will allow people to manage their money better and to do remittance transfers faster and at a cheaper rate.
- Fintech will allow financial institutions to offer higher quality products and services at reduced risks. It also provides an opportunity to tailor make products and services according to the specific needs of customers.
- Fintech can improve credit risk assessment, speeding up decision making process, and new data points and better risk modelling can expand the extension of credit to the underserved population. With Fintech innovation, consumers are also able to request their own credit report more frequently and take action to improve their credit standing.
- Traditional banks are rigid and restrictive in their lending practices. A large proportion of the population are unable to use products and services from traditional banks, because of their complex procedures and requirements. For example, small businesses often face a high collateral requirements when applying for loans.
- Fintech has the potential to benefit the claims management process in the insurance industry.
- High internet penetration and computer literacy makes North Macedonia an ideal candidate for fast Fintech adoption, because consumers and businesses want convenient products and services at cheaper prices.
- Banks are reluctant to provide small loans that are quickly agreed through online applications. Fintech can play a part in quickly granting small loans, which are beneficial in emergency cash short falls.
- In general, Fintech is an international trend that North Macedonia cannot ignore. Fintech also has the potential to create economic growth.
- Fintech will make it easier for North Macedonia to integrate into the European Union.

The reasons why respondents felt there was no need for Fintech in North Macedonia, has already been covered above.

4.2.2.1 Incumbents Embark on Digital Transformation

Banks and Non-Bank incumbents across all the sectors are well established in North Macedonia. Despite their dominance, they see the need for digital transformation and adopting Fintech products and services.

Between Banks and Non-Bank incumbents, 72% (86 respondents) confirmed that they are in the process of implementing some form of digital transformation in their organisation, including:

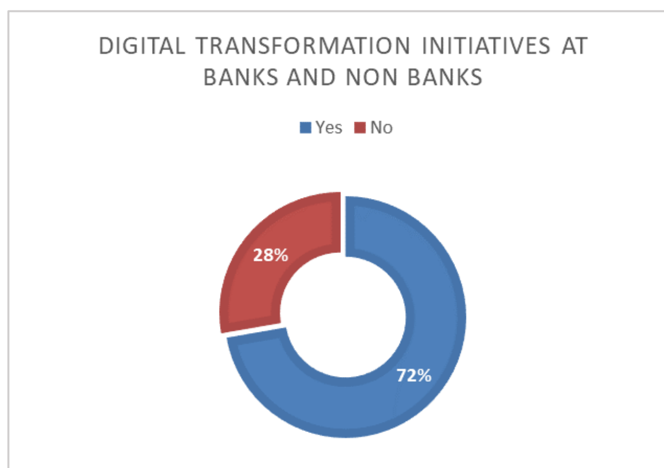


Figure 5: Digital Transformation Initiatives at Banks and Non-Banks

- Developing firm wide digital transformation strategies
- Providing greater levels of mobile and online banking services providing 24/7 self-service functionality to customers and corporates.
- Promoting card payments, mobile wallet payment systems, and Near Field Communication (NFC) technology for touchless card payments.
- Automating of processes such as client onboarding and internal credit and deposit workflows, including ATM based bill payments
- Creating mechanisms for allowing digital signing of documents, not requiring them to go into a branch or deal with cumbersome paperwork. This can help to automate digital lending.
- Providing payment gateways for e-commerce.
- One firm is exploring the implementation of robotics into their payment operations area. We assume this may be artificial intelligence that helps to automate and validate payments.
- Utilising big data analytics to enhance revenue generation and serving customers better. We assume, they are carrying out data analytics to find cross selling opportunities as well as an opportunity to develop personalised products.
- Implementing fraud analysis and detection technology based on client behaviour.
- Automating customers services through chatbots.
- Building Artificial Intelligence based systems to help make day to day operations more efficient, and to reduce overall costs.
- Exploring online selling on financial products.
- API integrations with other service providers such as credit bureaus or payment processors
- Online insurance claims management associated with online payments and selling of new policies.
- Enhancing customer services through call monitoring and analysis.
- Digitising paper-based records, such as insurance policies or loan documentation, as well as online checks for insurance policy or making policy changes without having to go into a branch.
- Push notification to keep clients informed of movements in their accounts.
- Implementing cloud computing for more agile IT systems running at reduced costs.

Banks seem further ahead in their digital transformation journey than non-banks, as 35 out of 42 (or 83.33%) respondents from banks, suggested that they were embarking on some form of digital transformation. Whilst 51 out of 77 (or 66.23%) of the Non-Banks said they were embarking of digital transformation initiatives.

Incumbents are also experimenting with Fintech products and services. Of the 118 combined respondents between banks and non-banks, 69 (58%) confirmed that they were developing some form of Fintech products or services, including the following:

- Innovating in developing better credit scoring models to reach segments of the market that banks cannot or do not wish to engage with.
- Facilitating instant peer to peer payments.
- One firm was experimenting with software-based token loans that uses machine learning. We assume that their experimentation involves some form of dynamic loan provisioning based on exact needs at a specific time and based on digital information that the lender receives.
- Allowing businesses to sell their receivables on an online platform, without the need for paperwork, and subject to regulatory changes needed.
- Automation of credit scoring so that customers can get instant loan application decisions. Innovative finance products for loan car business and car leasing businesses.

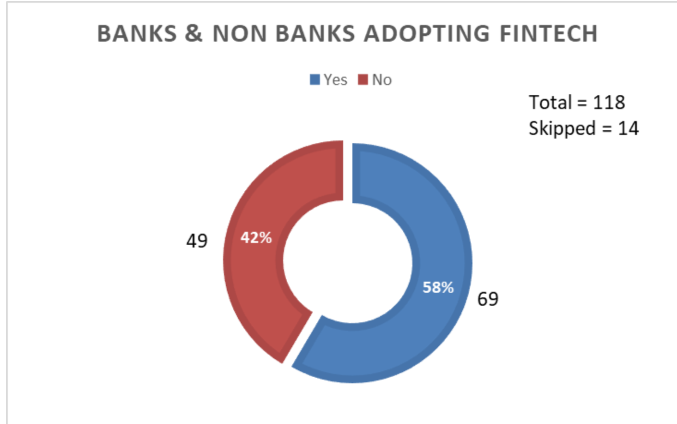


Figure 6: Banks and Non-Bank Adoption of Fintech

Based on responses received, incumbents are incrementally improving their existing products using technology. However, we did not come across totally new Fintech based business models, such as equity or loan-based crowdfunding, or launch of digital only challenger banks, or Insuretech solutions, for example.

4.2.2.2 Benefits that Digital Transformation Brings to Banks and Non-Banks

What are these two groups most hoping to achieve from Digital Transformation? Both groups are after efficiency gains that digital transformation can bring (62% of Bank respondents and 45% on Non-Bank respondents "strongly agreed" to this benefit). Efficiencies not only include cost reduction, but also better and faster way of doing things. Although high on the list, 43% of Bank respondents and 49% of Non-Bank respondents "Agreed" but not "Strongly Agreed" to achieving cost reduction from digital transformation.

Similarly, 44% of Bank and 47% of Non-Bank respondents agreed (but not strongly agreed) to Fintech helping to gain greater market share. We assume that respondents see the possibilities but are yet to find ways to enhance their market share. They may achieve this, once they get a better understanding of what Fintech solutions are possible in North Macedonia, from a user and regulatory perspective.

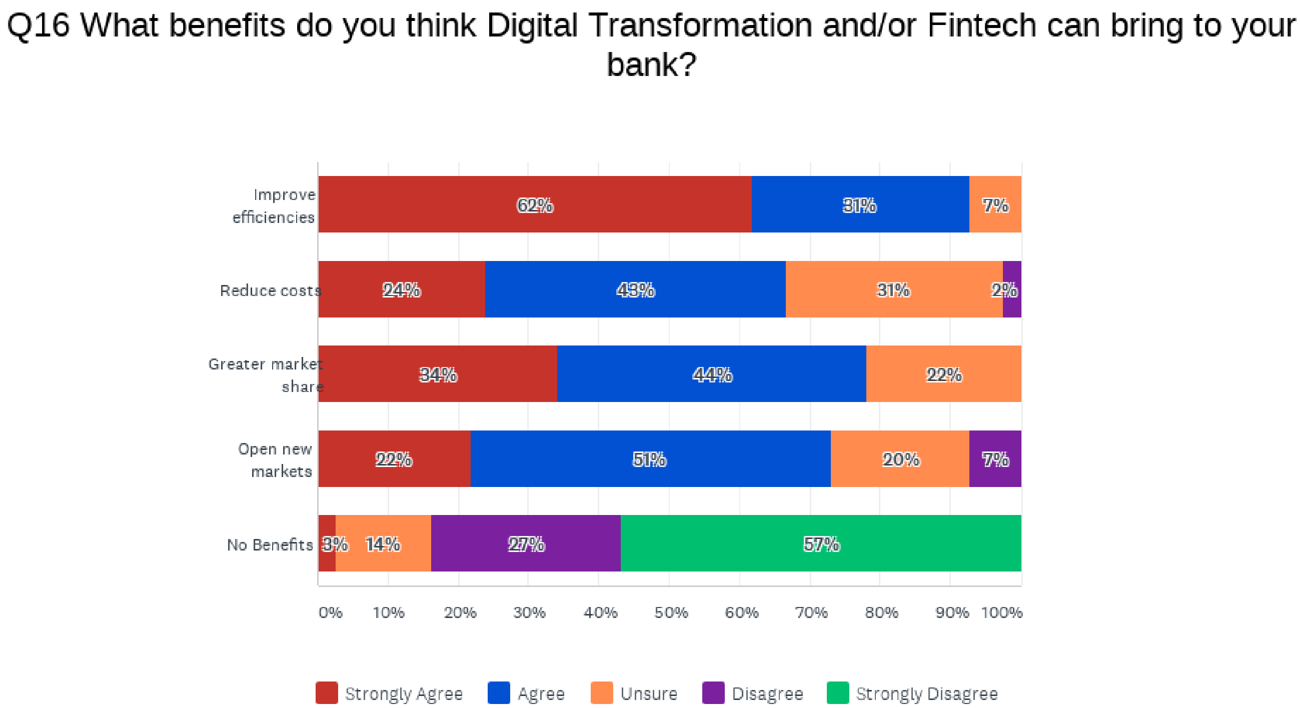


Figure 7: Benefits of Fintech According to Banks

Outside of the suggested responses, respondents also cited financial exclusion or limit on financial accessibility by both individuals and SMEs can benefit from Fintech. Generally, Fintech firms can find ways to assess credit worthiness of individuals and businesses that traditional banks may find harder to assess. It is encouraging to see that 51% of Bank respondents and 47% on non-bank respondents "Agreed" that Fintech can help them expand into previously untapped markets. A small proportion (22% of Bank and 29% of Non-Bank respondents) "Strongly Agreed" to this possibility. Only a small proportion in both groups disagreed on this point, whilst some expressed that they were unsure how Fintech can open doors to new untapped markets.

Large proportions (57% of bankers and 44% of non-bankers) "Strongly Disagreed" with the notion that digital transformation cannot bring any benefits.

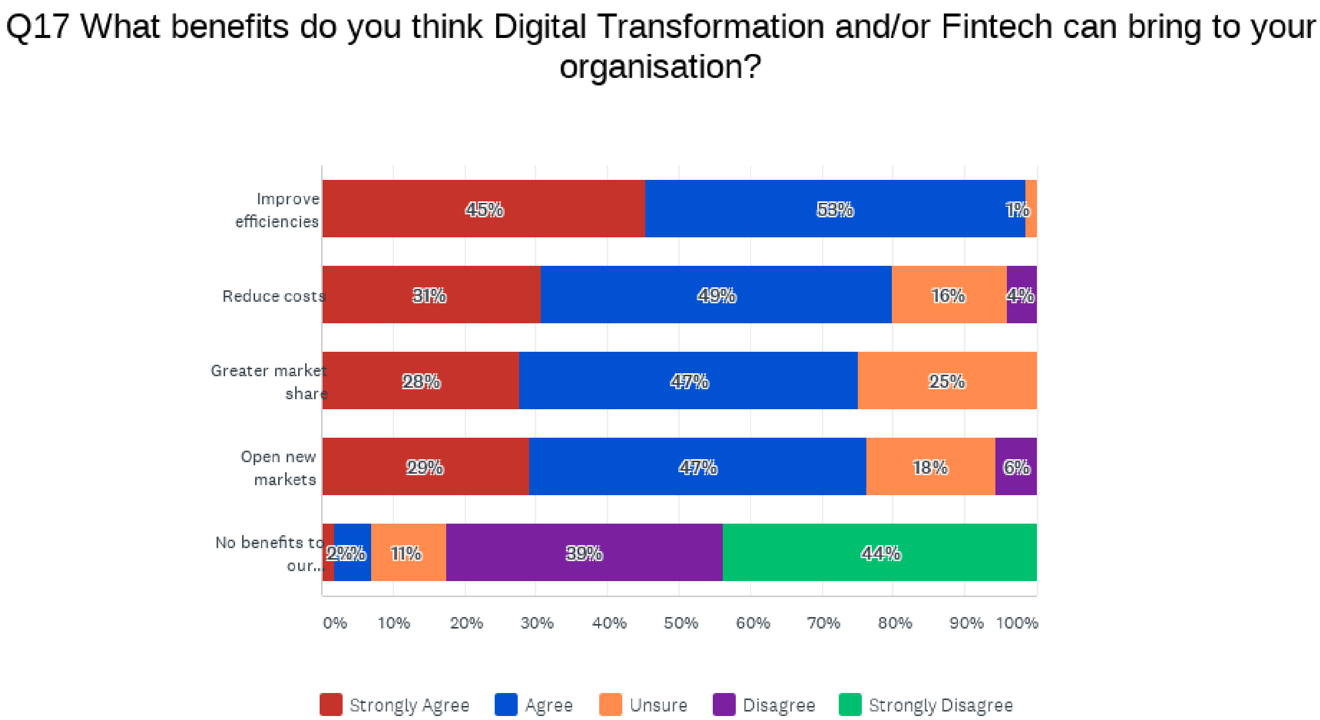


Figure 8: Benefits of Digital Transformation According to Non-Banks

4.2.2.3 Challenges of Implementing Digital Transformation

Banks are slightly more optimistic than Non-Banks (36% versus 24% respectively) when they “Disagree” that there is a lack of buy-in (or support) from executives, to pursue the path to digital transformation. A large proportion of both groups are also unsure whether they get full support from their board in this regard.

North Macedonia has a population of just over 2 million people. There are, however, many banks and other financial institutions, competing to serve this population. So, it is not surprising that 31%of bankers and 47% of non-bankers, “Agree” that the market is commercially not big enough to justify investment in digital transformation. Although it is really encouraging to see that 2% of bankers and 8% of non-bankers “Strongly Disagreed” with this notion. A further 21% and 23% respectively “Disagreed” with this notion. Clearly, despite the small population, some of the stakeholders at traditional banks and non-banks have identified unserved markets that they could exploit, despite the small market size.

The success of digital transformation initiatives is highly dependent on the availability of technical specialists and enough free staff that can devote significant time over and above their day job. Bankers

(50%) and non-bankers "Agree" that lack of skilled talent and staff capacity could hamper implementation efforts.

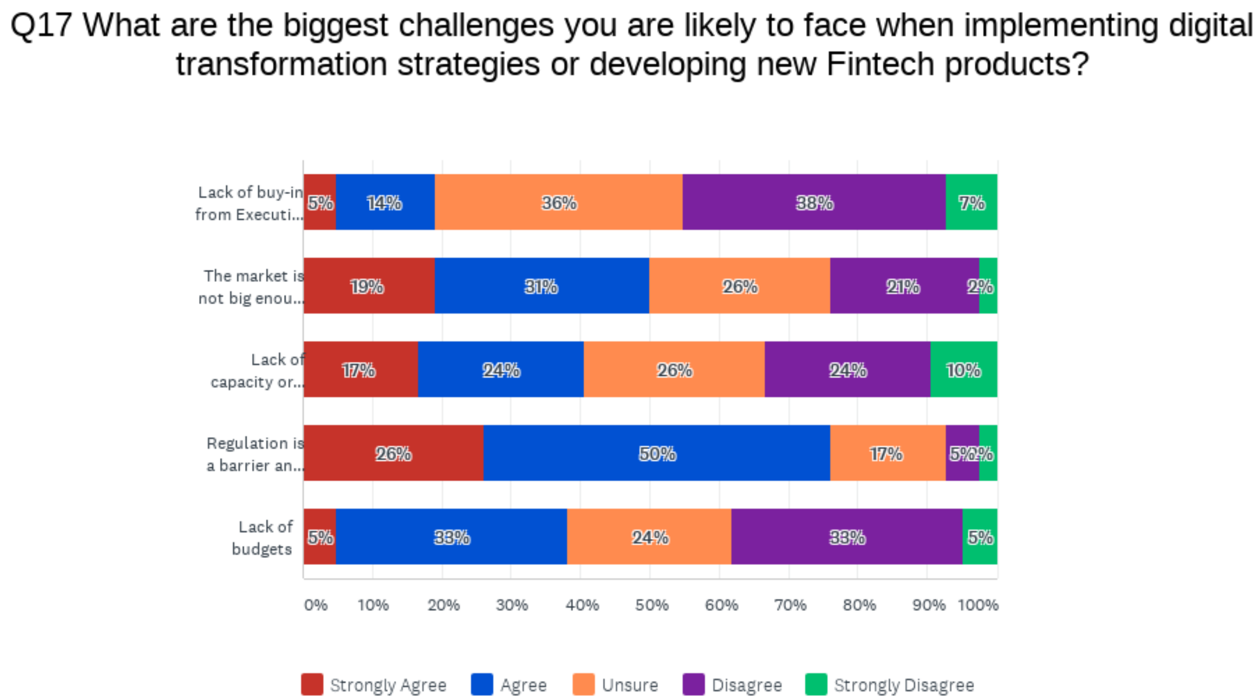


Figure 9: Challenges of Implementing Digital Transformation According to Banks

Whilst both groups confirm that they are doing something in the digital transformation arena, it was interesting to find that 92.86% of Bank respondents and 82.67% of Non-Bank respondents claim they do not have a dedicated Digital Transformation Department or a senior responsible officer (such as a Chief Digital Director). Without a focused department, digital transformation may well be a slow and a drawn-out process, if the firms do decide to embark on this journey.

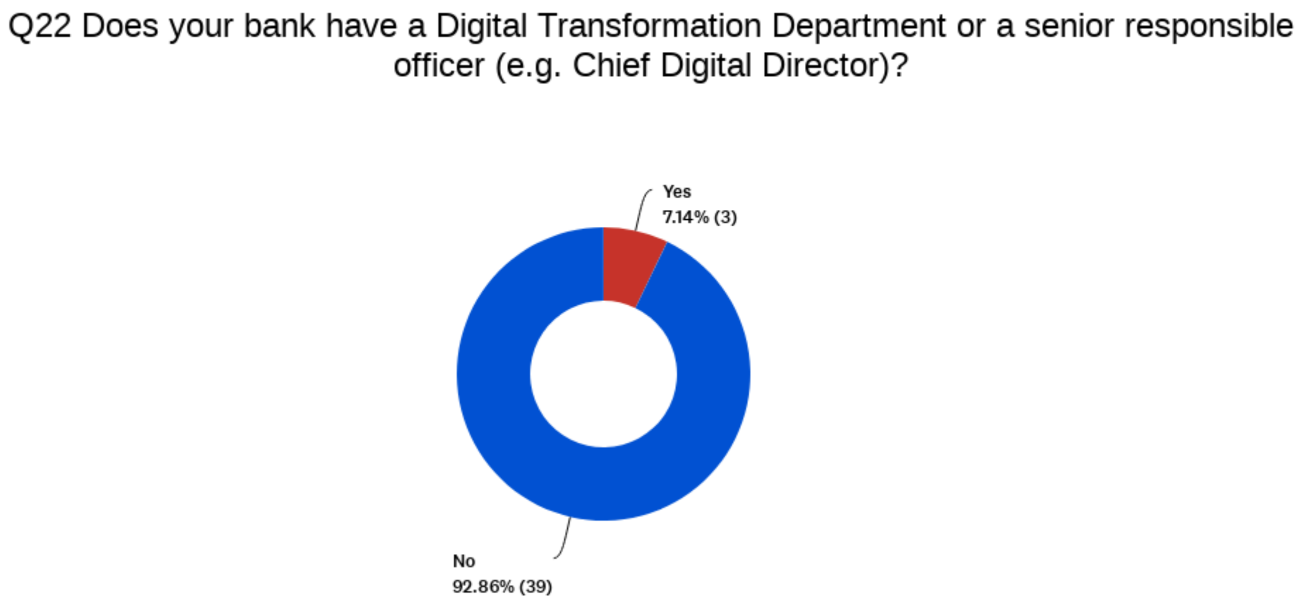


Figure 10: Presence of Digital Transformation Department in Banks

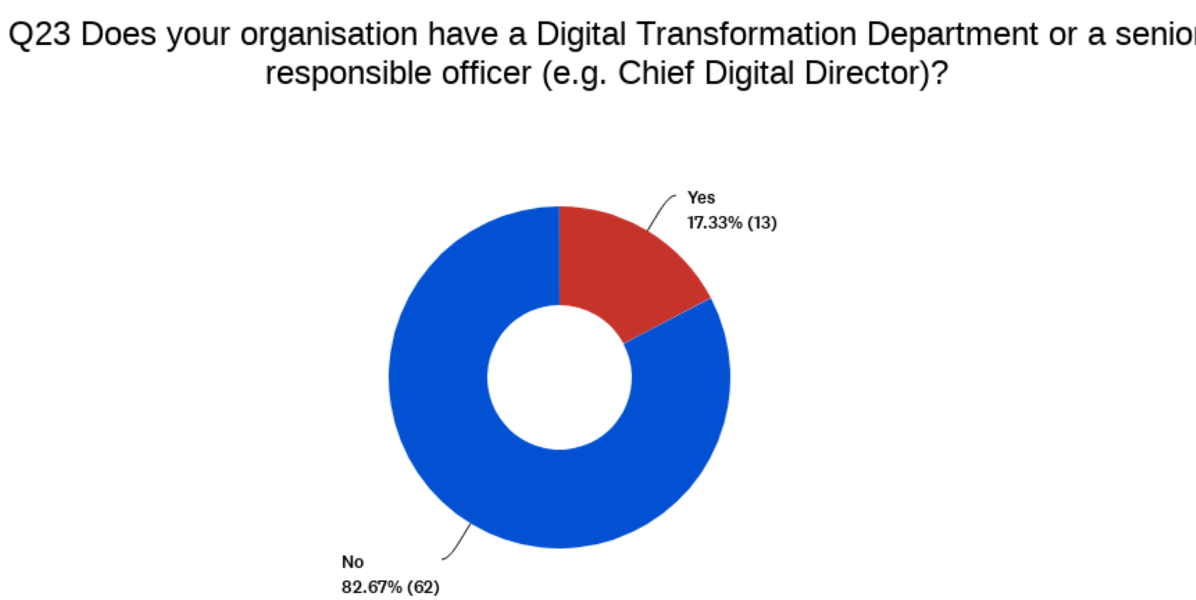


Figure 11: Presence of Digital Transformation Department in Non-Banks

We examined the regulatory barriers for Fintech and digital transformation. Both groups (26% and 19% respectively) “Strongly Agreed” and “Agreed (50% and 45%) that regulation can sometimes be a barrier.

Indeed, some Fintech business models require a change in the regulatory framework. In other cases, existing law may prevent innovation. Even where the law allows certain innovation, misinterpretation of the laws may hamper innovation. A good example is the law on acceptance of electronic signature. Whilst the laws allow the acceptance of electronic signature, financial institutions may still insist on physical verification of a customer and require a signature in person.

Lack of budget is another limiting factor when implementing digital transformation. There are many priority areas where Banks and Non-Banks must invest, and sometimes, digital transformation may seem more of a “nice to have” rather than “an essential necessity”. Whilst some were unsure in both groups, 33% of bankers and 41% of non-bankers, “Agreed” on this challenge. Thirty three percent of bankers “Disagreed” with lack of budget being a challenge, in contrast to only 11% of non-bankers, implying that they have the resources and can accelerate their digital transformation journey.

The good news is that 64% of Bank respondents and a massive 73.33% of Non-Bank respondents, felt that if Regulators did open the market for Fintech players, it would present an opportunity to incumbents. A small proportion, 28.57% and 22.67% respectively, did however feel that new players will pose a threat to their organisation and may adversely affect their market positioning. Often the least digitally prepared financial services firms will feel the most threatened by new Fintech entrants into their market.

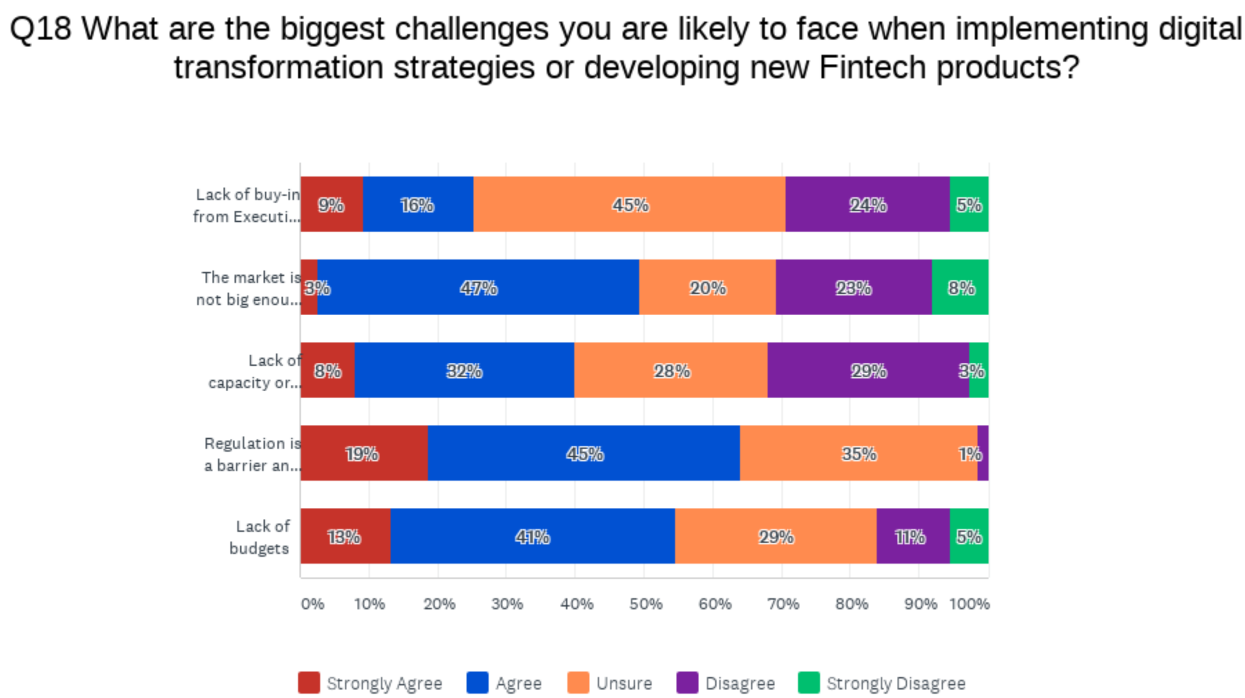


Figure 12: Non-Banks' Challenges in Implementing Digital Transformation.

4.2.2.4 New Technologies Already Being Used by Banks and Non-Banks and is thought to Have Biggest Impact

Between these two groups (banks and non-banks), 118 answered the question "*What specific technologies has your firm implemented to date?*", and 14 skipped it. On a consolidated basis more than half (50.85% or 60 respondents) are doing something in the automation space (73.81% of Banks and 38.16% of Non-Banks). This makes sense, as incumbents often see automation as a strategy to reduce costs.

One of the bank respondents highlighted that automation would help them give customers complete autonomy in performing certain tasks and transactions without having to go out to physical branches. This also means that banks can reduce the number of branches and possibly also customer services representatives.

Hybrid branches (a combination on online and physical branches) may allow the best of both worlds – digital engagement but still with the branch feeling. For example, digital branches could have terminals serving customers instead of staff. They could also be open 24/7 if needed. Chatbots are good examples of self service and round the clock customer service tools. Online only selling is another example, where customers could purchase products directly online and without any (or some) human interaction. This was highlighted as the biggest opportunity, especially for insurers, who are also focusing on developing online claims reporting capabilities. Automated loan application and automation of data analysis are other areas that was sighted as having a significant impact on business. Respondents also made it clear that automation would not necessarily have to lead to job losses, but rather, employees can be deployed to more value adding and revenue generating tasks.

Banks (59.52% or 25 respondents) are doing more in the payment space compared to Non-Banks (19.74% or 15 respondents), which would make some sense, as this area is a core business activity for Banks, while non-banks are currently not able to access the payment system. Banks are driving efforts to make payments easier and more convenient for their customers. E-wallet development also featured as highlight for the coming year for banks. Non-banks were also exploring solutions to notify customers by email or SMS, when payments had been processed. One respondent from an Insurer, said that they were implementing a solution to allow their customers to pay their premiums through electronic channels. We assume that this insurer’s customers already can pay by direct debit or bank transfer, and their efforts point to the creation of further digital channels for payments.

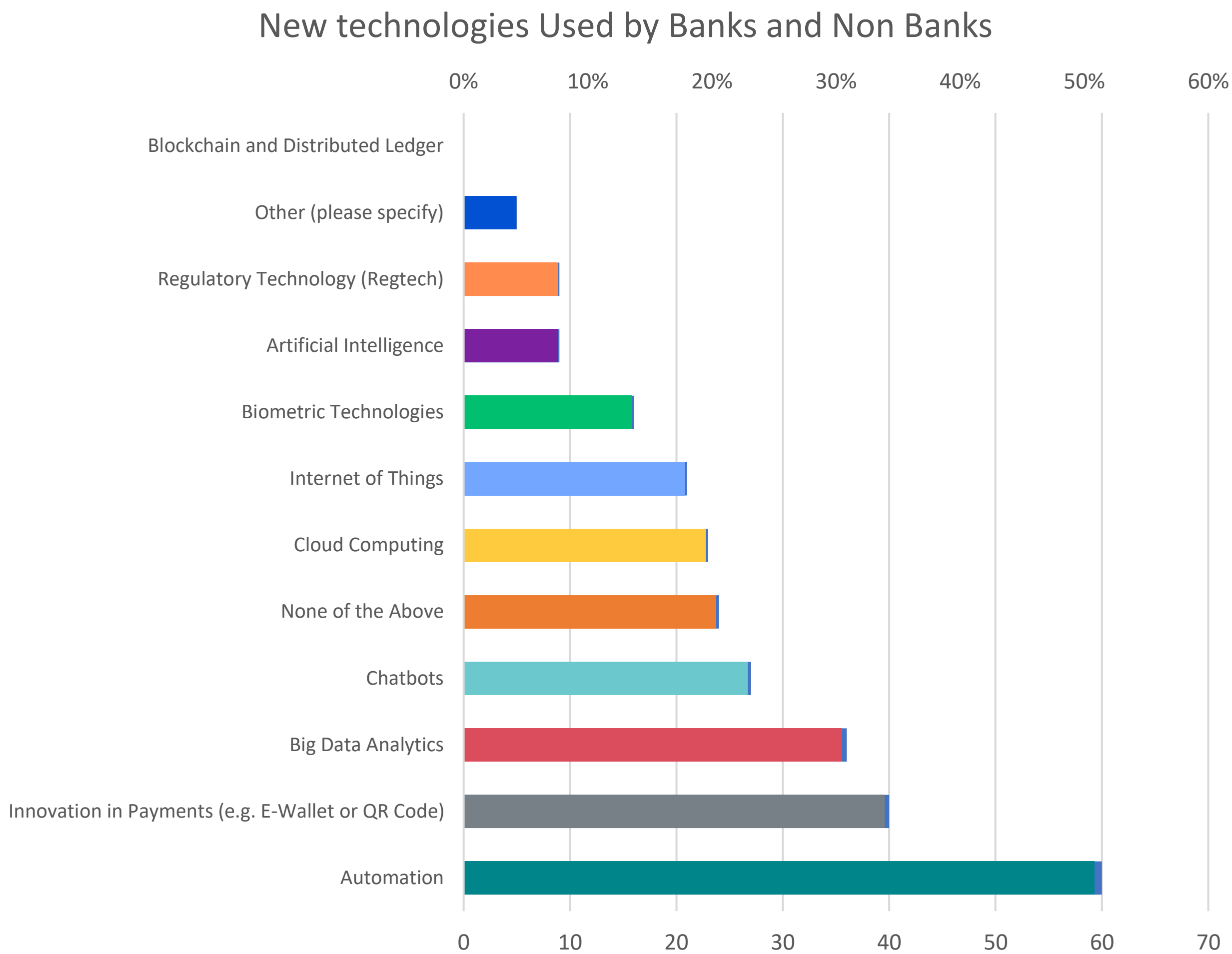


Figure 13: New Technologies Used by Banks and Non-Banks

Around 30% of Banks and Non-Banks respondents (combined) say that they are using big data analytics in some way. Examples cited include the development of better credit risk analysis and scoring models, as well as learning how they can improve services for clients and deliver better company performance and decision making – in other words, big data analytics can bring benefits to customers and to the organisations themselves. This technology would also be beneficial to insurers who will be able to price and risk assess insurance policies more efficiently.

Biometric technologies are being implemented by 30.95% of Banks and only 3.95% of Non-Banks, surprisingly. Although both groups suggested that this was a priority, in addition to the ability to accept electronic signature, for the coming 12 months, and especially considering COVID restrictions, requiring more onboarding and transactions to be carried out remotely.

Only 14.29% of Banks and 19.74% of Non-Banks were implementing some form of Internet of Things (IOT) technology. Without clear rules or clear interpretation of rules on the usage of electronic signature and remote KYC, we assume that using IOT to automate financial services could pose a challenge. Respondents also perceive regulatory restrictions on cloud computing, which explains why only 7.14% of Banks and 26.32% of Non-Banks were using this technology. The National Bank however confirmed that there are no regulatory restrictions on cloud computing, and clearly this is an area, where banks and non-banks need to review the legal framework and engage with their regulators if they remain unclear on the rules around cloud computing. This technology can significantly reduce costs, accelerate digital financial services, and allow for more innovative products and services. Regulators ought to prioritise liberating regulation in this area.

A small proportion of Banks (4.76%) and a sizeable proportion of Non-Banks (28.95%) said they were not implementing any significant technologies in their organisation. None of the respondents claimed that they were experimenting with Blockchain or Distributed Ledger Technology, and this makes sense, as many of the solutions emerging internationally, are at proof of concept. Developing such solutions can also be prohibitively expensive, given the shortage of developers that often drives up costs. It would make sense for organisations in North Macedonia to await international developments in DLT before embarking on their own project, only when the technology has matured. DLT is currently being explored globally by the financial services sector in many areas, including, to make trade finance value chain more efficient, make it more expedient and secure to perform KYC checks, and making clearing and settlements faster and cheaper. Many solutions are emerging, and Macedonian firms should keep abreast of such developments.

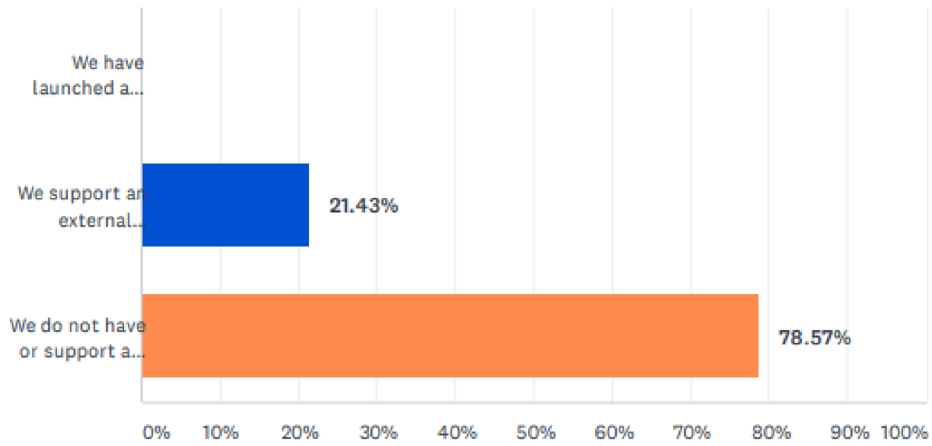
4.2.2.5 Incumbents Scouting for Fintech Opportunities and Partnering

Globally, incumbents are finding unique ways to keep up to date on Fintech development to ensure they are not left behind, or lose huge market share, or worse, become irrelevant. One way they can do this is by setting up Accelerators and Incubators that support Fintech businesses which are complementary to their business. Typically, the Corporate Accelerator will provide working space, mentorship, some additional support, and much needed seed funding in exchange for a small equity share. Incumbents can stay close to new developments and in effect, these vehicles are cost effective Research &Development units. If the start-up succeeds, then the incumbent will have first-hand opportunity to integrate a Fintech solution into their organisation, through partnering. They could also buy out complementary firms that can help them tap into previously untapped or inaccessible markets.

Incumbents in North Macedonia have some way to go to develop such capabilities. Banks and Non-Banks were asked if their organisation has a Fintech Incubator or Accelerator that partners with innovators. None of the 42 bank respondents have launched an accelerator or incubator. Some (21.43%) support an external accelerator or incubator, but do not have their own, and a staggering 78.57% neither had an accelerator of their own nor supported an external one.

Q23 Does your bank have a Fintech Incubator or Accelerator, that partners with innovators, or do you support such an initiative?

Answered: 42 Skipped: 1



ANSWER CHOICES	RESPONSES	
We have launched a Fintech accelerator or incubator	0.00%	0
We support an external accelerator or incubator, and do not have one in our bank.	21.43%	9
We do not have or support any Fintech accelerator or incubator at the moment.	78.57%	33
TOTAL		42

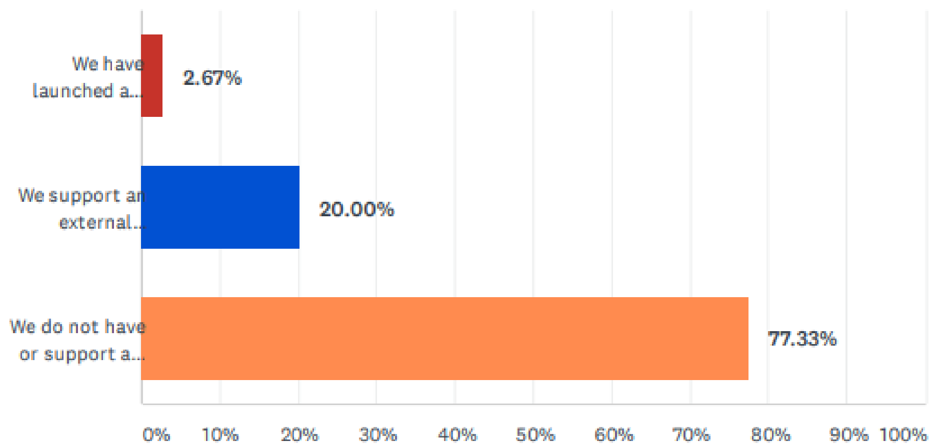
Figure 14: Banks' Efforts to Set Up or Support a Fintech Incubator or Accelerator

Whilst 77.33% of Non-Bank respondents also highlighted that they do not have their own accelerator or incubator, or support an external one, it was encouraging to see 2.67% claiming they do have their own inhouse support mechanism for Fintech innovators. Twenty percent also support an external initiative of this kind.

One other way to engage with Fintech innovators is through acquisition or joint ventures. Majority of the Banks respondents (76.19%) said that in the last 12 months, their banks have not engaged in any such activities. Around 15% were unsure, however, 9.52%, said that their banks have done something of this nature.

Q24 Does your organisation have a Fintech Incubator or Accelerator that partners with innovators, or do you support such an initiative?

Answered: 75 Skipped: 14



ANSWER CHOICES	RESPONSES	
We have launched a Fintech accelerator or incubator	2.67%	2
We support an external accelerator or incubator, and do not have one in our organisation.	20.00%	15
We do not have or support any Fintech accelerator or incubator at the moment.	77.33%	58
TOTAL		75

Figure 15: Non-Bank Initiatives to Develop or Support an Incubator or Accelerator

Non-Bank respondents seem more bolder in this regard. A small proportion (10.67%), however greater than Banks, have acquired or joint ventured with Fintech innovators. Around half the respondents had not done anything and 40% were unsure.

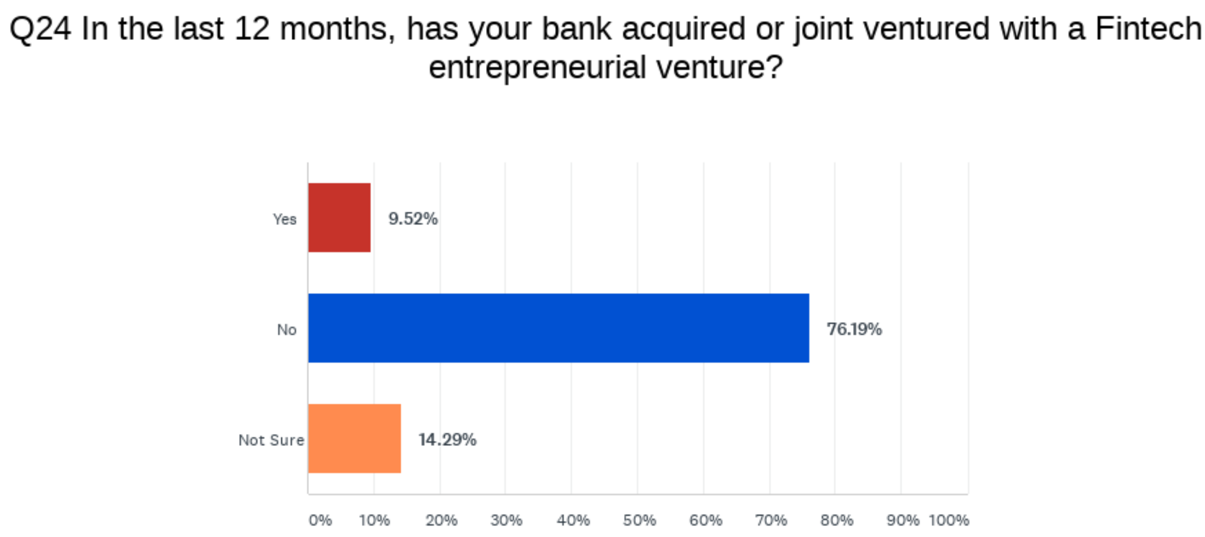


Figure 16: Bank Efforts to Acquire or Joint venture with Fintech

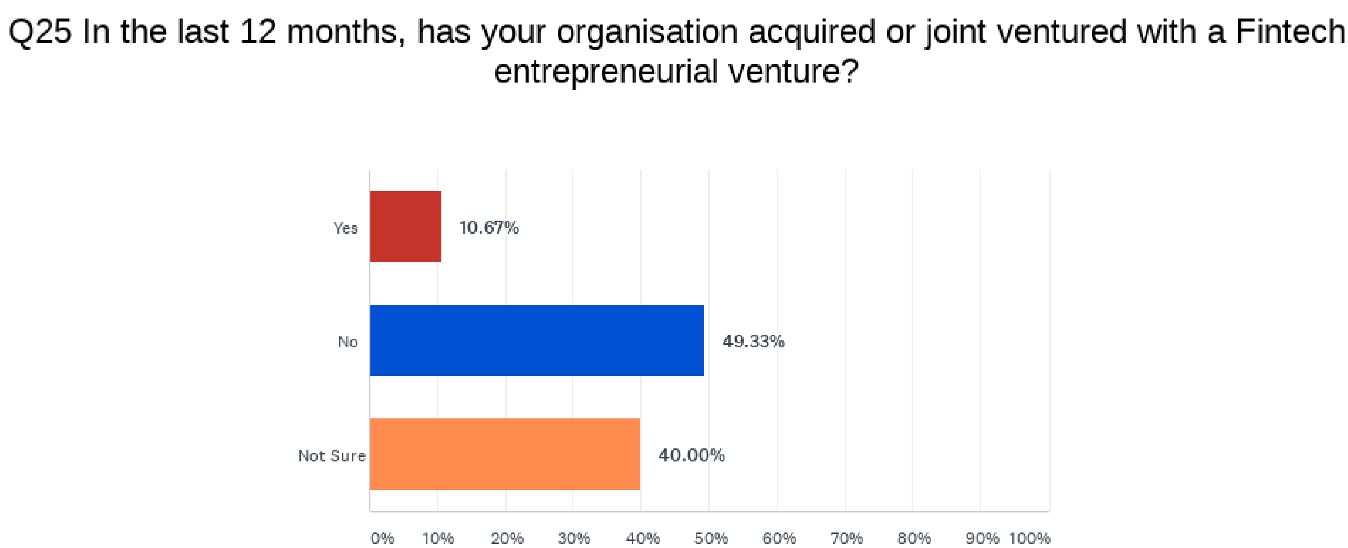


Figure 17: Non-Banks' Efforts to Acquire or Joint venture with Fintech

4.2.3 Entrepreneurial Fintech and TechFin on the Rise

We surveyed so called "alternative finance providers" together with IT providers to financial services firms and Associations related to both segments. We discovered:

- Five firms that classify themselves as a "Fintech firm already operating in North Macedonia"
- Six firms that classified themselves as "Alternative Finance Firms"
- Seven entrepreneurs or intrapreneurs looking to launch a Fintech business in the country
- Seven Associations representing the Alternative Finance, Tech and Fintech Sectors
- Nine IT firms providing solutions to the financial sector

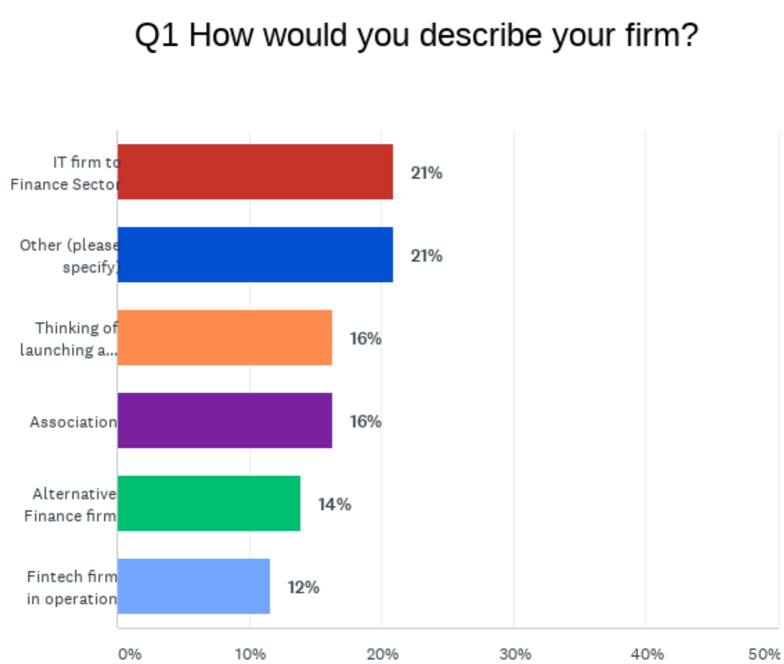


Figure 18: Breakdown of Alternative Finance Responders

Many alternative finance providers launched their venture because they saw an opportunity which they believed incumbents had not. Some believed that Fintech would allow them to expand beyond the borders of North Macedonia. The unmet market need is a clear driver for Fintech and Tech Fin (Technology companies providing IT solutions to finance), who are riding on the hope of serving individuals and SMEs underserved in the current market.

An association (in this group) felt that alternative finance firms were underrepresented, so they set up, with a mission to engage in open dialogue with regulators and legislators, as well as to educate the consumers on these alternative channels for financial services. They aim to be the collective voice of this emerging sector.

Through the survey, we managed to identify several alternative finance firms, who classify themselves as “Fintech” or “TechFin” (technology companies supplying IT to financial services firms) businesses. We feature them in Appendix B.

4.2.3.1 Alternative Finance Firms Are Developing Fintech Solutions

One would expect Alternative Finance and Fintech players to already be experimenting with new technologies. However, we must also bear in mind that this group contained a mix of players, including pure IT firms and Associations as well as some who were at the stage where they are just considering launching a Fintech venture. Nevertheless, we get some insights of the technologies being used. Bearing this in mind it is not surprising to see that 34% of the respondents in this group were not implementing any new technologies.

Q36 What technologies has your organisation implemented (choose all that apply)

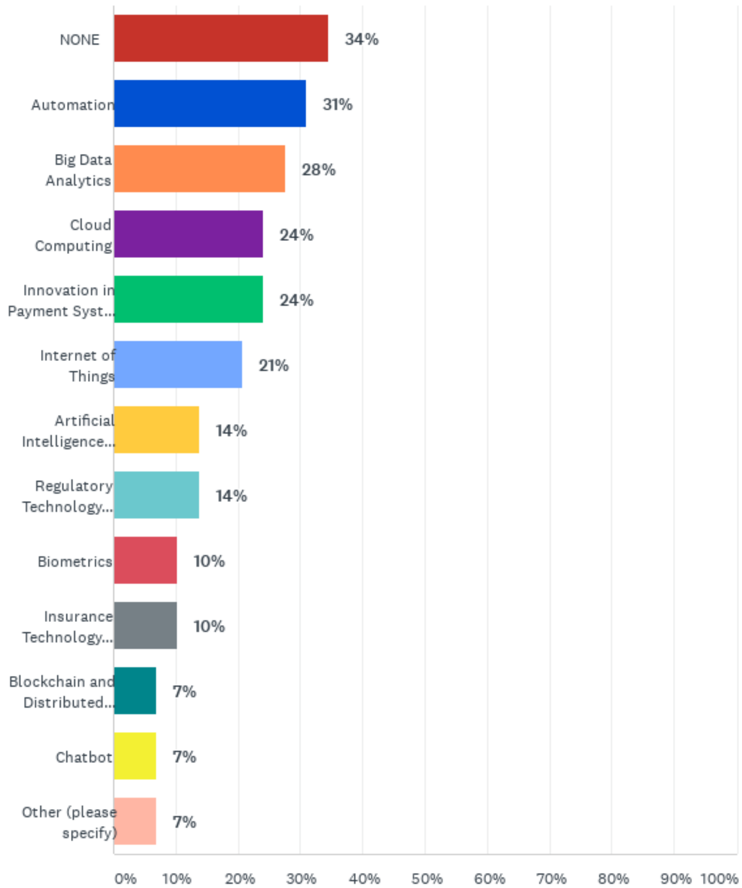


Figure 19: Technologies used by Alternative Finance Providers & Tech Firms

ANSWER CHOICES	RESPONSES	
NONE	34%	10
Automation	31%	9
Big Data Analytics	28%	8
Cloud Computing	24%	7
Innovation in Payment Systems	24%	7
Internet of Things	21%	6
Artificial Intelligence / Machine Learning	14%	4
Regulatory Technology (RegTech)	14%	4
Biometrics	10%	3
Insurance Technology (Insuretech)	10%	3
Blockchain and Distributed Ledger	7%	2
Chatbot	7%	2
Other (please specify)	7%	2
Total Respondents: 29		

Automation features high on the list together with big data analytics and cloud computing. It is interesting to learn that 7% of the respondents are experimenting with some form of Distributed Ledger Technology or Blockchain. Conversely, we were surprised that only a few respondents are using chatbot technology, when globally, chatbot seems to be a popular technology for financial services firms. Again, the results may be slightly skewed by the diverse nature of organisations in this group.

Fifteen out of 29 (52%) respondents in this sector, confirmed that they were implementing some form of Fintech solutions that included:

- Integrating Point of Sale terminals in mobile applications through which services are sold
- Integrating information systems for insurance companies
- Electronic loan application and processing
- Innovation in online payment solutions
- Online forms for sales or offers of various products or services
- Mobile financial applications such as e-banking
- Wallet payments, clearing and disbursement of funds
- One-click payment solution for merchants
- Instant payment and transactions
- Real time data update software between banks. We do not have further details on this response; however, we can assume that this related to the Real Time Settlement system
- Technology driven KYC and AML solutions

It is also worth noting that a few respondents explicitly stated that they could not disclose the innovation as they were constraint under a Non-Disclosure Agreement.

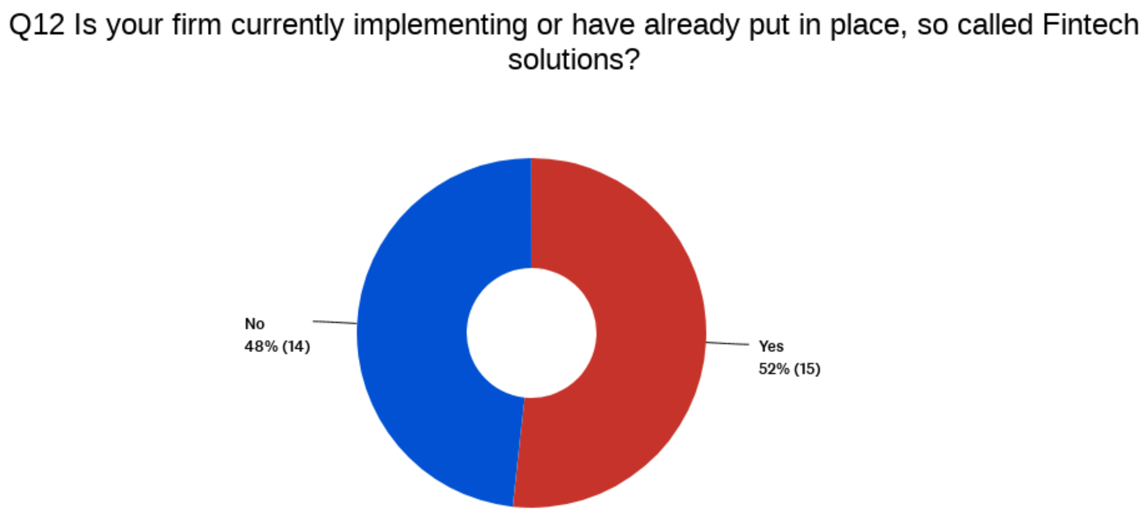


Figure 20: Alternative Finance Firms Implementing Fintech Solutions

Once again, none of these firms appear to be offering any innovative Fintech business models but rather appear to digitise of digitalise existing services. This may well be because the ecosystem is not ready to support these entrepreneurs and there are legal uncertainties on innovative financial services business models. These constraints would be preventing them from coming to the market, despite the possibility of growing demand. Whilst there is a lack of Fintech solutions in North Macedonia, anecdotal evidence suggest that citizens are in fact engaging with Fintech products outside of the country. Purchase of cryptocurrency such as Bitcoin, is a good example, where citizens transact through global platforms such as Coinbase or Binance.

4.2.3.2 Demand for Fintech Solutions

This survey has highlighted that there is much demand from the supply side to bring Fintech products and services to market. Any initiative to accelerate this could be futile if consumers and small businesses do not use innovative Fintech products, or do not trust them, or they lack knowledge, and therefore, continue with traditional channels. Globally, Fintech firms face huge consumer resistance to switch from their traditional financial services provider, despite poor service and high cost. The reason is the lack of trust in newcomers, and the perceived administrative burden of switching accounts.

We asked this group specifically, whether they believed that Macedonians are ready to adopt Fintech products and services.

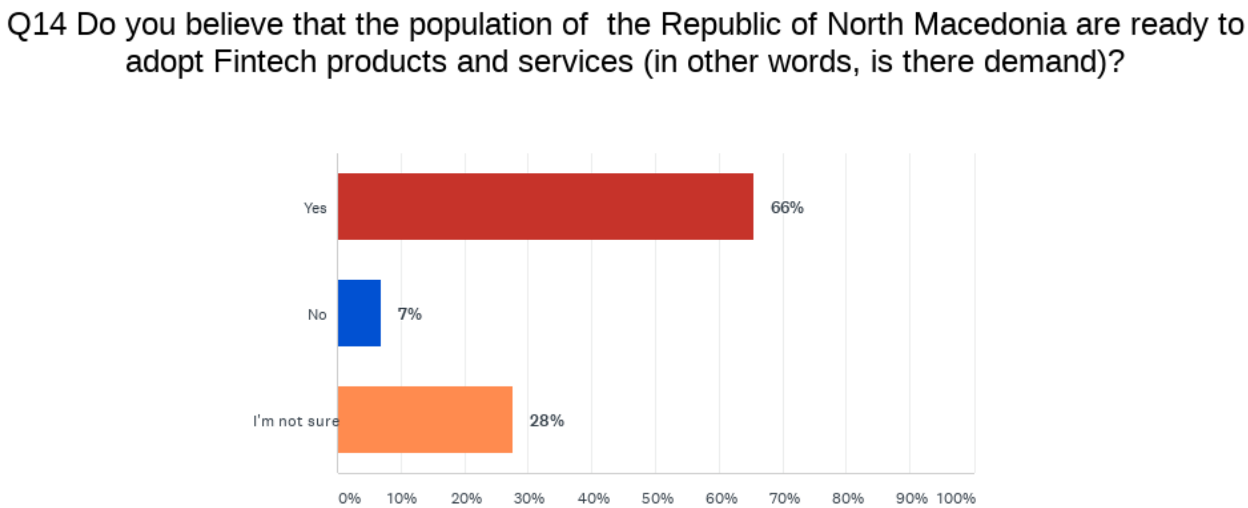
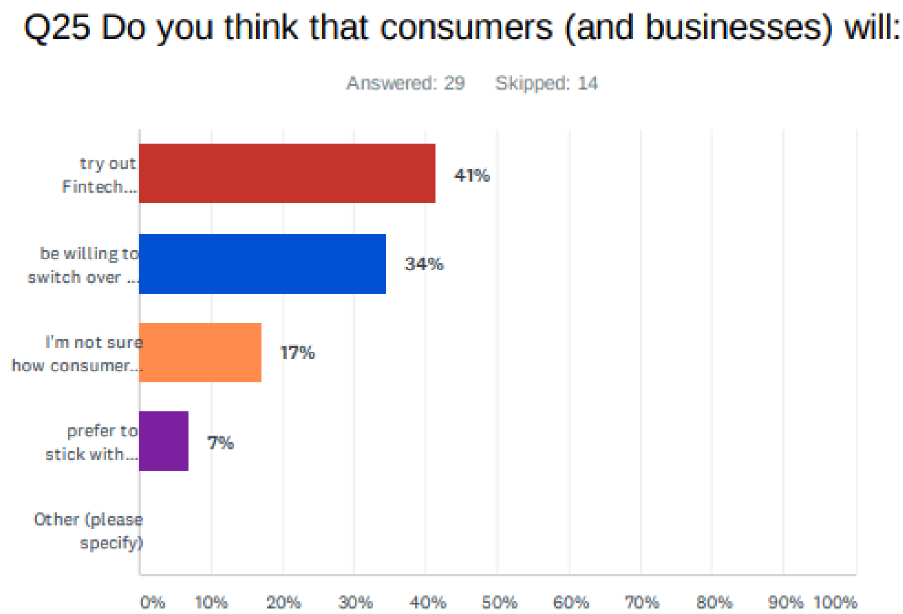


Figure 21: Willingness of Macedonians to Adopt Fintech Products, according to Alternative Finance Firms

Nineteen of the 29 respondents (66%) think there is demand for Fintech products and services, whilst 28% are unsure, and perhaps they need to test their products and services, before they can be certain. Only 7% thought that there is unlikely to be the necessary demand, to justify the effort. The key reason cited was that "*people are scared of doing or using online transactions and payments*". This is aligned with the feelings raised by some respondents that cash is still the preferred channel.

Many Alternative Providers (41% - 12 out of 29) seem to think that consumers (and small businesses) are likely to try out Fintech products or services but will prefer to stick with their traditional financial services provider. This is consistent with the experience of Fintech players across many countries, including the UK. Some call this the "Mistress Effect". Consumers fool around with innovative financial services providers like Revolut and Monzo bank, where they will open an account and deposit an insignificant amount of funds, but they come back to the safety of their own bank, where their salary is deposited, and this is used as their main account.



ANSWER CHOICES	RESPONSES	
try out Fintech products or services, but will mainly stick with traditional banks and financial firms?	41%	12
be willing to switch over to Fintech products and services away from their traditional bank or financial services firm?	34%	10
I'm not sure how consumers and business will react to Fintech	17%	5
prefer to stick with their traditional bank or financial firms?	7%	2
Other (please specify)	0%	0
TOTAL		29

Figure 22: Consumer Response to Fintech According to Alternative Finance Firms

Thirty four percent of respondents in this group are confident that consumers will be willing to make the switch, whilst 7% felt that consumers will not even try out innovative alternative providers, but rather prefer to stay with their traditional provider. Seventeen percent could just not be sure how consumers will react, and they will need to test the market to find out.

4.2.3.3 Inspired by Successful Global Fintech Players

Entrepreneurs often look to international successful Fintech businesses to gain inspiration to launch similar ventures in their own country. We asked this group specifically, which international and regional Fintech firm they admired the most.

Through this question, we were also trying to gauge the likely Fintech solutions that may emerge in the future. Some respondents said that they could not identify any firm which they admired; however, many gave a list of their admired firms, including:

1. Payoneer (Payments)
2. PayPal (Payments)
3. Venmo (Mobile Payments services belonging to PayPal)
4. Revolut (alternative Banking Services)
5. Scrill (online payments and money transfer)
6. Alipay (Payments)
7. Ayden (Payments for fast growing businesses)
8. Stripe (Payments)
9. SOFI (Personal Finance company)
10. Robinhood (commission free Investment in Stocks, Funds, Options and Cryptocurrency)
11. ASSECO (Technology provider to banks and other financial services
12. Google (diverse Technology firm with interest in financial services)
13. SETL.io – (Distributed Ledger Technology for financial services applications)
14. Zelle (contact free way to send and receive money with friend and family)

This information points to likely solutions emerging in North Macedonia. It is likely that payment providers will emerge once the new Law on payment services and payment systems is adopted. Entrepreneurs also seem quite interested in Distributed Ledger (such as Blockchain), Lending and Investing.

4.2.3.4 Specific Benefits of Fintech for Alternative Finance Providers

We wanted to learn more about the drivers that motivate entrepreneurs and intrapreneurs to develop Fintech solutions or indeed, create new ventures, especially when the market size is small and there is high competition amongst existing players.

A large proportion (43%) of the Alternative Finance stakeholder group "Strongly Agreed" and a further 43% "Agreed" that Fintech can open new market opportunities. This brings fresh revenue opportunities according to 54% who "Agreed" and 21% who "Strongly Agreed" that with Fintech, there are more revenue opportunities to be captured, despite the small market size and high competition barriers.

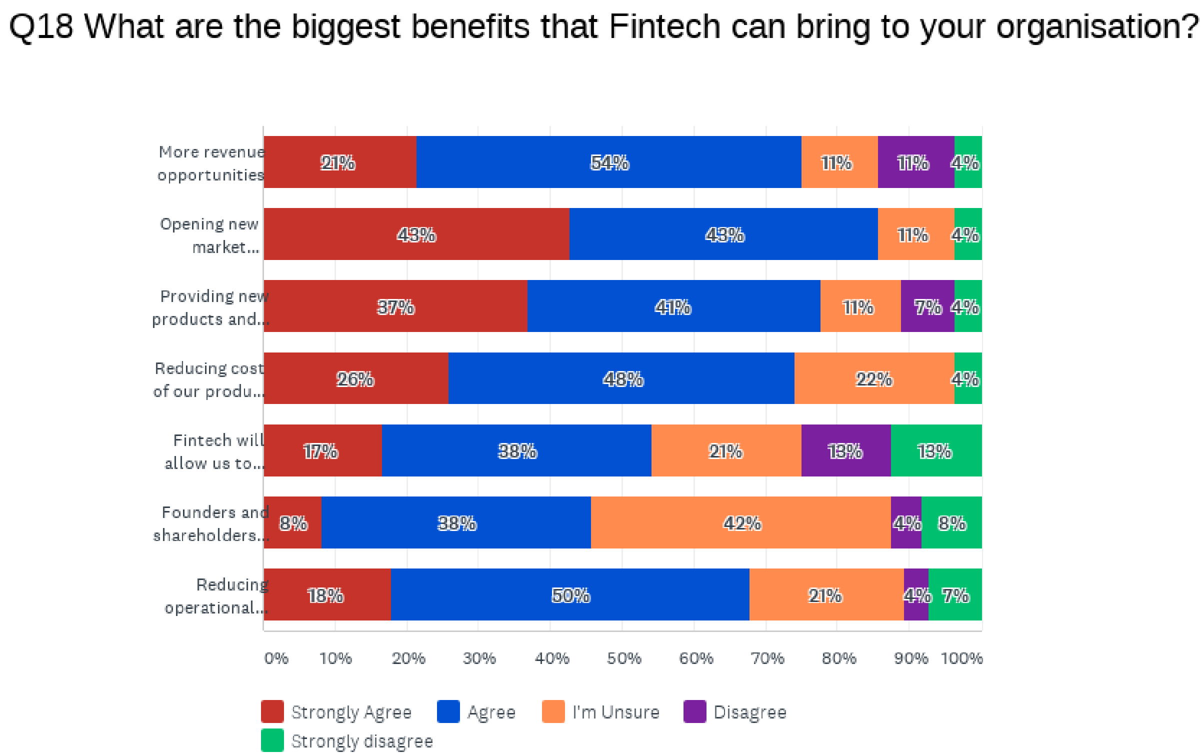


Figure 23: Alternative Finance Providers views on the Benefits that Fintech can Bring

With new technologies, and with Regulators possibly opening the financial system to new business models, entrepreneurs have an opportunity to provide new products and services that are not available in the country at present. A large proportion (37% "Strongly Agree" and "41% Agree) saw this opportunity.

Fintech can also help to reduce the cost of products and services (26% "Strongly Agree" and 48% "Agree"). It also helps to reduce operational costs according to 18% who "Strongly Agreed" and 50% who "Agreed.

Whilst most of the respondents agreed that Fintech can allow expansion outside the country, this was the only category, where we see the highest percentage (13% as opposed to 4%, 8% and 7% respectively for "Strongly Agreed" being chosen for other questions) of respondents who "Strongly Disagree" with this notion. Without being a member of the EU, there are no automatic passporting rights for Macedonian Fintech companies. Different countries in the region have their own unique laws and there is no harmonisation of regulation even across the South East Europe region. However, with the high numbers that "Agreed" and "Strongly Agreed", perhaps they see the possibility of international expansion through EU integration in future. Certainly, for pure IT providers to the finance sector, there should be no regulatory or licensing barriers, and North Macedonia could outsource technical services to global Fintech firms or sell software.

Finally, 42% of respondents in this group were “Unsure”, whether Fintech allows founders and shareholders to build great wealth, indicating that at this stage, entrepreneurs are not thinking about exit opportunities. This makes sense, because any so-called Fintech or Alternative Finance venture is probably at relatively early stage, when getting to product/market fit is the most crucial focus, and once achieve, firms go into building traction mode. Fintech firms really only explore exit opportunity when they have matured and reached a plateau of growth.

4.2.3.5 Specific Challenges of Fintech for Alternative Finance Providers

Unsurprisingly, regulation comes up as the biggest issue with 52% “Agreeing” and 28% “Strongly Agreeing”. Without regulatory certainty, entrepreneurs would rather do nothing than to risk getting on the wrong side of the law. Furthermore, financial services regulation is complex, and from our experience working with Fintech start-ups, regulators are sometimes perceived as being unapproachable or feared by these newcomers. Therefore, there is often a wide chasm between regulators and the entrepreneurial community, that could hamper innovation. The Innovation Hub established by the National Bank will certainly help bridge this gap and concepts like Sandbox will allow testing in a safe manner.

This group recognises (61% “Agree” and 9% “Strongly Agree”) that the country has a small market within which to play. Therefore, commercial opportunities may well be limited. Although a small proportion of respondents are confident (9% “Disagree” and 4% “Strongly Disagree”) that there is still room in this small market. It only takes a few forward-looking entrepreneurs who discover gaps and fill them, to then start a new wave. Seeing the pioneers succeed, other entrepreneurs aspire to achieve the same success and quickly the momentum builds.

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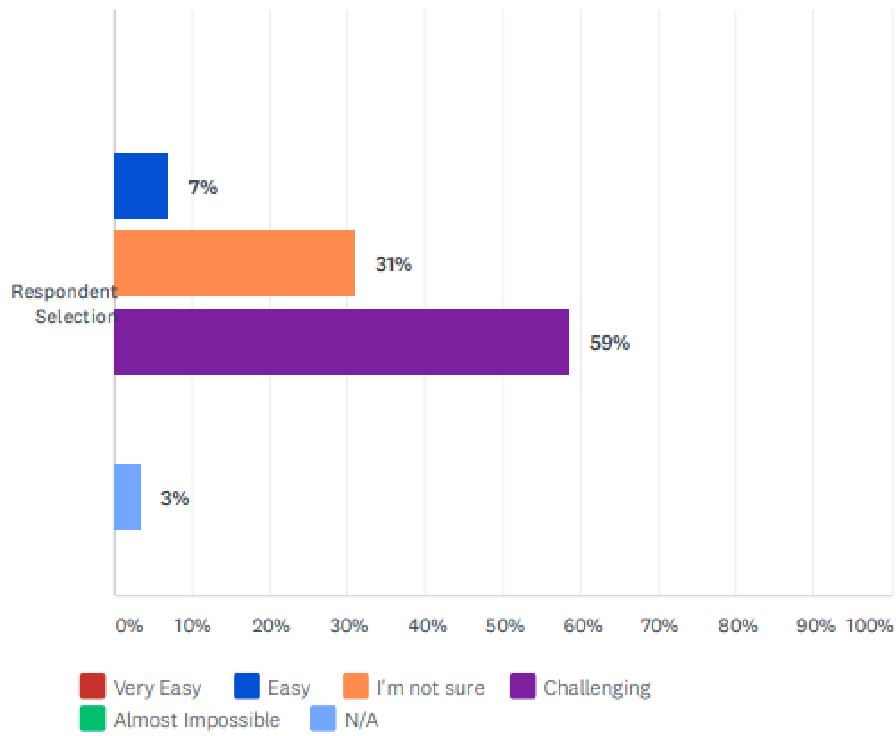
Figure 24: Perceive Challenges Faced by Alternative Finance Providers

Fintech and Alternative Finance firms are acutely aware of the challenges in getting access to investor funding, as 43% "Agreed" and 9% "Strongly Agreed". However, there are some who are more optimistic, as 9% also "Strongly Disagreed" and a further 9% "Disagreed" that funding is challenging to obtain. Indeed, the investment landscape is developing and even Government have launched their own Technology Fund. Perhaps its "Chicken and Egg" situation, where investors want to see more successful Fintech firms coming into the market before they are confident to invest, while Fintech entrepreneurs look for funding to be able to launch their venture and get traction. Regulatory certainty often gives investors the initial confidence to invest in seed funding rounds.

Q32 How easy or difficult would it be, to get funding for a Fintech venture, in the Republic of North Macedonia?

Answered: 29 Skipped: 14



	VERY EASY	EASY	I'M NOT SURE	CHALLENGING	ALMOST IMPOSSIBLE	N/A	TOTAL	WEIGHTED AVERAGE
Respondent Selection	0% 0	7% 2	31% 9	59% 17	0% 0	3% 1	29	2.46

Figure 25: Difficulty in Getting Investor Funding according to Alternative Finance Firms

When asked how difficult it was to get funding, 59% of the respondents thought it was challenging, however none thought it was impossible. Thirty one percent were unsure and encouragingly, 7% thought it would be easy to get funding. This response seems to suggest that whilst not easy, there are funding channels available for Fintech entrepreneurs in North Macedonia.

Fintech is a complex space which requires skilled talent, both in terms of knowledge on financial services as well as technology. Globally, there is a shortage of software developers and this problem is even more acute in financial services. There are only a handful of Blockchain developers for example, and they all are booked up for months ahead. So, it is not surprising that 48% of respondents "Agree" that lack of talent is a significant challenge. However, North Macedonia is considered a country with high technical and graduate skills. In fact, the country is one of the well-known business process outsourcing destinations.

Therefore, it is not surprising that 20% “Disagree” and 8% “Strongly Disagree” that lack of talent will pose significant challenges.

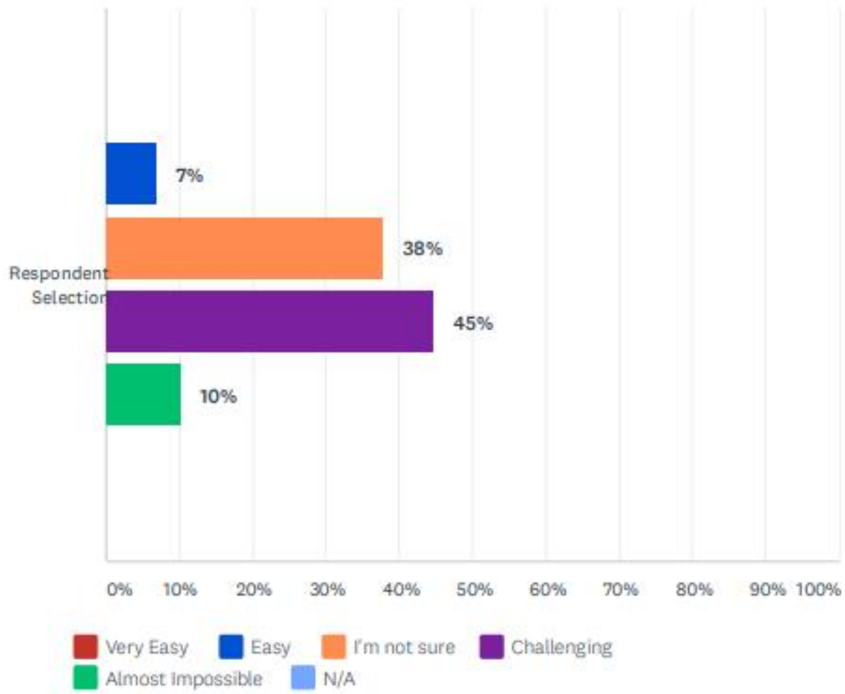
Responses were widespread in terms of too much competition being a challenge. Twenty nine percent “Agreed”, whilst a further 29% also “Disagreed”, and 21% were “Unsure”. This group recognise that it is futile to enter a market where incumbents are already dominating. Therefore, if Fintech newcomers and Alternative Finance firms seek out untapped pockets in the market where there is little to no competition, then they will certainly fair well. In this case, competition would not be an issue, until of course, everyone discovers this niche market and establish similar ventures. Then competition will be rife between similar firms rather than between incumbent’s and innovators.

Of course, Alternative Finance players also recognise that traditional players do dominate many parts of the financial services landscape, especially in the areas of lending, saving, wealth and insurance. In some cases, these alternative players will have to compete with traditional players, and 48% “Agreed” that this could pose a challenge for them. Often Fintech brings a new way of doing things in a traditional market. They improve customer experience, reduce fees and are more responsive and proactive to the needs of their customers. However, they need to build the trust of their potential customers first before they can expect them to make the switch.

Rather than compete with incumbents, both incumbents and Fintech based Alternative Finance Providers could cooperate for mutual gain. However, this is not happening in North Macedonia right now. One reason is because the Fintech industry is still at early stages of development. The other reason is because 45% of Alternative Finance firms find it “Challenging” to partner with incumbents. A small proportion (10%) finds it almost impossible to get any traction. Only 7% found it easy. Although we cannot tell who this 7% comprise, we could assume that it is easier for pure technology providers to partner with incumbents as it is just a supplier / purchaser relationship. Associations may also find it easy to partner with incumbents, as such relationships may help them better understand the Fintech landscape.

Q31 How easy or difficult would it be, for a Fintech business to partner with traditional banks, insurers or other traditional finance firms?

Answered: 29 Skipped: 14



	VERY EASY	EASY	I'M NOT SURE	CHALLENGING	ALMOST IMPOSSIBLE	N/A	TOTAL	WEIGHTED AVERAGE
Respondent Selection	0% 0	7% 2	38% 11	45% 13	10% 3	0% 0	29	2.41

Figure 26: Alternative Finance Providers' Ease of Partnership with Incumbents

4.2.4 Regulatory Landscape

The financial services system is diverse in North Macedonia, with the following regulators regulating different parts:

1. National Bank for the Republic of North Macedonia regulating banks
2. Ministry of Finance regulating non-banks
3. Securities & Exchange Commission of North Macedonia regulating the capital markets
4. Insurance Supervisory Agency regulating insurers
5. Pensions Regulator regulating pension funds

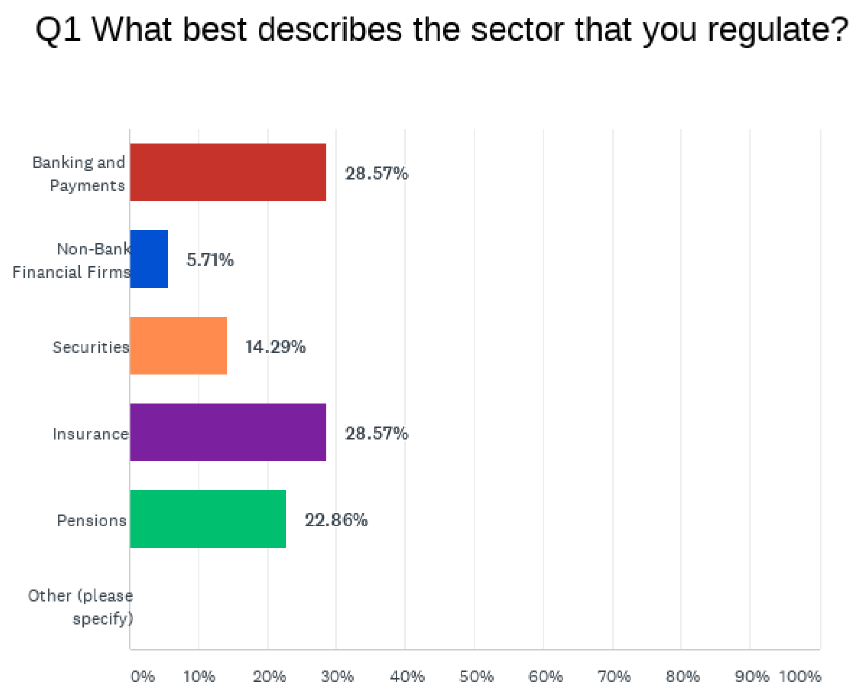


Figure 27: Sector Composition of Regulatory Respondents

We managed to get responses from all the above regulators. As expected, majority of the responses came from the banking (28.57% or 10 responses) and Insurance (22.86% or 8 responses) regulators.

The National Bank has already established an Innovation Hub and is engaging proactively with prospective Fintech entrepreneurs.

4.2.4.1 Opening to Fintech Newcomers

When asked whether Regulators should open the regulatory system to Fintech newcomers, 22 out of 29 (or 75.86%) answered "Yes" and the balance of 7 answered "I'm unsure". No regulator that responded to the question answered "No".

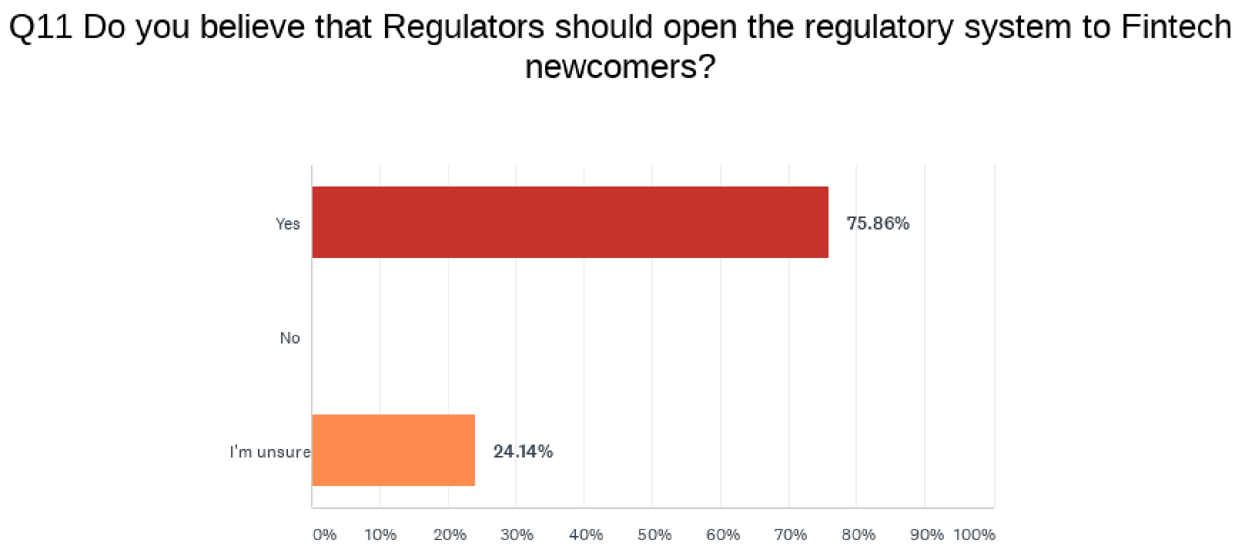


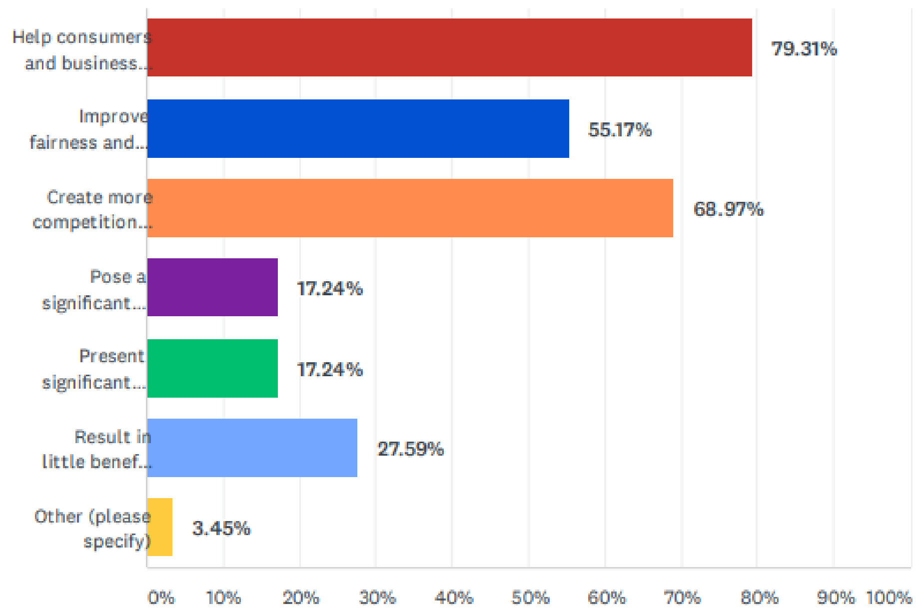
Figure 28: Regulator's View on Whether the Market Should be Open for Newcomers

Regulators unanimously agree that Fintech is likely to bring about benefits for the country. Of the 29 regulators, 23 (79.31%) felt that Fintech will *"Help consumers and businesses get better access to finance*". Twenty (68.97%) thought that Fintech could *"Create more competition which will make the financial system stronger"* and 16 regulators (55.17%) thought it would *"Improve fairness and the level of service in the financial system"*.

Interestingly, 8 (27.59%) thought that Fintech *would "result in little benefit to the financial system, in my view"*. A small proportion of regulators surveyed, 5 (17.24%) to be specific, took a much more negative view as they felt that Fintech *"Pose a significant risk to the financial system" and "Present significant risks to consumers and small businesses"*.

Q12 Do you think that allowing Fintech newcomers to the financial system will:(Choose all that apply)

Answered: 29 Skipped: 6



ANSWER CHOICES	RESPONSES	
Help consumers and businesses get better access to finance	79.31%	23
Improve fairness and the level of service in the financial system	55.17%	16
Create more competition which will make the financial system stronger	68.97%	20
Pose a significant risk to the financial system	17.24%	5
Present significant risks to consumers and small businesses	17.24%	5
Result in little benefit to the financial system, in my view	27.59%	8
Other (please specify)	3.45%	1
Total Respondents: 29		

Figure 29: Regulator's View on the Impact of Opening the Market to Fintech Newcomers

4.2.4.2 Regulator's View on Ability of Fintech Firms to Comply.

When asked whether regulators believed that Fintech newcomers are adequately prepared to comply with regulatory requirements, a 55.17% (or 16 out of 29 respondents) were unsure, whilst 24.14% (or 7 regulator respondents) felt that Fintech firms may not be adequately prepared to comply with all the necessary regulatory requirements applicable to them. Only 6, or 20.69% felt confident that Fintech newcomers will be adequately prepared to comply.

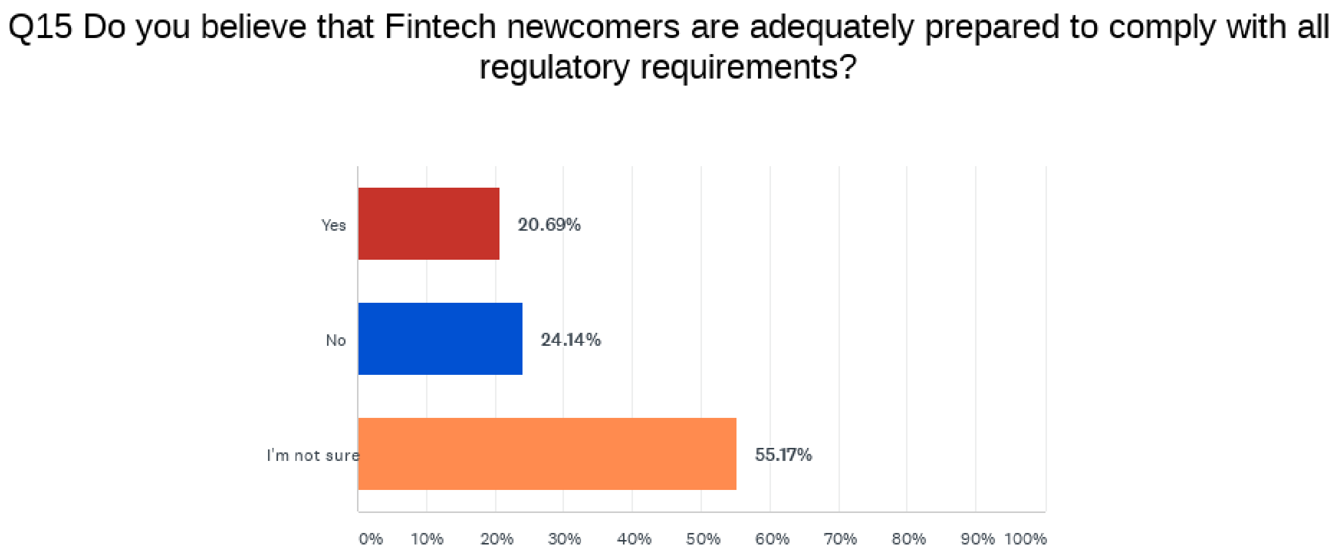


Figure 30: Regulator's View on the Ability of Fintech Firms to Fully Comply

Regulators cited the following reasons for their belief that Fintech newcomers will indeed be able to comply with their regulatory requirements:

- International Fintech firms are already complying with specific laws pertaining to them, and therefore, Macedonia's technology enabled newcomers could follow emerging regulatory compliance best practices.
- There was also a feeling that Fintech firms are better able to comply when the regulation are specifically tailored to their business models. If current regulation does not accommodate innovative ventures, products and services, then there is more likelihood of cases of non-compliance, not because Fintech firms are unable to comply, but rather, the current regulation does not allow them to comply.

Conversely, when asked why regulators believe Fintech firms are less likely to be compliant, they cited various reasons including the following:

- Fintech firms may not fully understand how the financial and regulatory system works, and specifically the adequate level of systems and controls, resources and capital required to run a business in this sector.

- Current regulatory requirements are too burdensome and may create barriers for entrepreneurs and individual Fintech initiatives who wish to enter the market. Capital adequacy requirements adds to the resource burden required by Fintech start-ups even before they launch.

- Fintech companies are generally small companies, or some may just have an idea on a piece of paper. They may not have adequate resources and/or the required knowledge on subjects such as corporate governance, risk management and threat of cyber security. However, if requirements were eased for very early stage and low volume low risk business, then with regulatory support, they could get a positive result over time.

- Trying to be innovative, cost effective and compliant, may be too much for a small company that is trying to gain market traction and grow.

- Fintech firms are small and have few employees, therefore they may lack capacity to comply, even if they have all the intention to. These firms may also lack knowledge about legal and regulatory requirements specific to their business model. There is also a danger that these newcomers may exploit weaker consumers (intentionally or unintentionally) because they are not familiar with consumer credit laws and policies.

4.2.4.3 Engaging with Innovation Hub

We asked alternative finance providers and prospective Fintech entrepreneurs, how difficult or easy it was to engage with the regulators. We received a score of 45 (out of 100) from 29 respondents, with a score of 0 being extremely difficult and a score of 100 being very easy. Therefore, respondents leaned slightly to thinking that it was a little challenging to engage with the regulator – just slightly off mid-scale. Respondents suggested some ideas how the regulators can make it easier for Fintech and finance firms to engage with them:

- Work at pace with faster response times and generally be more responsive to queries
- Provide more assistance
- More proactive engagement with prospective newcomers
- Some respondents believed that regulators should organise regular formal and informal meetings with financial institutions and other stakeholders within the ecosystem. Another felt that more open dialogue and consultation is needed with the Fintech sector, on a regular basis
- A respondent suggested that regulators listen to the views and proposals of the private sector as they are sometimes better informed
- One respondent felt that the regulators could be more transparent in their decision-making process
- One respondent suggested that regulators could provide more training on the meaning and possibly the interpretation of specific regulation

We wanted to learn whether Alternative Finance providers were even aware of the Innovation Hub and if so, whether they engaged with it in any way.

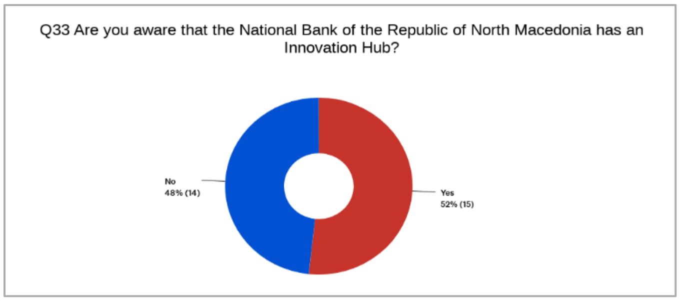


Figure 31: Awareness of National Bank's Innovation Hub

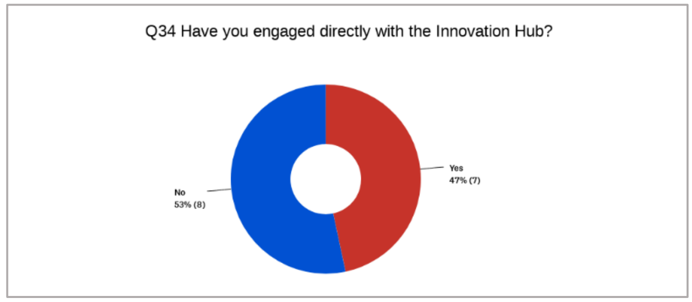


Figure 32: Engagement with Innovation Hub

Of 29 total respondents in the Alternative Finance segment who answered this question, 15 (or 52%) said that they were aware of the National Bank's Innovation Hub. Out of 15 respondents, 7 (or 47%) said that they had engaged directly with this Hub. Their experience engaging with this body was largely positive.

- One respondent highlighted that their experience was "excellent". They had a meeting with the National Bank and got meaningful advice.
- Another respondent was positive but suggested that the National Bank is more transparent about their roadmap and further plans in relation to the Innovation Hub. Their take was that the industry wants to help in building a better life for all Macedonians through Fintech.
- Some echoed the sentiment that regulators could be more agile and respond quicker to innovators.

4.2.4.4 Emerging Business Models Based on Regulator's Engagement with Newcomers

Regulators came across a variety of business models presented to them when engaging with Fintech entrepreneurs who were looking for support. They included:

1. E-Wallet (7 respondents)
2. Innovation in payments (3 respondents)
3. Payment Initiation Service Provider (2 respondents)
4. E- Remittance (non-cash based) – (2 respondents)
5. QR Code Payments (1 respondent)
6. Crowdfunding (quite common) – (3 respondents)
7. Peer to Peer Lending (4 respondents)
8. Blockchain (1 respondent)
9. Crypto Exchanges and Crypto Wallet (5 respondents)
10. Crypto Wallet (1 respondent)
11. Crypto Payment Processing (2 respondents)

12. AML/CTF Regtech Solution (5 respondents)
13. E-KYC solutions (2 respondents)
14. Fintech for e-Commerce (2 respondents)

Based on what regulators are asked to provide guidance on, it does appear that entrepreneurs and possibly also incumbents are actively looking to bring new and innovative business models to North Macedonia. With new payment services and systems regulation coming to the country, it is not surprising to see most of the enquiries related to this area, with highest number of enquiries related to e-wallets. Following on from international development, it is not surprising to see enquiries in the areas of crowdfunding and peer to peer lending.

It is notable to see the number of enquiries in crypto currency. One can only assume that because Macedonians are already participating in foreign crypto currency exchanges, there is perhaps an opportunity for entrepreneurs to bring some of that business back to the country. Another interesting area seemingly being explored by entrepreneurs is in the crypto currency-based payment processing. This would suggest that entrepreneurs may well be looking at the crypto and blockchain technologies to function as efficient and cost-effective payments systems.

As expected, we also see enquiries in the Regtech space, and specifically with KYC and customer onboarding solutions. With distant identification being prevented by law (as highlighted in this report), it is not surprising that incumbents, fintech entrepreneurs and consumers will want to find ways to make customer identification, easier, more convenient and cost effective.

4.2.4.5 Need for Regulatory Sandbox

A majority (23 out of 29 or 79.32%) of the regulators were supportive about developing a Regulatory Sandbox. Five (17.24%) regulators who completed this question said that they were unsure about the need for such a mechanism, and one (3.45%) did not think there was a need.

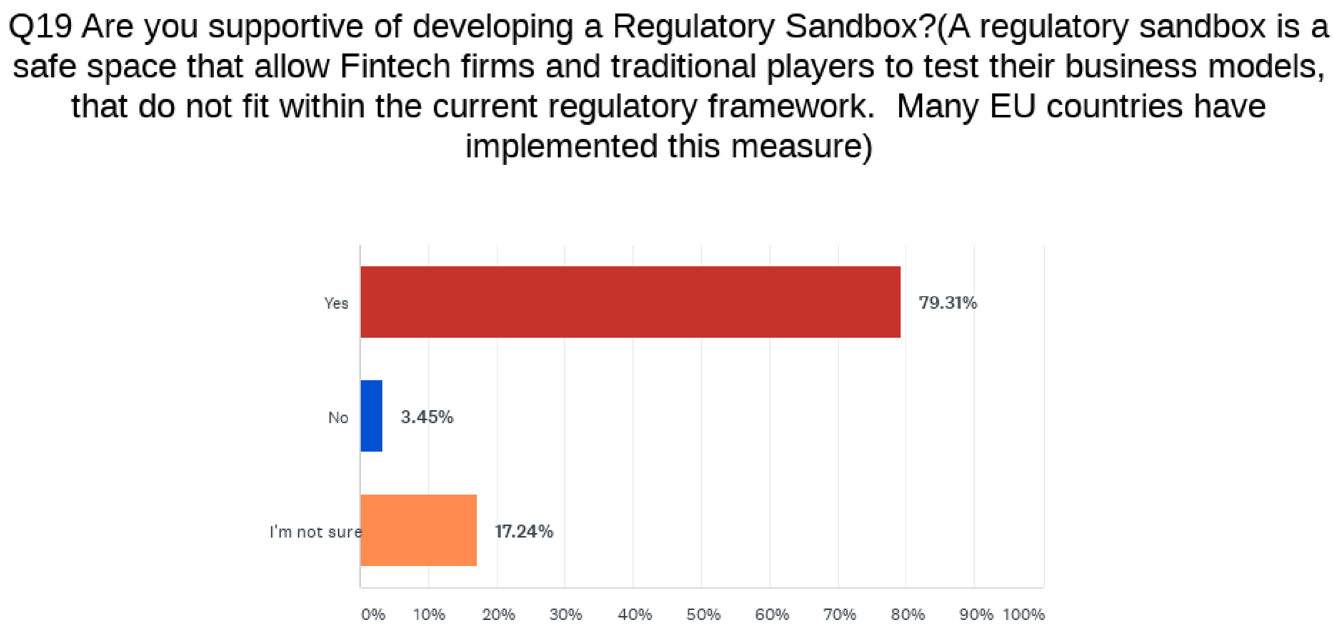


Figure 33: Regulator's View on the Need for Sandbox

Regulators felt that they need to be empowered through appropriate legislation before they can develop a Regulatory Sandbox and allow testing outside of the current legal framework. This empowerment can be incorporated in existing law (for example the Banking Law), by adding a new chapter or provisions. Others felt that a separate law is needed to allow Regulators to develop and operate a Regulatory Sandbox.

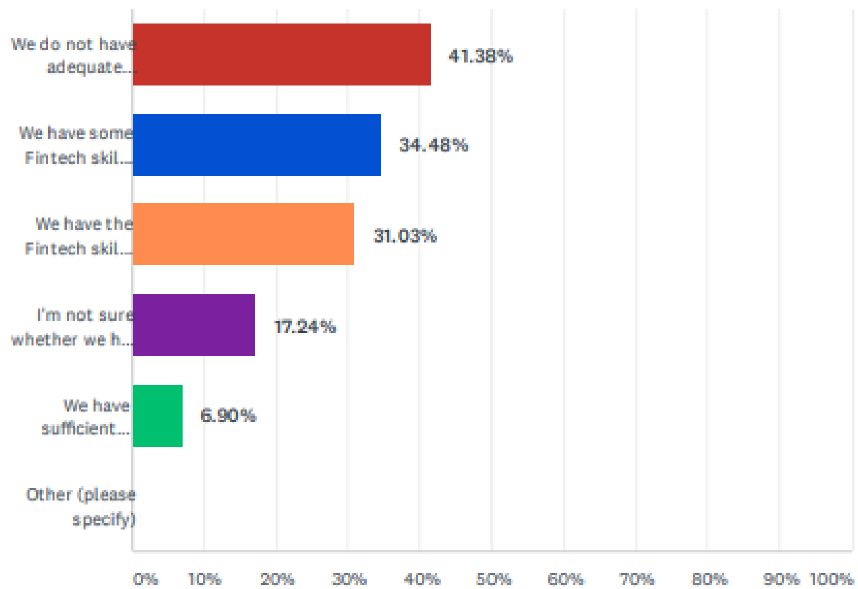
A minority of regulators who responded felt that there is no need for a new law or changes to existing laws. The Sandbox could operate under the principals offered by current laws and failure to comply leads to prosecution, as is the case with any regulatory breaches in the context of existing law.

4.2.4.6 Regulatory Capacity

Fintech is a new area and developing rapidly with new technologies and business models emerging every day. Regulators acknowledge that they need knowledge and capacity to be able to constructively engage with Fintech newcomers and traditional firms looking to introduce new products and services or indeed, totally new business models.

Q24 Do you believe that your Regulatory organisation has sufficient capacity to engage with Fintech innovators: (start-ups, traditional players with new products and corporates wishing to enter the Fintech space) (Choose all that apply)

Answered: 29   Skipped: 6



ANSWER CHOICES	RESPONSES	
We do not have adequate Fintech skills in our team and need to develop them	41.38%	12
We have some Fintech skills in the team, but need more people with this skillset	34.48%	10
We have the Fintech skills, but not enough resources to engage with Fintech newcomers	31.03%	9
I'm not sure whether we have sufficient Fintech skills or the capacity to engage with Fintech newcomers	17.24%	5
We have sufficient Fintech skills within the teams	6.90%	2
Other (please specify)	0.00%	0
Total Respondents: 29		

Figure 34: : Regulatory Capacity for Fintech

Of the 29 regulators who answered this, 12 (or 41.38% said that "*We do not have adequate Fintech skills in our team and need to develop them*". Only 2 respondents (or 6.90%) felt they have sufficient Fintech skills within the team. Ten (or 34.48%) felt that they have adequate Fintech skills in the teams, but they needed more people with this skill set, perhaps to deal with an increasing number of enquiries as Fintech becomes more prominent in the Macedonian financial services sector.

Some regulatory respondents (9 or 31.03%) felt that they have the Fintech skills in the team, but they need more people to engage with newcomers. They may be referring to the process of handling enquiries and putting new applicants through the licensing process.

A small proportion (5 respondent or 17.24%) admitted that they were unsure whether they had adequate skills or capacity. In fairness, it is challenging for a regulator to be able to anticipate how many new enquiries or application for licensing they will receive. After the development of a National Fintech Strategy and with greater legal certainty, regulators may have a better view on how they need to resource up, to open the market to new players or to new products and services.

4.2.5 Government Landscape

Given the diversity in Government Departments that we approached, initially, we only had two respondents to the survey. However, we arranged one to one interviews with senior level representatives from:

1. Ministry of Finance
2. Ministry of Information Society and Administration
3. Financial Intelligence Unit
4. Fund for Innovation and Technology Developments

We had unanimous agreement from all Government representatives for the need for Fintech in North Macedonia. They believe that Fintech will be a gateway to the digital economy and a move to a more cashless society. Fintech has the potential to create competition among financial institutions that can contribute to the development of new financial products that better meet the needs of consumers.

It could also reduce fees for consumers and most importantly, it has the potential to change the habits of the population, encouraging them to use non-cash channels. Younger people are also more likely to better manage their finances, given the choice of digital channels, to traditional physical channels. Digital channels are also better suited to furthering financial literacy, especially among the youth.

Fintech, not only brings better consumer oriented financial products and services, but greater use of financial technology can also contribute towards building a stronger financial system.

Government has launched the Fund for Innovation and Technology Development. It has been co-financing start-ups in Skopje for several years, and its mission is to encourage and support innovation in micro, small and medium sized businesses, with a view to accelerating technological development. The overall aim of the fund is to contribute to job creation and economic growth and development. They also aim to improve the business environment to enhance the competitiveness of companies.

Once a Fintech Strategy is developed at the country level, Fintech firms would undoubtedly welcome the different types of support provided by the Fund, including:

1. Co-financed grants for technological development to overcome the consequences of COVID 19. Such solutions could emerge in the Fintech space, for example, specialised SME funding.
2. Co-financed grants for technological development and improved innovation
3. Co-financed grants for professional development and internship for newly employed young people – for example, such grants could support the development of Fintech skills.
4. Co-financed grants for start-up and spin-off companies
5. Co-financed grants for commercialisation of innovation
6. Co-financed grants for technological extensions.

Such support could also be made available to incumbents who introduce new Fintech based products and services that achieve the objectives of the fund.

The Fund has in the near future, plans to invest in Fund of Funds, so that they have more extensive reach. They are also part of initiatives, exploring the creation of a Regional Innovation Fund in cooperation with global development agencies such as the World Bank.

We asked the Accelerators, Incubators, and Investors group whether they were aware of this fund. All the 4 respondents who answered this question, answered in the affirmative. However, they were not aware that the Fund specifically also extended their support to Fintech firms or the sector in general.

The respondents provided the following suggestions on how this Fund could do more to support the Fintech sector:

- With private partnerships the Fund could facilitate advice and consultancy support for Fintech start-ups.
- The Fund could also create a separate and specialised fund for Fintech developments. Funding could be combined with a programme of other types of support, such as mentoring. Funding and support would, for example, only be restricted to Fintech firms that promote the mandate of the fund (for example, furthering financial inclusion, and increase SME funding).
- One respondent suggested that the Fund could either itself or through a third party, create a peer-to-peer digital lending solution, that can provide financial access for MSMEs and consumers who may be unable to get this funding from traditional banks.

4.2.6 Accelerators, Incubators, and Investor Landscape

This group is diverse, with three Accelerators, one Audit Firm, two Advisory firms, one Fund and one who classified themselves as a financial services company (we assume they are likely to be in the funding space). A total of eight respondents.

None of the respondents currently invest in a Fintech venture or even a technology firm that supports the financial services sector. Of course, we have a small sample of respondents in this group, however, there is a sense that the investor landscape needs further development in the country. Perhaps Government can incentivise Fintech investors, as done successfully in other countries like the UK.

The Fund for Innovation and Technology Development agreed that there is a lack of readily available funding channels in the country. They highlighted that the Angel Investor segment is underdeveloped as there are very few private investors.

On this point, 71.43% of the respondents believed that Government should incentivise investors – for example through tax breaks. 28.57% were unsure, but none said "No" to such incentives. Whilst Government do incentivise the corporation and its employees with tax rebates, currently there are no tax incentives for investors who invest in start-ups.

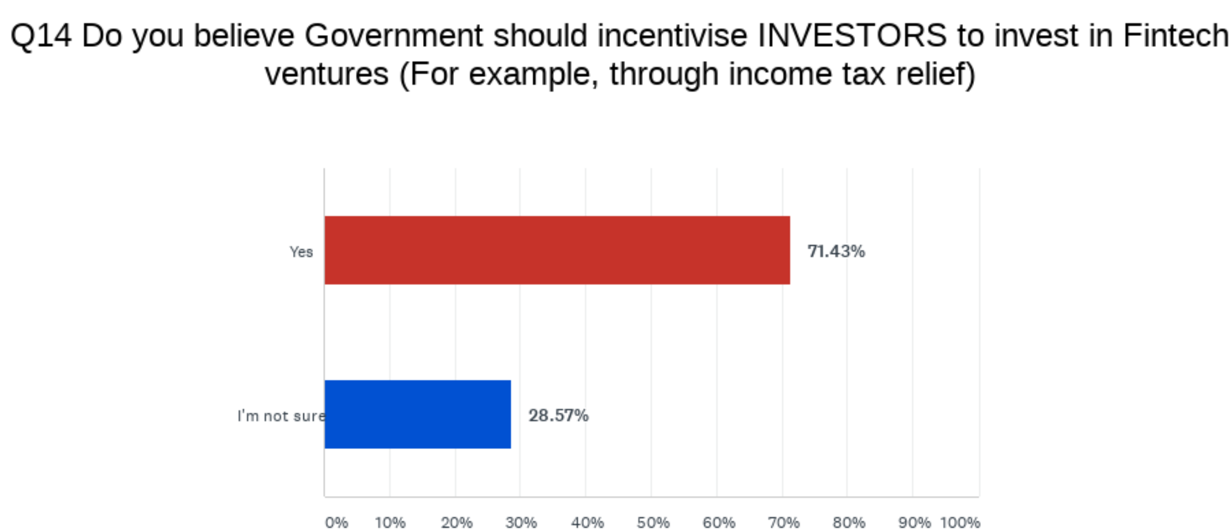


Figure 35: Investors and Accelerators View on Government Incentives for Fintech

Export is the main driver for tax relief that companies are entitled to. Whilst a Fintech firm is unlikely to export its products and services, they will play an enabling role in helping companies export. The Ministry of Finance is exploring the idea of reducing employee tax rate for the IT sector specifically, from the current 10%.

This group had various ideas on how Government could incentivise investors or stimulate funding for Fintech entrepreneurs, and more generally growth in this sector:

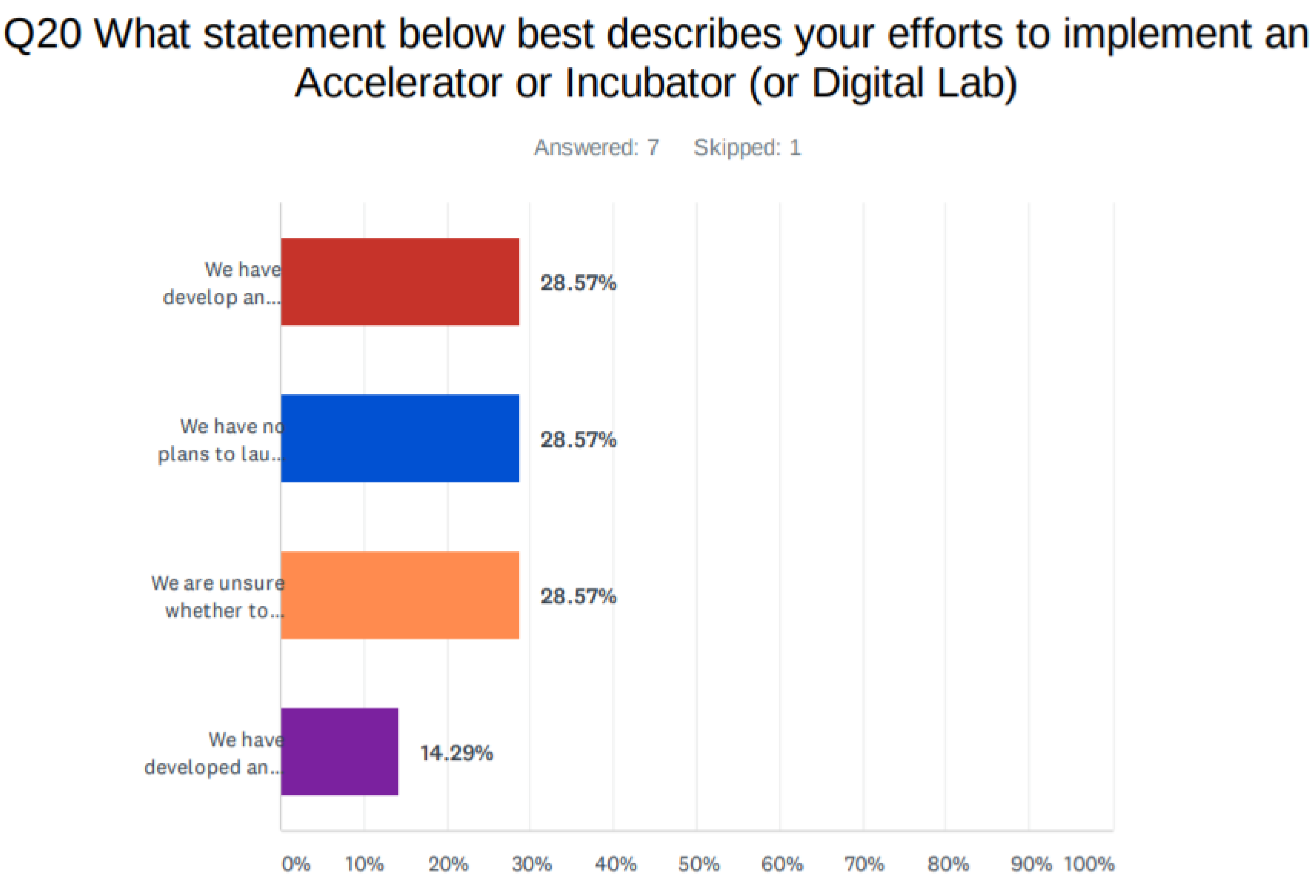
1. Match funding for ventures. In other words, if private investors invest in a Fintech venture, then a Government fund matches this investment amount, effectively splitting the funding requirements.
2. Government subsidises loans for start-ups. Whilst this solution does not benefit investors directly, it does provide early funding for small businesses which help them to get off the ground, when investors can come into a more stable business.
3. Government grants could also be helpful for very early-stage start-ups in the Fintech space.
4. Tax relief programmes for Investors and tax relief for early-stage ventures, relieving the financial burden on them during the early years. Eight percent of respondents felt that tax incentives were a move in the right direction. Ideas included:
    a. Income tax relief – potentially for investors
    b. Decrease corporation tax rate for income generated from Fintech initiatives. Such a mechanism would be ideal to encourage incumbents to invest in Fintech developments.
    c. Perhaps a 0% tax rate for a certain period for Fintech ventures.
5. One person was adamant any incentives provided by Government should be subject to proper auditing and monitoring to ensure they are effectively managed. Perhaps experience suggest that incentives may not have had the desired results.
6. One person robustly suggested that North Macedonia should carry out a comparison analysis to learn what other Governments are doing in Europe and South East Europe to effectively incentivise more investments into Fintech ventures.

4.2.6.1 Implementing an Accelerator or Incubator

Two respondents said they "have developed an Accelerator / Incubator and it currently has a cohort of firm". Two firms had no need to launch such an initiative, perhaps because they run an advisory business or an audit firm. A further two are unsure whether to launch such an initiative. One respondent has developed an Accelerator/Incubator, but currently, it does not have any start-up firms participating.

Those that already have one or are planning to implement a Fintech Accelerator or Incubator, suggested they would invest the following range of money on an annual basis:

1. €100,000 to €150,000
2. €25,000



ANSWER CHOICES	RESPONSES	
We have develop an Accelerator / Incubator and it currently has a cohort of firms	28.57%	2
We have no plans to launch an Accelerator or Incubator	28.57%	2
We are unsure whether to launch an Accelerator or Incubator	28.57%	2
We have developed an Accelerator / Incubator, but it does not currently have any startup firms participating	14.29%	1
TOTAL		7

Figure 36: Efforts to Implement an Accelerator or Incubator

The Fund for Innovation and Technology has not implemented their own Accelerator or Incubator. However, they cooperate with Seavus, X Factor Accelerator and UKIM Accelerator.

4.2.6.2 Ability of Fintech or Alternative Finance Firms to Scale

Investors and Accelerators want Fintech to scale, as it brings return on investment and it also offers an opportunity to exit at high valuations. Majority of this group (57.14%) do not believe that the Alternative Finance firms can scale and become sustainable without a lot more funding and technical support provided to them. A smaller proportion (28.57%) felt that the current Alternative Finance firms are strong and could scale with some effort on their part and external support. Only one respondent felt that in their current state, Alternative Finance firms are well positioned to scale.

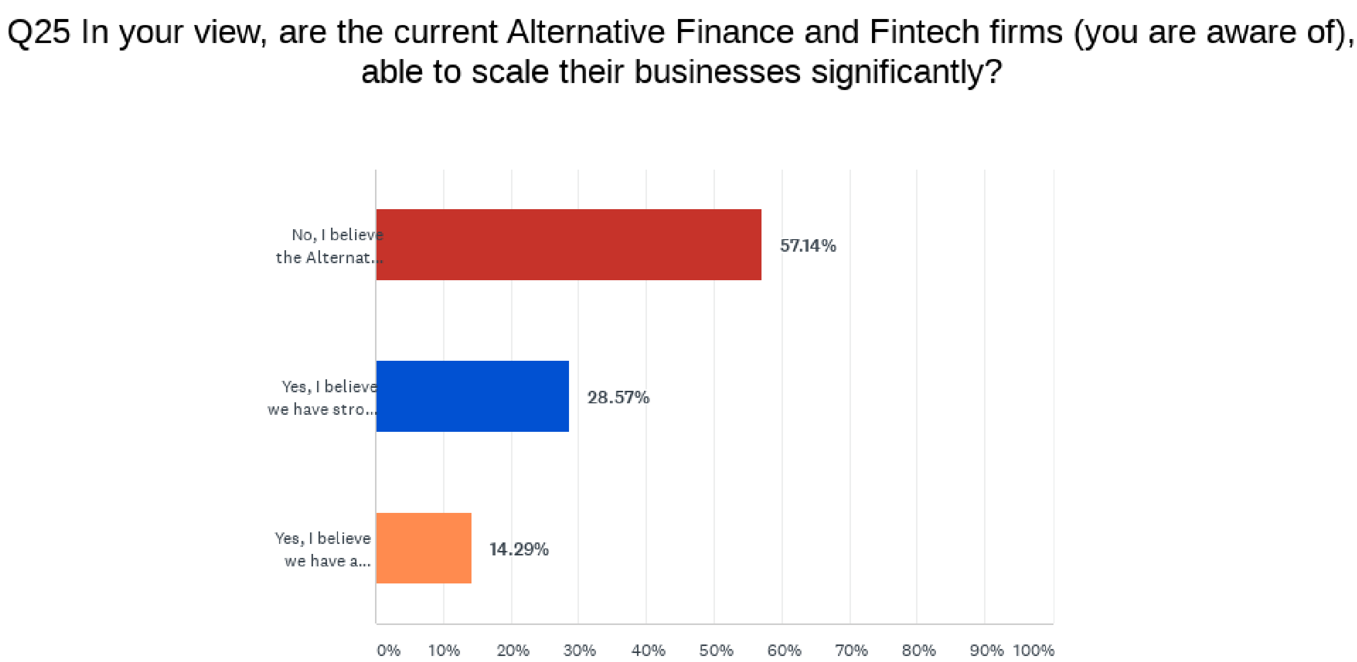


Figure 37: Ability of current Alternative Finance Firms to Scale

3

Exploring Benefits that Fintech can bring

4.3 Benefits that Fintech can Bring

Of the 194 that responded to the questions of the benefits that Fintech can bring, 90% (175) unanimously agreed that Fintech has the potential to give consumers more choice and benefits. More choice means a better deal for consumers and potentially with added competition, prices of financial services products also drops. Some consumers may be unable to access certain types of products (such as loans) from traditional players, and Fintech has the potential to provide greater levels of access. The data concurred with this presumption, because 74% (144 respondents) concurred that Fintech has the potential to bring more financial inclusion.

Small and medium sized businesses (SMEs) will also benefit from Fintech according to 70% (136 respondents), as many are left out by traditional players, and mainly banks, because they pose a higher commercial risk (due to higher default rates). Because of this risk, banks will often require high levels of collateral to back loans. A different regulatory regime may allow non-bank lenders to lend more cost effectively, because they find ways to assess and manage their credit risks better than banks. New types of lenders, like Peer-to-Peer business lenders are generally not subject to the same capital requirements as banks are, because the loan do not sit on their balance sheet, and instead, these innovators become brokers in helping investors extend loans to SMEs or individuals.

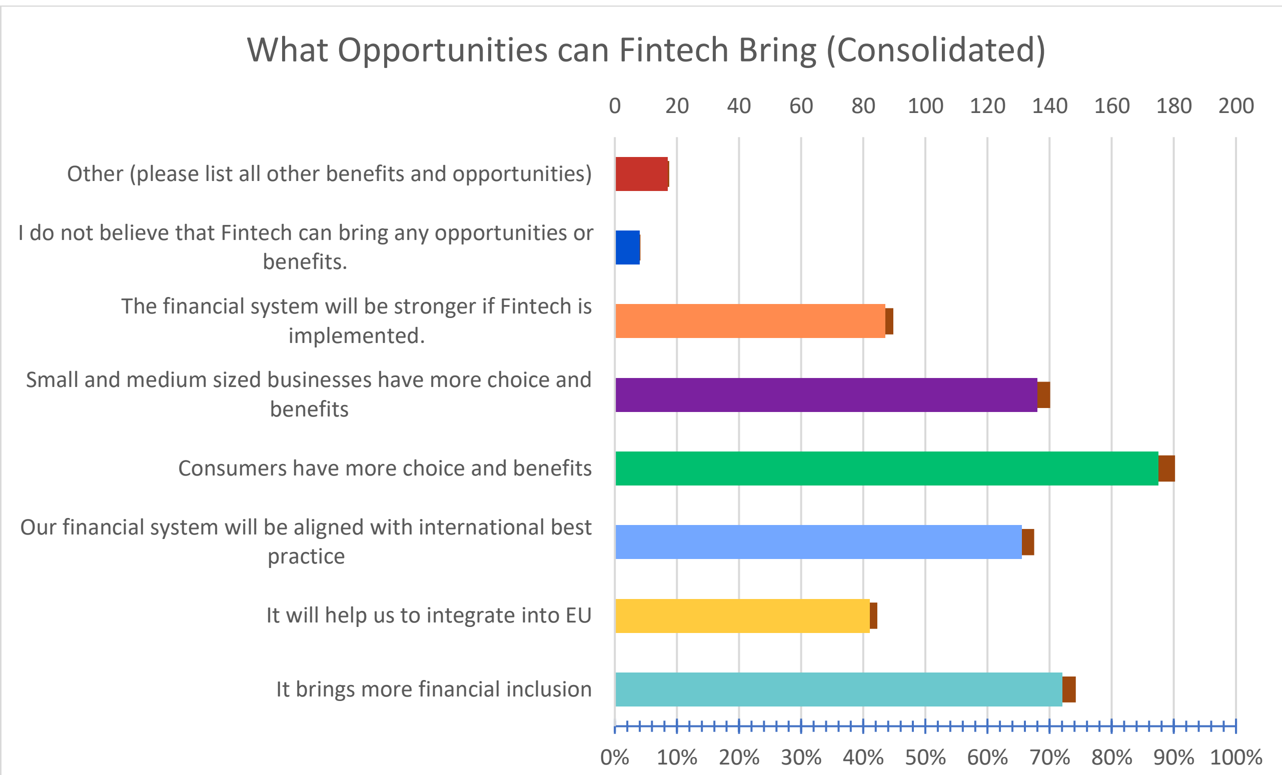


Figure 38: Opportunities that Fintech can Bring

131 (68%) respondents felt that Fintech has the potential to align Macedonia's financial system with international best practice. Such a development bodes well for the country's desire to become part of the European Union (EU), that have already adopted Fintech led transformation. 42% (82 respondents) expressed hope that Fintech will bring North Macedonia closer to the EU.

Interestingly, a small minority, 4% (8 respondents) felt that Fintech could bring no opportunities or benefits. Respondents also highlighted various other benefits that Fintech has the potential of bringing to the country, including the following, and we also explore the most significant benefits that each stakeholder group believes that Fintech can bring to them and the sector.:

- **Respondents from BANKS -** They believe that Fintech will improve customer ID checks and smooth onboarding of customers through digital means. It will help to speed up processes, and crucially, it will help reduce costs. They are encouraged by the prospect of Fintech being able to reduce the grey cash-based economy that provides hidden competition for banks and poses a drain on the state's fiscal resources, as many informal merchants may not pay taxes. Banks also look forward to more innovation in the payment system, through new Fintech technologies emerging.

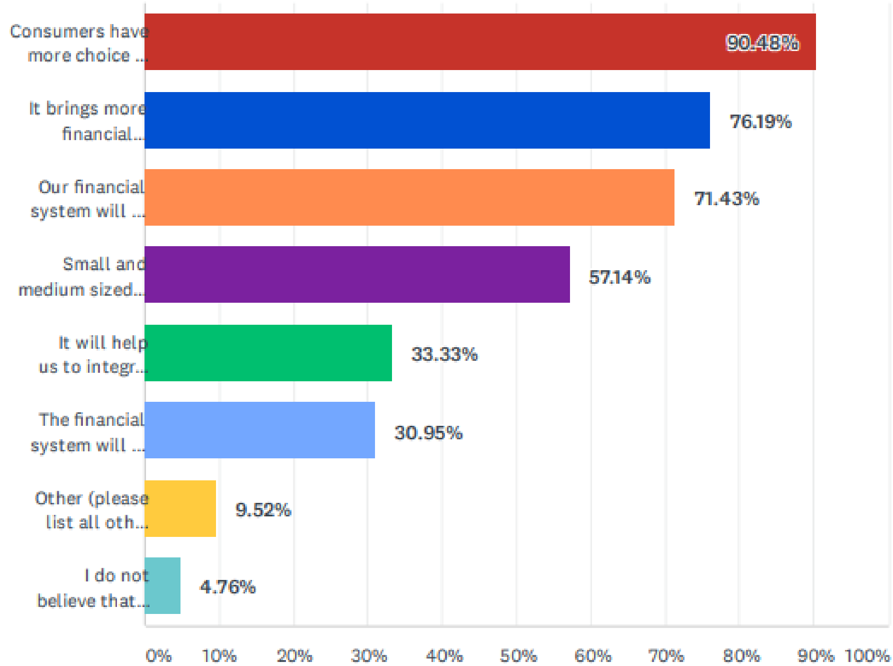
  Thirty eight of the 42 (90.48%) bankers that responded to this question, stated that Fintech has the potential to bring more choice for consumers. In addition, it also increases financial inclusion according to 76.19% of the bankers. A further 71.43% said that Fintech will help align Macedonia's financial system with international best practice, and 33.33% felt that Fintech will help the country integrate into the EU.

  It is surprising to see just over half (57.14%) of the bankers felt that Fintech brings more choice and benefits to SMEs as well. This could imply that Banks feel they are adequately covering the small businesses sector.

  Only 13 of the 42 respondents (30.95%) felt that Fintech could strengthen the financial system, whilst a minority (4.76% or 2 respondents), felt that Fintech is unlikely to bring any significant benefits.

Q5 What opportunities and benefits do you think Fintech can bring to the Republic of North Macedonia? (Choose all that apply)

Answered: 42 Skipped: 1



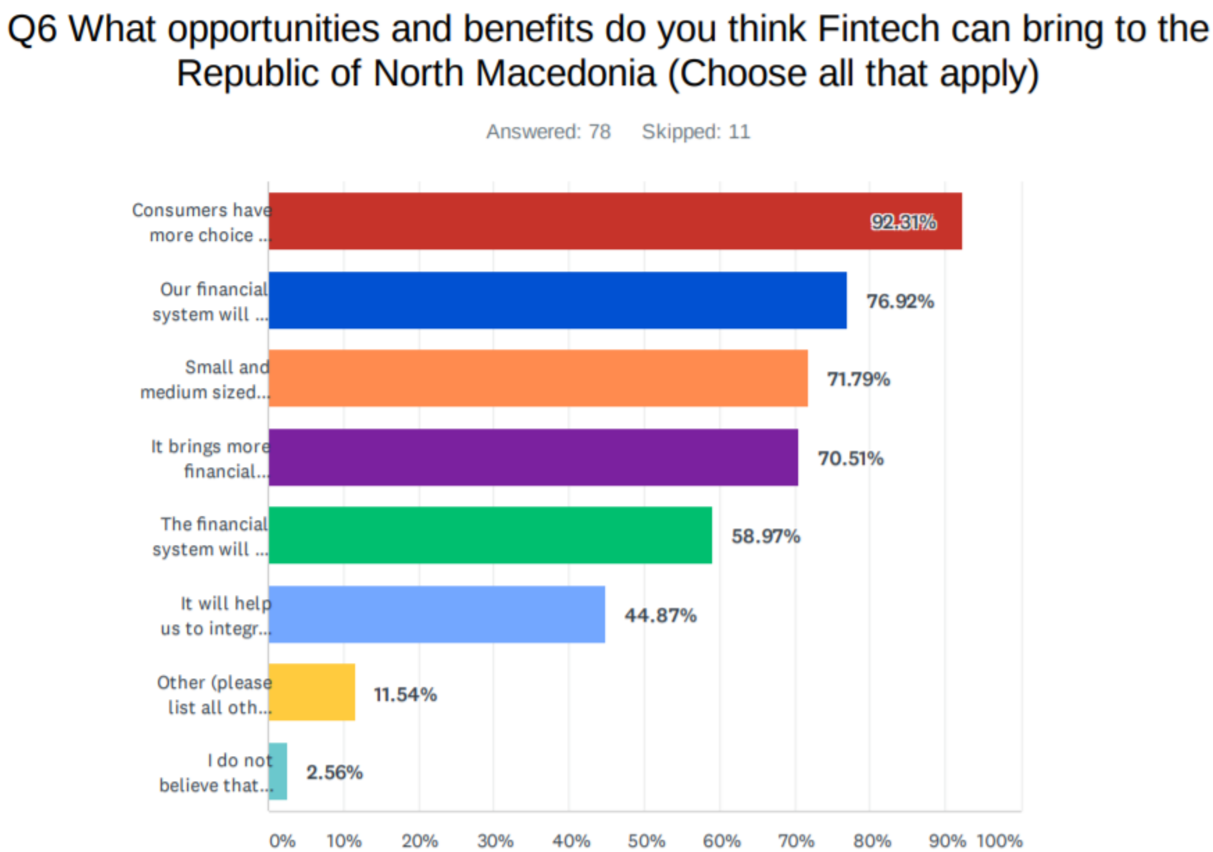
ANSWER CHOICES	RESPONSES	
Consumers have more choice and benefits	90.48%	38
It brings more financial inclusion	76.19%	32
Our financial system will be aligned with international best practice	71.43%	30
Small and medium sized businesses have more choice and benefits	57.14%	24
It will help us to integrate into EU	33.33%	14
The financial system will be stronger if Fintech is implemented.	30.95%	13
Other (please list all other benefits and opportunities)	9.52%	4
I do not believe that Fintech can bring any opportunities or benefits.	4.76%	2
Total Respondents: 42		

Figure 39: Banks Views on Opportunities that Fintech Brings

- **Respondents from NON-BANKS -** Consistent with banks, Non-Banks also believe that consumers will have more choice and benefits with the introduction of Fintech (92.31%). A large proportion (76.92%) of this group also think that the financial system will be better aligned with international best practice with the introduction of Fintech. In contrast to banks, 71.79% of Non-Bank respondents thought that SMEs will also have more choice and greater benefits if Fintech newcomers are allowed into the market.

  Financial inclusion also benefits significantly from Fintech according to 70.51% of respondents in this group, and 58.97% believed that the financial system will be stronger (compared with only 30.95% of Bankers). Integration in the EU is also a benefit of Fintech. Only a small proportion (2.56% and only 2 respondents) thought that Fintech can bring no benefit to the financial system or consumers and SMEs.

  Non-banks look forward to the possibilities that Fintech open for the development of new and innovative products and services that improve the lives of consumers and SMEs. They also cherish the prospect of using technology to educate their customers on financial literacy, which in general will improve financial prosperity of citizens, as they would have the knowledge and the necessary tools to manage their money better.
  They also welcome the possibility of Fintech channelling the grey economy into the formal economy. The possibility of consumers and businesses able to transact and apply for finance remotely, without the need for going into branches, is an exciting prospect, one that will not only benefit customers, but also allow financial institutions to reduce costs at scale. Finally, Fintech promises better data quality that will allow financial institutions to be more proactive with their clients, provide more personalised services and the ability to cross sell products and services that could enhance revenue.



ANSWER CHOICES	RESPONSES	
Consumers have more choice and benefits	92.31%	72
Our financial system will be aligned with international best practice	76.92%	60
Small and medium sized businesses have more choice and benefits	71.79%	56
It brings more financial inclusion	70.51%	55
The financial system will be stronger is Fintech if implemented.	58.97%	46
It will help us to integrate into EU	44.87%	35
Other (please list all other benefits and opportunities below)	11.54%	9
I do not believe that Fintech can bring any significant opportunities or benefits.	2.56%	2
Total Respondents: 78		

Figure 40: Non-Banks' Views on the Benefits Fintech can Bring

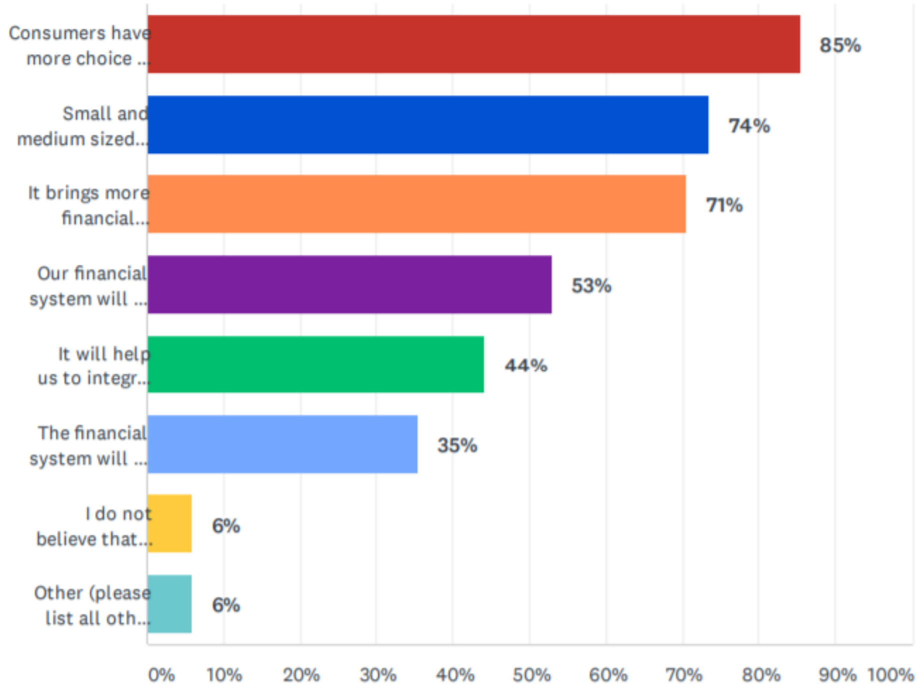
- **Respondents from ALTERNATIVE FINANCE FIRMS –** This group consistently rated consumer choice and benefits as the number one opportunity that Fintech can bring, according to 29 of the 34 respondents (85%). Encouragingly, this group (in contrast to Banks) identified more choice and benefits to MSMEs because of Fintech. 71% agreed that financial inclusion will improve at the introduction of Fintech.

  Whilst this group believed that Fintech would help to modernise the financial system and help North Macedonia integrate into the EU, only 35% or 12 respondents felt that the financial system will be stronger because of Fintech. As expected, 2 out of 34 (or 6%) did not believe Fintech can bring any benefits.

  Alternative finance providers felt that Fintech could provide business opportunities through global outreach. In other words, Fintech could bring in foreign clients as all transactions are done online. We could envisage a foreigner being able to purchase North Macedonian products or indeed outsource services, using seamless international payment channels.
  With an open Fintech landscape, foreign Fintech technology providers may also be incentivised to provide their products and services, allowing local entrepreneurs to accelerate the launch and growth of their Fintech ventures.
  These firms also looked forward to closing the financial accessibility gap through Fintech and benefit the many left out from the traditional financial services landscape.

Q6 In your view. what opportunities and/or benefits can Fintech bring to the Republic of North Macedonia as a country (Choose all that apply)

Answered: 34 Skipped: 9



ANSWER CHOICES	RESPONSES	
Consumers have more choice and benefits	85%	29
Small and medium sized businesses have more choice and benefits	74%	25
It brings more financial inclusion	71%	24
Our financial system will be aligned with international best practice	53%	18
It will help us to integrate into EU	44%	15
The financial system will be stronger is Fintech is implemented.	35%	12
I do not believe that Fintech can bring any significant opportunities or benefits	6%	2
Other (please list all other benefits and opportunities below)	6%	2
Total Respondents: 34		

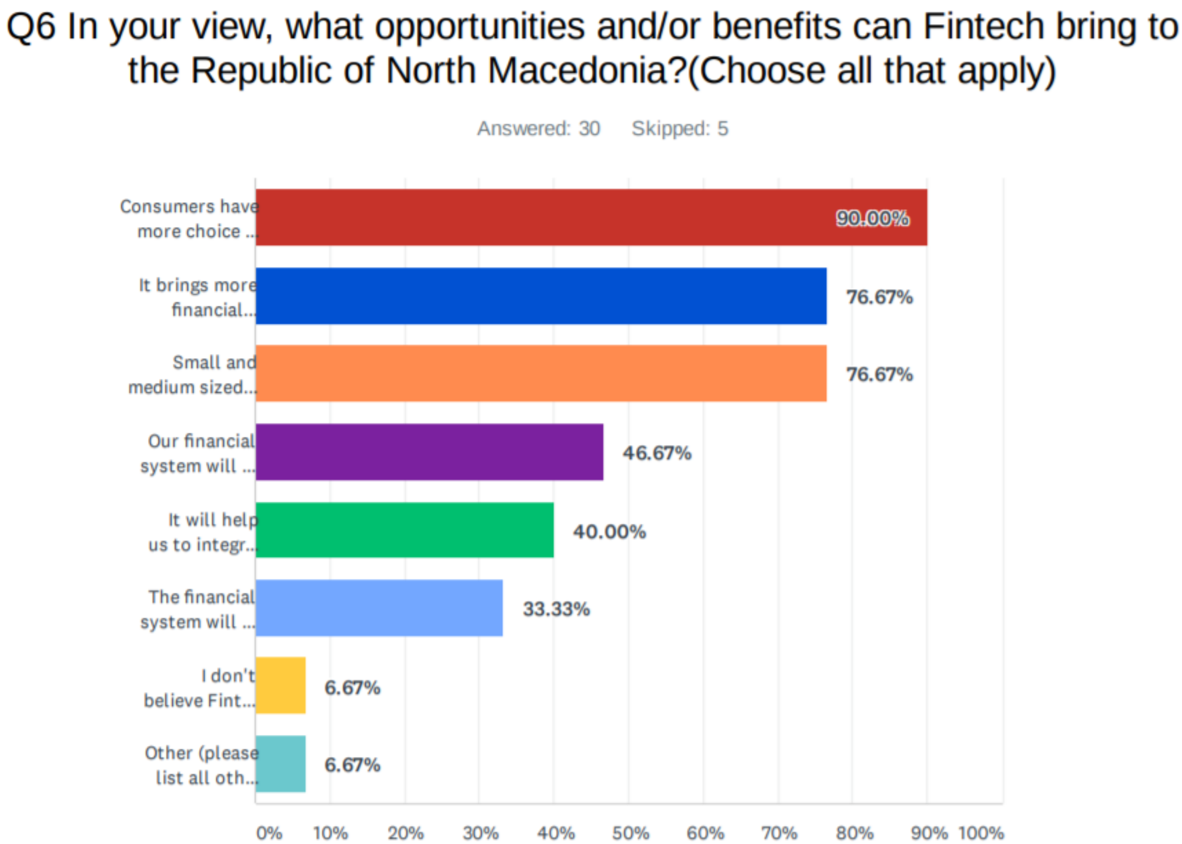
Figure 41: Alternative Finance Providers' Views on the Benefits of Fintech

- **Responses from REGULATORS -** A majority (90% or 27 out of 30) of Regulators agreed that Fintech can bring wider choice and benefits for the consumer. It also brings financial inclusion according to 76.67%, as well as choice and benefits for SMEs (76.67%). Less than half of the respondents (46.67%) felt that the financial system is more likely to be aligned with international best practice by introducing Fintech. They are less optimistic compared with Banks (71.43%), Non-Banks (76.92%), Alternative Finance providers (53%), and Accelerators and Investors (87.50%).

  However, they were more consistent in their views on the ability for Fintech to ease the path to integration with the EU. Only 40% of the Regulators thought this would be the case, and this compares well to the views of the other stakeholder groups: Banks (33.33%), Non-Banks (44.87%), Alternative Finance providers (44%). Accelerators and Investors were more optimistic about Fintech opening doors to EU, as 75% felt this to be the case.

  Regulators were also less optimistic about the introduction of Fintech, making the financial system stronger, as only 33.33% felt this was the case.

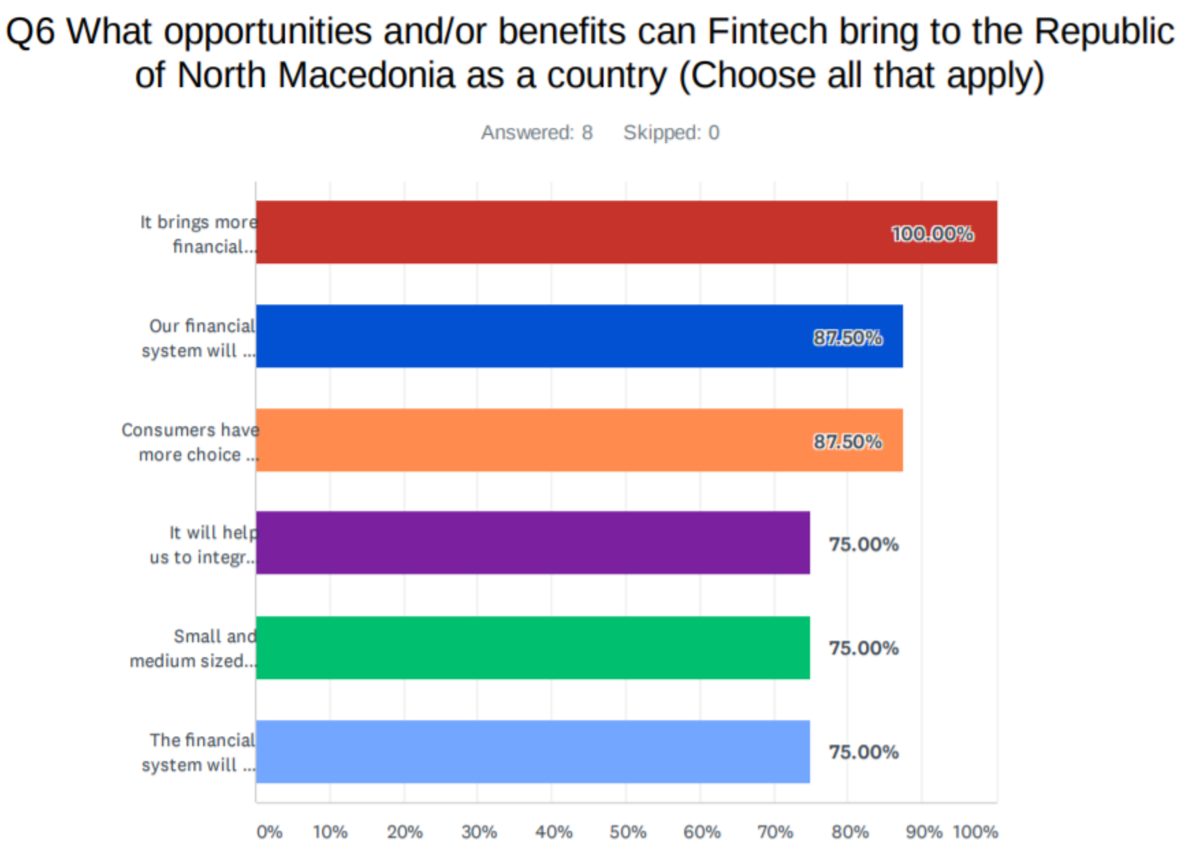
  Regulators felt that Fintech will facilitate online transactions, especially crucial in times of the pandemic, where going into branches exposes the spread of the virus. They also felt that digital identification, KYC due diligence and onboarding can be made more secure and reliable with technology.
  The authorities stressed that Fintech should also include the educational (or financial and digital literacy) component, as it will help consumers engage better with new digitised financial services.



ANSWER CHOICES	RESPONSES	
Consumers have more choice and benefits	90.00%	27
It brings more financial inclusion	76.67%	23
Small and medium sized businesses have more choice and benefits	76.67%	23
Our financial system will be aligned with international best practice	46.67%	14
It will help us to integrate into EU	40.00%	12
The financial system will be stronger is Fintech is implemented.	33.33%	10
I don't believe Fintech can bring any significant opportunities or benefits	6.67%	2
Other (please list all other benefits and opportunities below)	6.67%	2
Total Respondents: 30		

Figure 42: Regulators' Views on the Benefits of Fintech

- **Respondents from ACCELERATORS & INVESTORS –** All of the eight respondents agreed that Fintech has the positive effect of bringing about greater levels of financial inclusion. Close to 90% also believed that Fintech will help to align the financial system with international best practice and bring more choice and benefits for consumers. Six of the 8 respondents in this group felt that Fintech has the potential to help North Macedonia integrate into EU. The same number of respondents also believed that Fintech is beneficial for MSMEs and the wider financial system.



ANSWER CHOICES	RESPONSES	
It brings more financial inclusion	100.00%	8
Our financial system will be aligned with international best practice	87.50%	7
Consumers have more choice and benefits	87.50%	7
It will help us to integrate into EU	75.00%	6
Small and medium sized businesses have more choice and benefits	75.00%	6
The financial system will be stronger is Fintech is implemented.	75.00%	6
Total Respondents: 8		

Figure 43: Accelerators and Investors Views on the Benefits of Fintech

- **Respondents from GOVERNMENT —** All respondents that answered the survey and with whom we had interviews, agreed that Fintech can bring significant benefits to North Macedonia. Fintech has the potential to bring greater level of financial inclusion. It can make the financial system stronger, give consumers more choice and benefit SMEs.

  Representatives from the Financial Intelligence Unit said they supported digitisation, including the digitisation of finance. However, this must be done in a compliant way to Finance Action Task Force (FATF) guidance on KYC and money laundering. AML law is currently undergoing the parliamentary procedure, and this will further enhance KYC and onboarding, which will make Fintech more secure.

  The representatives from the Ministry of Finance welcome liberalisation of the financial market and the entrance of new players. They belief that such a move will result in better products and services for customers because of the increased competition stimulated.

  Ministry of Information Society and Administration confirmed that North Macedonia has a stable financial services sector. However, they believe there is room for improvement in the availability and quality of financial products and services for consumers and small businesses. Implementation of Regtech and Suptech will help the sector comply more effectively and efficiently, making the financial system stronger.

4.4 Examining Barriers, Risks & Challenges

It is encouraging to learn a large proportion of the participants in the survey saw Fintech bringing many benefits to consumers, SMEs, and the wider economy. However, they also acknowledged the risks and challenges resulting from Fintech. Aligned with global concerns around Fintech, 116 respondents out of 194 (representing 60%) thought that the risk of cybercrime, financial crime and money laundering is likely to be heightened. In fact, this is the number one risk that most in the global financial ecosystem highlight when reflecting on the risks and challenges of Fintech.

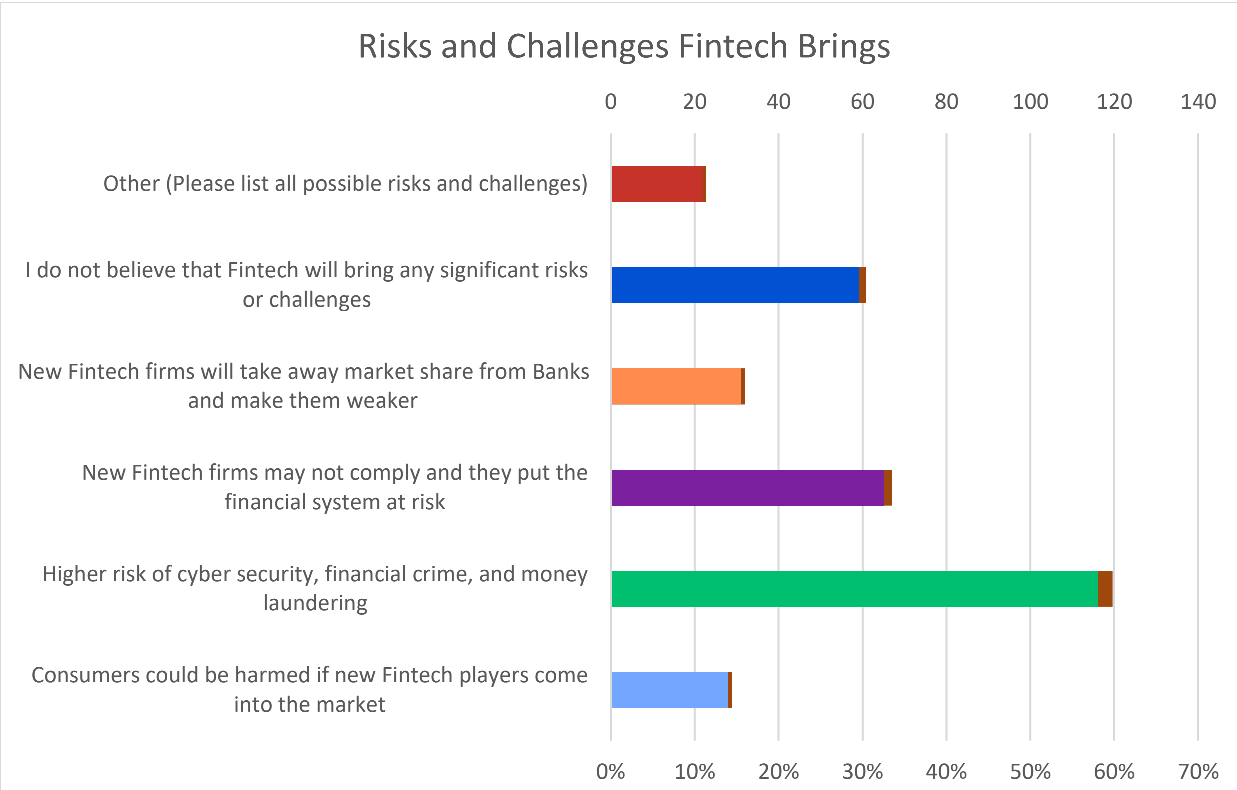


Figure 44: Risks and Challenges of Fintech

The rest of the risks identified were quite dispersed, compared to the results reflecting the benefits, which tended to cluster around common themes. Around 34% (65 out of 194 respondents – as 26 skipped this question) expressed concern that Fintech newcomers may willingly or unwillingly fail to comply and therefore expose the entire financial system to risks and unintended consequences.

This is a valid concern, as Fintech firms are often started by non-financial entrepreneurs, who may not appreciate the intensity of compliance in the financial system. Furthermore, start-ups are pressured by shareholders to scale fast, and doing so, comes at the expense of taking higher risks and sometimes “breaking things”. Fintech newcomers are therefore, at some point in the future, could fall foul of the law.

Surprisingly, despite highlighting the heightened risk of cyber security and financial crime, as well as acknowledging that Fintech firms may not always comply, only 28 out of 194 respondents (14%) said that consumers could be harmed by new Fintech players entering the market. In addition, 30% (or 59 respondents) of the respondents that answered this question, felt that Fintech will not bring any significant risks or challenges to the country, the financial system or consumers and SMEs.

Clearly, Macedonians are ready for change, and they are optimistically biased, preferring to see the positives, at the risk of avoiding thorough risk assessment.

Bankers (79% or 33 respondents out of 42) said that cyber security, financial crime and money laundering were the biggest risk of Fintech. Seven bank respondents thought that Fintech would bring no significant risks. Interestingly, the largest proportion of Non Bank financial firms (51% or 40 respondents out of 78) felt that Fintech will bring no significant risks. However, they did acknowledge the risk of cyber security, financial crime and money laundering was the highest risk envisaged.

Alternative Finance providers (52.94% or 18 out of 34), Regulators (70% or 21 out of 20), Accelerators (63% or 5 out of 8) and Government (100%) all spotted cyber security, financial crime, and money laundering as the biggest risk that Fintech brings to the financial system.

Government representatives expressed the following concerns:

- Cyber security was also the key risk highlighted by Government representatives, when asked about the potential risks Fintech could introduce to the financial sector.
- Government Ministries lack IT skills, because the private sector pays higher fees and make it attractive for these skilled workers to leave Government jobs. Therefore, Government may not have the necessary skills to engage with and promote Fintech, nor can regulators effectively police heavily IT focused financial services firms
- Digital finance transcends geographical boundaries, and it is very possible that North Macedonia can be one of many gateways in furthering money laundering.
- Impersonation and ID fraud is of concern when customer identification goes digital, and exposed to clever cyber hackers, who could impersonate customers of financial firms.
- One of the Government respondents also expressed concerns of consumer harm as new players enter the market.
- Cryptocurrency seemed to be a significant concern for several Government representatives. There are certain crypto currencies traded globally, that may not be safe for North Macedonian retail (or unsophisticated investors), yet they are caught up in a frenzy, because everyone is investing in this new digital currency or what can also be considered a commodity. With high market volatility, investors in cryptocurrencies could suffer significant losses, and currently, they have no protection against such losses.

Other risks and challenges highlighted, include the following:

- The risk that regulators may regard Fintech firms as predatory lenders and devise regulation that works against the industry.
- The concern that in future, Fintech is regulated by a Government ministry instead of a professional regulator, such as the National Bank.
- Data integrity is expressed concern, especially when Fintech solutions will rely on this data to make decisions.
- Technology failure was also regarded as a significant risk. As financial services move online, any outages could have put consumers into hardship. For example, someone trying to pay their monthly mortgage online may not be able to do so, and risk penalties and charges, not to mention an adverse credit rating.
- New payment channels could expose money transfers to theft – either committed internally (without an audit trail) or through hacking.
- A key risk identified was the failure and eventual bankruptcy of a Fintech firm, that could leave customers in stranded and at risk of financial losses.
- Some respondents believed that not having Fintech is posing a bigger challenge than the potential risks and challenges brought about by Fintech.
- The regulators expressed concern of lack of talent and capacity to adequately supervise Fintech firms or digital transformation at incumbents.

4.4.1 Legal & Regulatory Barriers

Fintech, digital transformation, and modernisation of the financial system is predicated on a legal framework that allows for innovation and progression. Macedonian financial system players across the board, expressed some concerns that current legal and regulatory framework could hinder Fintech led innovation. On a consolidated basis, everyone in the financial system seem to think that Payment services and systems regulation presents the biggest challenge. 79 out of 556 (14%) response (bearing in mind that each person can choose more than one option) concurred that payment services and systems regulation presents the biggest obstacle. The National Bank clarified why the industry would be concerned about the regulation.

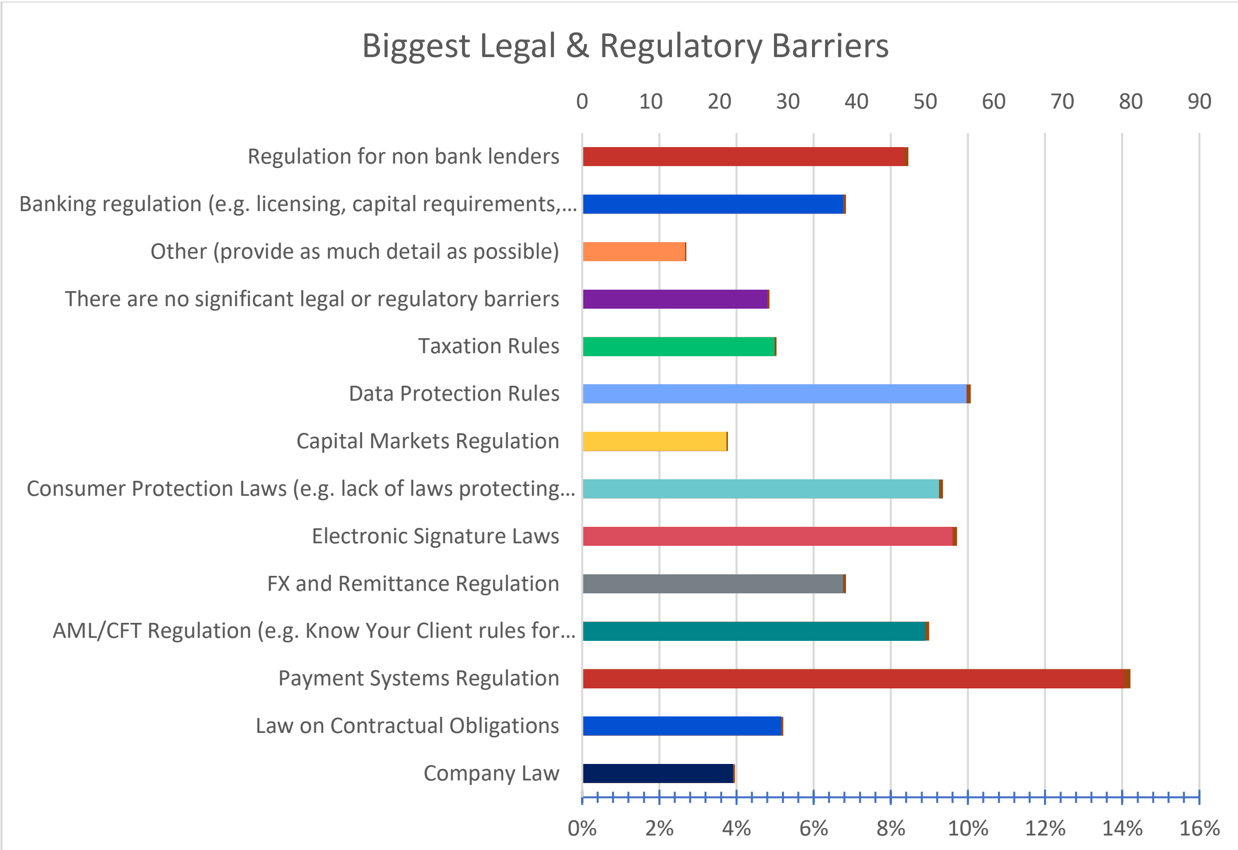


Figure 45: Legal & Regulatory Barriers

When addressing this concern to the National Bank, they elaborated on this finding, and suggested that the current payment services and systems regulatory framework does not even factor the European Payment Services Directive 1 yet. However, new payment services and payment systems law is in the process of being formalised and this will address many of the industry's concerns. The regulator also emphasised that current remittance and foreign exchange rules are in much need of amendment.

In our experience, Fintech development often starts with the payment sector, and the response in this survey reflects where North Macedonia is in their Fintech development lifecycle.

Data protection was the next regulatory barrier that was of the highest concern, according to 56 out of 556 respondents (or around 10%). A perceived lack of electronic signature was third in line with 54 respondents citing this as a barrier. Although the regulators and Government representatives confirmed that electronic signatures are allowed and accepted when contracting with a financial institution. The regulatory guideline proposes heightened due diligence when contracts or transactions are concluded using electronic signature. It is not uncommon for financial institutions to interpret this guidance strictly, and therefore require physical presence when signing a document or concluding a transaction. There is a need for further regulatory guidance to help the industry appropriately interpret and act on the laws related to electronic signature.

Each group had their own specific areas which they thought presented regulatory barriers, and we examine them in more detail below.

4.4.1.1 Regulatory Barriers for Banks

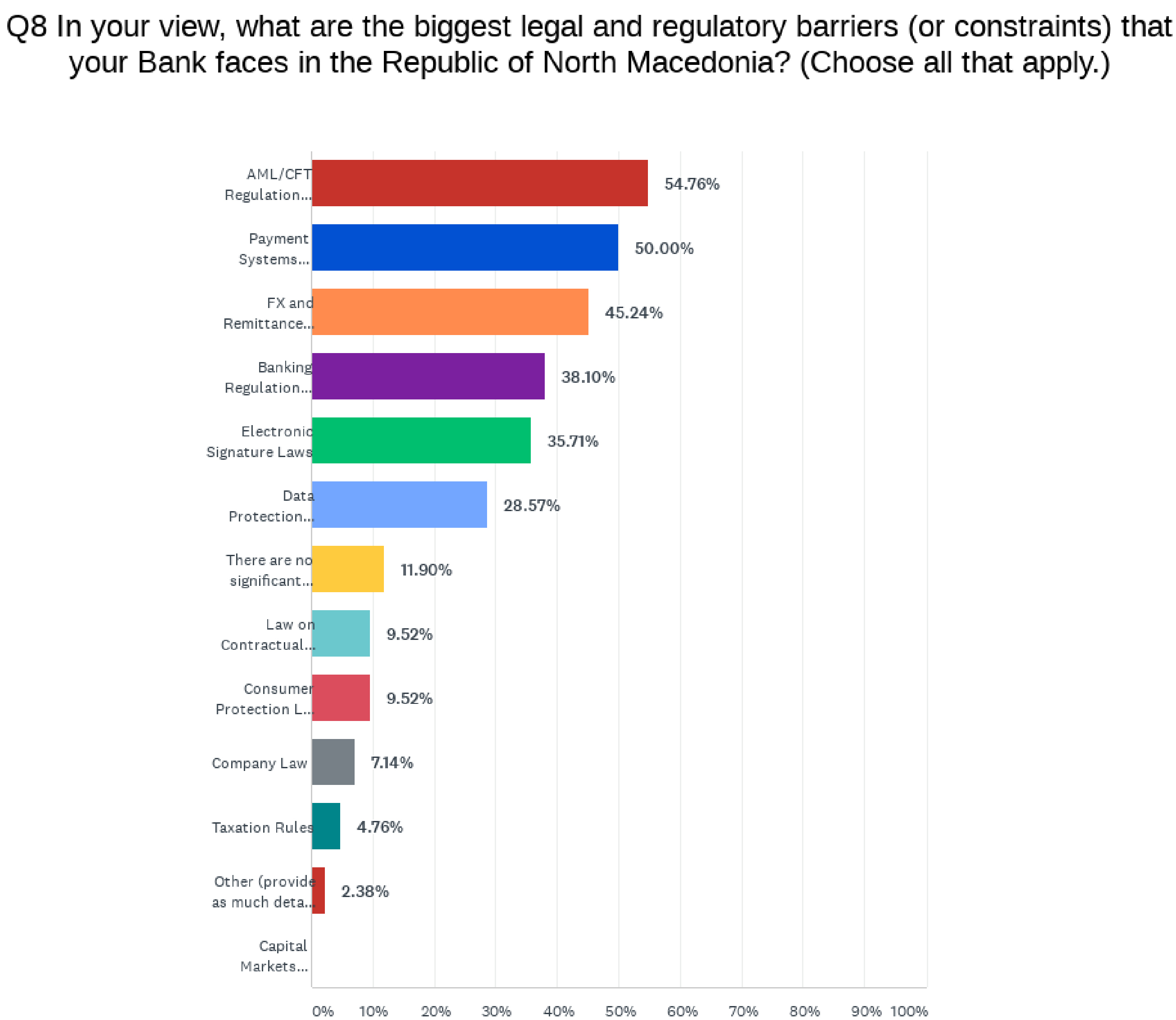


Figure 46: Regulatory Barriers Identified by Banks

ANSWER CHOICES	RESPONSES	
AML/CFT Regulation (e.g. Know Your Client rules for onboarding and transaction monitoring)	54.76%	23
Payment Systems Regulation	50.00%	21
FX and Remittance Regulation	45.24%	19
Banking Regulation (e.g. licensing, capital requirements, etc)	38.10%	16
Electronic Signature Laws	35.71%	15
Data Protection Rules	28.57%	12
There are no significant legal or regulatory barriers	11.90%	5
Law on Contractual Obligations	9.52%	4
Consumer Protection Laws (e.g. lack of laws protecting consumers of financial services)	9.52%	4
Company Law	7.14%	3
Taxation Rules	4.76%	2
Other (provide as much detail as possible)	2.38%	1
Capital Markets Regulation	0.00%	0
Total Respondents: 42		

For 23 of the 42 (54.76%) bank representatives that responded, AML / CTF was the most common cited regulatory barrier. The biggest issue seems to be the inability of banks to be able to identify clients (for onboarding or transaction monitoring purposes), through online channels. Strict interpretation of electronic signature or distance identification rules may explain this sentiment. Electronic signature tokens are issued by two companies in North Macedonia, however, there is a feeling that such a facility may not be used by consumers due to high costs.

Amendments to AML laws are currently going through parliamentary approval process, and the new law may remove some of the actual or perceived regulatory barriers.

Respondents also felt that there were too many prescribed requirements to onboard clients – and this increased the paperwork and friction for customers. Digital identification and digital onboarding of customers has the potential to increase customer convenience and it may also offer banks to reduce costs, as branch infrastructure could be reduced. From a regulators perspective, such laws can never be loosened to ensure protection of customers and the wider financial system against fraud and money laundering.

Naturally, given payments are a core part of banks' product and service offering, the current Payment services, and systems regulation presents a challenge according to 21 of the 42 (50%) of the respondents. The following comments elaborate on the current challenges experienced:

- Payment services and systems regulation should clearly identify and regulate Fintech companies as member of the payment system. In other words, non-bank payment providers should legally have access to the payment system, which is proposed in the new payment laws.
- Implementation of the new Payment services and systems regulation is also a challenge, with some feeling that it is taking too long to get the legislation adopted.
- The laws in relation to foreign exchange transfers need to be revised, as 19 of the 42 respondents (45.24%) said this was an issue.

Aligned with KYC / CTF regulation, electronic signature laws were commonly seen as presenting a problem by 15 of the 42 respondents (35.71%). One respondent suggested that the law does not legally prohibit the use of electronic signature, however, there is concern or precedence of how the courts would interpret the law on the use of electronic signatures in the case of a dispute where a contractual document was signed electronically. Restrictive AML and onboarding regulation, coupled with unclear laws on the use of electronic signature, limits banks' ability to automate certain processes like onboarding.

It is important to stress that the courts will try to objectively interpret the law as far as is possible. Therefore, where a courts interpretation of a law misaligns with the desired outcome of the party that bring the action to court, then often it is the law that need to be changed in a way where it is clear. If the laws are in fact clear, then judges may need to be updated on latest Fintech developments, so they interpret the law in the context of latest developments in Fintech.

Generally, respondents felt that the laws for financial services, are extensive, however, they are also overly protective, and therefore sometimes restrictive. Two respondents felt that over regulation is the biggest challenge, because its compliance requires substantial resources and investment that are not related to the core business. Consumers and regulators may feel that the current laws do not protect them adequately. Regulators have an onerous task of balancing consumer protection with innovation.

Implementing legislative changes in practice is a slow process and harmonising new legislation across different government institutions is also a slow process, and sometimes cause anomalies and conflicts in interpretation.

However, there were a few respondents who felt that there are no legal and regulatory barriers and that Macedonia's financial regulation is aligned with European legislation. Others acknowledged that whilst there are gaps, the relevant legislation are in the process of being updated and modernised. For example, Payment services and systems regulation is undergoing a major revision. However, other laws remain outdated. For example, Law on Obligation is outdated and in need of modernisation, however, there is no specific actions in this regard. New Electronic Signature law is adopted; however, it remains unclear and is not being utilised fully. FX law needs a change, and this may be factored into the new payment services and systems regulation.

4.4.1.2 Regulatory Barriers for Non-Banks

Given the larger number of Non-Bank participants, the results were relatively well dispersed, with no regulatory barriers listed that were cited by more than 25 out of 77 people (32.47%).

Regulation for non-bank lenders was perceived as the most common barrier according to 32.47% (or 25) of the respondents. In North Macedonia, whilst banks are regulated by the National Bank, the non-bank lenders are regulated by the Ministry of Finance, under the Law on Financial Companies. A different regulator with a different legislative framework, is likely to result in inconsistencies in how bank vs non-bank lenders are treated. Respondents identified the following key issues specifically in relation to Non-Bank lending regulation:

- Transfer of receivables is regulated by the Law of Obligations. This law was thought to be *"crudely defined and inflexible"*, making trade of receivables difficult. The pledge register is very outdated and crude. If invoices are not issued electronically, and pledge transfer also not recorded electronically, then there is a significant fraud risk, through double financing of one invoice, for example.
- Weak FX laws and lack of custody accounts (or escrow accounts) further complicate trade of receivables. It is currently not possible to purchase or sell invoices cross border, and in foreign currency.
- Invoice factoring does not have its own dedicated legislation, which should be the case, according to a respondent.

Some felt that setting interest rate caps for non-bank loans, as well as prescription on non-bank loan loss provisioning could hinder this market.

Data protection and consumer protection laws were regarded as barriers or as posing a challenge, according to 25 (32.47%) and 24 (31.47%) respondents, respectively. Nineteen (24.68%) also cited the current legal position on Electronic Signature as a challenge. It is incorrectly perceived that remote client identification becomes challenging when electronic signature and distance KYC is not allowed (as highlighted above, distance KYC and electronic signatures are allowed by relevant laws).

Implementation of GDPR data protection rules was mentioned as a significant challenge by a respondent, and one can assume that consent for data use may need to be given in person. However, it is worth pointing out that regulators confirmed that GDPR rules are aligned with corresponding EU rules, and therefore, consent can be obtained remotely. Again, the financial firms may be interpreting the regulation incorrectly.

Q9 In your view, what are the biggest legal and regulatory barriers (or constraints) that your organisation face in the Republic of North Macedonia? (Choose all that apply).

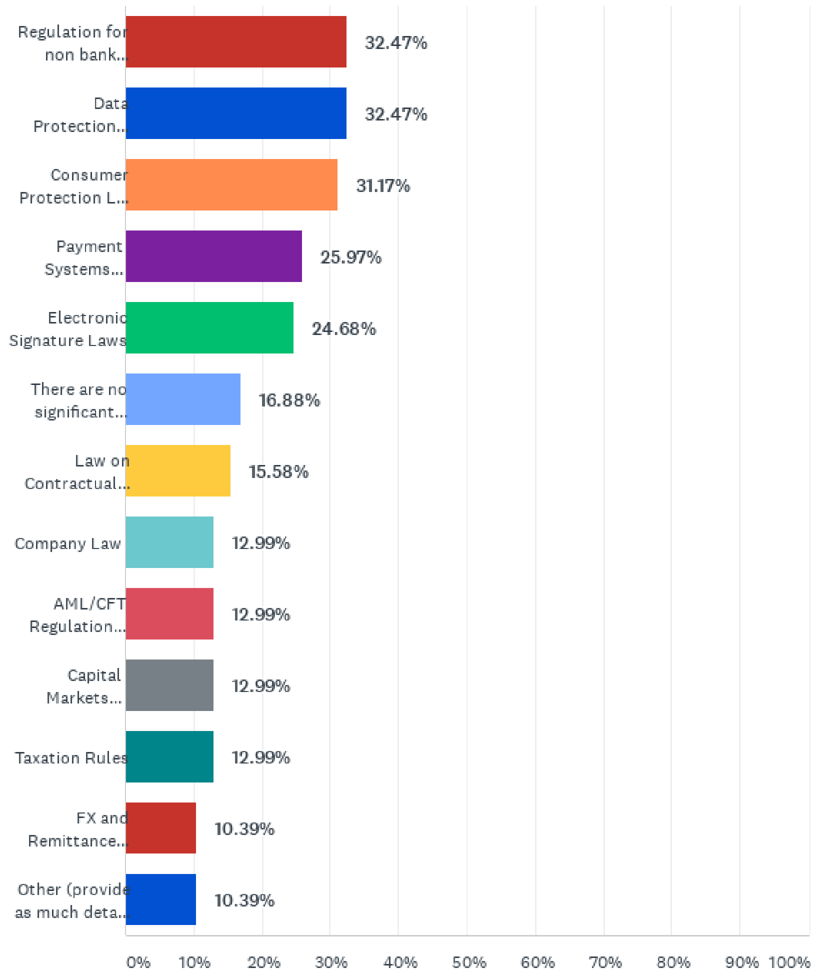


Figure 47: Legal and Regulatory Barriers According to Non-Banks

ANSWER CHOICES		RESPONSES	
Regulation for non bank lenders		32.47%	25
Data Protection Rules		32.47%	25
Consumer Protection Laws (e.g. lack of laws protecting consumers of financial services)		31.17%	24
Payment Systems Regulation		25.97%	20
Electronic Signature Laws		24.68%	19
There are no significant legal or regulatory barriers		16.88%	13
Law on Contractual Obligations		15.58%	12
Company Law		12.99%	10
AML/CFT Regulation (e.g. Know Your Client rules for on-boarding and transaction monitoring)		12.99%	10
Capital Markets Regulation		12.99%	10
Taxation Rules		12.99%	10
FX and Remittance Regulation		10.39%	8
Other (provide as much detail as possible)	Responses	10.39%	8
Total Respondents: 77			

Non-banks elaborated on some of the biggest legal and regulatory challenges as follows:

- Inconsistent regulation for the Fintech industry (and we assume more generally for the financial industry as well). Inconsistent regulation exposes firms to potential cases of non-compliance.

- Different interpretation of the same regulation by different parties – leads to regulatory uncertainty and the risk of non-compliance or blatantly breaking the law.

- Implementation of regulation is prolonged – for example, PSD2 and open banking.

- Current regulation may not always accommodate Fintech business models, so firms carrying out such activities may end up non-compliant or worse, they operate totally outside the regulation.

- More significantly, some respondents felt that current regulation are designed to protect the big incumbent players in the market. Whilst it limits competition, it also takes away negotiating power from consumers, bringing high fees, and potentially the risk that they are not treated fairly.

- One respondent felt that it is not appropriate for Fintech to be subject to the same regulation that apply to financial services companies. From international experience, we appreciate that certain types of Fintech business models need specific provisions in the financial services regulation. However, it must be remembered that Fintech firms carry out financial services activities that are regulated. These activities, in most parts, are the same as what traditional firms carry out – for example, consumer lending or business lending or savings products. Fintech innovators bring new ways of delivering these products. So, in essence, the starting point is to try to fit the business model within existing regulation. Only if existing regulation do not adequately capture Fintech business models, then rule changes may be necessary. This is where a Regulatory Sandbox can be extremely helpful.

From our discussions with regulators, we found that North Macedonia have implemented consumer protection law. Such laws govern all consumer purchases, and there are no specific laws, regulator or mechanisms that protect consumers of financial services (for example financial ombudsman), as is found in the EU, where stringent Treating Customers Fairly rules are policed by the financial services regulators.

4.4.1.3 Regulatory Barriers for Alternative Finance Firms

Interestingly, payment services and systems regulation are the mostlcommonly cited barrier or challenge for Alternative Finance firms (20 out of 33 or 61% of respondents). This contrasts with Banks, where this was the second most cited regulatory or legal barrier. Some respondents acknowledged that it is only the current regulation that presents a challenge, because they are outdated, and that new regulation is in the making and should resolve some of their challenges.

However, the biggest concern for this group is the fact that they cannot directly access the payment systems in the country, which is exclusively only accessible by banks. There was a sense that Fintech and Alternative Finance providers are more likely to bring innovative solutions to the market at reduced costs if they could directly access the payment system. Having to rely on banks makes it impossible to reduce the cost of payments in the country. The new payment services and systems regulation may well address this concern.

Like Banks and Non-Banks, Alternative Finance firms also regarded FX regulation as outdated and in need of modernisation, however, it was only 3 respondents (9%) that seem to have an issue with this regulation. So, it is not an issue that is presenting a challenge for the group as a whole.

Thirteen of the 33 respondents (39%) felt that Banking Regulation presented some form of a barrier. Respondents did not elaborate on what specific aspects of the Banking law is a barrier for them. International experience would suggest that alternative finance firms may want to expand into providing banking related products and services and getting a banking license is challenging in all countries across the world.

Generally, 36% of respondents from this group felt that regulation made it more challenging for non-bank lenders. Banking regulation are by design strict and aimed at protecting depositors. Aspiring bankers need the necessary levels of resources, governance, systems and controls before they are eligible to be awarded a license.

One respondent highlighted (based on their perception) that in North Macedonia *"there are Fintech companies that offer loan products to citizens without being properly regulated".* Banks and non-banking lenders are heavily regulated, which increases operating costs, and therefore unlevel the playing field. The ascertain is that unregulated lenders may be able to be more affordable (from the perspective of interest rates) and therefore the lender of choice. Alternatively, they ascertain that unregulated lenders can make more margin as they have lower costs, and because they are not regulated, they are not subject to the same interest rate caps. Clearly, this statement is referring to the existence of a shadow lending market.

Electronic signature law, data protection and KYC and customer onboarding regulation also featured as regulatory barriers for this group. However, the latter two areas were only cited by 18% of the respondents. Compliance with AML law was thought to be overly complex and expensive for small businesses.

Labour law was raised as an additional barrier because the respondent felt it was overly restrictive and inflexible, and perhaps in need of modernisation. This respondent did not elaborate on how the legislature could improve this law. Certainly, overly restrictive labour law could pose a challenge for early-stage Fintech ventures.

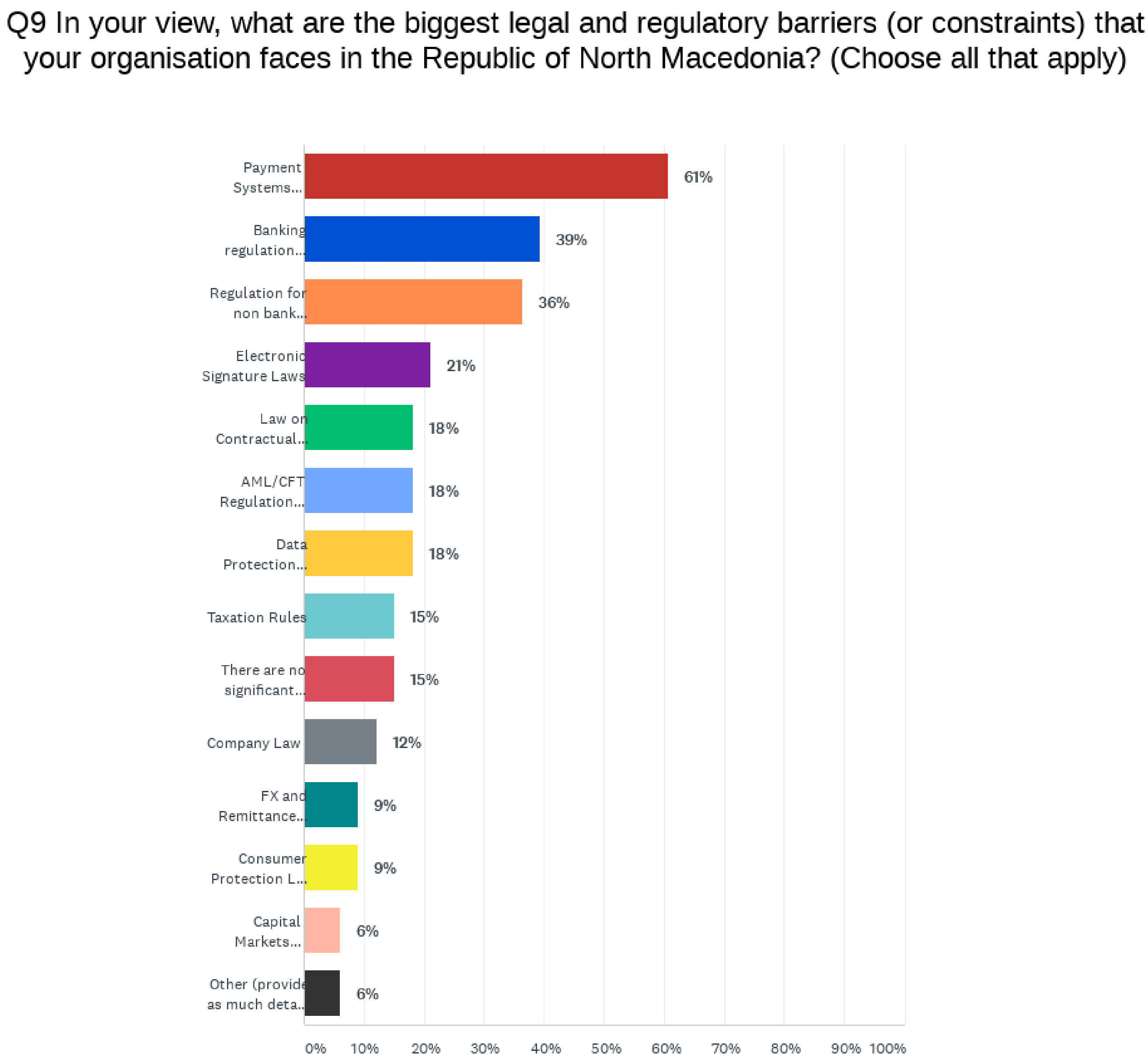


Figure 48: Legal and Regulatory Barriers According to Alternative Finance Providers

ANSWER CHOICES		RESPONSES	
Payment Systems Regulation		61%	20
Banking regulation (e.g. licensing, capital requirements, etc)		39%	13
Regulation for non bank lenders		36%	12
Electronic Signature Laws		21%	7
Law on Contractual Obligations		18%	6
AML/CFT Regulation (e.g. Know Your Client rules for on-boarding and transaction monitoring)		18%	6
Data Protection Rules		18%	6
Taxation Rules		15%	5
There are no significant legal or regulatory barriers		15%	5
Company Law		12%	4
FX and Remittance Regulation		9%	3
Consumer Protection Laws (e.g. lack of laws protecting consumers of financial services)		9%	3
Capital Markets Regulation		6%	2
Other (provide as much detail as possible)	Responses	6%	2
Total Respondents: 33			

More generally, Alternative Finance providers would like to see the legal framework modernised. They would feel that laws and rules should be more transparent (without elaborating on how this could be achieved), especially in relation to their implementation. One respondent also suggest that they would welcome more debate and consultation when new laws are drafted and promulgated.

4.4.1.4 Regulatory Barriers Highlighted by Regulators

A majority of respondents in this group (16 of the 30 regulators that responded to this question, or 53.33%), said that there is a lack of adequate laws that protect consumers. In contrast some of the other stakeholders thought that consumer protection laws were too restrictive. Only 9.52% of bankers and 9% of Alternative Finance firms felt that customers needed more legal protection. However, a greater proportion of Non- Bank respondents (31.17%) and Accelerators & Investors (62.50%) seem to think that consumer protection laws need to be strengthened. As highlighted above, North Macedonia could benefit from specific consumer protection laws for financial services products, and such laws to be supervised and enforced by financial services regulators.

There are no clear rules even for existing financial services business (as opposed to Fintech firms), regarding fair treatment of customers, transparency of financial products, clarity of terms and conditions and consumer rights in general. At the European level, the financial system has clear laws on fair treatment (for example, the UK's FCA's Conduct of Business Source Book[1]) of consumers and these rules are enforced robustly. There is a feeling that even the consumer protections laws that are currently in place are not being adequately enforced.

One respondent claimed that the country does not have a dedicated financial ombudsman. We carried out further research and found that North Macedonia does have an Ombudsman[2], however, their remit extends widely, covering pensions and disability insurance, medical protection, labour relations, urban and construction buildings, child protection, and many more. A full list of their field of work can be found in their website[3]. Given the specialised nature of finance, the country could benefit from a dedicated ombudsman service. Such a body could be staffed with skilled financial professionals, who would be better placed to help consumers with their financial services related complaints.

Implementation of consumer protection law was thought to be more difficult in practice by one regulatory respondent, and they would like to see more progress in this area.

A regulatory respondent highlighted that certain legal standards may need to be relaxed to allow Fintech innovators into the market. However, they cautioned that consumers should be educated in a clear and simple way, about the new Fintech business models and the products and services they introduce. Risks to consumers must be transparently communicated so that consumers are well informed. We can extrapolate this comment further by highlighting that consumer protection should be given priority in all new Fintech products and services.

Payment system regulation was the second most identified regulation that presented a barrier or challenge in the financial system. Specifically, the fact that the payment system is very much concentrated in banking was confirmed as an issue. This is consistent with Alternative Finance players who felt aggrieved by this concentration of power that banks enjoy in the payment space.

There is an expectation of accelerated implementation of the new payment services and systems regulation transposing PSD2 and other relevant EU directives and regulation in the payment area. The legal changes will allow more players to enter the market which may benefit consumers, if consumer protection laws are strengthened for this new development as already highlighted above.

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[1] https://www.handbook.fca.org.uk/handbook/COBS.pdf
[2] http://ombudsman.mk/en/default.aspx
[3] http://ombudsman.mk/en/ombudsman_work/field_of_work.aspx

FX laws make it burdensome for cross border transactions, even for larger banks. The current laws in this area makes it confusing for clients to engage in cross border transactions. The sector would benefit if the FX regime laws were clarified until new laws modernise this area of practice. The FX law is being revised in parallel to the new Payment Laws, and this should address many of the concerns raised above.

It is possible from a regulatory standpoint, to launch an E-Money institution in North Macedonia. However, the capital requirements are high (€1.13 million) and the process to obtain such a license was thought to be in par with the licensing requirements imposed on banks. This high regulatory requirements may be a reason why North Macedonia does not have any licensed E-Money institutions. E-Wallets are popular business models in other countries because they allow for the launch of convenient and innovative financial products.

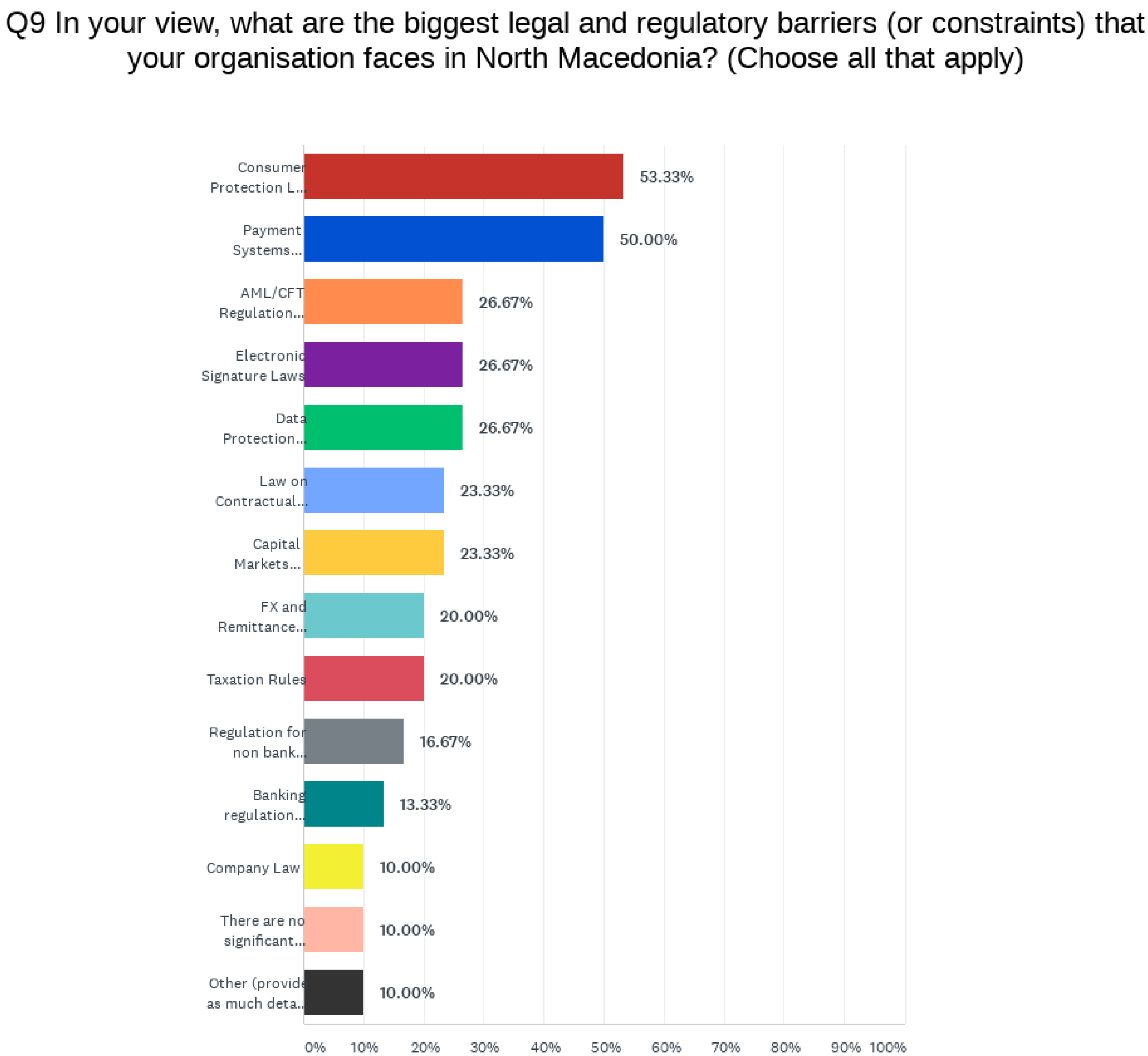


Figure 49: : Legal and Regulatory Barriers According to Regulators

ANSWER CHOICES		RESPONSES	
Consumer Protection Laws (e.g. lack of laws protecting consumers of financial services)		53.33%	16
Payment Systems Regulation		50.00%	15
AML/CFT Regulation (e.g. Know Your Client rules for on-boarding and transaction monitoring)		26.67%	8
Electronic Signature Laws		26.67%	8
Data Protection Rules		26.67%	8
Law on Contractual Obligations		23.33%	7
Capital Markets Regulation		23.33%	7
FX and Remittance Regulation		20.00%	6
Taxation Rules		20.00%	6
Regulation for non bank lenders		16.67%	5
Banking regulation (e.g. licensing, capital requirements, etc)		13.33%	4
Company Law		10.00%	3
There are no significant legal or regulatory barriers		10.00%	3
Other (provide as much detail as possible)	Responses	10.00%	3
Total Respondents: 30			

In the UK for example lower volume E-Money firms can register instead of being fully authorised and registration also lowers the capital requirement[4]. Business can apply for registration as a small Electronic Money Institutions and be exempt from the authorisation and prudential requirements if their total business activities are projected to generate average outstanding e-money that does not exceed €5 million. At the time of registration, the applicant must provide evidence that it holds initial capital as follows:

1. Where business activities generate average outstanding e-money of €500,000 or more, the capital requirement is at least equal to 2% of the average outstanding e-money of the institution, and
2. Where the business activities generate average outstanding e-money of less than €500,000, there is no capital requirement.

Such a transitional approach allows small e-money institutions to launch without being overly burdened with restrictive regulation.

Consistent with other stakeholder groups, 8 of the 30 Regulators (26.67%) also felt that AML/CFT, Electronic Signature Law, and Data Protection Laws could pose a challenge or barrier for Fintech newcomers, and possibly also for incumbents. Limitations in these laws require physical presence of the

[4] https://www.fca.org.uk/publication/finalised-guidance/fca-approach-payment-services-electronic-money-2017.pdf Sections 3.115 and 3.153

person at an institution to identify them to either open a new account or transact in relation to a product or service. Law on Obligations may also impose the need for physical presence in some instances. Fintech and e-commerce solution providers would usually find it challenging to operate in an environment where there is a limitation on online transactions. Whilst electronic signature is allowed, other related legislation may still impose physical presence and therefore make it challenging for the development of new Fintech products and services that can be concluded fully online.

Data protection laws are tough and considered to place much burden, even on larger banks and other financial services companies. Therefore, for smaller Fintech or Alternative Finance Providers, they face an even bigger challenge with limited budget and other resources. From a customer perspective, there is a perception that the data protection law actually provides no more protection, and also places burden on them, because they must produce documents and present themselves physically before they can transact with a financial institution.

Like other stakeholders, regulators also acknowledged that current regulation may not always accommodate Fintech business models. One respondent expressed that that there are many barriers that need to be removed in order to allow innovation and new Fintech players into the market. Most of the laws are designed to protect the market, however, they felt that these laws may be overly protective and thus deter newcomers, because of the regulatory barriers they must overcome (for example, the e-money regulation discussed above). There may be inertia to modernise laws because regulators do not have the capacity and knowledge to factor new technologies and innovation in regulatory change.

Whilst there are initiatives to align financial services regulation with equivalent EU Directives, there are still gaps, according to some respondents. UK and EU have been successful in allowing Fintech players, through the design of a more accommodating regulatory framework, where they create new laws or lower regulatory thresholds for early stage, low risk and low volume businesses. North Macedonia could leverage this experience in designing a similar regulatory framework that is more Fintech friendly.

Finally, one respondent suggested that whilst regulators can develop a Fintech friendly regulatory environment, Fintech and financial services firms must educate their workforce adequately, to ensure the organisation is fully compliant. Regulatory breaches occurring frequently will only lead to a tightening and therefore a more restrictive environment in which Fintech will once again find it challenging to launch and grow their businesses.

4.4.1.5 Regulatory Barriers Highlighted by Accelerators, Incubators & Investors.

Of course, this was a much smaller group with only 8 respondents, so the percentages will be skewed when compared with the other groups. However, this group brings a diverse perspective which are noteworthy. The most cited regulatory barrier or challenge, according to this group, is the regulation related to non-banks (5 out of 8 respondent or 62.5%).

Regulation for Non-Bank lenders was thought to be restrictive (we have no further details on the nature of these restrictions) and therefore prevented access to finance for the riskier categories of businesses, such as start-ups.

This group also felt that private investors should be given more freedom to invest and manage their own risks. For example, a convertible loan is less risky from an investor perspective, as they would acquire equity in the company, if the borrower is unable to pay the loan. From the comment, it would seem that such financial instruments are not readily available from a legal perspective.

One respondent highlighted that in practice there are few modern financial instruments like hedging that would allow investors or lenders to hedge their exposures. Furthermore, they felt that collateral is valued by the appraiser without quality inspection on the capital good or work on which the loan is given. This further limits the ability of lenders to manage their credit risk.

Electronic signature laws were cited as a barrier yet again, and this is consistent with the concern raised by all other groups. This group also felt strongly that there is a need to strengthen consumer protection law. As highlighted above, this contrasts with Banks, who did not see this as a major issue.

Taxation rules are also high on the list of laws that pose a barrier – with 5 of the 8 respondents citing this as a concern. Based on their response, we can interpret that investors may welcome tax incentives for investing in Fintech firms. Alternatively, this could also refer to tax incentives for Fintech start-ups, who would save considerable costs if they have no or low tax obligations in the start-up phase.

From the perspective of Accelerators and Investors, banking regulation is a challenge according to 5 out of 8 respondents. We can only assume that they are speaking from the perspective of Fintech newcomers they support or invest in, who may aspire to obtaining a banking license. There is a high upfront capital investment needed before any entrepreneur can start a bank. This observation is not only restricted to new banking entities but applies across the board to payment institutions and e money institutions as highlighted above.

For this group, payment services and systems regulation were referred to by only 2 of the 8 respondents, as posing a barrier or challenge. Similarly, they did not consider AML and CFT as a significant barrier or challenge, presumably, because they themselves are less likely to be impacted by this requirement.

Q9 In your view, what are the biggest legal and regulatory barriers (or constraints) that your member organisations faces in the Republic of North Macedonia? (Choose all that apply).

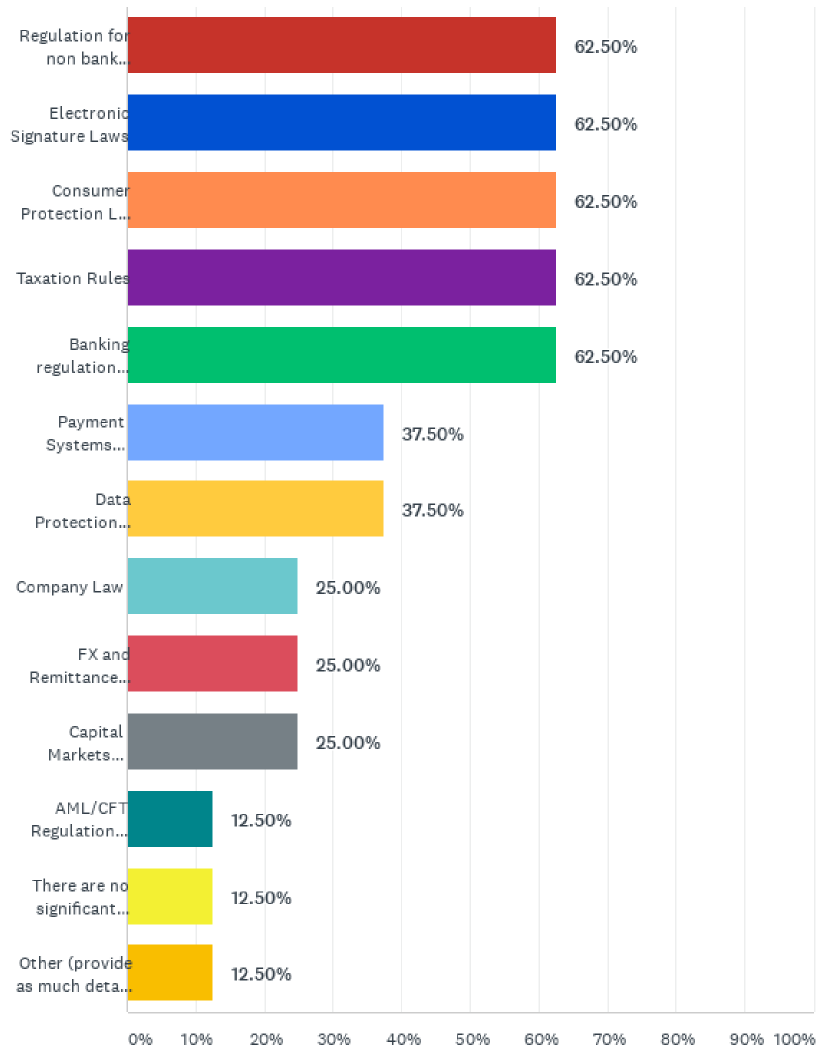


Figure 50: Legal and Regulatory Barriers According to Accelerators, Incubators, and Investors

ANSWER CHOICES		RESPONSES	
Regulation for non bank lenders		62.50%	5
Electronic Signature Laws		62.50%	5
Consumer Protection Laws (e.g. lack of laws protecting consumers of financial services)		62.50%	5
Taxation Rules		62.50%	5
Banking regulation (e.g. licensing, capital requirements, etc)		62.50%	5
Payment Systems Regulation		37.50%	3
Data Protection Rules		37.50%	3
Company Law		25.00%	2
FX and Remittance Regulation		25.00%	2
Capital Markets Regulation		25.00%	2
AML/CFT Regulation (e.g. Know Your Client rules for on-boarding and transaction monitoring)		12.50%	1
There are no significant legal or regulatory barriers		12.50%	1
Other (provide as much detail as possible)	Responses	12.50%	1
Total Respondents: 8			

More generally, there was a sense that regulation for different sectors overlap to some extent and there is sometimes lack of clarity on which regulator is in charge of which sector, and possibly, areas where dual regulators may be involved. Current regulation was also considered as not being fully aligned, as already highlighted previously. Conflicting regulatory requirements can easily lead to non-compliance.

Regulatory ambiguity and uncertainty are further exacerbated by the lack of guidance or explanatory content, or what good practice should look like, offered by regulators. Perhaps more guidance may result in better levels of compliance across the financial sector, from incumbent to start-ups.

Current laws do not factor Fintech business models or innovative financial products and services. In general, respondents felt that the regulation are now in need of modernisation.

4.4.1.6 Regulatory Barriers Highlighted by Government.

We gained a much better understanding of legal and regulatory barriers from interviews we conducted with Government representatives. The survey respondents cited AML and Data Protection as obstacles to Fintech led innovation. However, they reiterated that revision of AML laws is in the process of going through parliament for adoption, and GDPR regulation is likely to be fully implemented in August 2021. So, in future, there should be very few barriers.

Government representatives raised a legal concern which none of the other stakeholder groups raised. They are concerned that there is currently no law that regulates the concept of virtual assets. In their view, there should be regulation to specify who can conduct these kinds of transactions, with the aim of protecting consumers. Without this, there is room for criminal scams or high exposure to financial loss when consumers invest in digital assets.

If a virtual asset is not regarded as a financial instrument (as is the case with crypto assets that are regarded as commodities in some countries), then it could give rise to many legal uncertainties regarding financial services carried out using such virtual assets, or when assets need to be frozen by government if they suspect money laundering or other types of crimes.

There was agreement with other stakeholder groups that there should be consumer protection legislation specifically for consumers who purchase financial services products and services. These rights can be incorporated into laws that govern specific financial services sectors, such as banking, insurance, and investments. If this is the case, then the financial services regulators will have a responsibility to supervise and enforce consumer protection specifically for the financial services sector.

4.4.2 Key Risks and Challenges that Fintech can Bring

On a consolidated basis, there is resounding agreement between all stakeholder groups that Fintech exposes the financial system to higher levels of cyber security threats, financial crime, money laundering and potentially terrorist financing. Of the 194 respondents (26 skipped this question) across the board, 116 (60%) cited this as the key risk.

The next most cited risk by 65 of the 220 respondents (around 34%) was the concern that Fintech firms may not comply with regulation and thereby exposing the entire financial system to risks (perhaps in terms of contagion risk or loss of trust by consumers, who go back to cash usage). Although, one responded clarified that traditional firms may also not adequately comply and expose the system to bigger risks. They suggested that regulators need to ensure that they robustly supervise the market and act on non-compliance.

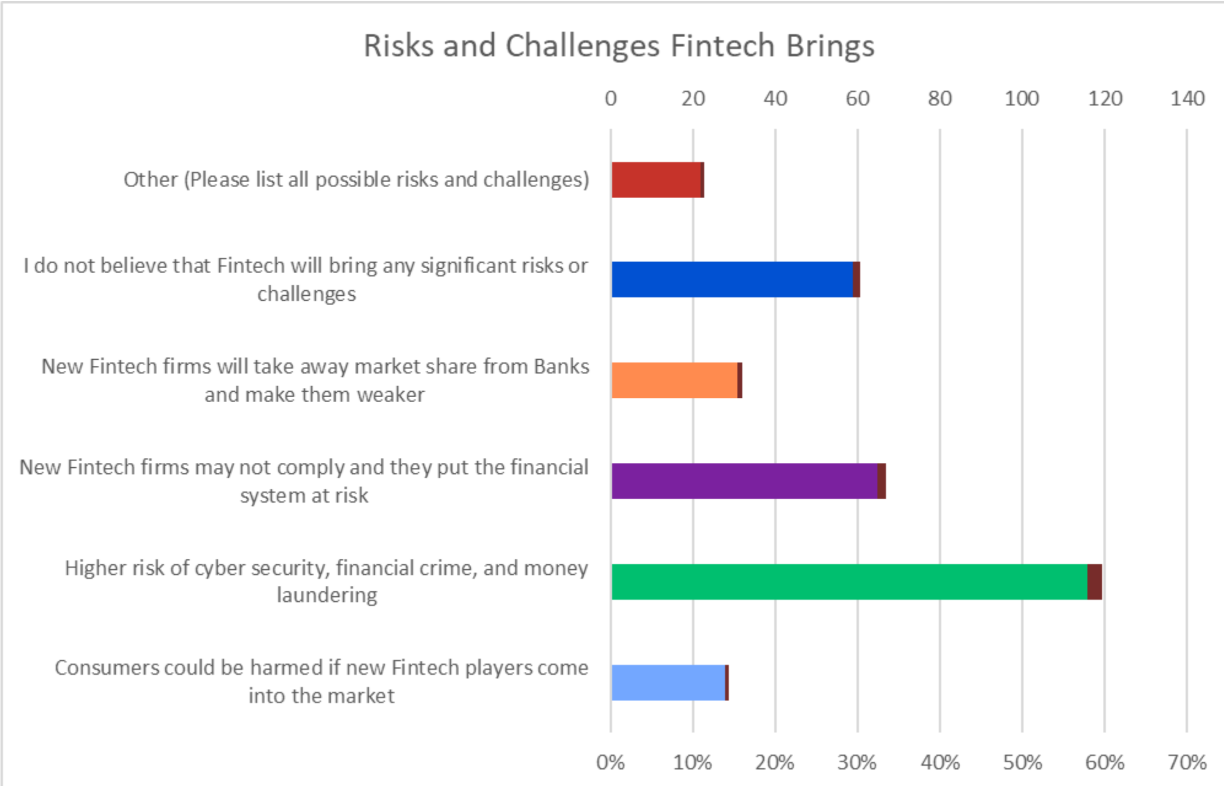


Figure 51: Key Risks and Challenges (Consolidated Results)

One would assume that not complying (without getting sanctioned by regulators) or having lower regulatory requirements to comply would causes an unlevel playing field and incumbents may be concerned that Fintech newcomers would be able to take away more market share because of this disparity. However, the data shows that the financial sector does not believe that Fintech newcomers will take away significant market share away from incumbents. Only 31 of the 194 respondents (16%) expressed that this risk is possible.

Interestingly, 30% of respondents (59 of the 194 respondents) did not believe that Fintech would bring any significant risks or challenges. Other risks and challenges identified, include:

- Privacy of information could be in danger because of attack by hackers.
- One respondent felt that new technology and new payment players coming into the market is likely to drive up payment volumes. High payment volumes on electronic pathways exposes them to the risk of theft (we presume through hacking or through internal fraud).
- The Fintech industry is likely to do better when regulated by a so called "professional institution such as NBRNM".

- With entrepreneurial and larger Fintech players coming into the market, it will change the competitive landscape. This change may put pressure on some firms (newcomers or even traditional financial services players), who could become bankrupt. Failed financial firms always have the possibility of contagion risk that affects the entire market in some way.

- With greater reliance on technology, there is more risk exposure arising from technology failures. For example, automation at scale is great for customer experience and cost reduction. However, if something goes wrong, it will do so at scale, and very quickly impacting thousands of customers before the error is discovered.

- There is a risk and potential challenge, to get company executives to agree to investment budget in building new technology, updating existing technology, and more importantly, educating employees and customers as to the new way of doing things in a digital world. Without investment, Fintech is unlikely to really make an impact in the financial system and to transforming the lives of customers.

- Weak regulators with insufficient knowledge or capacity to monitor Fintech firms, is a risk, and may allow these newcomers to “get away” with substandard compliance – or they may even be able to operate under the radar.

Analysing the risks and challenges at individual stakeholder group level, we can get better insight into which groups are concerned about which types of risks, arising from Fintech. Banks are most concerned of cyber security, the risk of non-compliance by Fintech newcomers and the fact they are likely to take away market share from Banks. Banks do not seem to be as concerned about consumers being harmed by new Fintech players or in-deed, new and innovative Fintech products and services perhaps launched by incumbents or corporates.

4.4.2.1 Risks and Challenges According to Banks

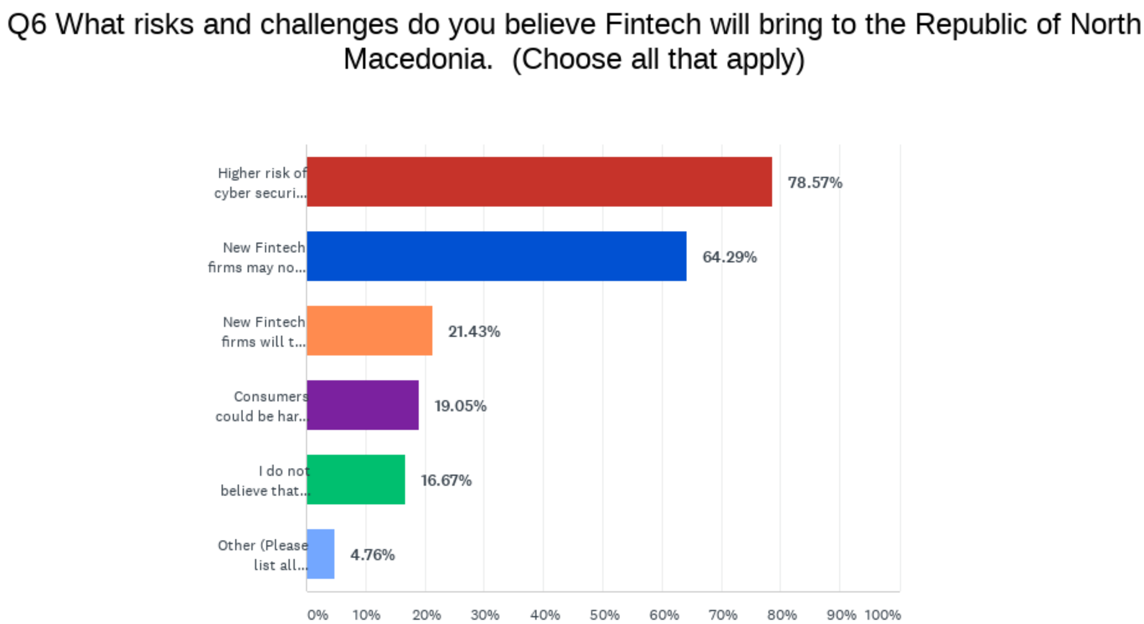


Figure 52: Risks and Challenges Identified by Banks

ANSWER CHOICES		RESPONSES	
Higher risk of cyber security, financial crime, and money laundering		78.57%	33
New Fintech firms may not comply and they put the financial system at risk		64.29%	27
New Fintech firms will take away market share from Banks and make them weaker		21.43%	9
Consumers could be harmed if new Fintech players come into the market		19.05%	8
I do not believe that Fintech will bring any significant risks or challenges		16.67%	7
Other (Please list all possible risks and challenges)	Responses	4.76%	2
Total Respondents: 42			

It is worth noting that 7 of the 42 bankers that responded to this question, felt that Fintech is unlikely to pose any significant risk or challenge to the financial system or to consumers.

A majority (40 of the 78 respondents or 51.28%) of the Non-Bank respondents felt that Fintech is unlikely to bring any significant risks. This group is optimistically biased, and perhaps this is driven by more of a need for modernisation in this sector. Consistent with Banks and other stakeholders, Non-Banks also rate cyber security as a high risk, this group does not believe that customers will be harmed because of Fintech.

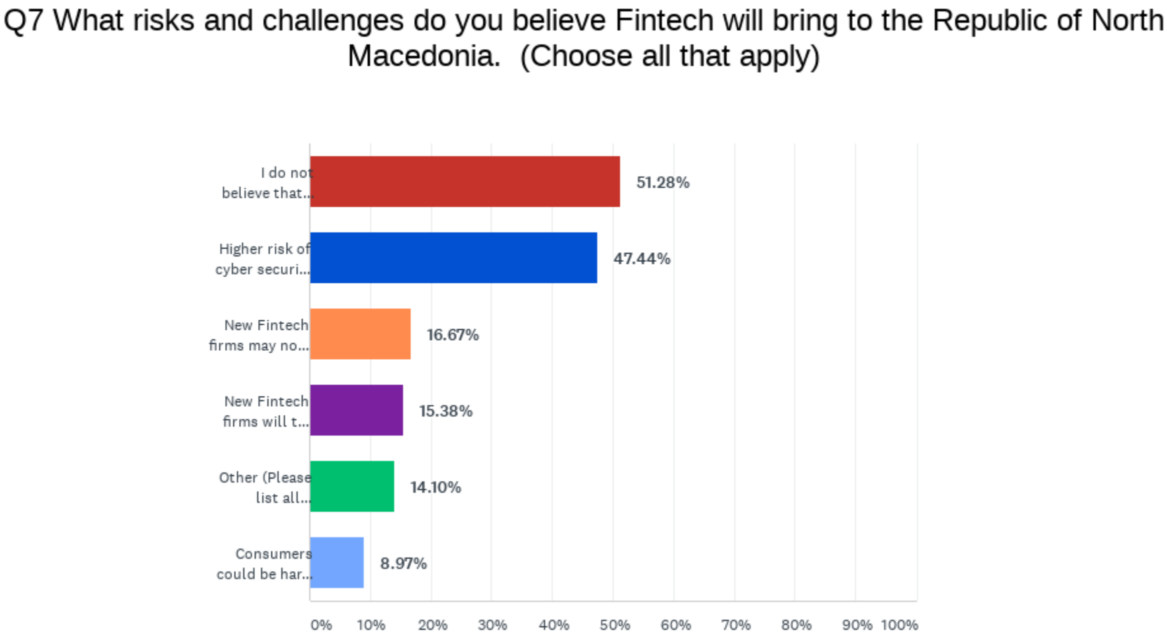


Figure 53: Risks and Challenges According to Non-Banks

ANSWER CHOICES		RESPONSES	
I do not believe that Fintech will bring any significant risks or challenges.		51.28%	40
Higher risk of cyber security, financial crime, and money laundering.		47.44%	37
New Fintech firms may not comply and they put the financial system at risk.		16.67%	13
New Fintech firms will take away market share from Banks and make them weaker.		15.38%	12
Other (Please list all possible risks and challenges below)	Responses	14.10%	11
Consumers could be harmed if new Fintech players come into the market.		8.97%	7
Total Respondents: 78			

Alternative Finance Providers consistently view cybersecurity, financial crime, and money laundering as a significant risk. They are also concerned that Fintech players are less likely to fully comply, and therefore putting the financial system at risk or causing level playing fields concerns. This group also express some concern about consumer harm with new Fintech players entering the market. Interestingly, there were no respondents from this group who thought that Fintech introduces no risk to the financial system. This was the only group with 0% responses in this category. It is interesting to see this feedback coming from this group, who contain Fintech firms. Perhaps this response reflects the maturity of the Alternative Finance and Fintech players, who understand the risks and will plan mitigation strategies to ensure the wider market and consumers are not harmed.

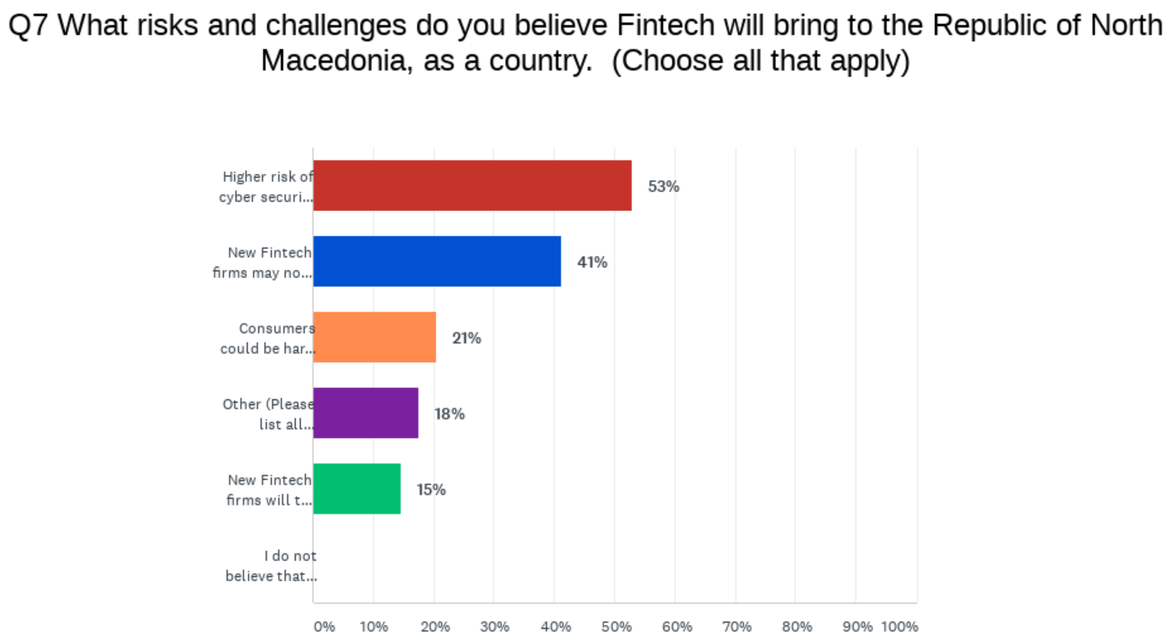


Figure 54: Risks and Challenges According to Alternative Finance Providers

ANSWER CHOICES		RESPONSES	
Higher risk of cyber security, financial crime, and money laundering		53%	18
New Fintech firms may not comply and they put the financial system at risk		41%	14
Consumers could be harmed if new Fintech players come into the market		21%	7
Other (Please list all possible risks and challenges below)	Responses	18%	6
New Fintech firms will take away market share from Banks and make them weaker		15%	5
I do not believe that Fintech can bring any significant opportunities or benefits		0%	0
Total Respondents: 34			

What is interesting is that 30% of the Regulators felt that Fintech will bring no significant risks to the financial system. We would expect all regulators to have expressed some concern. However, their response may reflect their believe that the benefits of Fintech outweigh the risks. Cyber security, money laundering, terrorist financing and financial crime is the biggest concern for regulators.

Again, what is surprising is that only 20% of the Regulators that responded, felt that there is a risk of consumers being harmed by the introduction of FinTech. This contrast to their earlier response where regulators suggested that further regulatory change is needed to protect consumers. We can interpret their comments to mean that they are comfortable that Fintech firms will not harm consumers, but rather that the lack of proper laws may inadvertently cause consumer harm.

Eight of the 30 Regulators (26.67%) expressed concern of non-compliance by Fintech newcomers, and thus exposing the entire financial system in some way. This stakeholder group sees little risk of Fintech firms taking away significant market share from banks. Fintech firms are better off pursuing segments of the market not served by banks. In this way, they start with little to no competition and have an opportunity to scale once they get product market fit.

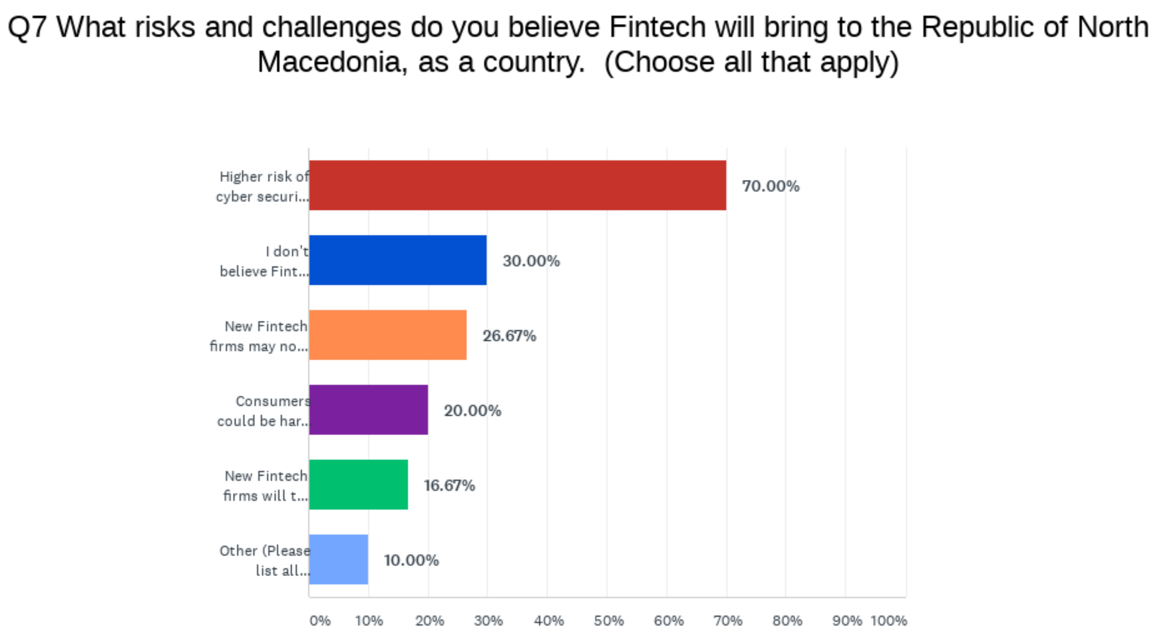
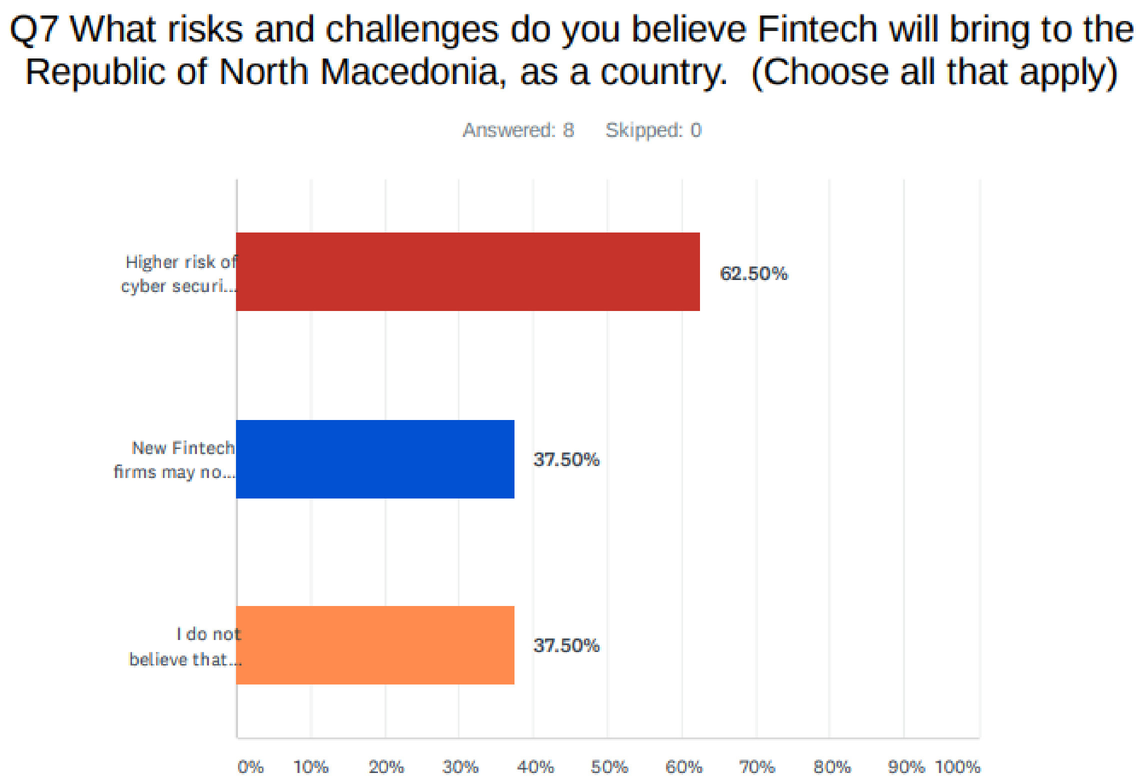


Figure 55: : Risks and Challenges According to Regulators

ANSWER CHOICES		RESPONSES	
Higher risk of cyber security, financial crime, and money laundering		70.00%	21
I don't believe Fintech will bring and significant risks or challenges		30.00%	9
New Fintech firms may not comply and they put the financial system at risk		26.67%	8
Consumers could be harmed if new Fintech players come into the market		20.00%	6
New Fintech firms will take away market share from Banks and make them weaker		16.67%	5
Other (Please list all possible risks and challenges below)	Responses	10.00%	3
Total Respondents: 30			

Accelerators, Incubators, and Investors also regarded cyber security risk, financial crime and money laundering as the most significant risk arising from Fintech being introduced in the country. The second most significant risk is the inability or unwillingness of Fintech firms to fully comply with regulation. A small percentage in this group also believed that Fintech is unlikely to introduce any significant risks to the financial system.



ANSWER CHOICES	RESPONSES	
Higher risk of cyber security, financial crime, and money laundering	62.50%	5
New Fintech firms may not comply and they put the financial system at risk	37.50%	3
I do not believe that Fintech will bring any significant risks or challenges	37.50%	3
Total Respondents: 8		

Figure 56: Risks and Challenges According to Accelerator, Incubators, and Investors

The two respondents from Government, only cited cyber security, financial crime, and money laundering as the biggest risks that Fintech can introduce.

Government respondents brought a different dimension to the risk landscape. As highlighted before, they believe that the lack of IT resources is one of the most significant risks to digital transformation and potentially also the supervision and enforcement of innovative Fintech business models.

Like other stakeholder groups, Government representatives are also most concerned about cyber security risks arising from financial transactions increasingly being carried out on digital channels. Weak cyber defences can also expose North Macedonia to being used in a chain of money laundering transactions.

Fintech is moving fast, and it is an unstoppable force. They fear that regulators may not be able to keep up, and therefore adequately supervise this burgeoning sector.

Consumer harm is another significant concern that Government representatives had. They believe that with more Fintech players entering the market, consumers are more exposed to likely losses. They are mostly concerned about the growing popularity of crypto currencies that can expose consumers to significant losses, and this is the very area where there are currently no laws to protect them.

4.5 Examining the Future & Some Fintech Strategies

This survey is part of a wider program to develop a National Fintech Strategy if it proves feasible. The next phase following this survey, is for the formulation of draft recommendations for a Fintech strategy and re-engaging with stakeholders for a consultation process before the strategy is formulated.

However, we did take the opportunity to get some thoughts from respondents, on what could comprise key elements of a Fintech strategy. We already have some indication of the type of business models that are likely to emerge in North Macedonia. Payment solutions seems to be a commonly cited business model, together with lending, investing and some crypto currency related business models.

4.5.1 Likely Fintech Business Models to Emerge in Republic of North Macedonia

We delved a bit deeper and asked Alternative Finance providers to list the business models they believe are likely to work in North Macedonia, given its unique circumstances and the needs of their population. Respondents felt that these business models could work well:

- Peer to Peer lending
- Online Lending
- Alternative Credit Scoring
- Crowdfunding
- Cryptocurrency related business models
- P2P Payments
- Instant Payments
- E-Wallet solutions
- Insuretech
- Robo Advice for Investments
- Innovation in Asset Management
- Regtech, specifically Electronic KYC solutions
- Cloud Computing

Regulation must therefore expect that entrepreneurs as well as incumbents will approach them for licensing of the above business models. Therefore, regulators could proactively already look to international best practice to learn how the Regulatory Framework needs to change to accommodate these business models. One would assume that the respondents would have done their research to assess the demand for such business models, and if validated, the country would start to see new financial services ventures appearing, provided, regulators open the path to them.

4.5.2 Impact of Fintech in Next 3 Years on Stakeholder Groups

We asked each stakeholder group what they believe would be the impact of Fintech on their organisation in the next three years. Their responses help us understand the direction of travel and the strategies that each group need to put in place to ensure they not only survive but thrive. Their responses also help to inform the development of a National Fintech Strategy.

Banks

They anticipate greater levels of competition in the payments space, impact their market position. So, Banks will need to develop the right strategies to respond to this competition. They also realise that they need to prepare employees for this new digital paradigm and build capacity in the organisation to be able to respond from a knowledge and manpower point of view.

Banks acknowledge that competition will force them to leave the "comfort zone" and aggressively respond to new competition from Fintech players, by developing in house solutions or joint venture with other firms, such as technology providers. A National Fintech strategy should therefore encourage banks to develop their Fintech and Digital Transformation Strategy with support from their regulator.

One of the strengths of incumbents is the fact that they have over the years build the financial services backbone infrastructure, like the payment system. Fintech players will have to rely on this infrastructure, unless they reinvent the backbone, for example by deploying distributed ledger technology. Therefore, a National Fintech Strategy will need to address the infrastructure component and ensure that Fintech newcomers are not constrained by having to rely on incumbents to give them access to the financial infrastructure. A Government controlled centralised payment system infrastructure may be one option to get around this problem, however, it is not without challenges and also likely to come at high costs.

Incumbents will have the opportunity to become more efficient and faster, so they will be able to provide better customer experience at lower prices. Bearing in mind the goal of greater financial inclusion or financial access, Banks will have the opportunity to reach more customers that they were unable to serve before. Thus, a Fintech Strategy should be built on the objective of greater financial inclusion.

A National Fintech Strategy should also engineer strategies that encourage Banks to partner with Fintech newcomers, to accelerate the implementation of their own Fintech strategy. Government or Associations could build platforms where Banks and Fintech Innovators can come together and co-create on a safe platform built in the cloud. Banks will not have to provide Fintech newcomers with access to their systems and client data, whilst at the same time, they can leverage the technological expertise of start-ups.

Non-Banks

The Non-Bank financial services players expect to grow and become market leaders in their field. Unlike Banks, this group potentially has more opportunities to pursue untapped markets because sectors outside banking may be less well developed. A National Fintech Strategy should guide this growth to not only benefit the firms but also focus on improving lives of citizens by providing greater access to the financial system, at cheaper prices. Fintech also has the potential to enhance customer experience by providing remote transactions 24/7. Cost reduction and market expansion are other benefits that Non-Banks will be looking to leverage as they develop and implement their Fintech strategy.

However, this group is mindful of the fact that these benefits are only possible, when the regulatory framework is changed to allow Fintech players to come in and bring about that material change. Thus, there is great emphasis on regulatory change that enables Fintech, and this must be captured somehow in the National Fintech Strategy.

The current COVID pandemic will accelerate the need for Fintech that allows distance transacting. Government and Regulators will need to come to the party and look for ways (through the Fintech Strategy) to remove these legal and regulatory barriers for Fintech led innovation.

According to Non-Banks, the new millennial and generation Z customers will demand new technology channels to carry out their financial services transactions. They will expect competitive pricing, increased responsiveness, and be able to purchase products and services on a pay- as you go basis (for example pay as you drive insurance). Thus, this generation will be primed to adopt Fintech solutions. However, a less sophisticated or more traditional customer base will still expect old physical channels to be available. They will not trust online transactions carried out solely by machines. A Fintech Strategy must therefore factor in consumer education to ensure there is consumer demand for all this innovation.

Alternative Finance Providers (Including Fintech)

Whilst the National Bank's Innovation Hub is operational, a Fintech Strategy must make it easier for Fintech entrepreneurs to more easily engage with regulators, ask for support and be allowed to test their innovative products and services in a safe way. Innovation is likely to come from any segment of the financial system, and Regulators will have to ensure that they work on collaboration so that when innovation straddle different sectors regulators have a seamless mechanism to support the entrepreneur without them having to deal separately with two regulators. Fortunately, there is much precedence across the globe in regulators developing support mechanisms for innovation and entrepreneurship.

A well-functioning Fintech ecosystem is even more crucial for this group. Even with regulatory certainty, Fintech ventures will not be able to come to the market, let alone scale, if they are not supported by Accelerators, Incubators, Investors, Technology Providers and Talent Providers. Therefore, a National

Fintech Strategy will have to be devised in such a way as to ensure that all the components of the ecosystem are incentivised to support the ecosystem. Accelerators and Incubators could receive grants for example, whilst Investors could be incentivised with tax rebates. A portal developed by Government of relevant Associations could connect Fintech entrepreneurs to technology solution providers. Government could design national strategies to encourage the development of IT programmers.

5 Appendix A – List of Participating Firms

List of firm asked to participate. As the survey was anonymous, we cannot ascertain which firms actually participated

No	Organisation
GROUP #1 - BANKS & BANKING ASSOCIATION	
Banks & Banking Association	
1	Silk Road Bank AD Skopje
2	Centraina Kooperativna Banka AD Skopje
3	Halkbank AD Skopje
4	Komercjaina Banka AD Skopje
5	Kapital banka AD Skopje
6	NLB Tutunska banka AD Skopje
7	Ohridska Banka AD Skopje
8	Procredit Bank AD Skopje
9	Sparkasse Bank AD Skopje
10	Stopanska Banka AD Bitola
11	Stopanska Banka AD Skopje
12	TTK Banka AD Skopje
13	Univerzalna Investiciona Banka AD Skopje
BANKING ASSOCIATION	
14	Macedonian Banking Association
GROUP #2 - INSURANCE COMPANIES, BROKERAGE & LEASING HOUSES & OTHER FINANCIAL FIRMS	
Insurance companies	
15	Macedonia Insurance -Vienna Insurance group
16	Triglav Insurance
17	Sava Insurance
18	Evroins Insuruance
19	Winner -Vienna Insurance group
20	Eurolink
21	GRAWE Insurance
22	GRAWE non-life

23	UNIQA
24	Croatia Insuruance
25	Insurance Policy
26	Halk Insuruance
27	Croatia Insuruance Non-Life
28	Winner Life -Vienna Insurance group
29	UNIQA Life
30	Triglav Insuruance Life
Insurance brokers	
31	Euroexperts
32	Euromaksinsurunace
33	Inbroker
34	WVP
35	Mobility broker
36	Nase osiguruvanje
37	JDB broker
38	Delta Ins broker
39	A-Tim
40	Legra
41	Korab Ins
42	Certus
43	Nov Osiguritelen broker
44	CVO broker
45	Asuc broker
46	Mega broker
47	S.T.M. Broker Plus
48	AM Broker
49	VIA broker
50	VEBER GMA Bitola
51	SN Osiguritelen broker Bitola
52	MAK trend Broker
53	Porshe Broker
54	Dzoker Ins broker Gevgelija
55	EOS broker
56	Petrol Oil Broker
57	Auron Broker Struga
58	Riziko Insurance
59	Win broker
60	Brolins
61	Seda broker
62	Polisa Plus
63	Super broker
64	AMG Premium

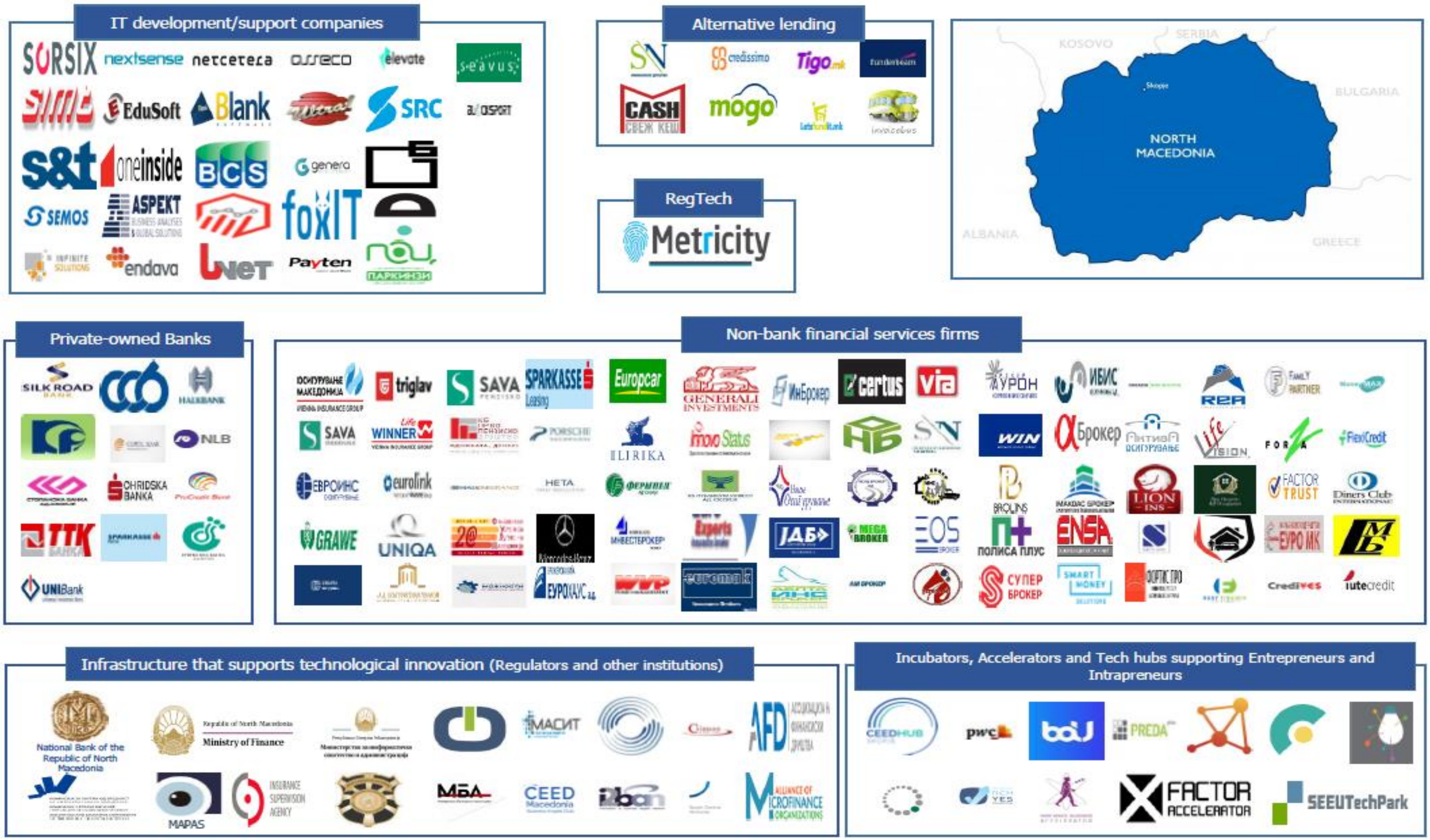
65	IBIS Insurance Strumica
66	Alfa Broker Kumanovo
67	Makoas broker Strumica
68	Ensa Broker
69	Smart money solutions
70	Omada insurance
Leasing companies	
71	Sparkasse S Leasing
72	Mogo
73	Porshe leasing
74	Heta leasing
75	Master leasing
76	Eurolease Auto
77	Europecar
Pension companies	
78	Sava
79	KB Prvo
80	Triglav
Brokerage houses	
81	Ilirika Investments
82	Investbroker
83	Inovo broker
84	Fershped broker
85	Eurohaus
Investment fund management companies	
86	WVP Management Fund
87	Ilirika Fund Management
88	Generali Investments
89	Innovostatus
90	KB Publikum Invest
Insurance agents	
91	Trend MR
92	Aktiva Insurance
93	Lion ins
94	Safe life
95	Fortis pro
96	Rea Insurance group
97	Life vision
98	Vash prijatel
99	Family partner
100	Moe osiguruvanje

Financial companies	
101	M Cash Macedonia
102	TIGO Finance Macedonia
103	Iute Credit
104	Easy Finace
105	Mogo Finance Macedonia
106	Forzza-Digital finance international
107	Credissimo
108	SN Finansii Bitola
109	Factor trust
110	Euro MK
111	BAVAG
112	Mladinec
113	Pro Inter Capital
114	Denar Krediti
115	Smart krediti
116	Credi yes
117	MoneyMAX
118	Flex credit
119	PEON Strumica
120	Pelister Bitola
121	Cemak krediti
122	Diners MAK
123	AL KOSA Stip
124	Pan Interfinance
125	FD financial credit center BS
126	Makom Zalozi
127	DP Bitola
128	Faktor In
129	Premium Finance
GROUP #3 - FINTECH FIRMS + MICROFINANCE + INFRASTRUCTURE / SOFTWARE FIRMS + ALTERNATIVE FINANCE FIRMS + ASSOCIATIONS	
FINTECH Firms	
130	Cloudasset Oy. Helsinki, Finland
131	Eligma Ltd. /GoCrypto
132	Metricity/Sayteh R&D Skopje
133	GSIX/GPAY
134	Protonson Skopje
Microfinance	
135	CEP Moznosti Skopje

136	ZG FULM Skopje
137	Microcredit fondation Horizonti Skopje
Software & Infrastructure Providers	
138	Payten North Macedonia
139	Asseco SEE Dooel - Macedonia
Alternative Finance providers	
140	Digital Identity SA
141	Sybo Group
OTHER	
142	EOS (Debt Purchase, Debt Collection & Recovery)
ASSOCIATIONS	
143	MASIT ICT Chamber of Commerce
144	AIESEC Alumni Macedonia
145	Alliance of Microfinance Organisations
146	Alternative Financial Services Association of North Macedonia
147	Macedonian Enterprise Development Fondation - MEDF
GROUP #4 - ACCELERATORS, INCUBATORS + TECH HUBS + ENTREPRENEURIAL SUPPORT + INVESTORS + DEVELOPMENT PARTNERS	
ACCELERATORS, INCUBATORS & ENTREPRENEURIAL SUPPORT	
148	SEEU Tech Park
149	Youth Entrepreneurial Service Foundation (YES)
150	CEED Hub Skopje
151	X Factor Accelerator
152	UKIM Accelerator
153	PREDA Plus MK (Bitoal Acceleration Program)
154	Startup Macedonia
155	Seavus Accelerator
156	PWC Innovation Hub
157	Skopje Lab
INVESTORS & DEVELOPMENT FUNDS	
158	Fund for Innovation & Technology Developments

GROUP #5 - REGULATORS	
National Bank for the Republic of North Macedonia	
159	NBRNM
Ministry of Finance Regulating Non-Banks	
160	Ministry of finance
Securities & Exchange Commission	
161	Securities & Exchange Commission
Insurance Supervisory Agency	
162	Insurance supervision agency
Pensions Regulator	
163	MAPAS
GROUP #6 - GOVERNMENT & MINISTIRES	
MINISTRY OF FINANCE	
164	Ministry of finance
MINISTRY OF ECONOMY	
165	Ministry of economy
MINISTRY FOR INFORMATION SOCIETY AND ADMINISTRATION	
166	Ministry for information society and administration
PERSONAL DATA PROTECTION AGENCY	
167	Personal Data Protection Agency

6 Appendix B – Landscape of the FINTECH Ecosystem in North Macedonia



1. **Metricity** https://metricity.mk/
   Metricity is a software solution that analyses the risk of money laundering and terrorist financing, verifies the client, and ensures compliance with the Law on Prevention of Money Laundering and Terrorist Financing (LPDPPT). Metricity is designed for entities that are obliged to take measures and actions to prevent money laundering and terrorist financing in accordance with the LPPF, for companies that want to introduce higher standards in their operations and to ensure that the people they work with will not expose their business at additional risk.

2. **Tigo Finance** https://www.tigo.mk/
   TIGO FINANCE is a modern financial company with high professional standards that offers easy and fast solutions for microcredit of individuals. This company is unique in the market with the fastest credit rating system. The have automated and intelligent system which allows them to process many applications in a noticeably short time and immediately assess customer creditworthiness. As a result, they respond in just 30 seconds with a high rate of approved loans. TIGO FINANCE is the founder of the Association of Financial Companies and is committed to responsible lending, for long-term cooperation, positive assessment by consumers and market regulation institutions, as well as a higher level of protection and clear rules of cooperation with clients.

3. **Credissimo** https://credissimo.mk/
   Credissimo is a dynamic high-tech company, which is among the fastest growing Fintech structures in the non-banking financial sector. As a non-bank financial institution, Credissimo provide short-term financing. As a high-tech company, the company is constantly striving to develop and integrate innovative services that are in step with the incredibly fast development of the digital world. Credissimo is primarily a user-oriented company. Their decisions are in response to the needs and desires of their customers. Driven by the desire to be the most useful and easily accessible to every user, they have offered a complete online loan application as well as approval in just a few minutes. The company actively works to fulfil the established good practices in customer relations and their imposition as a market norm.

4. **ULTRA Computing** http://www.ultra.com.mk/newweb/index.asp
   ULTRA Computing is the pillar of the Macedonian ICT industry. With more than 20 years' experience on the market, ULTRA Computing is one of the leading companies whose portfolio comprises system integration, design, development, and implementation of complex information systems as well as provision of services from all levels of IT projects' lifecycle. Most of the governmental institutions, as well as several public and private companies in the Republic of North Macedonia are running on the software and hardware platforms designed by ULTRA Computing. Ultra is also one of the biggest IBM and Oracle Business Partners in Republic of North Macedonia,

as well as representative and/or dealer of other world leading companies in the ICT field. In 1995 Ultra became the pioneer of Internet service provision in Republic of North Macedonia, by establishing the company UNET, the first ISP in Republic of North Macedonia.

5. **ASSECO** https://asseco.com
   The Asseco Group is present everywhere were technology and business impact everyday life. They are a federation of companies which operate worldwide. It is led by Asseco Poland, which is one of the first start-ups established in Poland. They believe that together with their customers they can improve the comfort of many people. They use their competencies and experience to create software which has a real impact on the present and the future. Their systems are used by banks, energy and telecommunication companies, the public sector, and the health care service. They have been constantly improving their competencies and investing in research and development because the most important thing for us it the success of our customers. Such an approach to business has enabled us to become the market leader in Poland, Israel, South-Eastern Europe, and Central Europe.

6. **SN Finansii** https://krediti.com.mk/
   FD SN Finance is a financial company and the first Fintech company in Bitola with domestic capital which is mainly focused on approval and payment of loans, issuing guarantees and factoring. Their proactive approach to customers, quality of service and speed of approval and payment are undoubtedly key factors for their success.

7. **ASPECT DOO Skopje** https://aspekt.com.mk
   ASPEKT is Software Development and IT Consulting Company delivering flexible, scalable, and integrated software solutions, comprised under the Aspekt Product Suite specialized for financial industry segments. With clear industry focus and vast expertise in software development they strive to deliver high quality software solutions and IT services that address the specific needs of their clients and help them accomplish strategic goals using cost-effective and efficient approaches. Their mission is directed toward constantly innovating and improving software platform and using technologies that can utilize better operational results for their clients through higher flexibility on user side and prompt integration of industry specifics. Their work environment includes professionals with extensive technology knowledge, vast experience in IT industry and real industry insight in financial business processes, regulative and trends. To stay competitive, they constantly invest in improving their skills and knowledge through visit and active participation on industry specific events and collaboration with industry leaders and

professionals. They have strong research team committed to performing research and analyses of industry trends, identifying innovations and enhancements, and integrating new features to the software platform that are intended to streamline business operations and increase client productivity. Gathered knowledge in software development, process engineering, infrastructure and data migration is utilized in delivering Aspekt IT Services used for the purposes of supporting their clients in conducting core business operations for cross-industry segments.

8. **EDUSOFT** - https://edusoft.com.mk
   Edusoft is a software development company established in 1990. They specialize in the design, development, and implementation of software applications. Their client base consists of diverse range of companies, from small to large businesses as well as governmental institutions. The company possesses strong knowledge and experience in providing software services for industries such as finance, insurance, judiciary, veterinary, engineering, construction etc. They take pride in a highly ethical approach to business and this commitment comes from the top down. Most of their employees have made many years significant contribution to the business and this wealth of experience is regularly refreshed with younger talented people joining the company often straight from higher education.

9. **IUTE** - https://iutecredit.mk/
   IUTE credit is a financial company that creates an exceptional user experience in financing individuals. They provide fast financing and access to money services.

10. **M CASH** - https://mcash.mk/
   M Cash is a financial company with the main goal to provide the fastest, the easiest and the most affordable financial service. They tend to become a preferred lender for their customers, which offers transparent, affordable, and fast online loans, provided through first-class personal and professional services. A company that values and empowers its teams and employees and takes care of their professional development. They try to be a respected and reliable partner who performs the activity in a transparent, responsible, and ethical way.

11. ENDAVA – https://www.endava.com/
ENDAVA is a global Technology Company. They have helped some of the world's leading Finance, Insurance, Telecommunications, Media, Technology, and Retail companies accelerate their ability to take advantage of new business models and market opportunities. By ideating and delivering dynamic platforms and intelligent digital experiences, they help their clients fuel the rapid, ongoing transformation of their business. By leveraging next-generation technologies, their agile, multi-disciplinary teams provide a combination of Product & Technology Strategies, Intelligent Experiences, and World Class Engineering to help their clients become more engaging, responsive, and efficient. Endava has 6,624 employees, as of June 30, 2020, located in close to client locations in Denmark, Germany, Netherland, United Kingdom, United States and nearshore delivery centres in the European Union: Romania, Bulgaria; Central European Countries: North Macedonia, Moldova and Serbia; Latin America: Argentina, Colombia, Uruguay and Venezuela.

12. **INFINITE Solutions** – https://infinite.com.mk
Infinite Solutions is in Skopje, Macedonia (South-Eastern Europe), offering fully fledged services for software development and engineering empowering effective near-shore management to its clients. Recognized both on local and regional markets since 1995, initially known as ICL and later acquiring regional Fujitsu Services partner, Infinite continues to operate with higher client expectancy and flexible solution offers. Infinite Solutions is a pioneer in Interactive Virtual Teams (IVT) which enables the client and the service provider to establish instant and successful communication channels and support off-shoring and near-shoring business models, thus keeping the deadlines on time and on track.

13. **Inside Development** – https://one-inside.com
Founded in 1999 and headquartered in Switzerland, **One Inside** has always been a well-trusted partner integrating reliability, appreciation, and authenticity. Today they are proud to be one of the only dedicated Adobe partners delivering sustainable digitisation projects based on modern web and digital marketing technologies. Their expertise has its roots in Adobe Experience Cloud, but goes beyond it with mobile development, integrated chatbots and cutting-edge technology such as virtual reality. One Inside is spread over 5 locations in 3 countries and counts more than 70 employees.

14. **S&T** http://snt.com.mk/
S&T is the leading provider of IT consulting, IT solutions, and IT services in Central and Eastern Europe (CEE) and in the Germany-Austria-Switzerland (D-A-CH) region. S&T corporate headquarters is in Vienna. The company has been listed on the Vienna Stock Exchange since 2003. S&T has subsidiaries in 17 countries: Albania, Austria, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Hungary, Macedonia, Moldova, Montenegro, Poland, Romania, Russia, the Republic of Serbia, Slovakia, Slovenia, and Ukraine. S&T works closely with selected strategic partners, for whom the S&T Group is also a key partner and who, like S&T, are prepared to invest significantly in successful development of the partnership. Some of S&T's current strategic partners are international brands like HP, SAP, IBM, Microsoft, Oracle, and Cisco.

15. **Semos** http://semos.com.mk/
Semos is leading IT solutions provider based in Skopje – Republic of North Macedonia with 30 years of market presence. Through years of experience and by carefully listening to our client's needs we gain niche and business process knowledge which in return empowers our team to deliver top of the line custom tailored solutions for their businesses. Their team of experts is up to the highest professional and ethical standards, experienced to work in multinational and multicultural teams, constantly trained in the cutting-edge technologies. Security, robustness, and innovation are built in every design of our products and services and are professionally managed throughout the process of development and maintenance. The built-in craftsmanship and expertise sum up in unique client experience, trust, and long-lasting partnerships.

16. **Blank Software** http://blank.com.mk/
Since its establishment in 1992, "BLANK" has set the postulates for work and cooperation in customer relations (legal entities and individuals), which are based on full professionalism and cooperation, to meet customer requirements for functionality. of the installed software. **Blank software** provides complete solutions for commercial-financial records, individual, network and interconnected - at the request of the user. They also make custom software according to the needs of the customer. To support the installed application software are our contracts for its maintenance after the expiration of the warranty period. They perform complete computer engineering, with the fact that renowned external companies and associates are included in our work and performance.

17. **BCS** http://bcs.com.mk/index.php/mk-mk/
    BCS was founded in 1992 by the former employees of the Macedonian representative office of EL BULL HN. At that time, the main activity of BCS was the installation of Honeywell / Bull mainframe systems. In 1994, BCS in addition to hardware maintenance expanded its services by offering card solutions and products to the Datacard Group. BCS became a company with the largest installed base of mainframe computers and the first IT company in Republic of North Macedonia to install the first systems for encoding and embedding cards, ATMs, and card acceptance systems. The initial package of services, managed by an excellent team of highly trained computer experts, qualified the company for entry in the magazine for the Top 100 most successful companies. For five years in a row, BCS was ranked as one of the Top 100 most successful companies in Republic of North Macedonia. Immediately after this recognition, in 2000 the BCS launched a new major enlargement program. Through partnerships with BULL, NEC, OLIVETTI, AVG, GIGATMS, MICROSOFT, MOXA, our customers have the most benefits and benefits level of support. By obtaining the ISO 9001: 2008 Quality Management System in 2002, BCS has demonstrated its commitment to achieving top service.

18. **FOXIT** https://www.foxitsoftware.com/
    Foxit's mission is to develop market leading and innovative PDF products and services, helping knowledge workers to increase their productivity and do more with documents. To fulfil Foxit's vision to be the #1 brand in PDF solutions, Foxit addresses the needs of three distinct market segments: 1) End-user productivity, 2) Enterprises automation and 3) Developer solutions. Foxit has over 560 million users and has sold to over 100,000 customers located in more than 200 countries. The company has offices all over the world, including major locations in the US, Asia, Europe, and Australia.

19. **SIMT** http://www.simt.com.mk/
    SIMT is project-oriented company with 26 years of experience in the field of information engineering, consulting, execution, and implementation of solutions. In each field they have highly qualified staff working on planning, design, implementation, monitoring and maintenance of projects. SIMT has 30 full-time employees. In addition to the employees, SIMT dooel Skopje additionally hires eminent experts from the country and abroad for the needs of various projects. They are committed to continuously improving the quality of products and services. They managed to achieve the goal through the implementation of the best standards and practices that ensure consistency and standardization in everyday work.

20. **SORSIX** https://www.sorsix.com/

    Sorsix builds mission-critical systems for finance, telecommunications, and Health Care. Their systems keep planes flying, banks working, and phones connected. Ten million people live and prosper on their Health Care Pinga platform, spanning three countries. Sorsix believes in building systems that never go down because lives and businesses depend on them.

21. **UNET** - unet.com.mk
    UNET is the first Macedonian Internet Provider established in 1995, on April 20th, the date that officially is counted as the start date of the Internet communication in the Republic of Macedonia. UNET permanently develops, increases, and improves following and implementing the new trends, techniques and technologies in the particular parts of the IT sphere from it is establishing up today Although UNET today is primarily focused on other Internet services, UNET offers Internet access at the local level at the territory of the Capital Skopje based on broadband technology. The customized Internet solutions for the business user group are in case and through own point to point links UNET provides fast and quality approach with guaranteed speed. More then 2000 (com.mk) domains are registered in representation of UNET, more than 500 web pages are created by UNET. We are the creators of the first Macedonian web page: http://www.mkd.com.mk.

22. **SRC** - https://www.src.si/
    SRC is an information technology company that digitally transforms corporations, financial institutions, and the public administrations. They accomplish this by combining outstanding expertise with continuous development that stays in stride with cutting edge information technologies across all platforms. They optimize business processes in three major ways: 1) By implementing innovative technological solutions fully tailored to the needs of the client and their existing technologies 2) By offering consultancy and assistance in business process optimization based on decades of experience in all branches of the economy and public governance 3) By taking over the clients' IT infrastructure or complete range of business processes, which provides for better cost control, outstanding data security and improved resource efficiency.

23. **NETCETERA** - https://www.netcetera.com/home.html

As a globally active software company, NETCETERA support their customers with future-oriented products and individual digital solutions. They cover the entire IT life cycle, from idea generation and strategy to implementation and operation. The balanced combination of the latest technologies and proven standards ensures investment security, both for major projects and for innovative start-ups. They accompany their customers on the best way to their digital business goals. Their headquarters are in Zurich, Switzerland, with additional locations in Europe, Asia, and the Middle East.

netcetera

24. **Next Sense** - https://nextsense.com/

Utilizing a leading-edge technology, Next Sense`s products and solutions are also founded on our expertise and experience in building digital solutions for government and renowned enterprises in Telecom, Finance, and other industries across Europe and wider. Being committed to guiding the companies through the digital transformation process, they assist them in changing the way they do business from paper to digital. They envision and develop complex ICT solutions, enabling them to implement intelligent solutions for automation of their internal and customer-related processes. From secure, trusted and fully compliant digital solutions for signing, sealing, timestamping, verification, e-delivery, and e-documents to tailored e-Parliament and e-Government worldwide – the domain knowledge, tools, techniques, and technology enable them to reach opportunities worldwide. They are recognized as a partner of trust, a company with vision and know-how to create value for our clients. Their vision and commitment to innovation and excellence in the technology marketplace, has brought them many recognitions and awards. Passion and dedication to work are the keys to their success. Achievements from the past and challenges of the new age empower them to the next level of experience.

nextsense

25. **SKOPJE Seavus** DOOEL https://seavus.com/
Seavus plays an active part in the ever-changing society. By sharing and expanding knowledge, and by turning it into products and services, they empower their partners to achieve their goals in their community. What drives our company's spirit is 'innovation' – creating next-generation solutions that lead to success. With a bold mindset, we always propose fresh solutions and approaches to existing and upcoming challenges. We aim to reinvent the art and science of software development and create software solutions that will improve our client's business processes. Seavus is a company whose experts have the knowledge and expertise to understand clients' needs, respond to their requests, and surpass their expectations.

26. **BlockSport** https://blocksport.io/team/
Blocksport is a Swiss-based SportsTech company. Our B2B SaaS-based platform supports Esports and Sports clubs with a dedicated white-label mobile solution to access new revenue sources, to engage their fan community and analyse brand visibility.

27. **Akauntera** https://tracxn.com/d/companies/akauntera.com

Akauntera provides online invoice management software for businesses. It features solutions for creating & sending invoices, customer management, tracking expenses, reporting, sales & purchase management, invoice tracking, and more.

28. **General development** https://generadevelopment.com/
General Development is a company built on the idea of providing streamlined and integrated services for our partners, starting from your vision and the drawing board, and finishing with personalized experiences for your customers. We aim to provide complete support of the modern business needs by creating high-tech and innovative solutions for engaging customers. That is why we are constantly obsessed with modern developments in technology and business. Our team is composed of experts with extensive experience who develop and deploy projects which help our partners achieve their potential and goals. Our vision is to build long-lasting relationships with our domestic and international partners, help their brand stand out from the average and support them to manage the growth of their business.

29. **PARKING OF MUNICIPALITY OF CENTAR** – Skopje- https://poc.mk/home/
The public enterprise for public parking lots **PARKING OF MUNICIPALITY OF CENTAR – Skopje** is an enterprise established by the Municipality of Centar. The mission of the PE Parking of Municipality of Centar is to offer and provide the users with efficient and modern conditions for using the public parking services in accordance with the latest technological and development trends in the field of practical application of these trends, as well as to provide them with a different and more flexible method of offering services based primarily on professionalism and expertise.

30. **Forza - Digital finance international** https://forza.mk/
Finstar Financial Group is a global private investment group operating in Europe, USA, Asia, Latin America, and CIS, which is mainly focused on fintech, but over the years has built its reputation as a successful company in the field of financial services, information technology (IT), lending to households, media, and real estate sector.
Digital Finance International is a new company in Finstar Holding Investment and offers a wide range of lending products and services to markets around the world, with a particular focus on markets in developing countries to meet the financial needs of clients from those parts of the world. Their goal is to provide easier access to finance through a faster and more transparent form of lending to customers around the world to those who cannot meet their financial needs through the current offer of banking products. Their products and services are designed to enable people to meet their financial needs through a regulated and standardized lending platform that integrates into their day-to-day operations. With the rapid development of mobile and internet technology, they offer financial products that are adapted to the customers' requirements.

31. **Payten** https://www.payten.com/en/
provides complete payment industry solutions, for non-financial and financial institutions, supporting card and card-less transactions. The offering includes solutions for eCommerce, mPayments, Processing as well as ATM and POS related services. We deliver software and services including outsourcing and equipment, providing highest level of expertise, maintenance, and support through the entire portfolio. Although Payten brand is new in the Asseco group it has a track record of strong performance and satisfied clients of the Asseco South Eastern Europe Payment Business Unit it has derived from. It is a member of the Asseco South Eastern Europe group (ASEE), a leading IT provider in the SEE region in terms of the revenue derived from its own software and services. Covering 23 countries, ASEE is the top player for banking and strong in other industrial verticals. It employs more than 2900 employees and is part of the Asseco Group, which ranks among top ten software vendors in Europe.

32. **Cloudasset** https://cloudasset.com/
    Powering Digital Payments at Point of Sale or Online
    PAYMENT TECHNOLOGY FOR BANKS, RETAIL, ONLINE COMMERCE AND SERVICE PROVIDERS

    P3 the finance flow platform

33. **Eligma** https://eligma.com/
    We are building a payment network strong as an elephant, a payment solution friendly as an elephant, a business forthcoming and transparent as an elephant, and a company culture as open and grounded

    Eligma

34. **GSIX/GPAY** https://gsix.me/
    GSIX custom software development is all about delivering on quality, time, and budget. Their engineers can help customers build scalable custom software solutions.

    GSIX