THE EFFECT OF MACROECONOMIC FACTORS ON BUSINESS MODELS IN FINTECH INDUSTRY

Rosita Zvirgzdina¹, Dr. oec, prof.; **Helena Skadina**², MBA ^{1,2}Turiba University

Abstract. The Internet and technological possibilities trigger significant changes in the business environment and force companies to reconsider their use of new technologies. The decision to use new technologies makes it possible to open new market segments as well as to expand the business beyond one country's borders. This trend brings new business potential, but at the same time it involves new risks, which must be qualitatively and timely managed to ensure the sustainability of the business model. Business modelling is an excellent tool which entrepreneurs can use in order to adapt their activities to a new market challenges and predict the consequences as well as improve their management skills for risk assessment. The aim of this research is to find out what and how macroeconomic factors affect business modelling of the financial technology (FinTech) at both industry and company level. In this research the authors used a continuous comparative analysis method as well as content analysis method (Martinsone et al, 2016). In interviews, experts were asked to assess the significance of specific macroeconomic factors by using the Likert scale. As a result of the research, the difference of the influence as well as their dependencies and modifications on different levels of business modelling was determined. This result forms the basis for conclusions about the most important impact factors, the areas of their influence and possible consequences that affect business modelling at both industry and company level.

Key words: business model, impact factor, macroeconomic, FinTech.

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Introduction

We live in a time when "digital transformation affects everything, making it faster, wider and more systematic" (Matzler, 2016). It has never been so easy to create an idea, to start a business and to immediately conquer the entire world market. Also, never before has it been possible to get out of the market so quickly because of the new business models (Matzler, 2016). The Internet and technological capabilities contribute to changes in the business environment and force companies to reconsider the use of new technologies in their businesses and to make decisions about improving their competitiveness through the benefits of the digital age. Only 55 % of European business executives have been contemplating the impact of technology on their companies, but only 30 % companies believe they are ready for the technological transformation (BDI, 2015). The decision to use new technologies makes it possible to open new market segments as well as to spread the business beyond the borders of one country. A large majority of global operating banks intend to increase their partnerships with FinTech companies over the next 3 - 5 years and expect an average return on investment of 20 % on their innovation projects (PWC, 2017). This trend brings new business potential, but at the same time it involves new risks which must be qualitatively and timely managed to ensure the sustainability of the business model. Business model is an excellent tool which entrepreneurs can use in order to adapt their activities to new market challenges, predict the consequences as well as improve their management for risks that the influence factors cause. Awareness and assessment of the factors makes it possible to timely develop alternative scenarios and diverse approaches.

The aim of this research is to determine the macroeconomic factors in accordance with the PESTEL model that influence business models in FinTech the most at the industry and the company level.

The tasks of the research are: to study the theoretical aspects of business models and their levels; to describe FinTech companies briefly; to analyse the effect of macroeconomic factors on both industry and company level in FinTech.

Various methods were used in the research: the theoretical part consists of the scientific literature analysis. Semi-structured interviews with 3 FinTech experts (OC, MR, PB), representing Fin Tech industry (E-Money Institution (ENIM) of Malta, represented by OC; short-term lending company (PLK) of Russia, represented by MR; Payment Institution of Great Britain, represented by PB), were conducted during the course of the research. The research data were processed by continuous comparative analysis, using open coding, level 2 coding, axial coding and content analysis method with inductive and deductive approach (Martinsone et al., 2016). In interviews, experts were asked about the influence of macroeconomic factors, the differences and impact areas at the level of both industry and company and to assess the significance of specific macroeconomic factors by using the Likert scale with points 1-5, where is 1(irrelevant); 2(unimportant); 3(moderate); 4(important); 5(very important). The data are presented in the form of a diagram. The choice of experts was based on the diversity of their expertise (OC – 10 years, PB – 20 years, MR – 4 years). The companies represented by experts are completely different and unrelated to each other.

Theoretical aspects of business models, levels and business modelling area.

The concept of "business model" (BM) in literature is becoming an increasingly widespread topic. Business modelling takes central stage due to technological development that occurs in business. Business model is a design with content, structure and management (Amit, Zott, 2001), consists of components (clients, strategies, resources and value system) and has a dimensional logic (Schallmo, 2013), in which one dimension supports the other, interacts with activities and limits of the company and creates value for the client (Hamel, 2001). Of particular importance is the interaction between these elements (Weiner et al., 2010; Osterwalder and Pigneur, 2010; Wirtz, 2010), thus BM becomes a tool for innovation and significant advantages (Skarzynski and Gibson, 2008) The business model is considered to be not just a competence of the company management, but a role-playing game involving all company's employees (Pateli and Giaglis, 2004). In addition to the elements and dimensions of business models that have been mentioned before "a new component should be added and it is called - technology" (Mueller, 2017). It can be considered as a BM element and impact factor, a value creation mechanism and "a backbone" (Wisniewski, 2016). Until now there is no consistent theoretical approach to the concept of BM in the literature: it can be concluded that a business model is a logical and contemplated interplay of company's decisions, business activities and participants, which describes the place, the time and the reason of business (Mitchell un Coles, 2003); the benefits for customers and partners (Schallmo, 2013); the ways in which customers and partners benefit (Schallmo, 2013); the mechanism of service creation and participants in its provision (Gassmann et al, 2013); the way in which the benefit translates into profit (Schallmo, 2013); profit reallocation way (Bieger un Reinhold, 2011) and the involvement and placement of technologies to create company value and promote the operational efficiency of the company (Matzler, 2016).

The concept "FinTech" has emerged relatively recently and expresses its essence, including "... the provision of financial services through intensive use of the latest technology" (Jhoon, 2015; Song, 2015; Shim and Shin, 2016). FinTech companies operate in the financial sector alongside

banks and offer their customers payments, money transfers in electronic and virtual currency. These companies are recognizable as fast lenders or peer-to-peer platforms, in which clients manage their money as well as borrow and lend it to each other. Those are securities market consultants that compete with banks by offering a high consulting level through robots. FinTech companies are not only those who offer products or services but also those who develop them.

The theoretical focus on business models in the FinTech industry is still too small: the number of studies identified in the EBSCO database for the period from 2015 to 2018 is 21 (EBSCO, 2018). This indicates that this industry is still very young: it is considered that the financial crisis of 2008 was the occurrence that triggered a new wave of business and investment (Menat, 2016), but its rapid growth is not taken into account sufficiently enough. Funding of FinTech start-ups has increased at a compound annual growth rate of 41 % over the last four years, with over USD 40 billion in cumulative investment (PWC, DeNovo Q2, 2016).

Business modelling takes place in a specific business model environment (Schallmo, 2013; Wirtz, 2010). This environment is divided into different levels: general and specific (Schallmo and Brecht 2010; Weiner et al., 2012). The general level (Wirtz, 2010) includes the abstract and industrial sublevel, where the business models are created without relation to any industry or enterprise (Wirtz, 2010). This is a comprehensive description of how a company can work on the market (Schallmo and Brecht, 2010). The next level is the specific level (Schallmo, 2013) that includes three sublevels (Schallmo and Brecht, 2010): the sublevel of the enterprise (Wirtz, 2010; Osterwalder et al., 2005); the sublevel of business unit (Wirtz, 2010) and the sublevel of product and service (Wirtz, 2010), where the company develops the business logic for its products and services, their production, sales etc. Dividing the business modelling area into levels makes it possible to subordinate several business models and understand their application. Awareness of the business modelling diversity and modifications at different levels allows the company to combine the elements of various business models and creatively mix them in order to model the most appropriate business logic for itself. But, it is always necessary to evaluate the impact factors which translate this model into a real business plan including potential risks and threats, as well as their management strategy and alternative scenarios. In accordance with PESTEL model, macroeconomic impact factors have six dimensions (Schallmo and Brecht, 2010): "P" for political, including the political power, political system etc.; "E" for economic (unemployment, competition, supply and demand, inflation, currency risks etc.); "S" for social (education, income, demographic data, life style etc.); "T" for technological (product life cycle, processes, innovations etc.); "E" for ecological (environmental health, climate change, chemical pollution etc.); "L" for legal (legislation and jurisprudence) (Worthington and Britton, 2009).

Research results

The aim of this research is to determine what macroeconomic factors in accordance with the PESTEL model have a significant impact on business models at the level of FinTech industry and of the enterprise, and what aspects and areas are affected at each them. Factors that the interviewed experts ranked as irrelevant (1) and unimportant (2) were not analysed in this research.

The interviewed experts agree that the technological, political, economic and legal factors are the most obvious impact factors for the FinTech industry (Figure 1). After assessing and comparing the impact at the enterprise level and the industry level, the conclusion is possible that the impact

of factors at the enterprise level is more pronounced and intensified, especially for those enterprises which operate internationally (Figure 2).

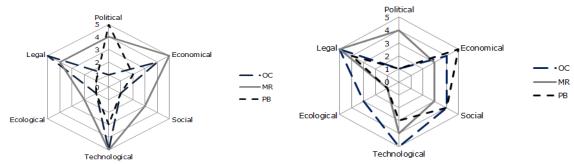


Fig. 1. The impact of macroeconomic factors at the level of FinTech industry

Fig. 2. The impact of macroeconomic factors at the level of FinTech enterprise

It is possible to identify the most dominant factor at both levels -it is the technological factor. This can be explained by the fact that technology forms the basis of the industry's existence and the processes are affected by technology that "determines and influences the model at the industry level" (interview with OC, 26.01.2018.). The opinions of the experts are different about the impact on the enterprise level: PB points out that "a technological revolution has taken place" (interview with PB, 29.01.2018.), existing opportunities are in use. But OC and MR similarly believe that technology is the cornerstone of the industry and the technology-driven processes are a factor that "determines and influences the industry model" (interview with OC, 26.01.2018.). This difference can be explained due to the fact that the market in which the PB operates is more technologically advanced than the markets in which MR and OC operate. This diversity of the development level also generates innovation. Innovations are crucial in FinTech sector, because they "attract new investors" (interview with PB, 29.01.2018.). In this way "process automation, which verifies customer data and information" (interview with OC, 26.01.2018.) appears and triggers "the change of player's approach" (interview with OC, 26.01.2018.). Emergence of innovation "stimulates the growth in demand for risk capital" because FinTech is the "profitability area in which they are currently investing" (interview with PB, 29.01.2018.). The life cycle affected by the use of technology is "the recovery option of the product" (interview with PB, 29.01.2018.) and the FinTech companies use it in saturated markets. It means that both the product life cycle and planning period are getting shorter.

The impact of the political power as a "dominant force" (interview with PB, 29.01.2018.) determines the existence of the business model at the FinTech industry level and answers the question "whether this industry is needed at all?" (interview with PB, 29.01.2018.). An example for this statement is Georgia, where "in one week one FinTech company became monopoly because it was good for politicians" (interview with MR, 27.01.2018.). Another example is the Blockchain "that was accepted by the Lithuanian Government" (interview with MR, 27.01.2018.), which indicates the interest at the national level and "facilitates its infiltration in the FinTech area" (interview with MR, 27.01.2018.). Experts point to the importance of a political factor by describing their activities in Kazakhstan and Georgia. The political will "is able to change ... the direction of the company and destabilize its work" (interview with MR, 27.01.2018.). Because of the public policy entrepreneurs are "forced to change their headquarters" (interview with PB, 29.01.2018.). In this way it reduces the risk of unforeseen decisions and the model itself becomes "more attractive to potential investors" (interview with PB, 29.01.2018.). Hence, when the enterprise develops its business

model for working outside the EU's economic area, the strength of political factor becomes different and the risk of it becomes higher. Apart from this fact, each entrepreneur strives to achieve his goals and to gain the most profit from entrepreneurial activities. From the economic point of view, the company must focus on that market "where there is more money and more income" (interview with PB, 29.01.2018.). The experts also point the profit as the most important thing that "investors can get to return the invested capital" (interview with PB, 29.01.2018.). Therefore, there is a necessity to get right balance between the profit chance and the high risk due to the political situation. The companies which are going to establish their business in countries in which the profit chances are high but the industry directly depends on unforeseen and unexpected political decisions, have to include in their model the risk mitigation programs and to make provisions for alternative scenarios in undermined situations. The regulatory framework and its orderliness in the country is determined as well. On the one hand, the legal framework depends on the political will, on the other hand, the legal factor affects "how we do our business" and "limits or extends the development of the industry" (interview with OC, 26.01.2018.) (Figure 3).



Fig. 3. Dependencies between political and legal factors

For instance, a change in tax regulation can "downgrade company's financial position and in this way destabilize it" (interview with MR, 27.01.2018.). But, the regulation limits the processing of data, changes the conditions for the production and management not always to the detriment of enterprises. For example, "if the 2nd payment service directive had not been implemented, banks would still be allowed to do what they want" (interview with PB, 29.01.2018.). It means that the regulatory framework can be seen not only as a framework for limits and restrictions, but also as a guideline for improving positions for the market players (Figure 4).



Fig. 4. Impact of the legal factor

If the company chooses to work in a country with a strong legal framework, it "increases its credibility among its customers and investors" (interview with PB, 29.01.2018.). This decision also could be seen as a step towards the customers and the differentiation from competitors.

The next significant factor is the economic factor because "the model would be possible only if there were demand there" (interview with OC, 26.01.2018.). The model "can also affect the development of demand" (interview with OC, 26.01.2018.) and even change it (Figure 5).

The impact of this factor on the industry business model is less pronounced than on the enterprise business model. Inflation affects the "supply and demand" and "destabilizes the situation" at enterprise level (interview with MR, 27.01.2018.): in particular, if the company works in countries outside the EU's economic area, the depreciation of the currency could lead to deterioration of the company's financial situation. The currency risk as an economic factor

influences financial stability indicators as well and is a very important factor for international operating FinTech enterprises. By operating outside the single currency area and working with different currencies, the company must make provisions for "currency risk mitigation and development of crisis scenarios" (interview with MR, 27.01.2018.), "capital adequacy calculation intensity" (interview with OC, 26.01.2018.) and constitution of reserves. The business model has to be considered in relation to the sufficient diversification of the currency portfolio in order to balance currency risks.

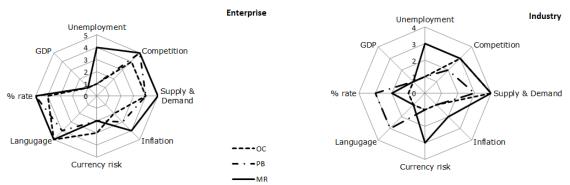


Fig. 5. Impact of the economic factor

The experts interpret the effect of the unemployment factor differently: it "does not affect the industry model" because it shows if there is "enough or not enough workforce" (interview with OC, 26.01.2018.). The other expert believes that unemployment "... could limit FinTech's capabilities" (interview with MR, 27.01.2018.). It depends likely on the professional experience of both experts and geographical situation of presented enterprises.

The whole FinTech industry" is based on and fosters competition" (interview with PB, 29.01.2018.). It is very hard for FinTech companies to conquer in saturated markets, so they are looking for niches "where there are simply no competitors" (interview with MR, 27.01.2018.), because strong competition "requires the industry model to be adapted" (interview with MR, 27.01.2018.). FinTech companies are trying to differentiate themselves from competitors and attract customers by using "social responsibility and customer reaction to it" (interview with PB, 29.01.2018.). In this way it is possible to get closer to the customers. Competitive innovations affect the existence of an enterprise if "you do not know about and cannot track" (interview with MR, 27.01.2018.).

Experts evaluate the social factors very differently considering that, on the one hand, they "do not play an important role at the industry level" (interview with OC, 26.01.2018.), but, on the other hand, "population growth determines the intensity of technology development" (interview with PB, 29.01.2018.). The particular importance is given to social networks, because they "promote the industry" (interview with PB, 29.01.2018.) and "react on it" (interview with PB, 29.01.2018.) as well as express "a social sense" (interview with MR, 27.01.2018.) (Figure 6).

The internationalisation trend also affects the language in which FinTech company works and communicates with its employees and customers. When the company designs the business model for working in various countries, it must "choose both the working language for internal communication and the methods for working with other speaking employees" (interview with OC, 26.01.2018.). Demographics significantly affect the company's performance and enable the entrepreneurs to "choose new and educated professionals who themselves come from FinTech environment" (interview with MR, 27.01.2018.). In a country with "poor demographics" (interview

with MR, Jan 27, 2018) FinTech's development "would not have such a great prospect" (interview with MR, 27.01.2018.). Experts believe that young people create FinTech's "added value with their creative and courageous ideas" (interview with OC, 26.01.2017.).

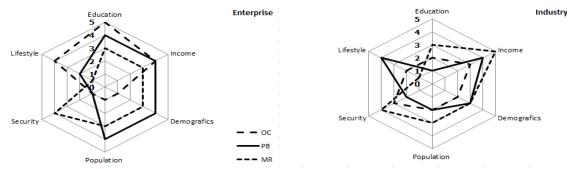


Fig. 6. Impact of the social factor

Education is very important, because "smart and educated people track trends, understand business and know what to do" (interview with MR, 27.01.2018.). In this way, the company reduces the risk of missing the most important latest trends in its industry. High income level influences the customer behaviour and makes it possible "to spend more time to explore new technology opportunities" (interview with PB, 29.01.2018.) until it "becomes a lifestyle because it's fashionable" (interview with PB, 29.01.2018.).

In order to emphasize the differences between the impact of macroeconomic factors on business model at the industry and enterprise level, the authors of the research counted the points assigned to experts for valuing significance of each factor, obtained the total impact value and listed the most significant factors (see Figure 7).

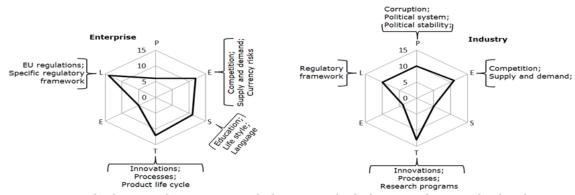


Fig. 7. The impact of macroeconomic factors at the industry and enterprise levels

The most important impact factor at the enterprise level is the legal factor, which company have to take into account by modelling its business. The second factor is the technological factor which determines the existence of the industry and enterprise consequently. The next macroeconomic impact factor is the economic factor in form of competitiveness, currency risk, supply and demand at the level of the enterprise and in form of unemployment rate, supply and demand, currency risk and percent rate at the level of the industry. The aforementioned makes conclusions and recommendations possible for companies with international business models.

Conclusions and recommendations

1) The political will determines the existence of the FinTech industry and business models of market participants consequently. This means that companies which are going to establish their

- business in countries with huge dependence on political decisions, have to model their risk mitigation programs including alternative scenarios for fast changeover.
- 2) The political will directly affects the quality of the regulatory framework at the industry level. By creating of business model at this level the focus on the political impact is the most important, because it determines quality and sustainability of the model.
- 3) By modelling business in third countries the entrepreneurs have to evaluate those macroeconomic impact factors which influence their model from the industry level.
- 4) The legal impact factor forms the basis for the activities of FinTech companies, but it improves more slowly than the industry develops. It means that the usage of the technological progress and innovations that prevail in FinTech industry could lead to the risk of unregulated activities.
- 5) The higher is the risk caused by the impact of macroeconomic factors the higher is the profit chance. Companies which are operating in such markets have to balance their profit chances with their risk appetite and make provisions for diversification of these risks to ensure the sustainability of their business model.

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