REPUBLIC OF MACEDONIA

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ENTREPRENEURSHIP AS DRIVER OF COMPETITIVENESS:

The case of Macedonian fruit and vegetable processing industry

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To my mother Marija

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INTRODUCTION

THE IMPORTANCE OF COMPETITIVENESS AND ENTREPRENEURSHIP FOR THE REPUBLIC OF MACEDONIA

The importance of competitiveness and entrepreneurship for the prosperity of countries, industries and companies is widely acknowledged. Today, almost all economies in the world are trying to improve their competitiveness on domestic and international markets. They introduce framework programs aimed to improve the growth, employment and business climate on a sustainable base. Those programs include innovations and entrepreneurship as main drivers of competitiveness.

Republic of Macedonia also strives to become more competitive and entrepreneurial economy, so this strategic goal, has contributed Macedonian governments to make huge reforms in the political and economical scene in the country. Political reforms included democratization of the country, and economic ones creating a more market oriented, free and competitive economy. (Nikolovski & Micalevska, 2012)

In order to be more competitive and success on global markets, Macedonian firms which are mainly small and medium, use cheap labor force and mainly compete with low prices, should develop other competitive advantages as well. Competitive advantages may take many forms such as higher quality, distribution, good service (Smith, 2006). They depend on the industry in which enterprises operate, and the position they will manage to take in that industry, and are commonly developed in firms which are entrepreneurially managed.

Entrepreneurial firms are those where the managers have vision and skills to recognize opportunities, see chances where others do not, take decisions in uncertain circumstances, and are oriented to the market perceived and still unperceived needs. Entrepreneurial companies always come out with new creative ideas, combine and recombine resources and implement the ideas in a way that satisfies buyer's needs. To manage this, they

continually look for new better ways for functioning, come out with new or improved products, new processes, supplementary services and new markets.

According to the Global Entrepreneurship Monitor, there exist a number of entrepreneurial firms and entrepreneurs in The Republic of Macedonia, and the entrepreneurial activity is high. However, half of them are motivated by necessity instead of opportunity. In future the number of entrepreneurs motivated by opportunity should increase.

The entrepreneurship can be increased in any country by creating positive business climate, developing enterprise culture and supporting institutional framework. The entrepreneurial culture is created by improving the educational system and offering entrepreneurial education. In the last few years, the entrepreneurship is more and more present in the education and the ties between private sector and universities have been strengthened. The institutional system has been improved with reforms in the public administration and establishment of bodies for supporting entrepreneurship. The reforms are still ongoing and up to the present moment have shown some positive results such as stronger private sector, more innovative ideas, increased value added, employment and exports.

For the development of the private sector growth and employment in a given country a crucial importance has the existence of strong and diversified industrial base. That is acknowledged in the Macedonian Industrial Policy 2009-2020 which points out the important aspects for developing Macedonian industries, without favoring any industry branch more than others.

The industry, according to the Statistical Office in The Republic of Macedonia, incorporates three main branches: (i) mining and quarrying; (ii) manufacturing and (iii) electricity, gas, steam and air conditioning (Office). Manufacturing has the biggest number of registered businesses counting 8251 in 2012. Most of them are small and medium businesses and they pull creation of new ventures which already established business can collaborate with by horizontal and vertical linking.

Manufacturing branches which create most of the value added, exports and employment in The Republic of Macedonia are Food Processing industry and Textile and Clothing. Therefore, increasing the competitiveness and entrepreneurship in those industries will be crucial element for improving the overall competitiveness of the economy, which would create conditions for increasing the employment and the standard of living in The Republic of Macedonia.

- The scope of the research

In recent years The Republic of Macedonia has made many reforms to strengthen the private sector, increase the entrepreneurial spirit and the competitiveness of its companies, in order to improve the current situation, accelerate the economic development of the country, and facilitate the entrance in the EU family. Most of the reforms have given results, while some are still ongoing. Their impact is researched and stated in country and international reports such as Global Competitiveness Report, Doing Business Report etc. Those reports illustrate the advancements on a country level and are mainly oriented on the effects of macroeconomic measures undertaken in the country.

In this research, I acknowledge the importance of the Macroeconomic situation and the business environment for the development of the private sector, but also I intend to stress the importance of the bottom-up approach. The so called "bottom-up approach" considers the microeconomic situation, the impact of business owners and their entrepreneurial capacity on the development of businesses and on the entire competitiveness of the economy.

Business owners who have entrepreneurial capacity are individuals who recognize opportunities, combine resources in a way to create something new and valuable for the market and are ready to take risks. Therefore, I address the question if entrepreneurs can affect the competitiveness on their companies and consequently on that the competitiveness of the entire industries.

In relation to the main research question, many other questions arise:

What is the competitiveness?

What is entrepreneurship and entrepreneurs?

Is there a relation among entrepreneurship and competitiveness?

In order to respond to above questions, I attempt to investigate the relationship among entrepreneurship and competitiveness in the Macedonian companies that operate in the fruit and vegetable processing industry. The reason I chose this industry as a subject of research is first, because it is the fastest growing industry in the last couple of years, and second it is closely linked with agriculture products, which represents a competitive advantage because The Republic of Macedonia is rich with this kind of resources.

Therefore, Fruit and vegetable processing industry may exploit the unused potentials of agro business and in the same time to improve the rural development. The main outcomes of the Fruit and vegetable processing industry are conserved fruit and vegetable, canned fruit, frozen vegetable. The main markets where the products are sold are in foreign countries, so I assume that they are competitive.

Therefore, my first hypothesis is:

H1: Companies in Fruit and vegetable processing industry are competitive

Furthermore I assume that the key factor for their competitiveness is entrepreneurship described as recognizing opportunities, taking risks, combining resources to create value, introducing innovation and promoting relationship marketing approach. Hence, the second hypothesis is:

H2: Companies in the Fruit and vegetable processing industry are entrepreneurially managed.

And my last hypothesis is:

H3: The entrepreneurial approach in managing companies in the Fruit and vegetable processing industry drives their competitiveness.

The research questions, main hypothesis and sub-hypothesis are given in the table below.

Table 1. Research questions, main hypothesis and sub-hypothesis

Problem	Hypothesis	Sub- hypothesis
Competitiveness	The Fruit and vegetable processing industry companies are competitive	• F&V Processing industry companies are productive • F&V Processing industry companies are profitable • F&V Processing industry companies are growing • F&V Processing industry companies are export competitive
Entrepreneurship	Fruit and vegetable processing industry companies are entrepreneurially managed.	• Managers of F&V Processing industry companies are opportunity driven • Managers of F&V Processing industry companies take risks • Managers of F&V Processing industry companies use resources efficiently • Managers of F&V Processing industry companies implement innovations • Managers of F&V Processing industry companies create long term relationship with buyers, suppliers, business partners.
Entrepreneurship impact on competitiveness	The entrepreneurship in companies in the Fruit and vegetable processing industry drives their competitiveness	• The entrepreneurial capacity of managers in F&V Processing industry companies to identify opportunities, to combine and recombine resources, to take calculated risks, to implement innovations and to be market oriented drives competitiveness

- The structure of the thesis

The thesis is organized in three parts comprised of seven chapters, introduction and conclusions.

In the introduction the problem of research is stated and its importance for The Republic of Macedonia and elsewhere is briefly elaborated. Then, the research context is developed by posing the main goal of the research starting with broader research questions, and continuing with their concretization and by drawing the research hypothesis and sub-hypothesis. This part includes the structure of the thesis and the expected contribution.

The first part represents a review of the theory and background analysis related to the concepts of competitiveness, entrepreneurship and their relationship.

In the first chapter, it is given an overview of the concept of competitiveness, and the competitiveness in The Republic of Macedonia is elaborated on three different levels. The national competitiveness of The Republic of Macedonia is compared with other Western Balkans and with EU countries. Then, follows deeper investigation into Macedonian competitiveness through its industries competitiveness, examined by using three quantitative criteria: value added, exports and employment. On the other side, qualitative analysis of the main industries is made by the Porters diamond method. Next, competitiveness is considered at a company level through indicators such as productivity, profitability, growth and export competitiveness.

The second chapter, in this part, gives an exploration of the entrepreneurship concept through its main definitions, state of the art, and then follows a discussion about the entrepreneurship in The Republic of Macedonia. Furthermore, the main factors that influence over its development, such as, business climate, education and networking are recounted. Then, follows explanation of the main elements of entrepreneurship among which are identification of an opportunity, taking risks, combining resources, creating innovations and developing relationship marketing approach.

The third chapter is focused on the relationship between entrepreneurship and competitiveness, and how each of the entrepreneurial elements influences the competitiveness of companies, and consequently the competitiveness of industries and countries.

In the second part is described how the research was conducted and what methodology was used in the research. This part includes three chapters: chapter four, chapter five and chapter six.

In the fourth chapter, there is a description of the population, the sample design and size, list of the companies in the fruit and vegetable processing industry. Then, follow the questioner design, the methods used for obtaining data from companies and the process of encoding and verification of the data, as well as imputing missing values in order to get a complete dataset.

In the fifth chapter is given an overview of the composite indexes, their characteristics, limitations and the way they can be created in this context. Also, it is given the model for creating the index for competitiveness by using indicators of competitiveness as its components. Furthermore, the model for construction of the index for entrepreneurship is presented, with entrepreneurial elements as its components. Finally, in chapter six, I conduct test of econometric models that best suit for investigating the relationship among variables: competitiveness as a dependent variable and entrepreneurship elements as independent variables. The analysis is performed by using the software package SPSS.

The third part includes the main findings and detailed description and elaboration of the results obtained from the research. This part includes three chapters each of them discussing the implications of findings for every one of the main hypotheses set at the beginning of the research.

The conclusions are given at the end of the theses, accompanied with practical recommendations relevant for managers in fruit and vegetable processing industry, but also for other industries in the country and abroad. In this section are elaborated the contributions of the study for companies in fruit and vegetable processing industry and other industries as well and for enriching the empirical theory for academics. Apart from contributions, limitations encountered in the research are also pointed out, which gives the research higher validity and reliability.

At last, recommendations for further researchers interested in the topic, are given just to awaken their creative potential and encourage their interest to work on fresh ideas that arise as questions from the findings of this research.

- Expected contribution

The expected contributions from the study are twofold. On one hand the research is valuable for companies in fruit and vegetable processing industry and other industries as well, because of its applicability in terms of improving managerial practices, becoming more entrepreneurial and more competitive. On the other hand, the research should quantify the entrepreneurship and competitiveness as multidimensional concepts and quantify their relationship.

PART1: THEORETICAL FRAMEWORK AND BACKGROUND ANALYSIS

In the last couple of years, researchers, politicians and practitioners have all given their attention to the concepts of competitiveness and entrepreneurship.

Researchers recommend improving competitiveness and entrepreneurship among countries, regions, industries, businesses as a way to revive the economy, encourage growth, increase jobs and advance living standard of people.

Politicians are interested to advance competitiveness and support entrepreneurship in their countries, in order to faster the recovering from the crisis, increase employment and gain citizens on their side. Therefore, they continually introduce measures to create environment that is suitable for improving competitiveness and supporting national businesses and entire industries.

Business people are also interested to improve their enterprises competitiveness, make them more agile, gain market shares, earn higher profits and enlarge their wealth.

However, despite the great interest of all these diverse groups, there are still no simple answers or concrete definitions for the concepts of competitiveness and entrepreneurship.

In order to make those concepts more understandable, the goal of this part of the study to review and examine in depth some of the main definitions, contributors, and determinants of competitiveness and entrepreneurship, as well as to and highlight some of their most commonly used measures.

Then, the study aims to elaborate the mutual relationship competitiveness – entrepreneurship and how they both affect one to eachnother. Moreover, the theoretical elaborations are enriched with background analysis of the concepts of and their status in The Republic of Macedonia during the examined period, and the perspectives for their improvement in future.

CHAPTER 1: A STUDY INTO COMPETITIVENESS ON DIFFERENT LEVELS

In this chapter the concept of competitiveness is elaborated, the main countributions in the research area are stated, and the three different levels at which competitiveness can be considered are reviwed. The levels are national, industrial and businesses' level.

The three are related and interdependent. As in the saying "Little drops make big ocean" – when explaining the competitiveness we take into consideration the ocean – national competitiveness, but also the rivers flowing into it – the competitiveness of the country' industries and the drops raining into the rivers, that are the companies operating in the industries, sectors, branches. Therefore, national economy cannot be competitive if its industries are not competitive, and an industry cannot be competitive if its sectors and firms are not competitive.

The chapter has a goal to investigate the competitiveness and then to focus on the competitiveness of The Republic of Macedonia and to answer the following questions:

- *Where The Republic of Macedonia stands with its national competitiveness compared with EU and Western Balkan countries?*

- *Where the country stands with its industry competitiveness, and which branches have the biggest potential in terms of competitiveness?*

- *Which are the factors affecting companies competitiveness and which are the indicators for its measuring?*

Therefore, the chapter is structured in the following order.

First, there is a literature review of the concept of competitiveness, the levels of investigation and the main contributions in the development of the scientific aproach of

competitiveness. Then, there is an outline of the historical development of the main theoretical and empirical works about competitiveness on national level. The commonly used measures are applied to explore the Macedonian national competitiveness through the years, and to make comparative analysis of Macedonian national competitiveness with the competitiveness of European Union and Western Balkan countries.

After, it follows review of the factors determining the industrial competitiveness and the indicators for measuring industrial competitiveness, as well as backgroung analysis concerning the place of Macedonian industry compared with EU and Western Balkans, and a consideration of Macedonian main branches, explored by quantitative and qualitative methods, with special accent on the Fruti and vegetable processing industry as main subject of interest in the thesis.

At last, there is an overview of the competitiveness on a company level, the main forces determining firm's competitiveness and the elements/ indicators used to measure it.

1. The Competitiveness concept – literature review

The term "competitiveness'' has been used in many different variants to describe the success, quality, capacity of people, goods, companies, industries, regions and whole national economies in comparation with other people, goods, companies, industries, regions and economies. However, despite its common usage and various interpretations, the meaning of the concept of competitivenss and its essence is still not clear enough, nor in everyday life, nor in science.

The list of the scientific explanations of the concept, synonims and atributes used for its description in different periods and stages of the development of the economic thought is long. Therefore, only the most influentual contributions are selected among all the authors, works who have their role for the development of the knowledge related to competitiveness, its origins, the theoretical and methodological aproaches used for explaining it.

Having into consideration that the knowledge is dinamic, continually evolves and depends from the context in which the research is done, competitiveness is captured through distinction of the perspectives first by the economic theories, then by the scope and the level of analysis in the formulation of competitiveness, and by the basis to explain it. The most theories worth to mention are:

- The clasical economy theory for identifying four factors of production, (Adam Smith, 1976) and highlighting that countries should compete because their diferences in productivity for producing certan goods (David Ricardo,1817).
- The neoclasical view for offering the perfect competition model, where competitiveness is not suitable on the long run.
- The Keynesian theory which claims that production factors labor and capital are complementary and the state can intervene in economy.
- Schumpeterian theory for pointing out the factor entrepreneur as main for competitiveness and growth.
- The endogenous theories for highlightining the importance of knowledge.

- Michael Porter's theory for summarizing the previous theories and explaining the importance of strategy for obtaining competitive advantage.

Table 2. Literature review of the concept of competitiveness

Level of Analysis	Exploratory basis of competitiveness	References
National competitiveness	National productivity /Per capita income growth/ better living standards	Porter (1998) Krugman (1994, 1996) Weinstein et all(1984) WEF's Global Competitiveness Report (2000) European Competitiveness Report (2010) Boltho (1996)
	International trade	Scott and Lodge (1985) Aiginger (1998)

		Lall (2001) Sharples and Milham (1990)
	Firms ability to be competitive	Lawrence (1984) Papadakis(1996) Amsden(1989)
Industrial competitiveness	Trade conditions	OECD (2003)
	Respurce endowment	Peterson (2003) Iraldo (2002) Fortis (2000)
	Innovation	Jaffe and Palmer (1997)

Firm competitiveness	Profitability	Mckee (1989) Francis (1989) Baumol (1985) Pace (1996)
	Productivity	(Lalinsky, 2013) Berman and Bui (2001)
	Marketing	Dou (1998) Corbett(1993) Hammer (1993)
	Strategic managment	Porter (1999) Grupp (1997) Papadakis (1994) Ghemawat (1990)

1.1 Competitiveness on a national level

All countries in the world are interested in accomplishing greater national competitiveness. Developed countries want to keep their dominance on the international market, developing countries are trying to catch on with developed ones, and countries in transition to win new markets. Even through, the goal is the generally same, greater competitiveness, the understanding of its meaning, measurements, and proposed ways for achieving it, are different.

National competitiveness is represented by the progress of the country, its wealth, the growth rate, the rising living standards and the ability of a contry to sell its goods internationaly. The main factors influencing national competitiveness are diverse: goverments policies, exchange rates, investment rates, the culture and the mentality of the population.

In order to understand it better, some of the most cited definitions used to explain national competitiveness, are given below:

> "The ability of companies, industries, regions, nations or supranational regions to generate, while being and remaining exposed to international competition, relatively high factor income and factor employment levels on a sustainable basis" (Hatzichronoglou, 1996).

> "The ability to sustain, in a global economy, an acceptable growth in the real standard of living of the population, with an acceptably fair distribution, while efficiently providing employment for substantially all who can and wish to work and doing so without reducing the growth potential in the standards of living of future generations" (G.Hickman, 1992).

> "The set of institutions, policies, and factors, that determine the level of productivity of a country" (The Global Competitiveness Report 2013–2014, 2013).

National competitiveness, as can be noticed from the Table 2 and the definitions stated, is mostly related with national productivity on one side and with the national capability to trade on international markets on the other. The first approach explains the domestic competitiveness of a country by using indicators such as growth per capita and total productivity. The second approach takes into consideration the international trade performance.

Both have their strengths and weaknesses, but, by understanding them we can understand the concept of competitiveness better. To explain the approaches I go briefly through the theories and the development of economic doctrines related with them.

The first approach relates national competitiveness with national productivity and per capita income growth. They can be observed through the growth theories which are given below with focus on the most importat works in historical order.

The predecessor of the classical theory, William Petty, has pointed out that ”Labor is the father of wealth, and nature is its mother” (Stojkov, Development of economic thought, 2002). He calculated the surplus rate as a relation between the surplus product and the necessary input (Salvador, Heinz D. Kurz & Neri).

The classical theory includes the views of Adam Smith and Thomas Robert Malthus. Its most eminent presenter, Smith, in his book Wealth of the Nations, which is considered as bible in economic thought, claims that crucial aspects for wealth of a country are the accumulation of capital and the specialization of labor. Accumulation of capital depends of the ability to save. The specialization results in increased productivity because: (i) the improvement of the dexterity of workers; (ii) the saving of time which is otherwise lost in passing from one sort of work to another; and, most importantly, (iii) the invention of specific machinery (Salvadori, 2003).

According to Malthus, increased productivity will result with increased output only on a short run, and, as the population increases, the output per person will decrease, as a consequence of the diminishing of marginal productivity of labor. (Petreski, 2002)

Karl Marks analysis is based on the theory for added value. He distinguished absolute added value, as a result of extension of the working day or increase the intensity of labor, and relative added value, as a result of increased productivity of labor (Stojkov, Development of economic thought, 2002).

Joseph Schumpeter is another name important for the theories for growth and productivity. He stresses the role of innovations and of the entrepreneur as main actor in the process of creative destruction, which is the way that new industries are created, and economic growth can be achieved (Philippe Aghiony).

Keynes theory for growth builds on three basic principles: (i) the economic system may not tend to full employment, (ii) investment decisions are independent of saving decisions and (iii) the autonomous components of demand may affect the rate of growth of the economy (Pasquale Commendatore, Salvatore D'Acunto, Carlo Panico, Antonio Pinto, 2001).

The post Keynesian model of economic growth was developed independently by Roy Harrod and Evsey Domar. In this model, investments have central place in economic growth, and they are considered as creators of income and productive capacity. The increased capacity results in bigger output and unemployment, depending on the movements in the income. Changes in income can be expressed through growth rates (Petreski, 2002).

The neoclassical theory overcomes the limits of previous models. Thus, Solow model explains long term self-sustainable growth through large production, capital inflow or sufficiently high level of savings (Petreski, 2002).

Unlike the previous theories, the endogenous theories analyze economic growth as endogenous outcome of the economic system, not the result of forces that impinge outside. Those theories point the role of human capital and knowledge as main factors (Romer, 1994).

The second approach for explaining national competitiveness, considers the trade performances, which are elaborated through the doctrines of classical, neoclassical and modern trade theories.

Classical theories include: Mercantilism, Adam Smith's theory of absolute advantages and David Ricardo's theory of comparative advantages.

Mercantilists advocated an approach according to which a source of the wealth in a country is the trade, and countries should favor their export, and discourage the import in order to keep the wealth into the country (Stojkov, Development of economic thought, 2002)

Adam Smith, by his theory of absolute advantages, declares that if one country "A" produces some product more efficiently than other country "B", then, the country "A" has an

absolute advantage over the country "B". The country "B", on the other side, may be more efficient than country "A", in producing some other product. Therefore, every country should specialize in producing the products that it has an absolute advantage for (Roceska, 2003).

Adam Smith's theory does not explain the situation when country "A" has an absolute advantage in producing both products. This gap was captured and answered by David Ricardo. According to him, even in a situation when country "A" has an absolute advantage in producing the both products, there is still an economic justification for trading between countries. In this case, the countries specialize in the production of the product where their advantages are bigger, which is where they have comparative advantages (Roceska, 2003).

Classical trade theories are based on the premise of the existance of perfect markets. Their discrepancies with the reality lead to further research and emerging of neoclasical theories.

These theories have based their assumptions over the David Ricardo's theory. Among neoclassical theories, I take into consideration the Hecksher-Ohlin theory. It is built over the premise that countries dispose with different proportions of the factors of production. Each country has a comparative advantage for producing the products, for which the country is rich with inputs. However, comparative advantages were not sufficient to explain the international trade in markets today, so as Michael Porter noted, the world needed another modern concept.

Modern theories include the views of Michael Porter and Paul Krugman.

Porter, in his most famous book, Competitive advantage of nations, gives a new theory based on competitive instead of comparative advantages. The competitive advantages can be achieved in all their forms, and are not based only on their factor driven strengths. According to Porter, some see competitiveness as macroeconomic phenomenon driven by exchange rates, interest rate and government deficits, while others, see it as a function of cheap and abundant labor or natural resources, government interventions and differences in management practices. Nevertheless, none of these views is sufficient by itself. In fact, each of them contains some truth in it, but, a broader and more complex set of forces seem to be at work.

Paul Krugman goes even further in his criticism and states that: "Competitiveness is a seductive idea, promising easy answers to complex problems. But the result of this obsession is misallocated resources, trade frictions and bad domestic economic policies." Furthermore,

he criticizes leaders of countries who use “seemingly sophisticated arguments, most of which are supported by careless arithmetic and sloppy research” (Krugman, 1994).

In the theoretical frame are included some of the most important explanations for national competitiveness as productivity and international trade patterns, but, in order to be more comprehensive, the empiricics for the concept and the most frequently used metrics for national competitiveness are reviewed too.

The indicators that have been used to measure competitiveness are many, and among them are: Revealed comparative advantage, Relative unit labor cost, Total Factor productivity. Still, in the scope of this research, competitiveness will be accessed by using only the two best known reports: The Global competitive report and World competitiveness yearbook.

The Global competitiveness report is an annual report on competitiveness of countries around the world. It was introduced in1979, and since 2005, the global competitiveness index is calculated. In 2013, 144 countries were analyzed by using over 120 criteria. It is composed by 12 pillars each of them measuring different aspect of competitiveness (The Global Competitiveness Report 2013–2014, 2013).

- The first pillar, institutions, takes into consideration public and private institutions, the legal and administrative environment, the judicial system, the fiscal system, and the business climate.
- The second pillar, infrastructure, includes the roads, the railways, the air lines, then, the telecommunication, internet, and, also access to electricity and water.
- The third pillar, macroeconomic environment, is related with the macroeconomic conditions and stability in countries such as inflation rate, level of public deficit and public debt, interest rates.
- The fourth pillar, health and primary education, is important for the ability of people to work, because, they work more and are more efficient in obtaining working tasks when they are healthy and educated.

- The fifth pillar, higher education and training, is linked with the possibilities of workers to add value. When their skills are better and their knowledge greater, they add more value through their work.
- The sixth pillar, goods market efficiency, illustrates the functioning of the free market, customer orientation and buyer sophistication.
- The seventh pillar, labor market efficiency, points the freedom of movement of the workforce in places where their potential can be used to maximum, the employment and the wage system efficiency.
- The eighth pillar, financial market development, gives the level of sophistication on financial markets. The more developed and diversified the financial sector is, the better is the allocation of resources.
- The ninth pillar, technological readiness, refers to the access to technology that a country has, as well as the possibilities for adopting already existing technologies.
- The tenth pillar, market size, refers to the boarders of the market. It is determined by the domestic demand and exports.
- The eleventh pillar, business sophistication, is composed by two related elements. The first refers to individual firm characteristics as production processes, marketing, distribution, and, the second refers to grouping of firms in clusters and networks.
- The twelfth pillar, innovation, shows the capability of a country's firms to have research and development, to implement creative, new ways of doing things, new products and services, new methods of marketing.

The pillars are grouped in three categories:

- Basic requirements,
- Efficiency enhancers and
- Innovation and sophistication factors.

They are given in Table 3.

Table 3: Global Competitiveness Report pillars

Basic requirements	Institutions	Factor driven economies
	Infrastructure	
	Macroeconomic stability	
	Health and primary education	
Efficiency enhancers	Higher education and training	Efficiency driven economies
	Goods market efficiency	
	Labor market efficiency	
	Financial market sophistication	
	Technological readiness	
	Market size	
Innovation and sophistication factors	Business sophistication	Innovation driven economies
	Innovation	

Data source: Global Competitiveness Report 2013-2014

The World competitiveness yearbook ranks economies according to their ability to manage resources and competencies. It was first published in 1989, and compares 60 countries on over 300 criteria. The criteria used, are grouped in four main groups (Table 4).

- The first one, economic performance includes variables that illustrate the macroeconomic situation of an economy.
- The second, government efficiency, considers policies and the regulative norms.
- The third, business efficiency, consists of variables related with the environment essential for doing business.
- The last category is about infrastructure.

Table 4: World Competitiveness Yearbook pillars

Economic performance	Domestic economy
	International trade
	International investment
	Employment
	Prices
Government efficiency	Public finance
	Fiscal policy
	Institutional framework
	Business legislation
	Social framework
Business efficiency	Productivity and efficiency
	Labor Market
	Finance
	Management practices
	Attitudes and values
Infrastructure	Basic infrastructure
	Technological infrastructure
	Scientific infrastructure
	Health and environment
	Education

Data source: www.imd.org

From the tables, we can see that both most famous reports for competitiveness worldwide have similarities in the categories they take into account. The sources of the data are combinations of statistics taken from reliable institutions such as World Bank, World Trade Organization and surveys. There are some differences too. The major difference is that the Global competitive index classifies countries in three categories as given in the Table 1, while The World competitiveness yearbook does not. Nevertheless, despite the differences their rankings are usually similar.

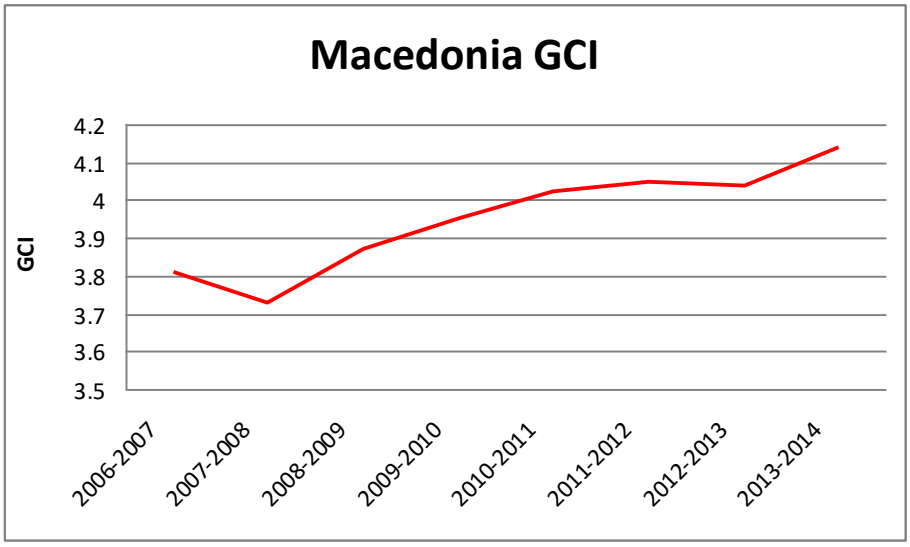
1.1.1 Competitiveness on a national level – background analysis for The Republic of Macedonia

After presenting the most influential theories considering competitiveness and the common indicators for measuring competitiveness on a national level, the research moves on applying the measures in practice by measuring the national competitiveness of The Republic of Macedonia. The country is not ranked on the World Competitiveness yearbook, so, in the analysis that follows, its competitiveness is measured only by the Global competitive index.

According to the Global competitiveness report 2013-2014, Republic of The Republic of Macedonia is ranked on the 73 position among 148 countries. This position is a huge success of the country, because for only one year, it is improved for 7 places. However, if we take a closer look, the growth in the rank of The Republic of Macedonia is not only better compared with the last year, but has continually been improving in the years after 2008.

The trend line of the Global competitive index is shown in Graph 1. It illustrates the Global competitive index in the period 2006- 2013, considering that the data records for Republic of Macedonia are available since the year 2006. As shown below, on the horizontal axis are given the years in the period 2006- 2013, and on the vertical the value of the index. In the investigated year (2013) the value is 4.14.

Graph 1: Global Competitiveness Index for the Republic of Macedonia 2006-2013



Data source: www.weforum.org

The advancement in the index for The Republic of Macedonia is meaningful information, but, also important is its relative position compared with other Western Balkan countries and EU member countries. For that purpose, data for rank and index value of other Western Balkans are taken from the report and illustrated in Table 5.

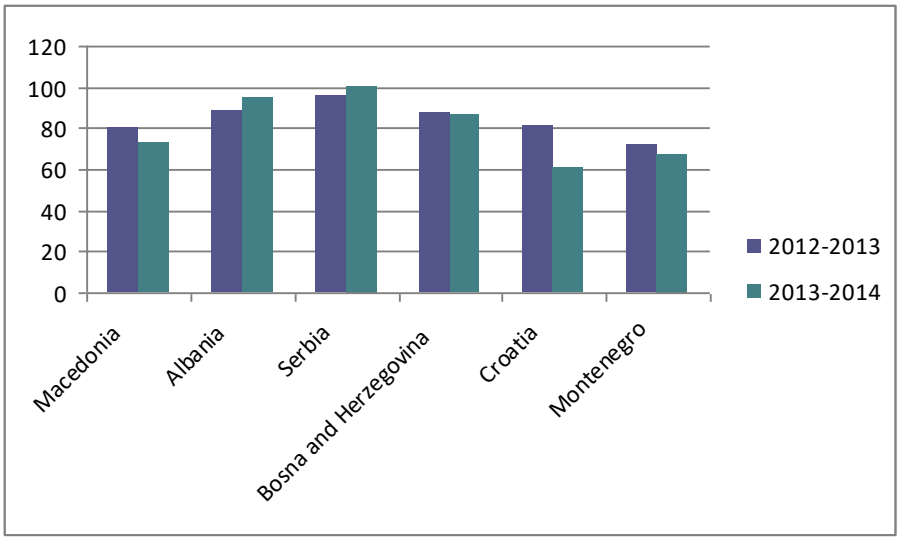
Table 5: Western Balkans GCI 2012-2013 and 2013-2014

Country	2012-2013	GCI	2013-2014	GCI
The Republic of Macedonia	80	4.04	73	4.14
Albania	89	3.91	95	3.85
Serbia	96	3.87	101	3.77
Bosnia and Herzegovina	88	3.93	87	4.02
Croatia	81	4.04	75	4.13
Montenegro	72	4.14	67	4.2

Data source: Global Competitiveness Report

From the table, we can notice that The Republic of Macedonia has better competitiveness than Albania, Serbia, Croatia, Bosnia and Herzegovina, and lower from Montenegro. This is illustrated in the Graph 2.

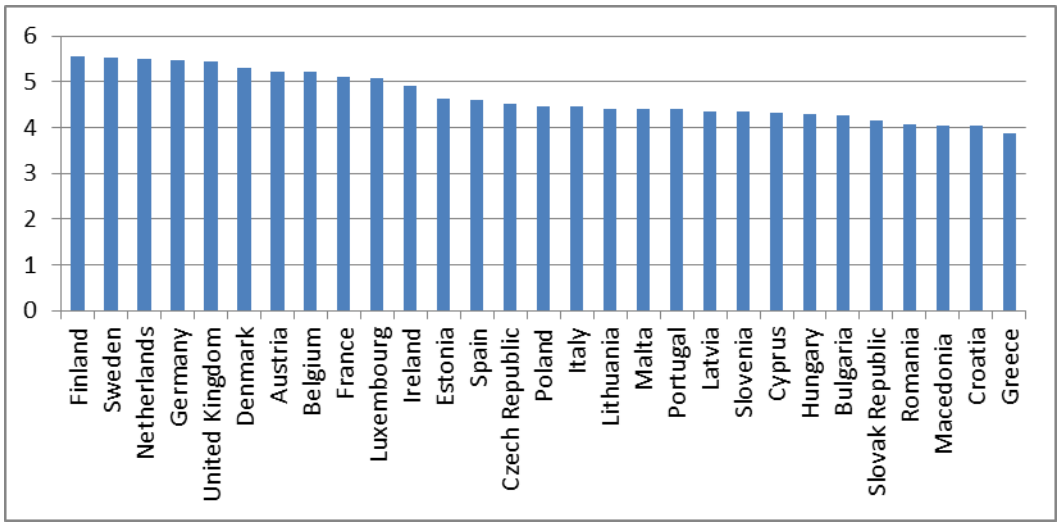
Graph 2: Western Balkans GCI 2012-2013 and 2013-2014



Data source: Table 5

The next level of the analysis is comparing The Republic of Macedonia with the European countries. According to the data from 2012-2013 Global Competitiveness Report, The Republic of Macedonia is more competitive only from Greece and Croatia. All other countries show better performances as illustrated in Graph 3.

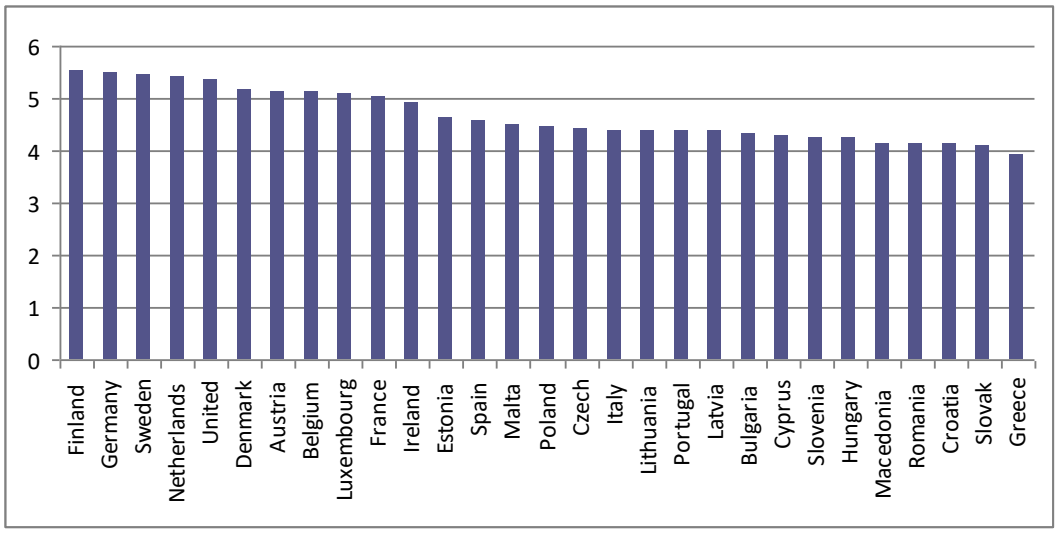
Graph 3: The Republic of Macedonia and EU countries GCI 2012-2013



Data source: Global Competitiveness Report 2012-2013

In the report 2013-2014, The Republic of Macedonia is again more competitive than Greece and Croatia, but is also more competitive than Romania and Slovac Republic. (See graph 4)

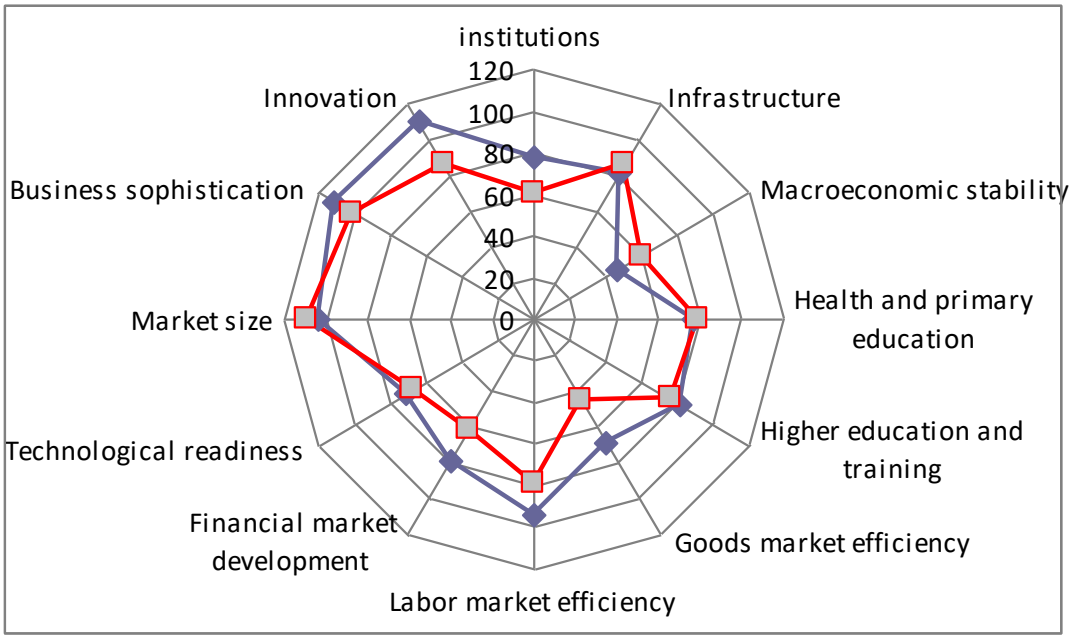
Graph 4: The Republic of Macedonia and EU countries GCI 2013-2014



Data source: Global Competitiveness Report 2013-2014

The position of The Republic of Macedonia is result of the rankings in the twelve pillars described above. Given the rank of the country for each pillar, a radar chart was created which gives information where The Republic of Macedonia is relatively good and where it has weaknesses. The violet line shows the parameters for the period 2012-2013, and the red one is for the period 2013-2014. The Graph 5 illustrates that The Republic of Macedonia should make improvements in the areas of Business sophistication and Market size, but also in Innovation and Infrastructure.

Graph 5: The Republic of Macedonia GCI pillars for the period 2012-2013 and the period 2013-2014.



Data source: Global Competitiveness Report

1.2 Competitiveness on industry level

The competitiveness of one country, as in the example with the ocean formed by the rivers flowing into it, depends significantly of the competitiveness of the country's sectors. According to Martin, Westgren, and van Duren (1991) 'the sustained ability to profitability gain and maintain market share' is what makes sectors competitive. So industry competitiveness is related with profitability on one side, and with the participation on the international and domestic markets on the other.

According to Sharples and Milham competitiveness is the "ability to deliver goods and services at the time, place and form sought by overseas buyers at prices as good or better than those of other potential suppliers whilst earning at least opportunity costs returns on resources employed". This definition incorporates competition of a sector on international markets and competition between sectors for domestic market factors.

Another view, The McKinsey Global institute claims that "a competitive sector is one in which companies improve their performance by increasing productivity through managerial and technological innovation and offer better quality or lower price for their products, thereby expanding demand for their products.

K. Momaya defines industrial competitigveness as "Extent to which a business sector: satisfies the needs of customers from the appropriate combination of the following product/service characteristics: price, quality, innovation; satisfies the needs of its constituents for example, workers in terms of involvement, benefit pro grammes, training, and safe workplace; offers attractive return on investment; offers the potential for profitable growth".

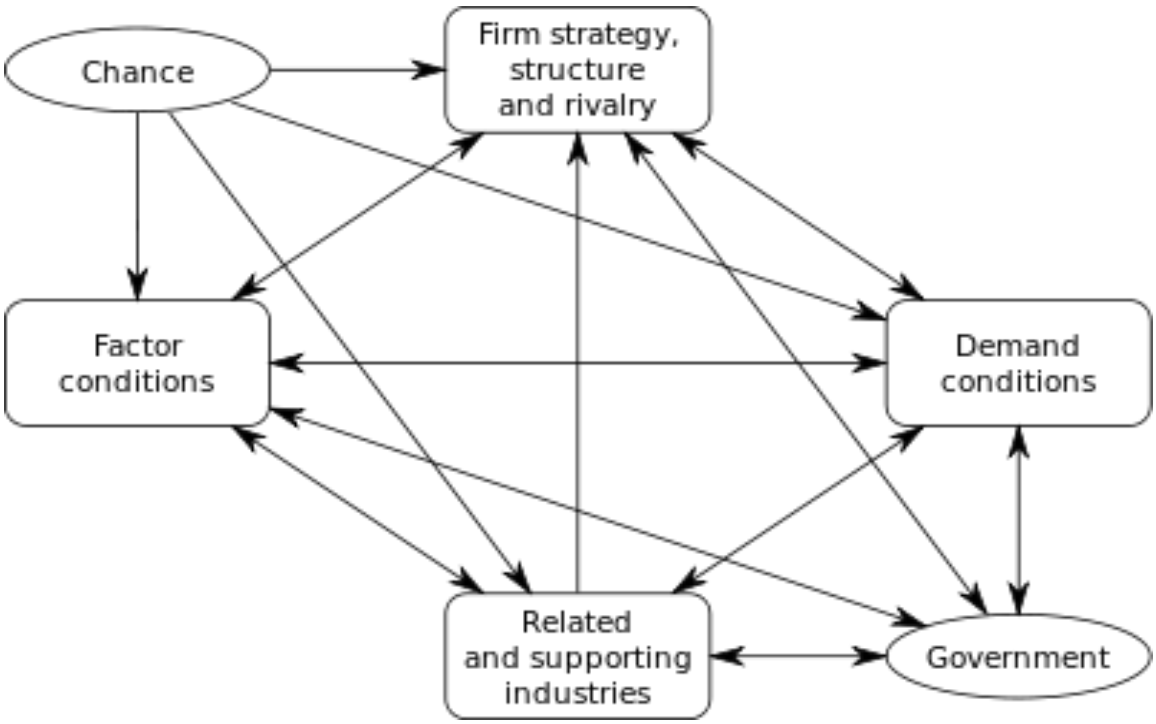
The European Competitiveness and Sustainable Industrial Policy Consortium points out two main dimensions of competitiveness of sectors, the vertical, related with the sector's internal dynamics the company-level strategies and business models, and the horizontal, relating to the business environment.

Michael Porter .investigated the determinants, that lead one industry to be more competitive than others. He among the main factors which determine industry competitiveness points out the local conditions, the resources and transport costs,the related industries, the level of collaboration among sectors, the market conditions, the

business climate, regulations and factors within the industry such as strategies of firms, rivarly and collaboration among industries firms.

The folowing figure shows the main powers determining national industries competitivenss.

Figure 1: Porter national diamond



Source: The four main forces are: (Porter M. , On Competition, Updated and Explained Edition, 2008)

✓ Factor conditions- refer to natural resources, human and capital resources, infrastructure. In the previous period, competitiveness was related with the richness in these kinds of factors. However, Porter claims that factors given in some location are not as important as the factors created.

✓ Demand conditions – They include the domestic demand for goods of the concrete branch and the sophistication of buyers. If companies understand the present and future needs of their current and potential consumers, they will react and improve the supply.

✓ Related and supported industries refer to all the backward and forward oriented industries. If the suppliers offer quality products, they improve the chances of the companies in the given branch to be more efficient. The same applies to the speed of delivery by suppliers.

✓ Strategy of the firm presents the way firms are organized, managed, their main goals and motivations, while the rivalry of firms provides the dynamic process of improvement.

The other two influential forces, besides the main four, are the following:

✓ The government - It can foster competitiveness by advancing the conditions for flourishing the four above mentioned forces. The enhancements can be made in the field of infrastructure, education, training, the institutional base, regulatory reforms, or by stimulating local competitiveness. However, government should not intervene to the point where it hinders rather than helps.

✓ Chance- includes factors that are out of the power of companies. They are given, but can significantly impact the environment for business.

The strength of this model is the approach on the sectors, instead as on isolated islands, as on dynamic categories, which may be subjects of internal, but also external changes.

The main pillars on which economies are based, and build their competitiveness are agriculture, industry and services. The share of each of these pillars, in economies, varies from one country to another. Before the global crises, countries where agriculture and industry appeared as main contributors in the GDP (Gross Domestic Product) were considered as less developed. Service dominated economies were recognized as more developed and more competitive (Ilievska, 2015).

Today, after the global crisis, agriculture and industry are accepted as important as the sectors offering services. After the turbulences on the financial markets, it became clear, that

fundamental for one country's competitiveness are sectors that generate material wealth such as agriculture, manufacturing, mining and construction. Services and trade are built on the products created by previous sectors. Therefore, economies which tend to be competitive should improve their industry performances, and even then, to support their products by offering different kind of services. An example for this is Germany, as a country which despite the crisis managed to maintain and improve its position on global markets.

Industry is a broad concept. According to the International Standard Industrial Classification (ISIC) Revision 3 industry corresponds with divisions 10-45 (United Nations Statistics Devision, 2013). It includes manufacturing, construction and electricity. In this study the term industry will refer only to manufacturing (divisions 15- 37) and both terms will be used interchangeably.

Manufacturing includes "the physical or chemical transformation of materials or components into new products, whether the work is performed by power-driven machines or by hand, whether it is done in a factory or in the worker's home, and whether the products are sold at wholesale or retail" (United Nations Statistics Devision, 2013).

The main measures for the contribution of the manufacturing to the total output of an economy is based on the volume of production produced and marketed on domestic and foreign markets, and the value added in the products.

The United Nations industrial development organization has developed Competitiveness Industrial Performance index (CIPI) to measure countries' manufacturing development. The index is consisted of six variables, grouped in three sets, which present three different dimensions (The Industrial Competitiveness of Nations Looking Back, forging ahead, 2013).

The first dimension describes the capacity of a country to produce and export manufactories and covers the variables:

- The MVA pc (Manufacturing value added per capita), which considers the added value, instead of the volume of produced goods.
- The MX pc (Manufacturing export per capita), which gives information on the exports of manufactured goods by a country.

The second dimension refers to technology, and the variables reviewed are:

- Share of manufacturing value added in GDP, which gives information for the capacity of a country to transform goods.
- Share of Medium and High tech value added in total manufacturing value added, which gives information about the technological advancement in countries manufacturing.

And, the third dimension investigates the impact of the countries in the total world manufacturing.

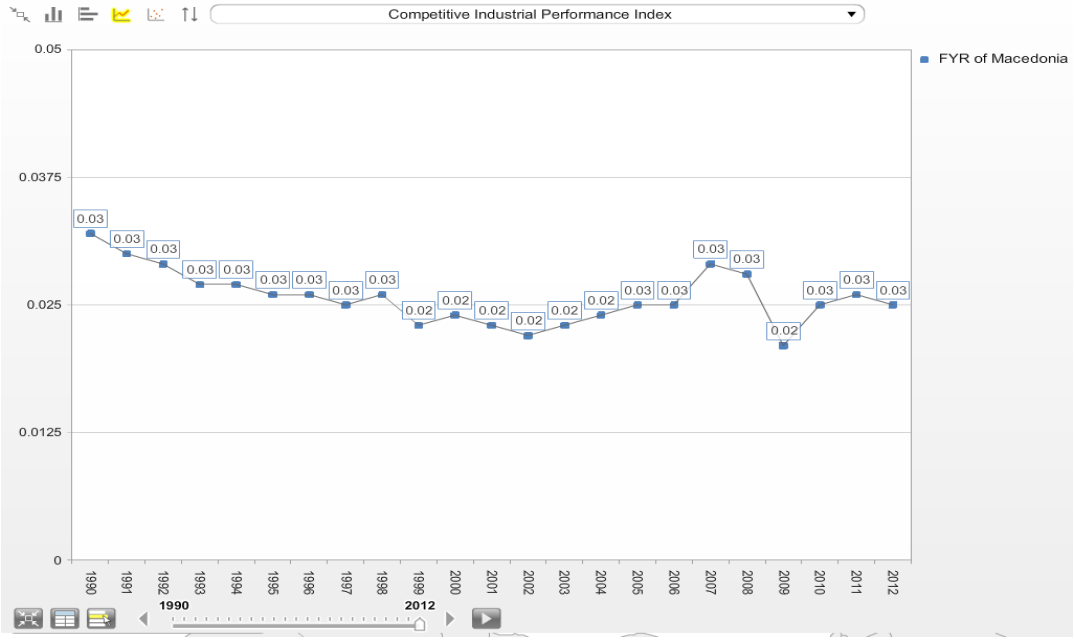
- Share of manufactured exports in total merchandised exports, which shows the participation of manufacturing products in the total export.
- Share of Medium and High tech exports in total merchandised exports, which shows the complexity of the exported products.

1.2.1 Competitiveness on industry level – background analysis for Republic of Macedonia

In this study the focus is put on the manufacturing competitiveness of The Republic of Macedonia. Therefore, I explore Macedonian competitive industrial performance through years, and, its position on the scale of industrial performances among other Western Balkans countries (except Montenegro and Kosovo because there is no information available for CIPI for those economies). Furthermore, I compare Republic of Macedonia manufacturing advancement with EU countries. The data is taken from the Competitive industrial performance report UNIDO 2012-2013 (Yumkella, 2013). The analyses are presented graphically in order to visualize the results.

The graph presents time series of CIPI for The Republic of Macedonia[1]. As we can see in the period since 1990 until 2012, the manufacturing competitiveness in Macedonia has not changed a lot. There are some improvements in the last three years, but mainly the CIPI has obtained approximate values of 0.02.

Graph 6: CIPI for the Republic of Macedonia 1990-2012

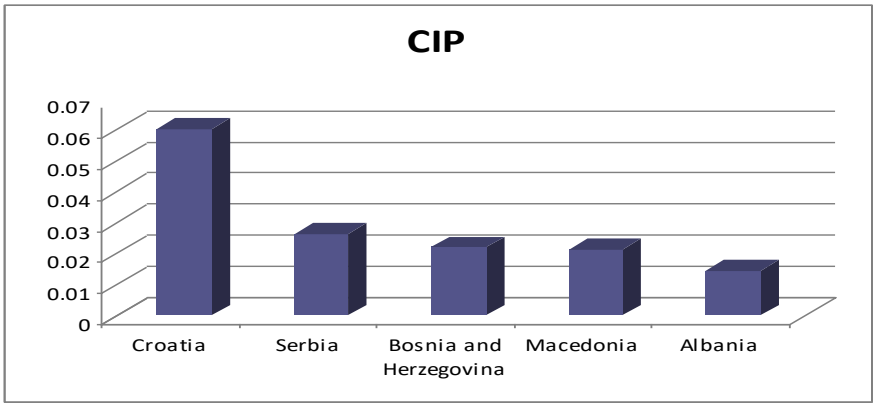


Source: http://www.unido.org/data1/Statistics/Research/cip.html

[1] The last data available for Macedonia is the year 2012.

According to the last available data for the CIPI, manufacturing in The Republic of Macedonia, lags behind Croatia, Serbia, Bosnia and Herzegovina, and is more competitive only from manufacturing in Albania. The described situation is illustrated in Graph 7.

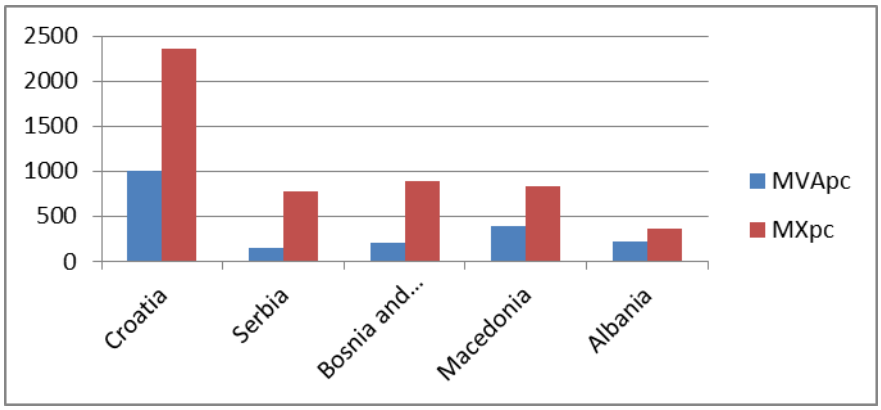
Graph 7: CIPI for Western Balkans



Data source: Competitive industrial performance report UNIDO 2012-2013

In order to analyze more in depth, the position of The Republic of Macedonia among other Western Balkans, its strenghts and weaknesses compared with its neighbors, I made comparison of the given economies in each of the CIPI composite dimensions. Thereby, I found that the order of countries is same in individual variables as in the composite index. (See graph 8, 9, and 10). Still, the charts show some useful information. For example, in chart 8 we can notice that the manufacturing exports per capita, for all observed economies, are greater than the value added in the process of production.

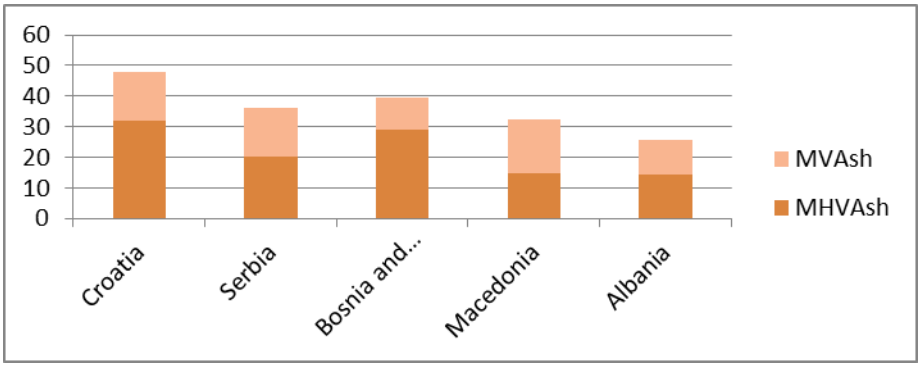
Graph 8: MVA pc and MX pc for Western Balkans



Data source: Competitive industrial performance report UNIDO 2012-2013

From the ninth graph, it can be seen that in all Western Balkan countries, except The Republic of Macedonia, the manufacturing value added is a result mainly of technological improvement. This signals that if the country plans to be competitive on the long term, changes in the industrialization intensity in The Republic of Macedonia are required.

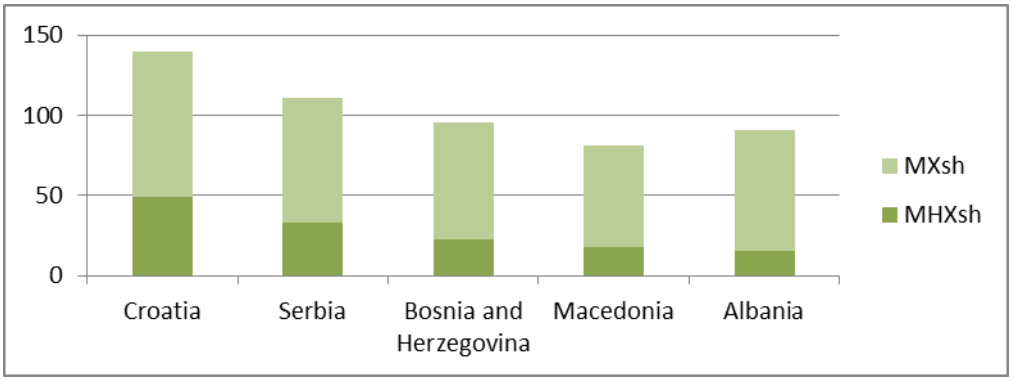
Graph 9: MVAsh and MHVAsh for Western Balkans



Data source: Competitive industrial performance report UNIDO 2012-2013

In the next graph- Graph 10, we notice that the quality of Croatian export is the highest, while Serbia, Bosnia and Herzegovina and especially The Republic of Macedonia and Albania should improve their manufacturing export performances.

Graph 10: MXsh and MHXsh for Western Balkans

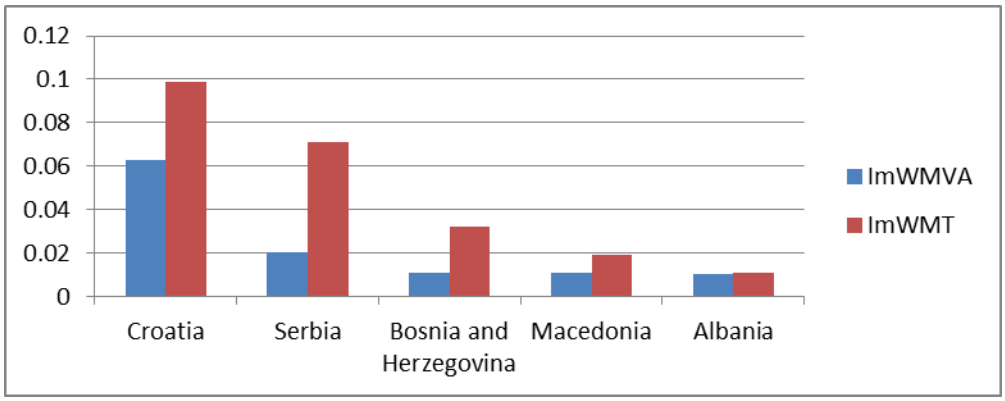


Data source: Competitive industrial performance report UNIDO 2012-2013

At last, the third dimension is explored, and as visible in Graph 11, countries shares in the world export have minimal importance. Croatia is again most successful among the considered countries, while The Republic of Macedonia is penultimate, and it is better only in

comparison with Albania. In its contribution in the World manufacturing value added, The Republic of Macedonia lags behind other Western Balkan countries, except Albania. This fact may seriously affect its long term competitiveness.

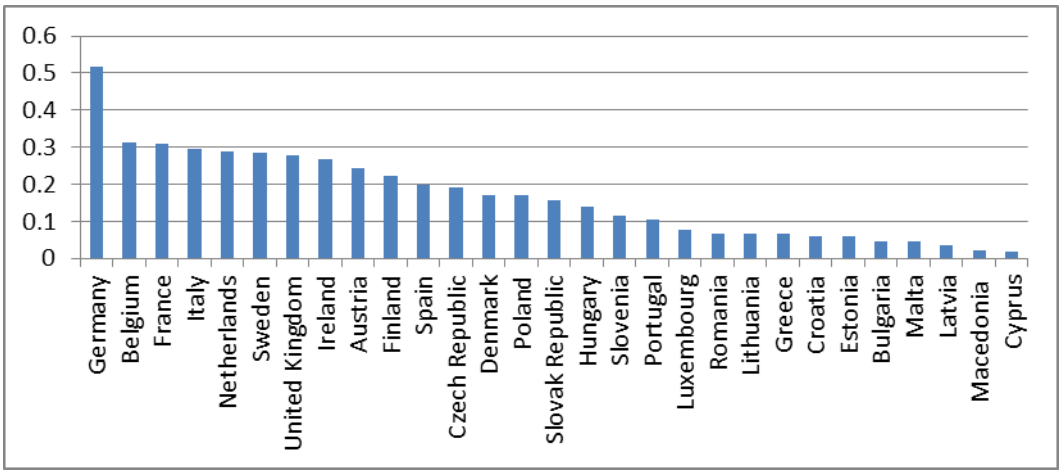
Graph 11: Im WMVA and Im WMT for Western Balkans



Data source: Competitive industrial performance report UNIDO 2012-2013

The next analysis illustrates The Republic of Macedonia's position compared with the European Union countries. According to the data considering the Competitiveness industrial performance index, The Republic of Macedonia is in a very unfavorable position, and its industrial performances are far behind the developed European countries. As illustrated on the Graph 12, The Republic of Macedonia is more competitive in manufacturing only than Cyprus, but less competitive from all others twenty eight economies.

Graph 12: CIPI for The Republic of Macedonia and EU countries



Data source: Competitive industrial performance report UNIDO 2012-2013

The competitiveness of manufacturing can be analyzed and measured in general, as in the previous graphs, but it is more useful when it is analyzed by specific industries. The classical economic thought claims that countries cannot be equally competitive in producing all products and they should specialize in the field where their competitive advantages are greater. Today, this view is supported and supplemented by many famous names in economics. One of them is Krugman who links competitiveness with specialization and economies of scale.

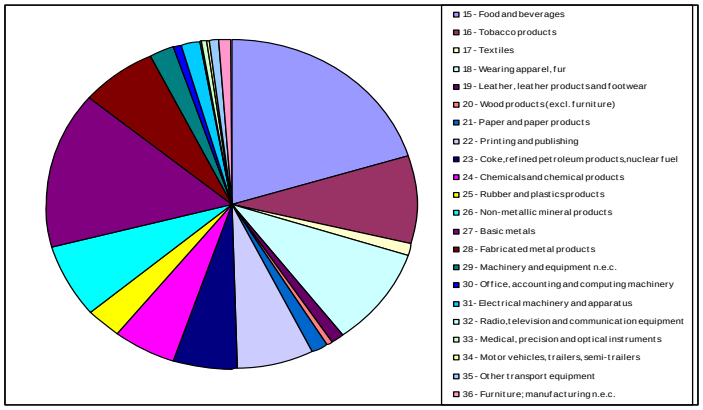
Researchers have used different measures to identify the particular sectors in which one country is more competitive than others. In this study, I take into consideration the following measures as most reliable:

- industry products share in value added and their growth rate over time,
- industry share in total manufacturing employment,
- industry share in the total manufacturing export.

In order to illustrate which goods in The Republic of Macedonia have highest share in the value added, I use data from UNIDO online database INSTAD 2 – Industrial Statistics Database, which provides time series data for manufacturing grouped at 2- digit level of the International Standard Industrial Classification of All Economic Activities (ISIC). The 2-digit classification is given in the Appendix 1.

The structure of Macedonian manufacturing sector, in the value added, is shown below on the graph 13. The pie chart illustrates the situation in the year 2010 (the last available information).

Graph 13: Value added in Macedonian manufacturing



Data source: http://www.unido.org/statistics/

The greatest share in the value added has the food and beverages branch, then basic metals, wearing apparel, tobacco products, while the participation of radio television and communication equipment, medical and optical instruments, motor vehicles is minimal.

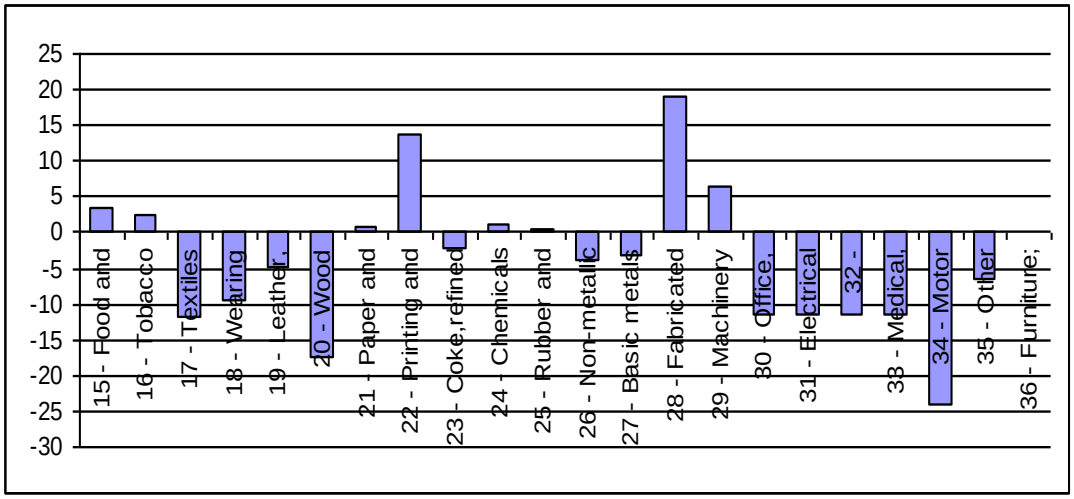
The participation of a specific branch in the value added gives valuable information for the state of manufacturing in the examined period, but the intensity with which each of the branches develops, indicates the direction of its future structure.

According to the last available data for the year 2010, the annual real growth rate of manufacturing sectors in the branches food and beverages, tobacco products, paper and paper products, printing and publishing, chemicals and chemical products, rubbers and plastic products, fabricated market products, machinery and equipment, and furniture note positive growth rate.

Other branches, such as textile, wearing apparel, leather and foot wear, office accounting and computing machinery, electrical machinery, radio television and communication equipment, medical and optical instruments, motor vehicles and other transport equipment note negative growth rate.

The annual growth rate is given in the Graph 14.

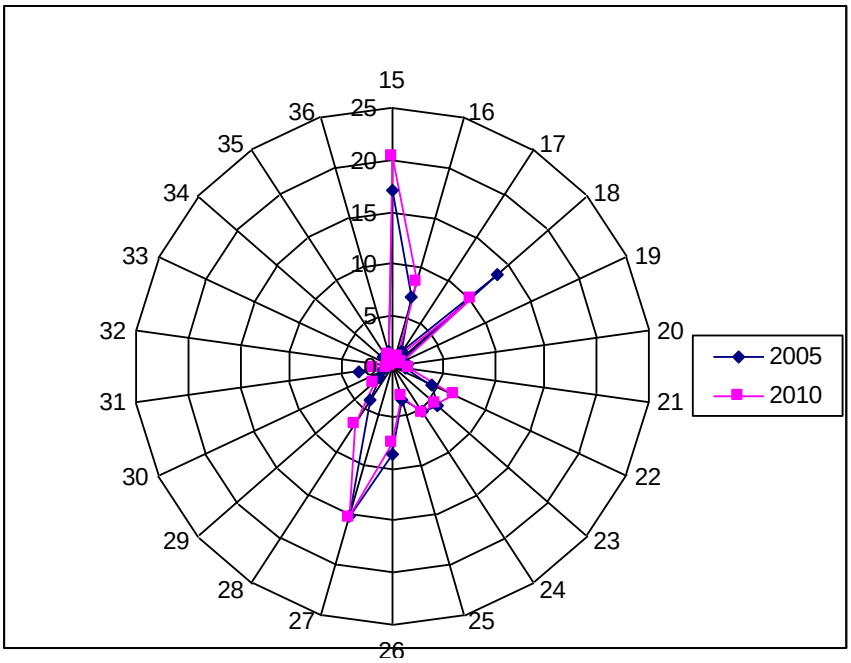
Graph 14: Annual real growth rate of manufacturing sectors



Data source: http://www.unido.org/statistics/

Depending on the growth or decline in the added value created by one industry branch, the structure of the manufacturing can change. Such a change is illustrated on the radar graph 15 for the period 2005-2010.

Graph 15: Structure of manufacturing in The Republic of Macedonia 2005 and 2010

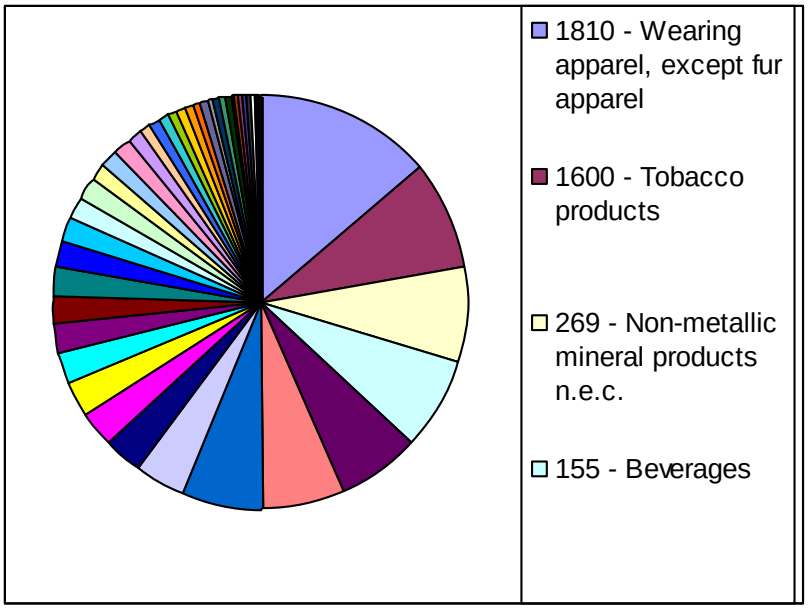


Data source: http://www.unido.org/statistics/

The 2-dight classification of branches refers to broad areas. In order to specify the particular branches that create most of the value added, and make them more concretely, the INDSTAD 4 Industrial Database can be used. It is composed by data based on the 3-diht and 4-diht level of aggregation of ISIC Revision 3. INSTAD 4 offers indicators about the value added by branch, but also about the number of employs and wages (See Appendix 2).

In the pie (graph 16 and 17) the participation of the branches in the total manufacturing value added is given. The graph 16 shows all subcategories in each of the manufacturing sectors.

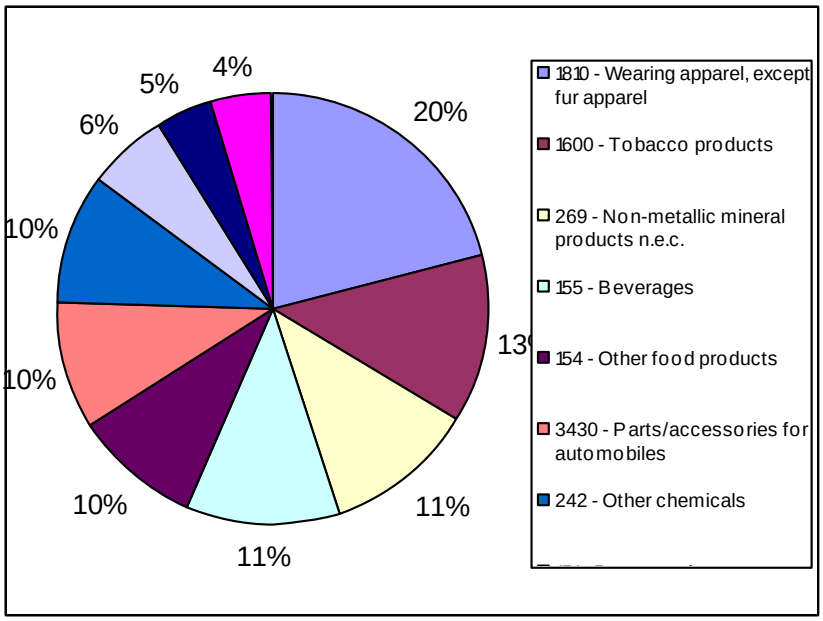
Graph 16: Branches participation in value added



Data source: http://www.unido.org/statistics/

In order to get clearer information, in the next pie branches are filtered and only the first ten with greater share in manufacturing are given in the chart 17.

Graph 17: Main branches participation in value added

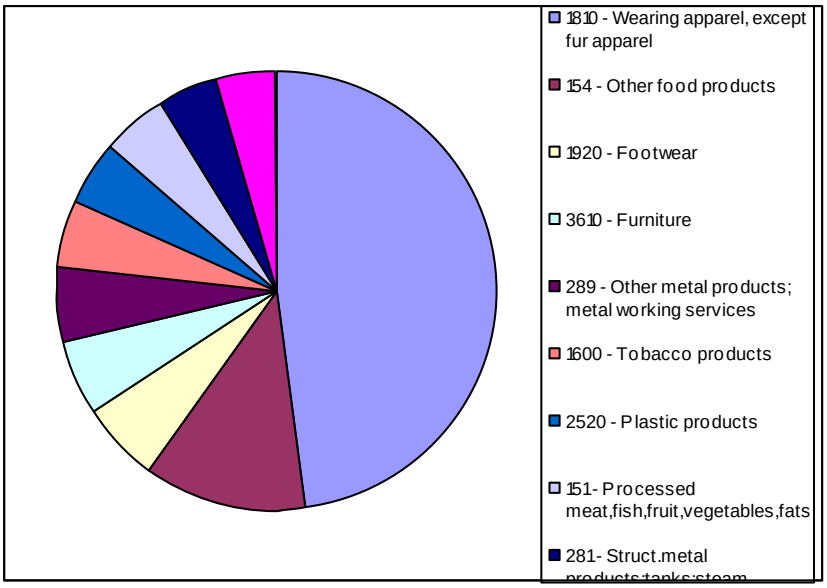


Data source: http://www.unido.org/statistics/

The greatest participation in the value added in manufacturing for 2010 has the wearing apparel with 13.83%, then tobacco products with 8.30, non metallic mineral products, beverages, food products and parts for automobiles.

The second grouping is made according to the number of employs in branches, as a share in total manufacturing employment. Again, only the branches were filtered and only those which participated in the total manufacturing employment, the most, are considered and visualized on the graph. They are the wearing apparel, food and tobacco products, footwear, and furniture.

Graph 18: Branches number of employs, as a share in total manufacturing employment



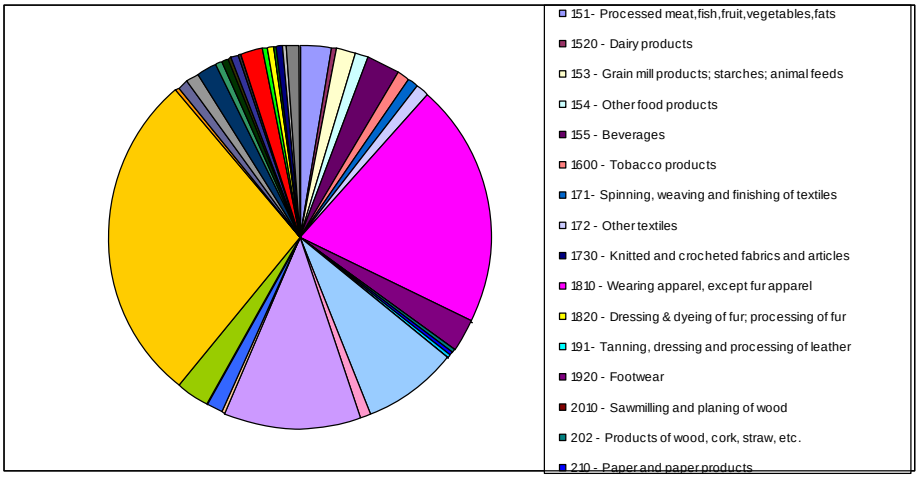
Data source: http://www.unido.org/statistics/

The third grouping illustrates the other side of the coin of competitiveness, the external competitiveness. It is demonstrated by the exports and value added in exports. The analysis of exports is made by using the Standard International Trade Classification SITC Revision 3 (See Appendix 3). SITC Revision 3 is consisted of ten main groups of products, which are further disaggregated on smaller groups. According to the last data available (year 2010), the majority of Macedonian manufacturing export is consisted of women or girl coats, jackets trousers, miscellaneous chemical products, petroleum oils, medicaments, foot wear,

articles of apparel, of textile fabrics, alcoholic beverages, electrical apparatus, vegetables, prepared or preserved, and so on. However, to be more suitable for presenting the manufacture export share in accordance with the branches which produce the listed products, the data was recombined.

The information about the products which compose the trade, classified by SITC, was reclassified into ISIC by using correspondence tables. Thus, the data for merchandised manufactures was divided by branches. From the graph 19, we can notice that from all the products that are manufactured in the sectors 15- 37, basic iron and steel have the greatest share, then follows wearing apparel, chemicals, refined petroleum products, processed meat, fish, fruit, vegetables and beverages.

Graph 19: Branches participation in exports



Data source: http://www.unido.org/statistics/; author's reclassification based on correspondence table

The description and visualization of the classes that contribute in manufacturing value added, employment and exports, help to identify the key branches in The Republic of Macedonia. For that purpose, the branches with larger contribution are presented in a table and a comparative analysis, according to the three criteria, is made. The outcome as presented shows that the sectors wearing apparel and processed fish, meat, fruit, vegetables emerged as relevant in all three categories. Tobacco products are relevant in two of them, manufacturing value added and employment. Non metallic mineral products, chemicals and beverages are also important for two categories, the manufacturing value added and exports.

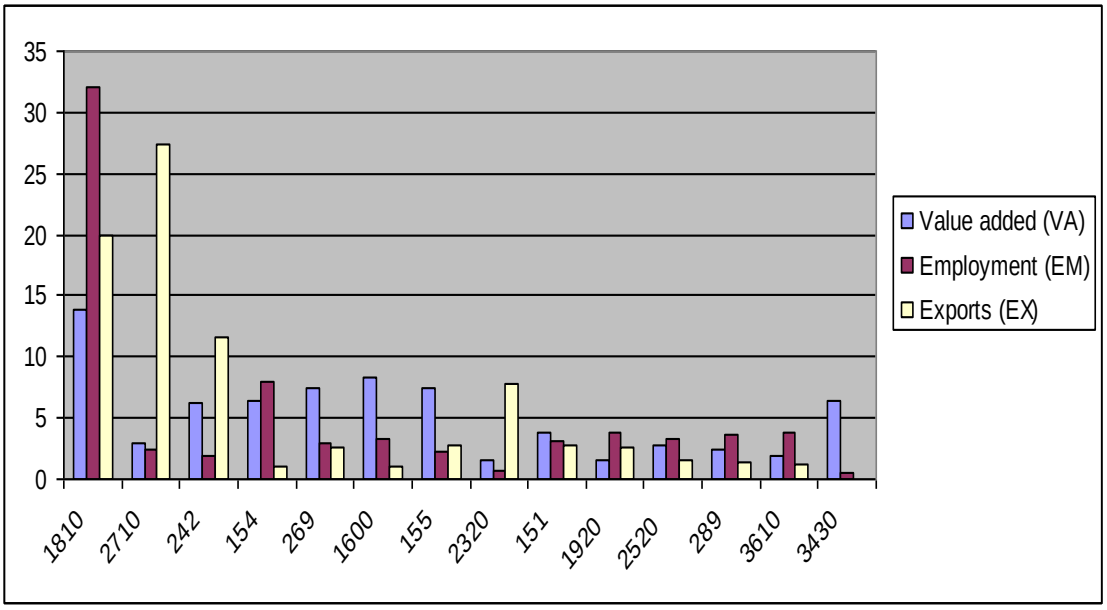
Table 6: Macedonian key sectors according to their contribution in value added, employment and exports

Sectors	Value added (VA)	Employment (EM)	Exports (EX)	VA & EM	VA & EX	M & EX	VA & EM & EX
1810 Wearing apparel							
1600 Tobacco products							
269 Non metallic mineral products							
155 Beverages							
154 Food products	X						
3430 Parts for automobiles	X						
242 Chemicals							
151 Processed fish, meat, fruit, vegetables							
1920 – Footwear							
3610 – Furniture		X					
289 - Other metal products; metal working services		X					
2520 - Plastic products		X					
2710 Basic iron and steel			X				
2320 Refined petroleum products			X				

Data source: Authors classification based on previously explained statistics

The sectors from the table are given on the graph 20.

Graph 20: Macedonian key sectors according to their contribution in value added, employment and exports



Data source: http://www.unido.org/statistics

The table and the graph show that some of the branches contribute significantly in exports, but do not employ workers, others are important for increasing the number of employers, but do not create added value. Therefore, we cannot favor one branch over another. However, we can understand which branches have the biggest potential for improving competitiveness and to explore them more deeply. That leads to the next step, the qualitative analysis of branches detected as significant contributors under the all three criteria. The methodology, which is used for the qualitative investigation, includes applying Porter's national diamond as shown on the picture.

The tables present brief analyses of the forces in those branches, characterized with greater value added, employment and exports in The Republic of Macedonia. The four Porter forces are applied concretely on each of the given industries. Furthermore, the sector's strengths or positive sides for every specific factor are in the column marked with plus (+), and the weaknesses or negative sides are in the column marked with minus (-).

Table 7: Porter diamond applied on Macedonian Wearing apparel sector

Branch	Wearing apparel sector	+	-
Porter Forces	Factor conditions	Low costs for salaries Increasing number of students in textile high schools Favorable location	Lower average productivity of workers Lack of domestic production of textile inputs
	Demand conditions	Improving the sophistication of buyers Virtual communication with buyers Fashion weeks	Buyers prefer cheap Chinese clothes High unemployment
	Related and supported industries	Collaboration with transport firms, IT companies Universities: European University – Design department Faculty of technology & metallurgy – Department for textile engineering	
	Strategy of the firm and rivalry		The production is based on LON system, mainly for other brands Lack of Macedonian brands

Source: by the author

Table 8: Porter diamond applied on Macedonian Production of iron and steel

Branch	Production of iron and steel		
Porter Forces	Factor conditions	Rich with natural resources Quality of the raw resources	Limited high skilled workers Need for cleaner and saver technology Energy intensive industry High transport costs
	Demand conditions	Increased demand from companies that produce auto parts, construction firms International demand larger than domestic	
	Related and supported industries	Development of construction industry that uses steel, Foreign firms like Jonson Mateys	
	Strategy of the firm and rivalry		Low level of value creation Lack of organization and collaboration Small investments in innovations

Source: by the author

Table 9: Porter diamond applied on Macedonian Tobacco products

Branch	Tobacco products		
Porter Forces	Factor conditions	Natural conditions for growing tobacco Experienced workers	Decreasing production through years
	Demand conditions	Fragmented demand Quality control and testing	
	Related and supported industries	Vertical integration, contracts between producers and buyers Tobacco association and industries Educational institutions	Bad relations among producers and buyers
	Strategy of the firm and rivalry		Low mechanization Bad management Use of cheaper low quality seed

Source: by the author

Table 10: Porter diamond applied on Macedonian Processed fish, meat, fruit, vegetables.

Sector	Processed fish, meat, fruit, vegetables		
Porter Forces	Factor conditions	Richness with natural resources Tradition in preparing processed vegetable and fruit Possibility for applying IPARD funds	Seasonal employment
	Demand conditions	Increased demand on the domestic market Demand from the diasporas Sophisticated buyers Ecological importance	
	Related and supported industries	Number of agro businesses Association of Macedonian processors	
	Strategy of the firm and rivalry	Networking interest for exports	Producing for private marks , not having recognizable brand Lower productivity of workers

Source: the author

1.2.2 Competitiveness in Macedonian Fruit and Vegetable Processing industry

The industry of interest for the research is Macedonian Fruit and vegetable processing industry. The reasons for investigating competitiveness concretely in this industry are: its participation in manufacturing added value, exports and employment (illustrated in the previous sub chapter), and its close link with the agricultural sector as a source of raw materials.

The Republic of Macedonia has a favorable climate and natural conditions for succeeding of many agriculture cultures. The inputs for this industry are mainly found in the south eastern region of the country, the towns of Strumica and Gevgelija, where the Mediterranean climate creates favorable conditions for producing many kinds of fruit and vegetables. The climate in Kumanovo, Skopje, Resen and Ohrid is continental, and in these regions fruit and vegetable production is advantageous too.

The fruits and vegetables quantity and quality is significant for their further purpose and consequently for the development of the fruit and vegetable processing industry.

Fruit subsector is consisted of apples (62%), plumbs (20%), sour cherries (8%), peaches (6%), pears and apricots (Processing industtry of Republic of Macedonia). Apples are most common with the sorts: ajdared, jonathen and golden delicious. Most of the apples produced in The Republic of Macedonia are exported in neighbor countries and processed there. Only a small part is processed in Macedonian capacities.

The second most common fruit, the plum, is mostly used for preparing Rakia, traditional Macedonian beverage and some part is dried or processed. Cherries are produced mainly in the region of Tetovo, and they are consumed fresh, processed or frozen. Peaches are mostly consumed fresh or are exported in Russia, so the disposable volume of this kind of fruit is insufficient for the needs of processing industry. Pomegranate, kiwi and figs are sold mainly on domestic market and few are exported. (Processing industtry of Republic of Macedonia)

Vegetable subsector is even more important for the Fruit and vegetable processing industry in The Republic of Macedonia, because most of the final products of the industry are based on vegetables. The vegetable is produced in glasshouses, greenhouses and outdoors on a 60000 hectares area (Processing industtry of Republic of Macedonia). In the last couple of

years the production in enclosed areas is continually increasing. From the vegetables, tomatoes, potatoes, cabbage, beans and peppers prevail. Most of the fresh vegetable is exported in the countries of Former Yugoslavia.

The fruit and vegetable that farmers sell or export has very low price because there is not much value added. If these raw inputs are dried, frozen or concentrated their value is increasing and they may be sold for a greater price on domestic and foreign markets. Furthermore, if they are processed and conserved, they can be sold as finished, final goods for even better price.

The current situation shows that processing companies in The Republic of Macedonia produce both vegetable and fruit products. The participation of vegetable is dominant with 91 %, while fruit products participate with only 9 % (Macedonia, 2014). The outcomes are mainly semi finished products and that: dried products such as vegetables including peppers, carrots and parsley, fruits mostly plums, then concentration of tomato juices, ketchup, concentrate of apples. The final products are in smaller quantities are consisted of traditional Macedonian dishes ajvar, lutenica, roasted peppers, guvec, marinated vegetables, and canned fruits, cherries preserved in alcohol, compotes and marmalades.

Fruit and vegetables products are prepared, satisfying European standards for food production. Most of the firms have implemented HACCAP standard and some of them own ISSO 22000 certificate. Complying with standards, matters for two reasons. First, the awareness of domestic consumers for the environmental nature of food products has increased in recent years, and second, compliance with standards already adopted in foreign countries will contribute, the exports to those countries, to run smoothly.

The export orientation of Fruit and vegetable industry is strong and it continues to grow. Main export destinations are EU countries, Serbia, Croatia. Other consumers are overseas countries where the Macedonian Diasporas are concentrated, USA and Australia.

1.3. Competitiveness on a company level

The company's competitiveness is only a drop in the river which flow into the ocean of the overall competitiveness of the country, but without it, the ocean will be less, because of that missing drop. Based on the view that every drop counts, this study is investigating companies' competitiveness in The Republic of Macedonia.

Firm competitiveness presents the ability of firms to continualy be efficient, produce and deliver products and services that customers prefer to buy before the ones of domestic or foreign competitors and keep long term profitability. It is determined external forces such as macro economic and microeconomic condiditons, but also by managers capabilities to lead the company and answer to the external environment.

Among the theories for firm competitiveness the most influential are the resource based theories (Peteraf and Barney, 2003; Amit and Schoemaker, 1993; Peteraf, 1993, Mahoney and Pandian, 1992; Conner, 1991; Barney, 1991; Wernerfelt, 1984) and industrial organization theories, among which most famous is Porters's theory for competitive advantage and competitive strategies.

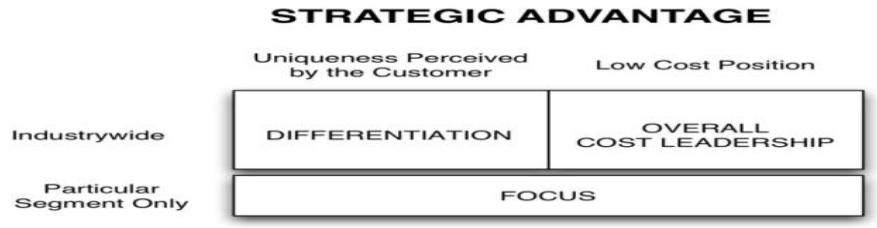
The resource based theories are based on the premise that firms are consisted of a number of resources which are heterogeneous, and they are not perfectly mobile among firms. Therefore, companies' success depends from the usage of those resources. Recently, the resource based view focuses on knowledge, information and competemces as crucial resources for obtaining long term and sustainable competitiveness.

The main difference among resource based theories and Porter theory is that resource based theories consider firms resorces as their main compatitive advantage while in Porter's theory for the competitiveness of firms, the central position is given to the competitive advantage of companies, which can be achieved by implementing a competitive strategy. Generally, there are three generic strategies: cost leadership, differentiation and focus.

- The first strategy includes capital investments, building of capacities, lowering costs, avoiding credits for the buyers, cheaper distribution system and low costs for research and development, promotion. To achieve position of cost leadership, firms should have great share of the market, access to raw materials, control of costs and appropriate organizational structure.

- The second strategy differentiation is based on creating brand, a distribution network or unique service in order to attract and keep loyal customers. This strategy is related with investments in research and development, attracting qualified workers and marketing campaigns.
- The third strategy – focus- means either the company to work with low costs, either to diferentiate. Its main feature is haing a target group, a narrow segment of buyers, geographic market.

Figure 2: Three generic competitive strategies



Source: http://tatler.typepad.com/nose/2005/04/three_generic_c.html

A great role, in the choise of competitive strategies, plays the market structure in the particular industry branch. The science recognizes four main market structure models: perfect competition, monopolistic competition, monopoly and oligopoly.

The table 11 below shows their main charadteristics:(Louis E. Boone, 2011)

Table 11: Market structures

Characteristics	Perfect competition	Monopolistic competition	Oligopoly	Monopoly
Number od competitors	Many	Many	Few	None
Entrance in the industry	Easy	Harder	Very hard	Controled by the state
Similarity in products	Homogeneous	Heterogenic	Similar and different	Unique
Companies power to control prices	None	Some	Some	Pure monopol great, regulated monopol less than in pure monopol, but still big

Source: (Louis E. Boone, 2011)

Perfect competition is a theoretical model, and does not exist in practice. Therefore, here are discussed the other three market structures - monopoly, oligopoly and monopolistic competition.

In the case of monopoly, there is only one supplier of the particular good and no competition among firms in the industry. The barriers for entrance are high and buyers' power is small.

Oligopoly is characterized with limited competition among companies, there are few suppliers of the same or similar products, who often agree on prices. The barriers for entrance are high and buyers' power is limited.

Monopolistic competition is characterized with large number of firms operating in the sector producing differentiated products. The barriers for entrance in these industries are relatively low, buyers and suppliers have power, and there are many complementary and substitute goods.

To maintain advantage for a long term period, companies may use the focus strategy, focus on a particular segment, and serve this segment either at lower cost or with product variations. However, by focusing on one segment, firms lose the opportunity for profit in other segments. Therefore, when making strategic decisions, apart from the market structure, firms should consider other determinants, as the kind of the industry in which they operate. The industry can be emerging, fragmented, mature, declining or global.

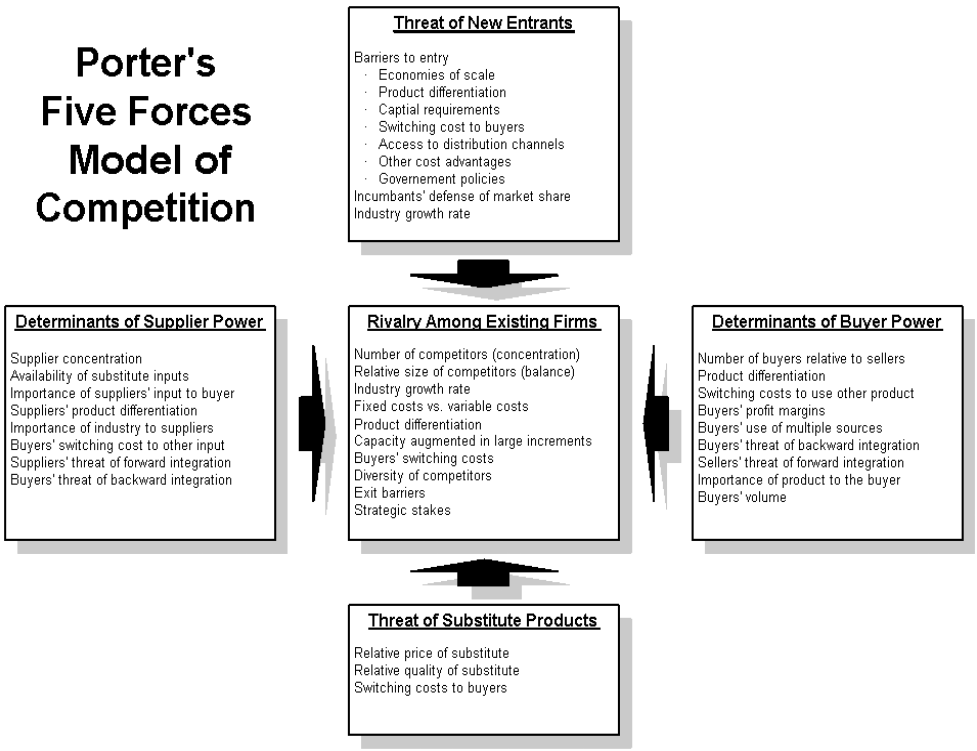
- In emerging industries, procedures for operations should be developed in future, possibilities for implementing new and developing complementary products are many, and firms can earn high profits.
- Fragmented industry is characterized with a large number of firms with equal size, and the opportunities can be found in collaboration among firms, producing products that are supporting one with each other, sharing of information, knowledge and resources.
- Mature industries are those where there is a slow or no increase in demand for the products. The possibilities for companies lay in introducing innovations, pre and post sale industries.

- Declining industries are even more limited, because the demand for their products is decreasing. However, firms can succeed in this type of industries by finding a niche markets or reducing costs.
- Global industries have big potential due to the international sales. International markets offer new possibilities for the already established products, but also for new products and supporting industries which can develop from the different local demands and tastes.

In his book, Competitive strategy, he explains the forces which influence the intensity of the competition in one industry, the generic competitive strategies which firms use to achieve competitive advantage, and the strategic decisions referring to expanding capacity and vertical linkages. The competition in an industry depends from the following five forces: the buyer's power, the supplier's power, the treat of new entrants, the rivalry among existing firms, and the threat of the firms which produce substitute products.

The model is given on Figure 2.

Figure 3: Porter Five Forces Model of competititon



Source:http://www.strategy4u.com/assessment_tools/porters_five_forces/five_forces_popup.shtml

Another perspective, for investigating competitiveness, is by using concepts which explain competitiveness, and which can be used as indicators, and measured in a quantitative way. The choice of the concepts to capture competitiveness is difficult, especially because there are many viewpoints among researchers. For instance, some of them consider that firms' competitiveness depends from their productivity, their profitability and market share of firms, while others consider the growth rate and the international trade performances.

There are as many indicators as there are researchers dealing with this issue, and limiting on only a few of them involves the risk of omitting any relevant issue. However, in case when all possible factors cannot be taken into consideration, it is recommended, the researcher to make a judgment which indicators to include, even through, there is a dose of subjectivity, in the selection, that the researcher cannot avoid, but intend to minimize.

In the following, are selected the concepts, associated with firm competitiveness, and then, each of them is briefly explained. Among them are productivity, profitability, growth and trade performances.

- **Productivity** is crucial for long-term competitiveness of organizations (A guide to productivity management, 2011) (Lalinsky, 2013). It can be defined as the ratio of the total output in relation with total inputs. The bigger is the output produced with given inputs or the same output with lower cost for inputs, the better is the productivity of the company. There are selective indicators of productivity: labor productivity and capital productivity.
  - ✓ Labor productivity illustrates the efficiency of the labor in generating the output. In the OECD System of Unit Labor Cost and Related Indicators, labor productivity is defined in two ways: labor productivity per hour; or labor productivity per person employed (Freeman, 2008). Labor productivity per hour is defined as real output divided by total hours worked by all employers, while labor productivity per person employed is defined as real output divided by total employed persons. This measure for productivity is partial measure, but it is easy to calculate and the data needed is often available.
  - ✓ Capital productivity shows how the growth in the capital reflects on the output. Capital productivity has to be distinguished from the return of capital rate. The former is measure of the physical capital, the assets in the company, and the latter

presents the capital income, to the value of the capital stock (Measuring productivity OECD Manual, 2001). In more developed countries where production is automatic, the labor factor productivity is bigger, and vice versa, where there is a lack of capital, the capital productivity is bigger. Except selective productivity measures there is the multifactor productivity, which refers to the productivity as a result of engagement of all the production factors (capital, labor, energy, material). This tool is most appropriate to measure productivity, but its limits are in the unavailability of data required for the calculation.

- **Profitability** is another concept that is often related with competitiveness in research papers (Panagiotis Liargovas, 2010) (Konstantinidis, 2009) (Lalinsky, 2013). Profitability refers to the capacity of the company to earn revenues greater than the costs of the business activities. The measures for profitability are many. Among them are: gross profit margin, return on assets and return on equity.
  - ✓ Gross profit margin pictures the revenues that remain after the company covers the costs related to the generation of those revenues. The higher the ratio is, the better the company is compared with its competitors.
  - ✓ Return on assets measures the profit generation with the company assets in the given period.
  - ✓ Return on equity measures the return in the investments of shareholders.

  Irrespective of the measures used to express it, the capacity of the firm to continually increase their profitability is considered as a good signal for improved competitiveness. Higher profitability provides more opportunities for product, technology and organization development, for application of innovative sales methods, or for increasing the standards of human resources. (Gal, 2010)

  Furthermore, increased profitability increases the assets that firms have at their disposal and can reinvest in order to increase its capacity and grow.

- **Growth** of the firm is another relevant indicator for its competitiveness (Lalinsky, 2013) (Ourania Notta, 2011). Growth of the firm is important for its survival, and firms which grow faster have greater chances to survive in the first two to five years.

A firm growth can be observed as increased market value, assets base, or number of employers (John Graham, 2009).

The increased number of employers is more important when investigating growth on macro level, because it gives information on the employment growth. On micro level, growth is often expressed as sales growth and assets growth. Companies can increase their sales and market share, by selling at lower price than costs, but on the long run this approach is not sustainable. The long term growth can be achieved only by investing the returns of the sales in the company. Therefore, growth of the assets would be appropriate measure.

- **International competitiveness** is related with firm's capability to achieve higher performance than its competitors in foreign markets and preserve the conditions that sustain its higher performance also in the future (Depperu, 2014). Many companies that show good performances on domestic markets fail to attract customers on foreign markets. Two measures of competitive performance are export sales growth and export dependency (Peter J. Buckley, 1988). In the globalized world, the international competitiveness is more important than ever. It is determined by two groups of factors: factors controllable by the firm and factors that are not affected by the firm (exchange rates, tariffs and other trade barriers) (Carl H. Christense). Today, the benefits of free trade are worldwide and protectionism has decreased compared with before, and firms should concentrate their attention to the first group of determinants.

After, elaborating the concepts determining competitiveness of companies, which can be measured in a quantitative way, follows a table with the most common measures for productivity, profitability, growth and export performance. (See: Table 12)

Table 12: Measures for productivity, profitability, growth and export competitiveness

Dimension	Indicator	Strenghts	Weaknesses
Productivity	Production/ number of workers	Data for production can be calculated from the sale and inventories. Also, it is easy to get the data about the number of registered workers in a given firm in a given period	The data about production can be aproximate because is indirectly calculated from other data which are available in bilances The number of workers is not constant, it is drasticaly bigger in summer than in winter (sesional character).
	Production/ assets	Data for production can be calculated from the sale and inventories. Shows the effectiveness of the use of the capital, the effect of the improvements in mashinery.	The data about production can be indirectly calculated from other data (revenues, and inventories). The data about the number of mashines is harder to obtain
Profitability	(Revenues-costs)/ revenues	Simple to use, available from the data in financial statements	Depends from the Accounting accuracy and relability
	Profit this year/ profit last year	The data about the profit or eventually the loss is easy available Shows the trend of the profits of the company as one of its main goals	The profit does not awlays have to illustrate an improvement in the operative efficasy. Sometimes it results from other factors.
Growth	Current revenues/ Previous revenues	Gives information about the market share of the company in the curent year compared with the year before	Inflation can give misleading information abouth the growth, therefore prices should be adjusted
	Current assets/ Previous assets	Gives information about the investment policy of the firm. The data can be obtained from the financial statements	Different accounting methods may result in diferent results
External competitiveness	Current export/ Previous export	Important information for the trend of the external competitiveness.	Considering that the exports are given in relative numbers, as a % of the total sale, it is possible to obtain misleading information.

Source:

1.3.1. Competitiveness on a company level in Macedonian Fruit and vegetable processing industry

The number of companies in the Fruit and vegetable processing industry is approximately 50. Most of them are micro and small enterprises, located near the agriculture locations in the country. They are grouped in association named Macedonian Association of processors and collaborate with each other in order to strength the cooperation with farmers, public and private institutions, to better their export potential and to improve their competitiveness.

The competitiveness of companies Fruit and vegetable processing industry, in this part of the study, is analyzed from the perspective is the Porter model for competitive advantage and strategy. Thereby, each of the Porter five forces is elaborated with an accent of its influence over the competitiveness of the companies in The Fruit and Vegetable industry inMacedonia.

The bargaining power of buyers:

It depends from the number of buyers, the level of diffeerentiation of products, the switching costs for using other products and the possibilities for background integration.

The number of buyers in relation with firm's capacities in Fruit and vegetable industry in republic of Macedonia has increased in recent years, and has a potential to increase even more in future, on domestic as well as on foreign markets. This trend may be positive for companies then, but, in this moment, buyers still have enough power to decrease the prices of processed fruit and vegetable.

The current level of differentiation, of dried and concentrated products, is low, while the traditional Macedonian dishes are more differentiated compared with products offered by other vegetable processing industries worldwide.

Switching cost for using other products are low, and producers should work on this by creating long term relationships with buyers, in a way that they will be emotionally linked with the products.

The background integration is a serious treat for the firms which produce tomato, concentration for juices, while the ones that produce final products are less vulnerable.

The bargaining power of suppliers:

The suppliers are the farmers in the region of Gevgelija, Strumica, Resen, Ohrid, Tetovo, who grow fruits and vegetables and workers who work on the production lines. They can affect the fruit and vegetable processing industry in many ways. The industry is resource dependent and every little change in the supply of resources can lower its profitability. The availability of substitute inputs is limited and may increase the costs especially in the raw fruits and vegetables. Farmers can decide to offer their production to foreign buyers for higher prices. Another constraint is that the availability of inputs depends on weather conditions, climate changes. They can influence on the quantity and on the quality of inputs. Sometimes even through the volume of raw fruits and vegetables is satisfying, their quality may not be, and may influence the quality of the final goods. Except, weather conditions farmers can also decrease the quality, by using cheap and inadequate seeds, insufficient protection of pests, inappropriate cultivation. The food processing firms are not prone to backward integration, while the farmers may invest in equipment and start a business in the processing industry. That depends of the barriers to entry.

Threat of new entrants

There are no some huge barriers to entry in the industry, such as economies of scale because most of the firms are small, the products are differentiated, but established firms have not some special competitive advantage such as established brand, non imitable protected products, patents. Major barriers are the eco standards that companies should comply and the availability of distribution channels. Distribution channels cause high costs even for already established firms. The greatest barrier however is the capital requirement for equipment, first supplies and first salaries. Anyway, new entrants may overcome this problem by using IPARD funds. This kind of support is related with compliance of many requirements but can be very useful and beneficial.

Threat of substitute products

The palette of substitute products for fruit and vegetable processing industry goods is wide but in the same time limited. There are many products that can be consumed instead of dried fruit, for example other sugar products and cakes, or honey and chocolate cream instead

of marmalades. However, there is a good side of the story of substitutes in this particular industry. Namely, people perceptions have changed over the last couple of years in favor of fruit and vegetable products instead of sugars, chips and snacks. This means that from the many substitutes available on markets, the probability for consumers to chose healthier, sugar free products is bigger. Here lay many possibilities for the future development and growth of the fruit and vegetable processing industry. In other word, in today healthy oriented society, switching cost for consuming processed or frozen fruit and vegetables are too high, at least in consumer minds.

Rivalry among existing firms:

The number of domestic firms competing in this industry is small, and the rivalry between them is not so intense. However, their main buyers are consumers from abroad, so foreign companies should be considered too, as direct rivals. They present real treat for Macedonian products because of their economies of scale (India, China). Anyway, Macedonian firms produce for niche markets and manage to sell their products. According to the data, exports are growing continually and the industry is growing. This growth is expected to continue in future too. However there are two characteristics that influence bad over the Macedonian processors. The first is that competition of Macedonian firms with its rival is based on low prices, and the second even more alarming is that Macedonian producers have no established brand. They produce for established brands and sell their products as private marks. Then, they come in a situation to compete in supermarkets with their own production packed under some foreign brand name. This is a losing game, because final buyers buy branded foreign products for higher price instead of Macedonian brands on one hand, and Macedonian producers sell their products for lower price to the same foreign brands. Macedonian producers lose, foreign brands earn on the margin. This problem asks for quick solution, awareness of Macedonian producers for their loss and the need for investing into a Macedonian brand. They claim that branding is expensive, but the expenses on long run will bring higher revenues and better profitability.

The forces reveal the most significant aspects of the competitive environment, and provide a baseline for sizing up companies' strengths and weaknesses (Porter M. , The Five Competitive Forces That Shape Strategy). Strengths, weaknesses, opportunities and threats of Fruit and vegetable processing industry are in Table 13.

Table 13: SWOT and PEST Analysis

SWOT ANALYSIS	**PEST ANALYSIS**
• ***Strengths***	**Political forces**
Established markets Experience in the secor Diversified products Factor endowment Developed delivery network	Aspirations for entrance in EU and implementation of policies for compliance with EU standards Favorable tax policy
• ***Weaknesses***	**Economic**
Small capacities Lack of planed aproach High fixed costs Sesional character of the business Climate can affect the supply of resources Small added value (need fo further processing) Undeveloped marketing aproach	Improved conditions for doing business according to Doing business report Decrease of the interest rates Increasing prices
• ***Opportunities***	**Social forces**
Greather cooperation witk the agriculture sector for obtaining resources New needs of customers New technologies for processing and technology transfer New markets abroad Increased demand for heathy food Gverment support Vertical and horizontal integration	Not enough qualified workers Increased demand for healthy food
Threats	**Technological forces**
Increasing of the price of resources Competition from neibor countries Lower number of qualified workers Poltion	Access to new technologies and transfer of technology Increased but still insufficient collaboration with universities Insufficient investments in research and development

Source: author'

Once the forces affecting competition in Macedonian fruit and vegetable processing industry have been discussed, the approaches which companies can use for strategic positioning, exploiting or shaping the forces are presented.

Having into consideration that the Fruit and vegetable processing industry in The Republic of Macedonia have the features of monopolistic competition and the products are heterogeneous, companies may use differentiation strategy and to offer variety of products to buyers who are willing to pay a higher price.

Also, they may sell to buyers which are interested to buy greater volume by specializing for some product. Unfortunately, even through barriers for entry in the branch exist, they are not so high, and other competitors may entry, copy the strategy and lower the long term profits of firms.

Fruit and vegetable processing industry belongs to the fragmented industries. The key strategy that companies should use in fragmented sectors is consolidation. (Porter M. E., 1988).

CHAPTER 2: ENTREPRENEURSHIP AND ENTREPRENEURIAL DETERMINANTS

Entrepreneurship became very popular concept in recent years. It was introduced in education, positioned as one of the main goals in policymakers programs, and the term is more and more present in commercial and scientific books. It is used to describe the creation of new ventures, the creativity of some people, the visionary ideas, the huge profits and huge risks. Even through, each of these terms reflect some part of the entrepreneurship concept, but none gives the whole picture.

The concept is complex by itself, and the reason lays in its multidisciplinary nature. In that context, entrepreneurship has been researched through the lens of sociology, psychology and economy. Sociologists investigate the social factors that influence on people to open their own businesses and pursue their ideas, from one side, and the impact of the entrepreneurial ventures on society, on the other side. Psychologists are more interested in the characteristics of entrepreneurs, what drives them to launch enterprises and in which way are they different from other people. Economists are interested in entrepreneurship as a driver of economic development, reducer of poverty and enhancer of the employment.

This chapter investigates entrepreneurship from the economic point of view. It should give an answer to the following questions:

- ✓ *What are the main theoretical considerations about entrepreneurship?*
- ✓ *Which are the factors that determine entrepreneurship?*
- ✓ *How are the conditions for doing business, the entrepreneurial attitudes, activity and aspirations in The Republic of Macedonia?*

In order to answer the questions the chapter first gives a literature review of the concept , definitions and theoretical perspectives concernng entrepreneurship, the factors which determine its development in a country, and the state of the entrepreneurship on the territory of The Republic of Macedonia. Then, there is an elaboration of the features

distinguishing entrepreneurs from ordinary business owners and on each of the entrepreneurial elements.

2.1 Literature review of the concept of entrepreneurship

Today, and generally in the last twenty years, there are many articles, books, papers that treat the problem of entrepreneurship. However, that was not always so in economics. There were times when entrepreneurs were not even considered as important. Since the first introduction of the term entrepreneurship in the literature, done by the French economist Cantillon, the interest for entrepreneurship was very low and almost insignificant. In this early period, contributions for the discipline of entrepreneurship have had Jean Bathist Say, John Stewart Mill, Karl Marks and Alfred Marshal, Frank Knight and Joseph Schumpeter.

Jean Bathist Say put the term "entrepreneur" in common usage, and distinguished the entrepreneur from the capitalist. He defines entrepreneurs as people who organize resources and accept risk by buying at certain and selling at an uncertain price. Say linked production with creating utility, not just material goods. The utility is created by organizing three types of factors labor, land and capital where the central role has the entrepreneur. (Stojkov, Development of the economic thought, 2008)

John Stewart Mill, in the theory related to entrepreneurship, is known for introducing the term entrepreneurs among British economists, and for integrating the risk taking and managing in the entrepreneurial function.

Karl Marks tied the entrepreneurial function with active capitalists. According to him there are two types of capitalists, the ones who earn by lending the capital they poses, and the ones who reproduce the capital. Those who reproduce the capital earn the entrepreneurial gains. (Taki Fiti, 2007)

Alfred Marshal treated entrepreneurs as one of the production factors and the profit as income for entrepreneur's capabilities to drive the production and distribution process, to coordinate supply and demand on the market, and capital and labor within the firm. They undertake risk and are innovators (Praag, 1999). He has explained the level of profit through the demand and supply of entrepreneurial capabilities.

Frank Knight assumes that risk and uncertainty are the main factors which should be considered in the economy. According to him, entrepreneurs are those individuals who take

actions in situations of uncertainty, who produce goods not by knowing, but by forecasting the market needs and wants. Therefore, contrary to risk which can be predicted by former events, uncertainty cannot be forecasted and entrepreneurs should be ready to bear the uncertainty of losing in order to win profits. (Rocha, 2012)

The economist who has the main role in highlighting the significance of the entrepreneurship is Joseph Schumpeter. He considers entrepreneurship as the name for activities consisting of innovation. Innovation can be introduction of new products, new methods of production, new markets, new materials or new type of organization. Those individuals who create and implement new things create disequilibrium situation in the economy, break from the routine, and earn higher profits than normal. The process of destabilizing the equilibrium situation Schumpeter calls creative destruction (Schumpeter J. A., 1939). Creative destruction is how new industries are created and economic growth can be achieved. After Schumpeter, many other economists investigated entrepreneurship offering similar or diametrically different premises.

One of the followers of Schumpeter's ideas, who also consider entrepreneurship as substantial factor in the economy, is William J. Baumol. He states that entrepreneurs can be found in many different societies, investigates the societies, from ancient Rome till Japan, and extends the theory by stressing the importance of the entrepreneurial activities' allocation. If entrepreneurial activities are allocated in productive goals, they have positive implication over growth. Anyway, they can be also allocated in unproductive or even destructive goals. In this context, Baumol recommends creating conditions for productive entrepreneurship to flourish (Baumol, 1990).

Peter Dracker is another name in the group of Schumpeter's supporters and one of the most significant scientists who has researched entrepreneurship. His focus is on entrepreneurs as bringers of innovation (Drucker, 2006). According to him, in today's rapidly changing society only enterprises which perceive change as opportunity and innovate can be successful. Innovations can arise from seven different sources, and he elaborates each of them separately. The entrepreneurial spirit is crucial for managing the company, no matter of its size.

Israel Kirzner, a researcher from the Austrian economics school, opposite to Schumpeter, considers entrepreneurs as drivers of the equilibrium state in the economy. He assumes that entrepreneurs do not have to be creative and invent new products or processes,

but they should be alert to recognizing market changes that have already occurred. By noticing them they can still produce already existing products and earn profits with arbitrage on the price differentials (Kirzner, 2008). Thus, by competing for profits entrepreneurs drive the market equilibrium.

In the contemporary theories for entrepreneurship, there are many different approaches, but as some of the most cited, and consequently on that, most influential and relevant, are the following names: Karl Vesper, Albert Shapero, Gifford Pinchot, Mark Casson, Howard Aldrich and William B. Grathner.

Karl Vesper distinguishes the economics', psychology' and sociology' definitions of entrepreneurs. He points that entrepreneurs should have the core skills to sell products to consumers, and ventures to venture capitalist. They should also have the emotional feature readiness, for failure, as well as for success, in every instance of the entrepreneurial process. Vesper declares that school is limited when it comes to entrepreneurial knowledge. There are four types of knowledge: general entrepreneurial knowledge, generalized business knowledge, opportunity specific knowledge and venture specific knowledge. The last two are learned on the market, rather than in schools (Goossen, 2008).

Albert Shapero views the entrepreneur as initiator, risk taker and person who has internal locus of control. The development of the entrepreneurship is influenced by social and economic factors (Taki Fiti, 2007). Gifford Pinchot presents the intrapreneur, as a person employed in a big company, who acts entrepreneurially. Even through, the intrapreneur works for salary, he still poses the entrepreneurial spirit and way of managing (Viramgami, 2007). McClelland stresses the need for achievement and the need for power as main characteristics of entrepreneurs. He link entrepreneurs with setting realistic but challenging goals (McClelland, 2010).

Mark Casson tries to create theory of entrepreneurship by synthesizing the previous theories. He goes through them, analyses their strengths and weaknesses, and points out the common characteristic in theories, which makes entrepreneurs, to be entrepreneurs. That characteristic is the judgment. In his view, entrepreneurs are making judgmental decisions about the coordination of scare resources, when there is no given decision making model and the information is incomplete. Casson's entrepreneurs process information in order to resolve new and complex problems. Their motivation lays in profits, especially if profits are greater, and in personal characteristics (Casson).

Howard Aldrich takes an evolutionary approach to entrepreneurship. He writes about the need of better entrepreneurial theory. In his articles, he studies small firms, more concretely, start ups, family business, gender differences in startups, and the role of the social networking for the new ventures (Aldrich, 2012).

William B. Grathner explains new venture creation from one side and entrepreneurial behavior on the other. He tries to enrich the theoretical base of entrepreneurship and has published a lot of influential articles concerning the features of entrepreneurs, entrepreneurial organizations and the skills for starting a venture (Gartner, 2009).

At last, the development of the theories and state of the art in entrepreneurship is completed with a summary of definitions referring the entrepreneurship and the entrepreneur. They are given in the Table 14.

Table 14: Definitions on entrepreneurship

Definition	Citation	Ellements
Entrepreneurs buy at certain prices in the present and sell at uncertain prices in the future. The entrepreneur is a bearer of uncertainty.	(Cantillon, 1755/1931)(Seymour)	Risk and uncertanity
Entrepreneurs attempt to predict and act upon change within markets. The entrepreneur bears the uncertainty of market dynamics.	(Knight, 1921) (Seymour)	Uncertanity
“Entrepreneurs carry out new combinations by such things as introducing new products or processes, identifying new export markets or sources of supply, or creating new types of	Joseph Schumpeter (1934)(Schumpeter J. , 1934)	Innovation

organization"		
"An entrepreneur is a kind of person willing to put his carrier and financial security on the line and take risks in the name of an idea, spending much time as well as capital on an uncertain venture with an uncertain outcome"	Peter Drucker (1970) (Drucker, 2006)	Risk and innovation
Entrepreneurship consist of the competitive behaviors that drive the market process	Kirzner (1973) (Davidsson, 2004)	Market approach
"Entrepreneurs are specialists who use judgment to deal with novel and complex problems."	Casson(1982) (Casson)	Innovation
Entrepreneurship is the creation of new organizations	Gartner(1988) (David Stoks, 2010)	Innovation
Entrepreneurship is the process in which individuals – either on their one or inside organizations – pursue opportunities without regard to the resources they currently control	Stivenson and Jarlio (1990) (David Stoks, 2010)	Opportunity recognition and resource managing
Entrepreneurship is the manifest ability and willingness of individuals, on their own, in teams, within and outside existing organizations, to perceive and create new economic opportunities (new	Wennekers and Thurik (1999) (David Stoks, 2010)	Innovation, opportunity recognition, risk taking and resources managing

products, new production methods, new organizational schemes and new products market combinations) and to introduce their ideas in the market, in the face of uncertainty and other obstacles, by making decisions on location, form and the use of resources and institutions.		
Entrepreneurship is the introduction of new economic activity that leads to change in the marketplace	Simon in Sarasvathy (1999)	Innovation and market approach
"the process by which „opportunities to create future goods and services are discovered, evaluated and exploited""	S. Shane and S. Venkataraman (Christopher J. Collins, 2005)	Opportunities recognition
Entrepreneurship is the process of creating something new of value, by devoting the necessary time and effort, assuming the accompanying financial , psychic and social risks, and receiving the resulting rewards of monetary and personal satisfaction and independence	Hirish and Peters (2002) (David Stoks, 2010)	Innovation, risk taking
Entrepreneurship is a way of thinking, reasoning and acting that is opportunity based, holistic in approach and	Timmons and Spinelli (2004) (David Stoks, 2010)	Opportunity recognition, innovation

leadership balanced. Entrepreneurship results in the creation, enhancement, realization and renewal of value not just for the owners but for all participants and shareholders		
"Any attempt at new business or new venture creation, such as self-employment, a new business organization, or the expansion of an existing business, by an individual, a team of individuals, or an established business."	Bosma, Wennekers & Amorós, (2012) (Siri Roland Xavier, 2012)	Innovation
"Entrepreneurship is the mindset and process to create and develop economic activity by building risk-taking, creativity and/or innovation with sound management, within a new or an existing organization"	Green paper on Entrepreneurship in Europe (2003) (comunitie, 2003)	Risk taking and innovation

Entrepreneurship and entrepreneurs have been defined in research works from many disciplines, and a number of theories and methodologies have been developed to explain the concepts. Among the most influential researchers and entrepreneurship related works stand out the following authors/books:

- Schumpeter, J. (1934), Theory of economic development, Cambridge, MA: Harvard University Press.
- Knight, F (1921) Risk, Uncertainty and Profit, Chicago, IL: University of Chicago Press

- Schumpeter, J (1942), Capitalism, Socialism and Democracy, New York: Harper and Brothers.
- Bhidé A (2000) The Origin and Evolution of New Businesses, New York: Oxford University Press.
- Kirzner, I (1973) Competition and Entrepreneurship, Chicago, IL: University of Chicago.
- McClelland, D (1961) The Achieving Society, Princeton, NJ: Van Nostrand.

Apart from the books, in the field of entrepreneurship, there have been published papers and in the most cited journals such as: The Strategic Management Journal, Research Policy, Academy of Management Journal, Small Business Economics, Academy of Management Review, Journal of Business Venturing and Journal of Management Studies.

Also there are reports exploring different aspects of entrepreneurship among which are: The Doing Business Report, The Global Entrepreneurial Report, and The Entrepreneurship at Glance etc.

- The Doing Business Report is published by The World Bank, investigates the business climate in countries, or more concretely the legal requirements for opening and doing business.
- The Global Entrepreneurial Report investigates the entrepreneurial activity, aspirations and attitudes in different countries in the world.
- The Entrepreneurship at Glance published by the OECD Eurostaat Entrepreneurship Indicators Program which measures the state of entrepreneurship.

However, despite the popularity of the concept and all the works, still, there is not a clear and generally accepted view on entrepreneurship. The trth is that if we try to define it only by considering one aspect of entrepreneurship, we will limit it. Therefore, in this study entrepreneurship will be researched as a system[2] of elements.

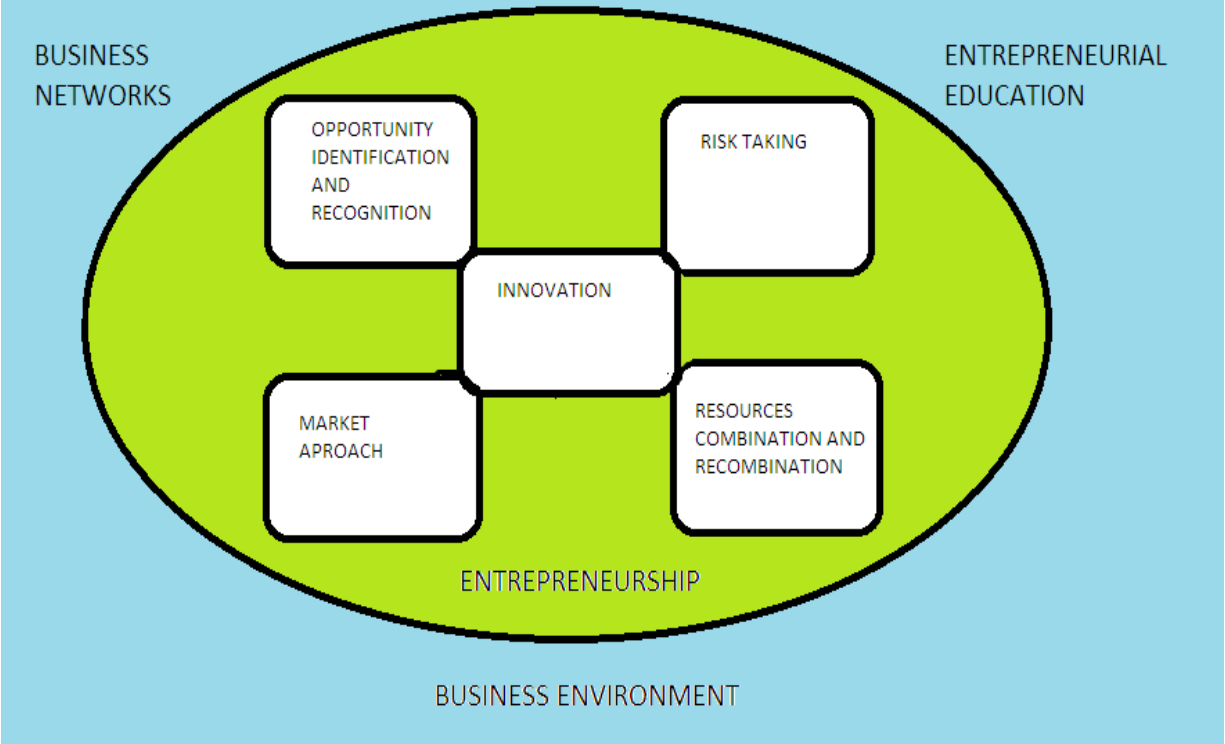
From the definitions in table 14, one can notice that the most common mentioned elements connected with entrepreneurship are: identifying opportunities, creating and

[2] " a regularly interacting or interdependent group of items forming a unified whole" http://www.merriam-webster.com/dictionary/system

implementing innovations, taking risks, managing resources and orienting to the market. Nevertheless, the system does not exist in an isolation, and it is affected by external factors, such as the business environment (legislative, infrastructure), the entrepreneurial culture and networking among firms.

The main entrepreneurial elements and the external factors which influence over the development of entrepreneurship are given in Figure 4, and explained in depth in the following sub chapters.

Figure 4: Conceptual framework of entrepreneurship



Author's framework

2.2 The determinants of entrepreneurial activity in a country

The figure 4 illustrates the elements of entrepreneurship and the external factors which influence over its development. Even through determinants of entrepreneurship are diverse, mainly they can be arranged into three major groups as follows:

- Business climate
- Entrepreneurial education
- Networking

The business climate

The business climate presents the macroeconomic environment, the legal system, monetary and fiscal policies, institutions and labor force characteristics. In the simpliest terms, as the weather conditions, sunny, cloudy or rainy, determine the harvesting, the business environment patterns determine the capacity of businesses to progress.

The characteristics of the weather are measured with the temperature, the air pressure, the humidity, and in the case with business climate the measures are more complex and various. One of the widely accepted sources of information and measure, about the business climate, is the Doing Business Report (Doing business). The main goal of the report is to show where the country stands among other included countries benchmarked by the legal requirements and regulative concerning businesses. The Doing Business Report was first published in the year 2003 and contained 133 economies ranked by 5 indicators. Until today, the scope of the report has been broaden and contains 185 countries which are ranked by 11 indicators. Each of the pillars measures different aspect of the business environment. They are described below (Doing business).

- The first pillar is named starting a business and is related with the number of procedures, and the licenses needed for registration and starting a business. It also counts the time needed, measured in days, the cost for all the official payments for professional and other services, and, the minimum capital required to be paid before registration.
- The second refers to dealing with construction permits. It measures the time and cost for obtaining all the necessary documents such as licenses, permits, certificates for construction a warehouse and getting water, telephone connections.
- Getting electricity is the third indicator. It shows the ease, the time and cost necessary to connect to the electricity connection and permanently receive electricity. This is linked with regulative procedures, electricity utilities and distribution.

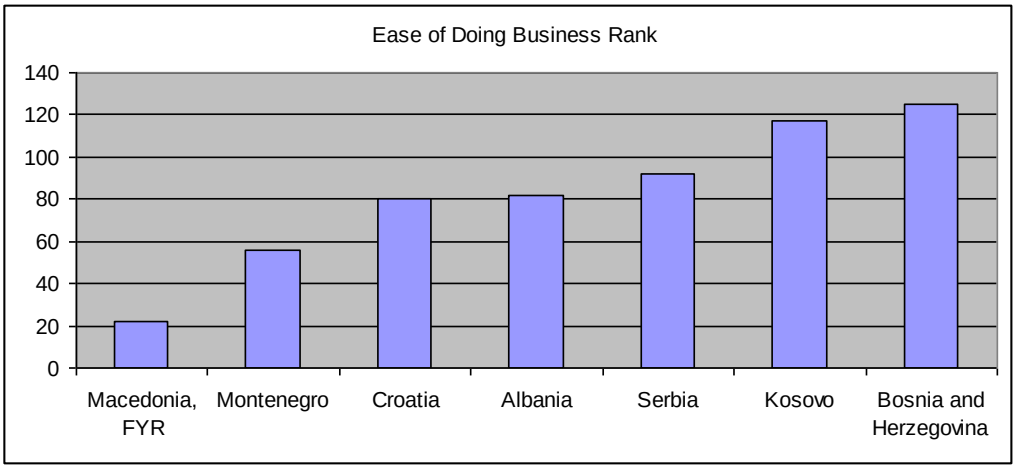
- The fourth pillar, registration of the property, includes the whole sequence of phases and required documents that the owner should obtain to register the property.
- Getting credit is acknowledged as a very important aspect of the ease of doing business in a country. Better access to finance for companies, means less barriers for realizing ideas. However, access to finance depends from many factors, among which the Doing Business Report takes into consideration the protection of the legal rights of borrowers and lenders on one hand, and the development of the credit information system on other. The protection of the legal rights of the parties included is determined by laws, especially collateral and bankruptcy laws. The availability of credit information, their scope and coverage is measured with data from public or private credit bureaus.
- Protecting investors is an indicator that measures the rights of the shareholders with minority participation in the capital, concerning the company operations. The indicator contains three types of rights: stakeholders should have access to all the relevant documents about transactions of their interest, they may ask for legal remedies if directors cause some damages, and they have a right of disclosure and approval.
- Paying taxes is about all the taxes and contributions companies should pay. Their number, level, and way of paying, varies among countries. The faster all procedures for preparing files and paying are, the smaller their number and their size as a percent of profits, the better the country is in this field.
- The next parameter is trading across borders. It includes recording of all the documents, the time and the cost, for importing or exporting goods from one country to another.
- Enforcing contracts includes all the procedures, time and cost for resolving disputes among companies. It shows the efficiency of the judiciary, starting from the moment when the case is submitted, till the enforcement of the court's decision.
- Resolving insolvency is another important issue. It happens in case when firms are not in a condition to recover their money, because some of their partners are not able to meet their obligations, close the business, or for any other reason cannot pay their debts.

All indicators are given as ranks, and together, they give information about the overall business climate of a country in comparison with other countries. If the rank of the country is lower, the regulative climate is better. Countries are ranked on an annual base, so every improvement or worsening from year to year, and from country to country can be noticed. However, ranks give relative information and are dependent between each other. Thus, the change in the rank of one country can be a result not only from changes in its own regulatory environment, but also from changes in other countries' conditions. Hence, the improvement in the economy's rank over time does not always have to illustrate advancement in its business environment (Nikolovski & Micalevska, 2012).

In this research, the Doing business report is used to measure the business climate in Macedonia, its ranking in the investigated period, the changes through time in every particular segment, and its place on the ranking list among Western Balkans and EU countries. The Republic of Macedonia in 2013 takes the 23 position, which is a relatively good position, and indicates that the business environment is favorable. Opening and managing business in the country is easier than in all Western Balkans and some EU countries. That is illustrated on the graphs.

Graph 24 shows that The Republic of Macedonia is far better destination for business than Bosnia and Herzegovina, Kosovo, Serbia and Albania, but also from Montenegro and Croatia. Moreover, there are separate graphs, where The Republic of Macedonia is compared with Western Balkans, in every aspect, from starting a business until resolving insolvency. (See graphs: 21,22,23,24,25,26,27,28,29,30). Thus, it is obvious that The Republic of Macedonia's business environment is better than the regional average, in the areas: starting a business, dealing with construction permits, and paying taxes.

Graph 21: Western Balkan countries ranks – Ease of Doing

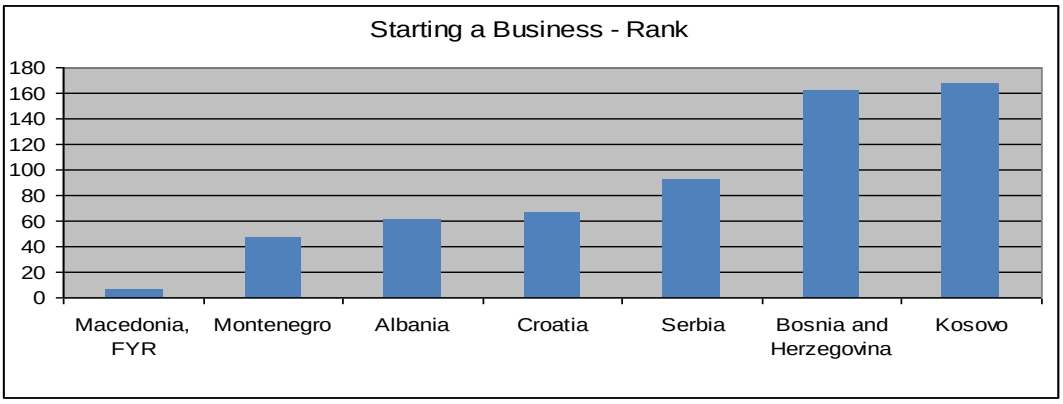


Business

Бројка 1

Source: data from the webpage: http://www.doingbusiness.org/

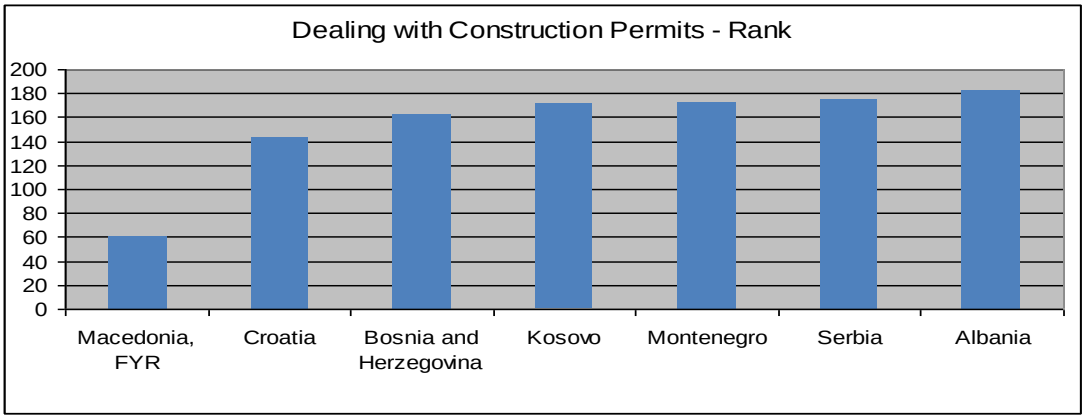
Graph 22: Western Balkan countries ranks – Starting a



business

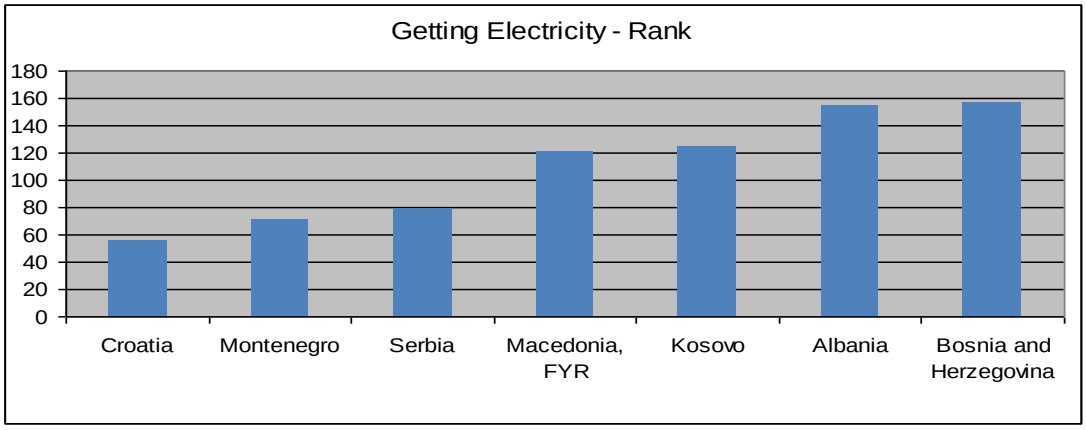
Source: data from the webpage: http://www.doingbusiness.org/

Graph 23: Western Balkan countries ranks: Dealing with construction permits



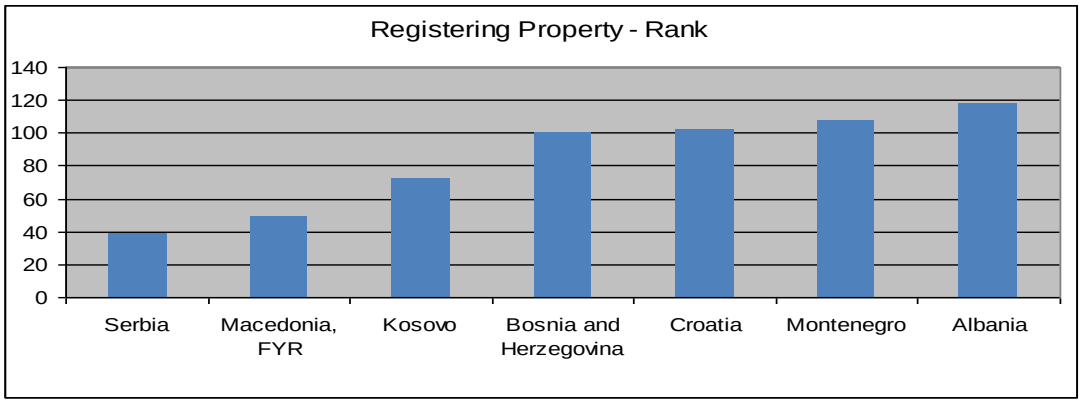
Source: data from the webpage: http://www.doingbusiness.org/

Graph 24: Western Balkan countries ranks- Getting electricity



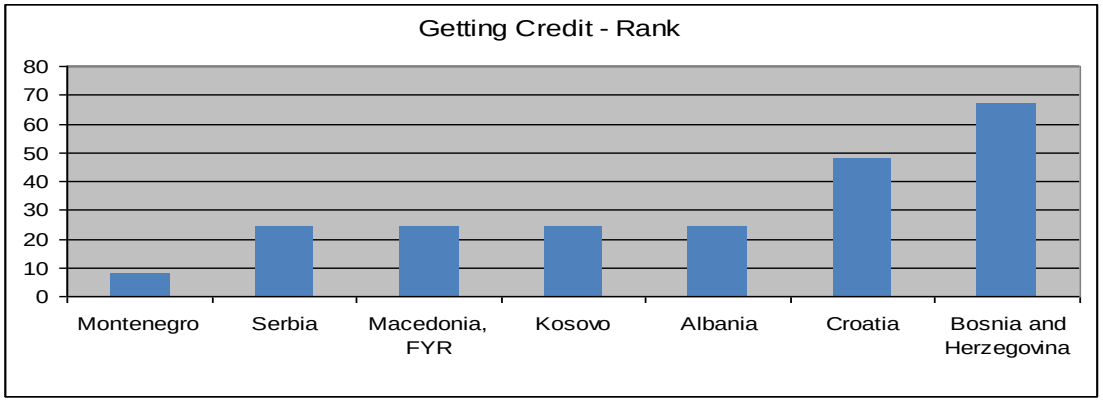
Source: data from the webpage: http://www.doingbusiness.org/

Graph 25: Western Balkan countries ranks- Registering property



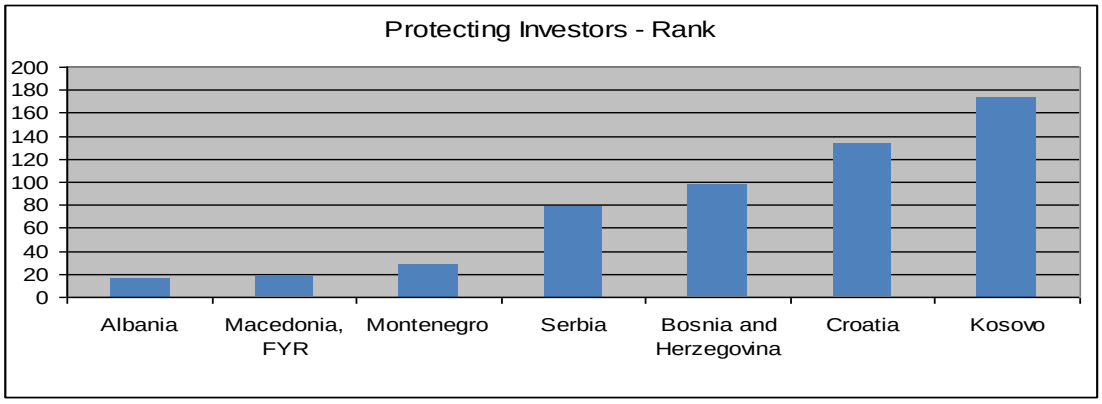
Source: data from the webpage: http://www.doingbusiness.org/

Graph 26: Western Balkan countries ranks- Getting credit



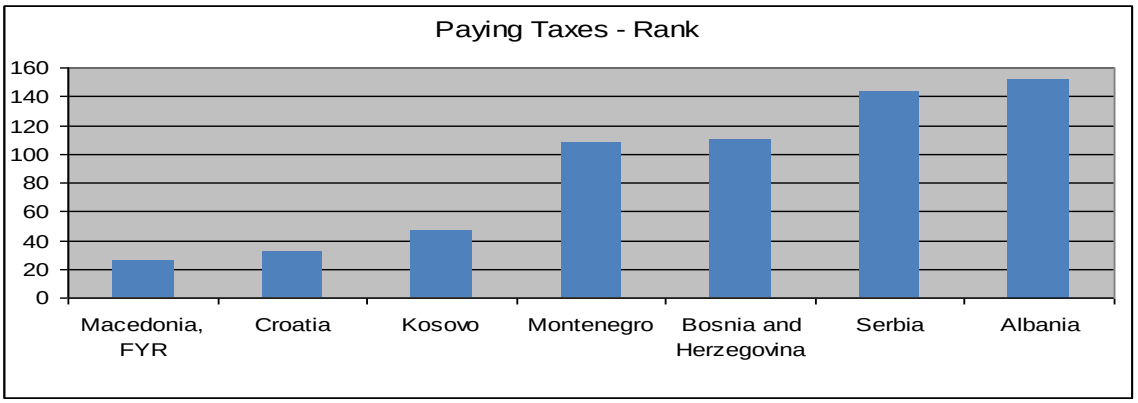
Source: data from the webpage: http://www.doingbusiness.org/

Graph 27: Western Balkan countries ranks- Protecting investors



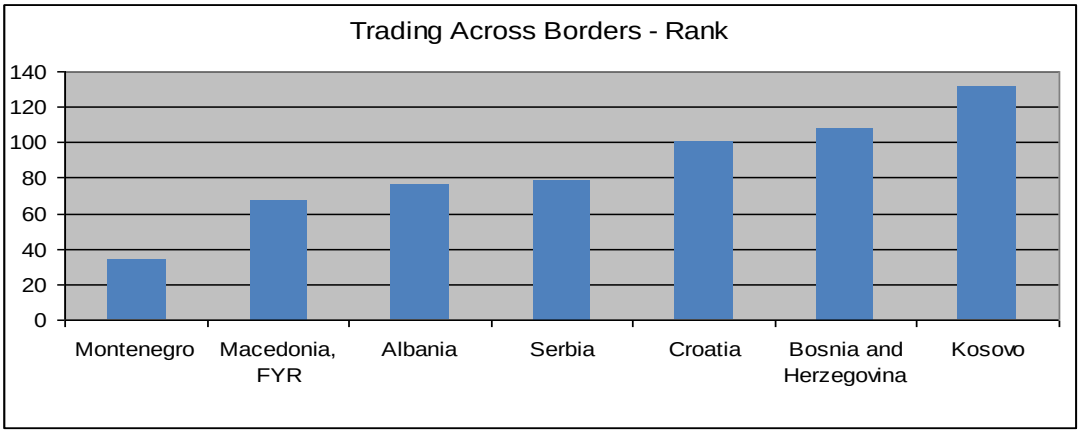
Source: data from the webpage: http://www.doingbusiness.org/

Graph 28: Western Balkan countries ranks- Paying taxes



Source: data from the webpage: http://www.doingbusiness.org/

Graph 29: Western Balkan countries ranks- Trading across borders

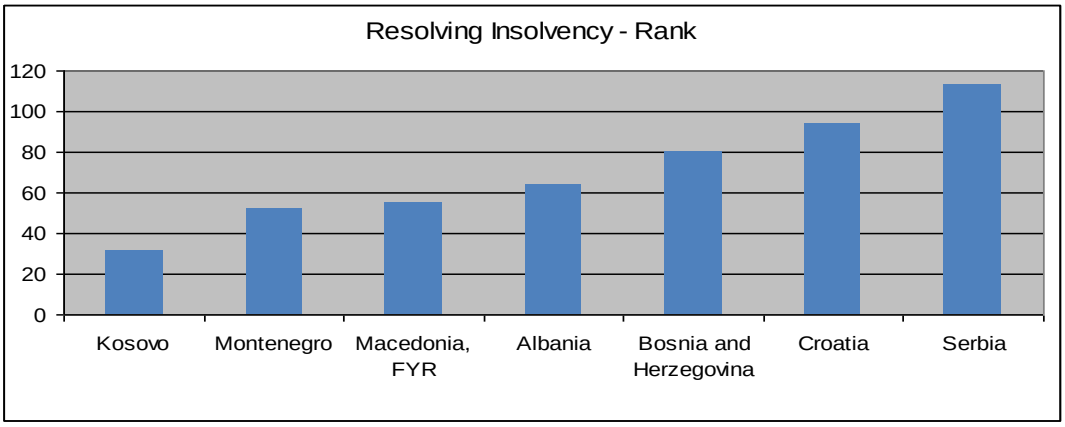


Source: data from the webpage: http://www.doingbusiness.org/

Graph 30: Western Balkan countries ranks- Enforcing contacts

Source: data from the webpage: http://www.doingbusiness.org/

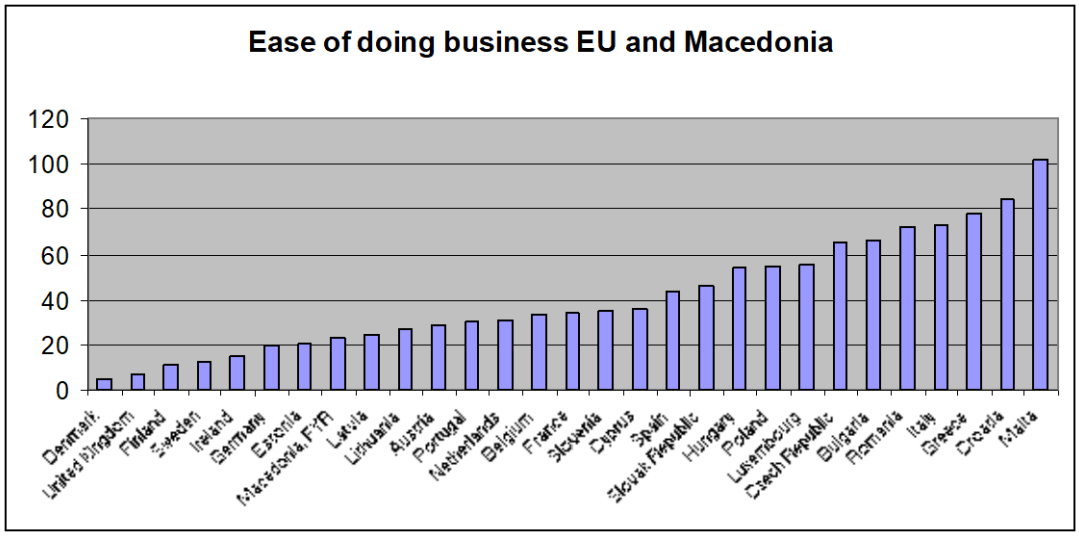
Graph 31: Western Balkan countries ranks- Resolving insolvency



Source: data from the webpage: http://www.doingbusiness.org/

Graph 31 presents the rank of The Republic of Macedonia compared with EU countries. As illustrated, The Republic of Macedonia has easier regulations for doing business than 21 EU countries among which Belgium, Netherlands, Austria, France, Slovenia, Cyprus, Spain, Malta, Croatia, Greece, Italy, Romania, Bulgaria, Czech Republic, Luxemburg, Poland, Hungary, Slovak Republic. On the other side, Denmark, United Kingdom, Finland Sweden, Ireland, Germany and Estonia have better business legislative for business than The Republic of Macedonia.

Graph 32: The Republic of Macedonia and EU – Ease of Doing Business



Source: data from the webpage: http://www.doingbusiness.org/

From the all the above, it can be concluded that the regulations in The Republic of Macedonia are favorable. Anyway, they can be further improved. In order to identify the fields for improvements, and offer some solutions first, the indicators are presented in a radar chart which illustrates the strengths and weaknesses of The Republic of Macedonia's regulative and institutional framework that creates the business conditions.

Graph 33: Radar chart – Doing business

Source: data from the webpage: http://www.doingbusiness.org/

As shown on Graph 33, the most favorable business condition, in The Republic of Macedonia, is starting a business. This can be done fast, with only two procedures, low cost and there are no requirements for paying minimum capital. Another is the protection of investors, which by itself reflects that shareholders are informed, and there exists a disclosure of materials and liability of the directors, which makes self dealing restricted. Getting credit indicator gives information that lenders and borrowers have access to credit information from public credit registry and private bureau, they are legally protected, and the collateral registry is in operation. Paying taxes is another good side, because the process of complying with tax and contributions obligations including filling, preparing and paying them is easy for firms, tax rates are low and there are some tax exemptions and relives for investors.

On the other side, getting electricity, trading across borders and dealing with construction permits are the fields with the main weaknesses and some reforms should be undertaken in these areas. By using the Doing Business Simulator, I make some simulations, how the improvements in these specific fields will affect the business climate and point out their effect on the overall ranking of the country.

Getting electricity indicator shows that the procedures, time and cost from the moment of the application, until the moment of obtaining electricity are many. If the number of procedures from five is reduced at four, and the time needed is cut at 120 days instead of 150, then the rank for ease of getting electricity may improve the overall rank on the country at the 21 position.

The second indicator where the patterns are unfavorable is trading across borders. We simulate lowering the number of documents needed from 6 to 4 and the days from 11 at 10. The result from this scenario is improving the overall rank at the 22 position.

The third simulation is about the field dealing with construction permits. By cutting the days needed for dealing with construction permits, from 117 to 110, and the number of procedures, from 10 to 9, the overall rank of the country will advance.

Simulations can be made on other topics, as well as comparisons among counties and through time. However, even though the report gives us valuable information about the business climate in a country, we must not deliver conclusions about the business in reality only by taking into consideration data from The Doing business report. The reasons for this are:

- The Doing business report can be misinterpreted because many factors which influence the business climate are not included in the topics that compose the index. Therefore, the report measures only regulations included in its methodology, while others regulations relevant for businesses which are not included may have greater influence than the ones taken into consideration.
- If governments guided by the Doing business report focus their attention on implementing policies that will improve the country ranking, they may miss to eliminate some other constraints for businesses, and deliver satisfactory business climate on paper, but far from favorable in practice.
- The data collection process should be improved because inaccuracy in primary data, may distort the image about countries real performances.
- The report is based on the principle “one size fits all”, and uses the same evaluation process for developed and developing countries. However, this approach may do more harm than good, when calculating the rankings and when comparing them.

- The ranks are interdependent and the change in the rank of one country results not only from changes in its own regulatory environment, but also from changes in other countries' conditions. Therefore, we may observe improvement in some country rank over years, without necessary existence of real improvements in its business environment, or even when there is worsening in its conditions for doing business.

The entrepreneurial education

The entrepreneurial education is a process aimed to raise the awareness for entrepreneurship, prepare learners for creative and critical thinking, and introduce them with methods to entrepreneurship. Traditionally, the role of entrepreneurial education has been underestimated, but, today it is accepted as one of the crucial elements for creating entrepreneurial friendly environment.

In that context, beside knowledge and skills in business, entrepreneurship education is aimed to develop beliefs, values, and attitudes among students, to consider entrepreneurship as an attractive and valid alternative to employment or unemployment (Mário Raposo, 2011).

Apart from creating entrepreneurial mindsets which should result with new ventures establishment, other objectives of the entrepreneurial education are continually developing entrepreneurial capabilities and knowledge, and improving entrepreneurial performance on a long run.

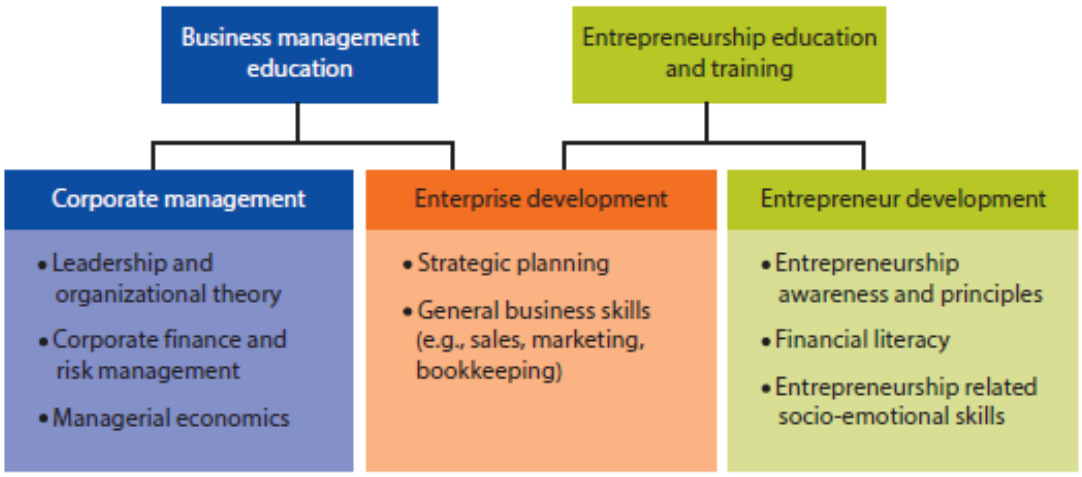
Linan (2004) distinguishes four kinds of entrepreneurship education programs (Lorz, 2011).

- "Entrepreneurial Awareness Education" program with an objective to influence attitudes that may impact intentions.
- "Education for Start-Up" for people who have entrepreneurial ideas and need practical skills and knowledge to realize them.
- "Education for Entrepreneurial Dynamism" program for entrepreneurs who have already been through the start-up phase.
- "Continuing Education for Entrepreneurs" programs for experienced entrepreneurs.

Entrepreneurial education programs, according to Vesper and McMullan, have two crucial differences: the capacity quickly to exploit a business opportunity and the capacity to plan in greater detail and schedule further in the future (Karali, 2013).

Researchers make distinction between entrepreneurial education and business management education. The main differences are illustrated in the figure 1 (Alexandria Valerio, 2014).

Figure 5: Business management education versus entrepreneurial education



Source: (Alexandria Valerio, 2014)

The entrepreneurial education can be formal or informal. Both types are important and should complement each other.

The formal education includes school education primary, secondary, and higher education. Most researches are mainly focus on the university level education (e.g., Raposo, Ferreira, Paço, & Rodrigues, 2008; Sánchez, 2009) or in the secondary school (e.g., Paço, Ferreira, Rodrigues, & Dinis, 2008; Rodrigues, Dinis, Paço, & Ferreira, 2008) (Mário Raposo, 2011). However, it is recommendable this process to begin even in primary school.

In the primary school, entrepreneurship education can help children to be creative, responsible and initiative from the youngest age. Unfortenately, in primary schools, there is no separate subject for entrepreneurship. Anyway, it is present to some extent and integrated in other subjects, mostly as a part of social sciences subjects (Entrepreneurship education at school in Europe, National Strategies,Curricula and Learning objectives, 2012). Unlike

primary schools, secondary schools offer entrepreneurship classes, in obligatory and optional subjects. Thus, pupils are learned the required skills for starting a company and encouraged to devote on practical activities. Lately, efforts are made worldwide, to boost the entrepreneurial education from the early age in primary and secondary schools.

The situation in higher education is similar. Even through, there are Universities that offer programs related with entrepreneurship, they are primarily in business, management and economics faculties, while in other faculties there are elective business courses (Marika Baseska - Gjorgjieska, 2012). The studies in universities are organized in three levels: first, second and third cycle. There are different kinds of programs but mostly, first and second cycle programs aim to teach students how to start a business, to managed it, to find resources, to innovate. Third cycle is more research oriented and aims to create entrepreneurship teachers who will further share entrepreneurship practices and trainings.

The informal entrepreneurial education and training is equally important as the formal. It can be organized by different institutions including Small business development centers, Business incubators; Alumni outreach programs, manufacturing assistance centers etc. This kind of obtaining an entrepreneurial knowledge is usually on a voluntary base, and is oriented to develop practical skills for the needs of real world entrepreneurs.

Informal entrepreneurial education beneficiaries are different groups such as young people who are unemployed and want to improve their skills and competencies, entrepreneurs who are already working and facing the businesses challenges, people who have obtained education through the formal education process and are willing to upgrade it with practical skills, marginalized groups including women who are interested in opening their own businesses and other interested parties.

The flexibility of informal entrepreneurial educaton and its availability for people with different backgrounds, in different regions, and timings, and at lower price than fomal education are the main strengths of informal entrepreneurial education and training. However, there are many others advantages of informal entrepreneurial education among which are the promotion of innovations and risk taking attitudes, the proactive approach to self-employment and economic independence, its orientaton to the practical component of the job and the offer of solutions for real business problems, the networking opportunities and the follow up activities to implement what is learned, as well as the resources and new technologies effective utilization.

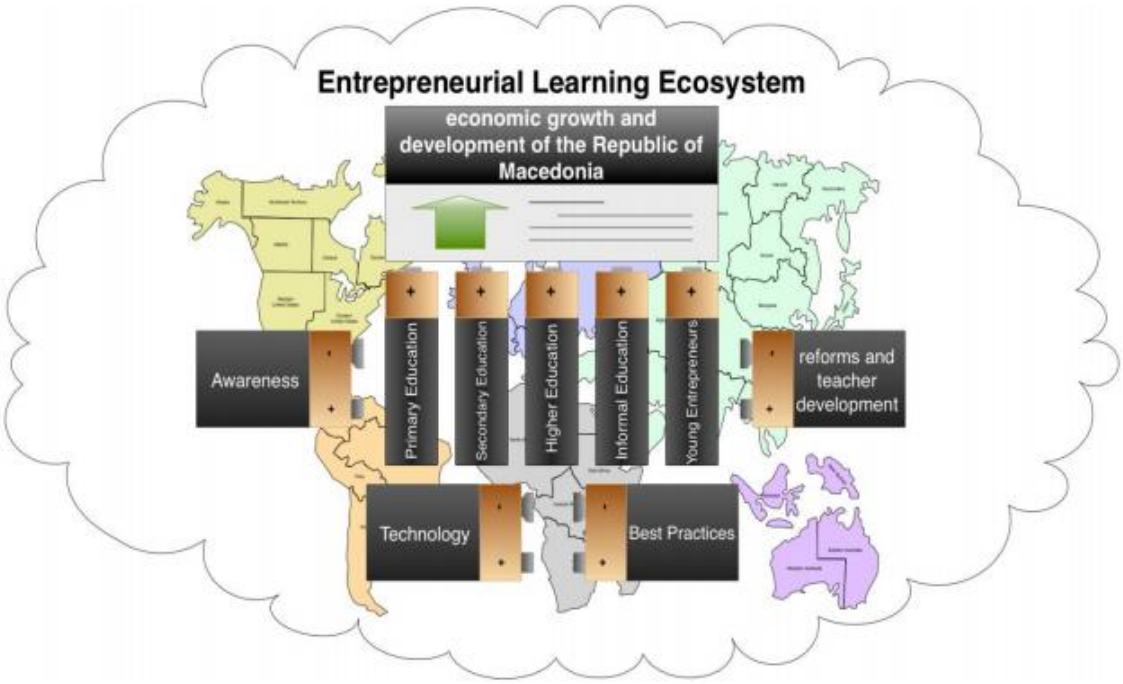
Regardless of the strengths, this kind of education has its limitations such as lack of accredited institution standing behind and offering a particular degree or certification, the narrow range of skills with little or no theoretical base, and the lack of modern technologies in the process of learning. Other limitations are the lower discipline compared with formal education, lack of specific criteria for evaluation and comparation of the progress of learners.

In order to achieve better results, providers of formal and informal education and training anywhere should collaborate between each other. The effectiveness of the programs will be beneficial if they are in an integrative framework. Therefore, policymakers in European countries have undertaken many initiatives for promoting entrepreneurship in systematic way, by adopting documents as: The European Agenda for Entrepreneurship[3] adopted in 2004, Small Business act for Europe[4] adopted in 2008, The Entrepreneurship 2020 Action Plan[5] adopted in 2012.

On the basis on European strategic documents, in The Republic of Macedonia was developed Entrepreneurial learning strategy which covers the following five main pillars: creating awareness about entrepreneurial learning, continuously developing teachers, using the state-of-the-art technology in implementing entrepreneurial learning, sharing best practices for implementation of entrepreneurial learning and cooperating on international level (Radmil Polenakovik, 2014).

[3] ftp://ftp.cordis.europa.eu/pub/incubators/docs/action_plan_on_entrepreneurship.pdf
[4] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0394:FIN:EN:PDF
[5] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2012:0795:FIN:EN:PDF

Figure 6: Entrepreneurial learning strategy



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Source: http://www.mon.gov.mk

In The Republic of Macedonia, formal entrepreneurial education has been implemented in the educational system in primary, secondary and all three cycles of tertiary education. In the primary education implementing of entrepreneurial education is some subject is ongoing. In the secondary education there are business related subject since the period after 2000, Entrepreneurship in higher education is established as a course in almost all Universities at a bachelor level, half of them on master level and at a doctoral level on the Faculty of economics in Prilep, starting from 2012.

Informal entrepreneurial education in The Republic of Macedonia is less developed. Although, there are institutions that offer trainings, and there is interest among managers of SME's to obtain trainings for entrepreneurship, the presense of this type of education is low. The reason for the low evel of use of informal education in The Republic of Macedonia is the limited financial resources of SME's managers who consider the trainings expensive and with low quality.

Clustering and networking

Clustering and networking among firms determines the development of entrepreneurship by providing knowledge, services and finance for enterprises from the cluster or the network. By clustering and networking companies support each other and receive assistance from institutions. The benefits lay in expansion of the markets, participation in larger projects, reduction of risks by dividing the cost for research and development, easier access to finance etc.

Clusters are focused on a specific geography, oriented towards a set of related industries, and they provide a structure for actual collaboration (Ketels, 2012). Clustering considers the availability of adequate resources for creating entrepreneurial initiative (Bianchi, 2010). Therefore, it is a resource based approach for linking firms in a given region which collaborate, exchange information, knowledge, services. Clusters also include supporting organizations, agencies for developing of entrepreneurship, chambers of commerce and other institutions aimed to help companies by offering different services and know- how. However, to create the needed critic mass of resources ready for exploiting takes a long period, so they are inappropriate for considering situations that have not yet happened.

Networks of firms may or may not be confined to a specific geographical location and set of industries. They are created for active collaboration which can be open-ended or focused on a specific project task (Ketels, 2012). Networking is related with initial idea on which actors and supporters focus their resources, create and spread a net of links between new business, their customers and suppliers (Massimo Bianchi, 2009). The most important element in networking is exploring for and creating links, it takes less time to create the network, and fewer resources at the beginning. The links are called ties and can be weak, among business partners that do not cooperate so much, and strong ties among long term partners who have built mutual trust. The network provides formal knowledge in database in the net that can match supplies/demands. Also, there are spillovers of informal knowledge. Networking is not limited on a given region which makes it more suitable in today's globalizing and information society.

The main characteristics, similarities and differences among clustering and networking approaches are shown in the Table 15.

Table 15: Clustering and networking approaches characteristics

Aproach	Clustering	Networking
Definition	Traditional methods which consider the availability of adequate resources to create entrepreneurial initiative.	Start up comes form initial idea (NGO, public project) on which actors and supporters focus their resources with target to spread a net of links with customers and suppliers.
Model	Resource based	Net based
Aproach to entreprise creation	Push	Pull
Assets	Tangible assets	Intangible assets (quality and quantity of contacts)
The start up determinants	The level of critic mass of resources	The critic time span to build stable relationships amnog entities
Information support	It comes from agencies for developmet in order to enrich the offer of services	Demand expressed by people who go to offices expecting concrete help
Knowledge	Geathered information and put inside the cluster as know how	The knowledge is in the net waiting to be used
Being up to date	Not being up to date, innapropriate for situations	Formal knowledge databases, infomal

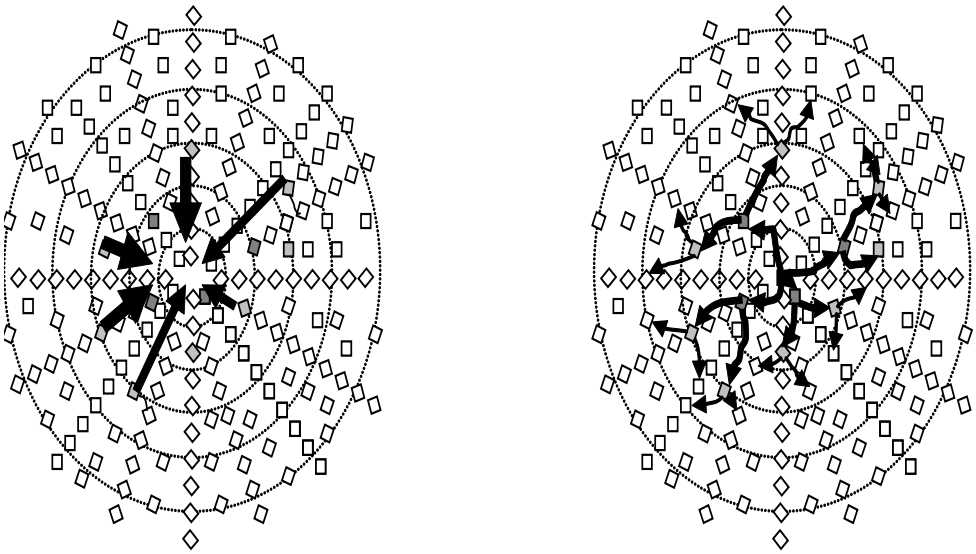
	that did not happen yet	knowledge spillovers

Source: author's summary and classification on the basis on sources:

Figure 7: Clustering and networking

– Clustering and Networking approaches

.Clustering .Networking



Source:(Bianchi, 2010)

The concepts of Clustering and Networking, in the last years have been acknowledged by public policy makers, who have introduced interventions programs and projects to facilitate firm's linkages. Among them are also international organizations and institutions as UNIDO, USAID, World Bank, The European Union.

The process of clustering and networking in The Republic of Macedonia started in 2002 with the support of USAID project "Macedonian Competitiveness Activity" that ended in 2006. After that, in 2009, the Macedonian government adopted the Strategy for Industrial Policy 2009 –2020, which considered clusters and networks as one of the five main areas of interventions.

Consequently, the Program for Support and Development of Clusters' Associations in the Republic of Macedonia was developed. The program has three main objectives: to encourage cooperation between companies, promote the development of clusters through

increased investments in infrastructure, and to ease the formation of clusters in practice (Marinkovic, 2011).

Several clusters already operate in The Republic of Macedonia: Lamb and Cheese Cluster, Tourism Cluster, Automotive cluster, Cluster for Candies industry, Cluster for Agriculture mechanization, Cluster for Honey, Cluster for Wood, Cluster for fashion and design, Cluster for Processing Fruits and Vegetables, Cluster for Wine (Machačová Jana, 2008) (Gerasimovska, 2013).

Figure 8: Clusters in Republic of Macedonia

Source: (Gerasimovska, 2013)

- Tourism cluster of hotels, restaurants, touristic agencies, educational institutions, health food manufacturers, transport companies, sports clubs. It was established in 2011 with

a goal to strength the cooperation in the field of tourism services, enabling implementation of joint projects.

- The Automotive Cluster of The Republic of Macedonia consisted from the firms of the automotive industry, established in 2008 with an aim to protect member's interests, join marketing and research and development activities.
- Cluster for fashion and design established in 2005 as an association in order to link Macedonian designers with textile companies and to organize fashion shows and events. In 2008 become part of the project "Promotion of export of custom collections in the textile industry by way of qualification and regional networking of fashion designers".
- Cluster for Processing Fruits and Vegetables created in 2002 with the following goals: to increase the competitiveness of companies in the sector, to strengthen their potential, to protect their interest, to strengthen the cooperation with farmers, foreign companies.
- Cluster for Wine formed in 2006 from representatives from Wine and Tourism sector. The main goal is developing alternative tourism with special attention of Wine tourism. The cluster has participated in smaller projects and organized many conferences, forums, events.
- Cluster for ITC was established in 2000, and it operates as independent chamber. Now, it has 80 member companies of software, IT services, hardware distributors, telecom companies, training centers, ICT consultants.
- Cluster for wood processing established in 2007, with a goal to reduce the gray economy in the production of furniture and wood products, to connect with clusters in the region and beyond, increase the export promotion, establish recognizable common brand, to organize conferences, trade shows and workshops.
- Diary and meat cluster established in 1998 with objectives to improve dairy and meat industry, develop a recognizable brand for confirmed quality, provide information on developments in the industry, equipment, packaging, raw materials and additives.

2.3 The components of entrepreneurship

The business climate, entrepreneurial education, clustering and networking can improve the development of the entrepreneurship in a country, but equally, and sometimes even more important, are the internal factors which determine entrepreneurship. They can be researched through three approaches: as behaviors, processes and outcomes (David Stoks, 2010).

The three are interrelated and we can never describe entrepreneurship from only one aspect.

- ✓ The behaviors approach is mainly interested in the behavior of entrepreneurs as people who recognize opportunities, make initiatives, use judgment and take decisions, take responsibility, set goals and solve problems.
- ✓ The outcomes approach investigates the output of the entrepreneurship such as new products and services, new organizations, new values for society etc.
- ✓ The process approach goes through the activities that entrepreneurs undertake such as identifying opportunities, feasibility analysis, writing a business plan, developing business model, preparing the legal foundation, getting funds, building a team and developing marketing strategies.

In this research each of the dimensions is acknowledged and the focus is put on the entrepreneurial elements: (See figure 4)

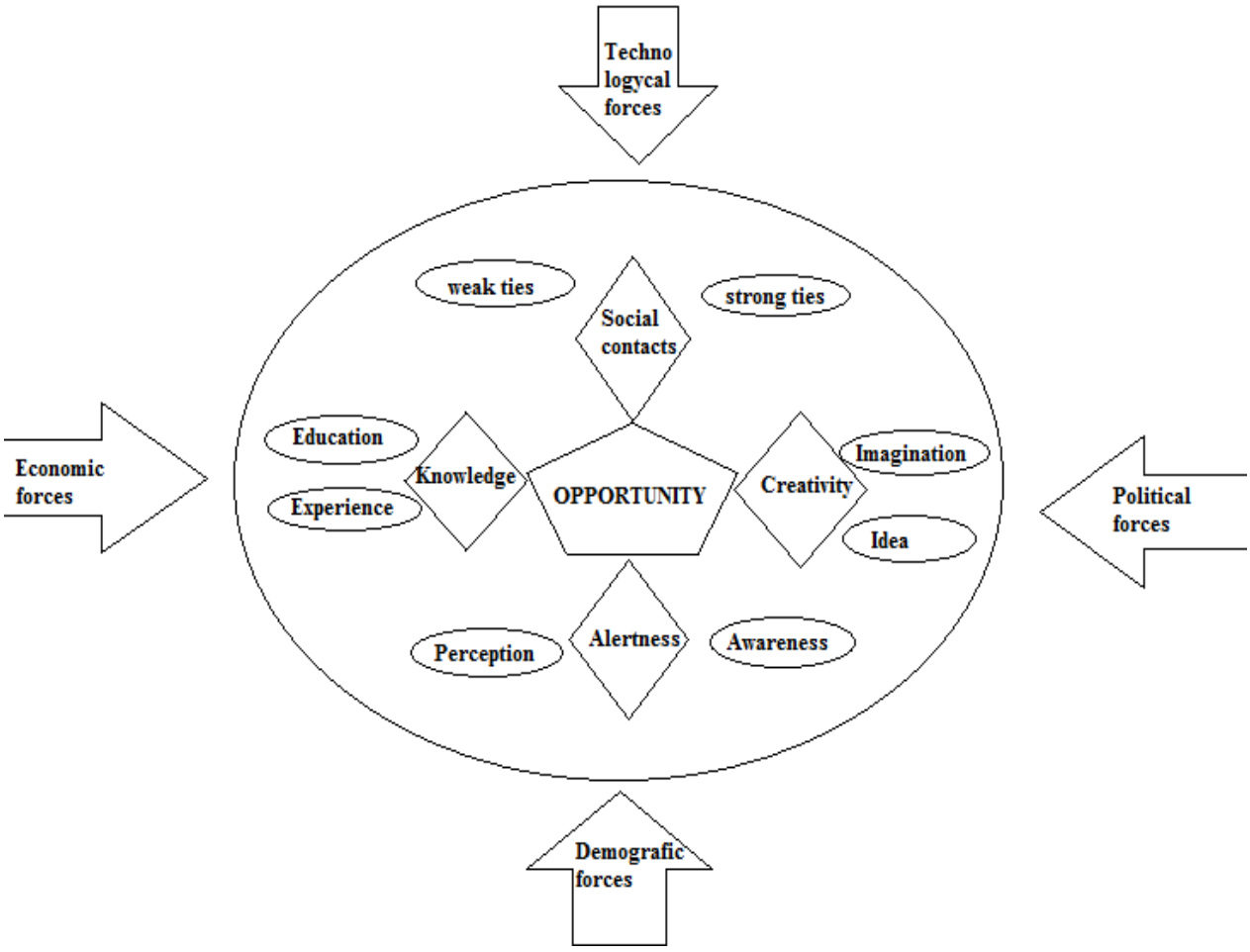
- opportunity recognition
- resources management
- risk taking
- creation and implementation of innovations
- marketing oriented approach

The first element is opportunity recognition. Opportunity is a favorable set of circumstances that creates a need for a new product, service or business (Bruce R. Barringer,

2011). The recognition of an opportunity is noticing something and acting upon it before others. This can happen unexpected by serendipity, or as in most of the cases can follow from a process of search for opportunities. When opportunity is identified without some deliberate search, it may be born from some problem that the entrepreneur is trying to solve, from some gap that exist in the market, need that waits to be satisfied.

Austrian school defends the approach that opportunities are given and only alert individuals, entrepreneurs, can notice them and create a business from them (Kirzner, 2008). This view is limited on the things that already exist. Another view, developed by Long and MCMullan (1984), is that opportunity recognition is a complex process composed by several phases starting from pre-vision, point of vision, opportunity elaboration and decision to proceed (Gerald E. Hills). The feature of entrepreneurs to recognize opportunities depends from various factors including external forces and internal determinants (Bruce R. Barringer, 2011). The factors are given in the figure 9.

Figure 9: Factors determining opportunities recognition



Source: Author's framework on the basis on source (Bruce R. Barringer, 2011)

External forces include economic, social, demographic and technological changes. These forces influence by transforming the environment where entrepreneurs operate, and therefore creating chances for new businesses of for improving the existing ones. They are not isolated one from another, but rather coexist, and together, impact on the environment in which entrepreneurs recognize opportunities.

- Economic forces are manifested in the way that the economical variables influence markets. Changes in prices, in interest rates, in employment, in the consumer's income affect opportunities in many different ways. For example, increase in resources' prices, may affect industries, but also opens opportunities for entrepreneurs to create products which are more efficient.
- Political forces refer to the political stability of a country or region, and on the regulations that companies must comply. Regulations can limit firms from one side, but they also create opportunities for entrepreneurs, on the other. For example, if the government introduces environmental laws, entrepreneurs will search for a way to produce the products and comply with the laws. That can lead them to develop new better production methods and new or improved environment friendly products.
- Demographic forces include the features of people as nation, race, age that influence over the tastes of consumers, the trends, the buying patterns. For instance, the concentration of a nation, in a given region, opens opportunity for entrepreneurs, to offer products and services the particular nation is fond of.
- Technological forces refer to introducing new technologies. They create opportunities that may be life changing, may advance peoples life, and create possibilities for new things to be built upon them, as well as a whole chain of new chances and possibilities.

Internal determinants are also related and interdependent. They include previous experiences and knowledge in the given industry or in other related industries, creative potential and strong imagination, social contacts, and other personal characteristics that make entrepreneurs better in identifying opportunities than ordinary people (Baron, 2006).

- Knowledge is a broad concept, and includes information and judgment. It can be addressed by its sources or by the types of knowledge. The sources of knowledge are education and experience (Wei Lee Lim, 2015).

  Education can be formal and informal, and has essential role for the way entrepreneurs process information and relate one to another. Previous experience, on the other side, can improve practical skills and noticing of potential problems. According to Shane, prior knowledge triggers recognition of the value of the new information (A theory of entrepreneurial opportunity identification and development, 2003). It can be related to the industry, to the market or to the technology.

  The types of knowledge are technological knowledge, industry knowledge, and market knowledge. Industry knowledge enables entrepreneurs to notice gaps in the industry and create businesses to fill the gap. Technological knowledge is useful for recognizing technological changes which are about to happen, and for solving technological problems. Market knowledge contributes in evaluating the feasibility of ideas by presenting them to customers and sizing in which manner they attract customer's attention. Feasibility depends on markets, so knowledge about markets increases the chance of ideas to be accepted and transformed into valuable opportunities.

  In simple terms, all types of knowledge improve person's awareness for opportunities. Awareness, perception, understanding, things and making judgments about them, improve the alertness.
- Alertness is a unique capability to pay attention and act according to the situation. It depends on cognitive capacities possessed by individuals such as high intelligence, creativity, and other personal characteristics such as optimism (Baron, 2006).
- Creativity is a process of challenging accepted ideas and ways of doing things in order to find new solutions or concepts (Boulden, 2002). For entrepreneurs, there is not only one right way to act upon a situation. They use their imagination and are open to different solutions, generate new idea, and connect the unconnected, keep questioning already established ways of thinking.
- Social contacts can be strong ties referring to the limited number of people with who entrepreneurs have continuous and intensive contacts and weak ties

referring to the larger number of people that entrepreneurs meet, but not contact so often. The researchers have shown that weak ties contribute more that strong ties in the process of generating ideas and recognizing opportunities (Bruce R. Barringer, 2011).

Resource management is acquisition, combination and recombination of resources. Resources are important in every business, in every industry, because the final product or service depends of their quality. Anyway, resources are limited in quantity, so entrepreneurs must manage them well in order to accomplish efficacy and effectiveness in the process. Resources include all tangible and intangible inputs. They may be in a form of raw materials, equipment and technological devices, people, money, etc.

Some authors distinguish input resources and knowledge resources (G. Galunic, 1997). In input resources they include people, plant and equipment, property rights and capital. In knowledge resources are considered information, know-how and understanding. Others, take more general approach and distinguish four main types of resources: natural resources, people (human resources), information, and capital (financial and non financial) (Louis E. Boone, 2011).

- Natural resources are the ones coming from the nature such as water, soil, land, energy, and can be renewable and non-renewable. Non-renewable resources such as forests, oil, gas, do not regenerate, and therefore are more limited. Renewable resources, as clean air and water, solar energy, winds, on the other side, create opportunities for entrepreneurs to use and build businesses upon them.

- Human resources, depending on the industry in which companies operate, may present small or large percentage of the total resources. However, they are crucial for the success of the business. By operating with other resources, they add value and create the goods or services which companies offer on the market. Therefore, in companies' interest is human resource to be engaged in their work and to involve energy, skills and knowledge in order to provide better results and earn higher the revenues.

  To achieve this, leaders are trying to motivate people in their organizations to maintain and improve their skills, readiness, inspiration and energy. Leading and

managing human resources is hard, mostly because every person has its own personal characteristics, different skills and knowledge, different cultural background and finds motivation in different things (money, promotion, participation). Therefore, entrepreneurs, to bring on the surface the best out of every employee, should convince them to work passionately in pursuing entrepreneurial goals as their own.

Every entrepreneur uses its own manners and techniques in motivating and organizing people to efficiently complete the company's tasks. Some create organizations where every worker has description of their work and a place in the hierarchy, while, others encourage team work and involvement of all functions in completing projects. Regardless of the manner the organization is structured, what really matters is achieving the final result.

The insights about the achievements and failures in managing human resources, entrepreneurs can measure by comparing the achieved outcomes with the planned ones. If they correspond or exceed the plan, the company moves in the desirable direction. Otherwise, entrepreneurs need to take further activities, to improve the human resources managing process.

- Information is another essential resource in entrepreneurial businesses. It can refer to markets' circumstances, customers' wants and satisfaction, competitors' actions and perspectives, regulative and environmental changes which affect businesses.

The so called informational society brought information at one place, the internet, so the availability of information today is "no problem". However, in the same time, it is "bigger problem" than ever before, considering that the world is overwhelmed with different information, and selecting the needed one form the poll takes much time.

Timeliness, completeness and relevance of information, on the other side, plays great role when it comes to making specific decisions. After all, only on time information has value for entrepreneurs by giving them chance to act in the right moment and use the benefits of its possession. Moreover, in order to be relevant, information should be meaningful and significant and characterized with truthfulness, faithfulness, clearness and objectiveness. At last, information needs to be complete without essential parts being missed.

Information can be obtained by own research, primary information, or by newspapers, magazines, reports, the internet, secondary information. After collecting, it follows organizing and relating information, making them easy for comprehension, in meaning, causes and links.

- Capital is the factor which remotes the distance from a feasible idea to realized project. It includes money and other material inputs, required in business. However, access to capital/finance is often a barrier for transforming entrepreneurial ideas into businesses, due to the unwillingness of financial institutions to credit new and risky project, the lack of coverage to secure the debt, the long period needed to implement the idea and return the money. To overcome it, entrepreneurs usually use the three F sources - sources from family, friends and own funds, or borrow from specialized institutions for financing small business, venture capital funds or business angels.

Having into consideration, that resources, people, information, capital and time are limited, entrepreneurs make efforts to use them as productive as possible. Therefore, they search for the best way to manage resources, to reach their optimal combination which will minimize costs and maximize profits. Achieving the winning combination requires a lot of thinking, analyzing and creativity, in order to find methods for fully exploiting the resources, by engaging them in many different combinations and processes which create value for the company, and are in accordance with the perceived demand.

Combination and recombination of resources is often related with capabilities. Capability is unique combination of resources, allowing the firm to take specific action, in order to create value for customers (David G. Sirmon, 2007). Furthermore, there are activities of stabilizing, enriching and pioneering in the combination or recombination of resources. Stabilizing are those, when minor improvements in resources, results with minor improvements in capabilities. Enriching involves adding resources, which results with enchasing of the capabilities. And, pioneering refers to including new resources in the firm's portfolio. Stabilizing activities are at least risky, while pioneering ones include risks.

The third element of entrepreneurship is risk taking. The desire of the entrepreneur for profit should be in line with his readiness to take risks. Some entrepreneurs

have bigger goals, stronger need to achieve, so they take risks more than others. Risk taking, as indivisible part of entrepreneurship, has been subject of interest in many research studies and it has been investigated from different angles. In the past, the entrepreneurial characteristic to undertake risks was considered as gambling, taking decisions, and acting in uncertain conditions, based on the feeling of the entrepreneurs. Lately, risk propensity is related with rational calculations of the risk involved and using judgment in decision making.

Risk taking can be seen as a trait of entrepreneurs or as a behavior (T.K.Das, 1998). The trait is psychological feature, need for challenges, for thrill and excitement. People who own this trait, do not take the entrepreneurial path because of money, but because their need to experiment, to face uncertainty and prove its control over it. The risk taking as a behavior is related with the various situations in which occurs.

Risks are related with the time dimension. The time is actually mother of the risk. Entrepreneurs undertake actions whose results will be seen in future. The assumed outcome may or may not happen. The longer the time horizon is, the bigger is the uncertainty and the risk involved. Entrepreneurs who have positive expectation of the future, who imagine the results in the distant future take higher risk, compared with those who expect the results from their actions in nearer future.

The risk entrepreneurs undertake is composed by several risks among which: financial, job risk, social and family risk, mental risk (Mehdi Aman Allah, 2011).

- ✓ Financial risk includes the possibility of losing financial assets, savings, property, etc.
- ✓ Job risk includes loosing the security that offers traditional job, the lack of possibilities to find job or return to the previous job if the venture fails.
- ✓ Social and family risk is related with the shorter time available for entrepreneurs to spend with family and friends, because of the commitment to the business.
- ✓ Mental risk is considered as one of the biggest risk. The reason is that entrepreneur is continually exposed on stress, on fear of failure and should be psychically strong and resistant to daily tension.

After all, the most dangerous risk is the risk of “not taking risks“. This kind of risk can be described with the saying: “Ships are safe in harbor, but that is not what ships are

for"[6]. This type of risk, of not taking risks, can make the entrepreneur miss the opportunity in front of him, and loose the profits, success and fame just because of the fear of losing. Therefore, entrepreneurs should be able to balance between the risk of making changes and the risk of staying on the "safe" side by not undertaking chances. As difficult as it may be, to do this, there are many examples of people that have succeeded, and are placed among the names of famous entrepreneurs and innovators.

Innovation is another crucial element of entrepreneurship. The importance of innovation has been pointed out by Schumpeter who understood the capitalism as evolutionary system in which continuous innovation has a central role (Schumpeter J. , 1934). He distinguished five types of innovation: product innovation, process innovation, new markets, new sources of inputs, new forms of organization.

- Product innovation refers to a new good or a new quality of the existing product for customers.
- Process innovation is introduction of a new method of production in the branch of manufacture concerned, or a new way of handling a commodity commercially.
- New market may be a market that didn't exist before, or a market, that the given branch of manufacture has still not entered.
- New forms of organization present new ways to organize that are more suitable. For example, new division or new communication system.

After Schumpeter, Peter Drucker in his book, Innovation and entrepreneurship, puts innovation as the most important element for the success of companies, their growth and absorption of new jobs, and entrepreneurs as individuals capable of creating new things. Moreover, he states that entrepreneurs should practice planned innovation, which is related with seven sources of the innovation: the unexpected, incongruities, process needs, industry and market structure, demographics, changes in perception and new knowledge (Drucker, 2006).

[6] William G.T. Shedd

- The unexpected includes the unexpected success, the unexpected failure, or the unexpected external event which entrepreneurs should notice and exploit.
- The incongruities include the incongruity between economic reality as it is and how it should be, the reality and our expectations about it, the actions of the industry and the expectations and values of its customers, and, the internal incongruity in the process.
- The process need is captured by the proverb "necessity is a mother of discovery". It comes from the limitations that the existing process has and the new solution should fit easily in the whole process and improve it.
- The changes in the industry or market structure are often ignored by companies, even when they hide within themselves possibilities for innovating.
- Demographic changes can be noticed in advance, but, many times they have been overlooked.
- Changes in perceptions of people open space for something new, but the entrepreneur should be careful if they are temporary or long lasting.
- The new scientific and non scientific knowledge is a source with great and potential must neglected. However, there is a time span between the knowledge emerges and is accepted by the market.

Irrespective of the source, innovation must not be viewed as a single event, but rather as a process consisting of series of activities linked in some ways to the others(Trott, 2008). The process has several phases: invention, innovation, imitation and diffusion.

Invention is coming up of new idea, which in the given moment may be, but also may not be interesting on the markets. In order the invention to become innovation the idea should be feasible, to be demanded on the market, or at least to have potential for future demand. The second stage of the process is commercialization and exploitation of the invention. The first commercialization is innovation. Then, it follows the third stage called imitation, which is often called transfer of technology or adoption. The adoption can be in some part, or in the whole. At last, the diffusion is when companies spread the innovations by imitating. The diffusion can create the ground for series of innovations to be build upon the primary innovation, changing in that way the markets, the economy or the society.

People usually link innovation with new technology and high costs for research and development. However, innovation does not necessary need to include new high tech technology and huge amount of money for its development. Non-high tech and not high budget demanding innovations are not less important. In fact, cheaper innovations have proved to have the ability to change products, services, processes, tastes of people.(David Deakins, 2012).

Innovation is a systematic process which can be compared with the Russian doll, so called "Matryoshka" (Peter Skarzynski, 2008). As the doll, the innovation from far, should look so simple that makes people ask themselves: "Why didn't I remember it?", but if we analyze it in its essence, it is complex enough and includes many processes, activities and people who experiment and scan new solutions.

Depending on the novelty of the innovation, there are radical and incremental innovations (Latzer, 2009). Radical are those innovations where something totally new is introduced, which can lead to paradigm shift, and the so called "breaktrough". However, they are hardest to succeed for two reasons. First, the period needed for the new knowledge to become applicable is very long, and, second, different types of knowledge need to convergence in order to emerge one new product, service or process. Therefore, most of the attempts for radical innovations fail, due to being premature or missing some pieces of knowledge. Incremental, on the other side, is the innovation where there is improvement in some elements of the existing goods or processes.

Another classification distinguishes innovation as continuous, dynamically continuous and discontinuous (Kathleen Debevec, 1985). Continuous innovation have little disruptive effect on already established patterns, dynamically continuous innovation have more disruptive effect, while the discontinuous innovation involve establishments of new patterns.

The last element of entrepreneurship is the market oriented approach. The exploitation of ideas and their transformation into innovations depends from their acceptance on the market**.** The market oriented approach is discovering, analyzing and satisfying expressed and unexpressed needs and whishes of customers and therefore creating loyal customers. In order to satisfy the customers' needs, entrepreneurs do marketing research of customer motives and the factors that influence their buying decisions. Marketing research is systematically gathering data about the markets, processing the data and analyzing the

information derived from the data in order entrepreneurs to understand the markets' movements and act upon them.

Marketing research should provide information about the market situation and the marketing mix. Entrepreneurial marketing mix is an innovative process which utilizes the capabilities of individual and combines components of Price, Product, Promotion and Place, trying to deliver further values (Amir Mohammad Kolabi, 2011). The entrepreneurs' marketing mix can be accessed by answering four main questions:

a. The first question: What are the entrepreneurs selling? - may refer to products, services or whatever that presents value for customers. Sometimes only the product or the service is not enough. They may be just a part of the whole solution, the whole value for customers. Other parts, for example delivering, may influence over the buyers decision to a large extent.

b. The second question: Who are they selling to? – refers to the existing customers and potential customers for the value the entrepreneurial firm is offering. Choosing the market segment that the product or service will fit the best is vital for creating the demand. Segments can be selected by sex, age, style of life, purchasing power and other features, but they should be precisely defined. For that purpose, entrepreneurs first investigate the potential market size, then evaluate which needs of that specific market the solution is able to satisfy, how much potential customers are willing to pay for it, and the benefits that the product or service will bring to them. After determining the segment the entrepreneurial firm is going after, follows the plan for attracting the niche market.

c. The third question: How will entrepreneurs sell the solution to the target market? Generally, there are two ways for reaching the buyers indirect and direct. Even through in the past the indirect selling through retailers, distributors, and sales persons, was more common, today the direct selling is growing rapidly. Direct selling can be through personal selling or through the internet. For some products both approaches are used in combination. Anyway, the way of selling mostly depends of the characteristics of the target market.

d. The last question: Where entrepreneurs will promote their products or services? The promotion can be done by advertising on television, on radio, in a newspaper, but entrepreneurs use cheaper and again effective ways such as trade shows, word of the mouth marketing, the internet and especially social media.

Trade shows can be used for building awareness for the product, present new products, develop new relationships, find business partners and gain information for competitors.

Word of the mouth marketing presents the capability of the company to get people talking about its products, services, brands. The driver of the word of mouth is the experience and satisfaction that people get from the company, so to get people to talk about the company is asking them for evaluation and offer premium for sharing their satisfaction with others.

The internet or E-marketing is a strong promotional tool, so having a web page is a necessity. Customers should be allowed ease and speed access to the website, focus on the product or service, friendly navigation, credibility and interaction. There are two ways to attract visitors on the web page: by paying to research engines such as Google, Alta Vista, Yahoo and others to show the web page at the first pages through search, or by entering key words and following the traffic on the web page.

Email marketing is another cheap and effective way for promoting. It enables entrepreneurs to communicate with a group of people, business and inform them about the benefits of given products or services, new solutions, new qualities of the existing ones, discounts or actions. The precondition for successful email marketing is having a web page where interest parties can see details about the offer contained in the mail, interesting design and content of the message. The frequency of the messages should be carefully selected, and customers to be informed on a regular basis.

Social media are very powerful tool of modern marketing. It includes blogs, Facebook, Twitter, Google plus, Instagram, Youtube, LinkedIn. Blogs are used for describing products and their benefits, instructions for use, testimonials from customers, videos and so on. Facebook allows companies to share information,

pictures and videos with a great number of customers and fans with just a click through viral marketing. Twiter allows companies to promote their products by sending short messages that followers read on their home pages, and provides followers the opportunity to spend more time interacting with the products online. Instagram allows users to take photo and share it with other users who are connected to the social network. Youtube is used as promotional medium through videos made for the target market. LinkedIn is a professional network which allows companies to create professional profiles for themselves and their business where they can to promote their products or services and communicate with customers.

The final goal of the market oriented approach of entrepreneurs is to establish, develop and enhance relations with customers, but also to make those relationships long term. There is nothing more valuable than a long term relation with loyal customer. The following features speak in favor of loyal customers: they are harder to switch to another company, they are less price-sensitive, they are more likely to buy other products from the same company and they are the best promotional tool of the company (Ilievska, 2015).

CHAPTER 3 THE RELATIONSHIP BETWEEN ENTREPRENEURSHIP AND COMPETITIVENESS

The relationship among entrepreneurship and competitiveness is complex, especially because there is no strict definition niether for the concept of competitiveness, niether for the concept of entrepreneurhip. Therefore, the relation among them depends from the elements and perspectives used in the aproach when discussing these multidimensional concepts.

The variety of studies elaborating this relationshp include linking entrepreneurship with economic growth (Rajshree Agarwal, 2008), entrepreneurial elements - innovation, proactiveness, risk taking with performance (Dess, G.T. Lumpking and Gregory G, 1996), entrepreneurial governance and creating strategic advantage (David B. Audretsch, 2007).

Given that this study explored the compeitiveness on three levels, in this chapter the relation the relation competitiveness - entrepreneurship, is reviewed on three different levels. Moreover, in order to be comprehensive and exhaustive the relationship is reviewed through the prism of the two directions: the impact of entrepreneurship over competitiveness on one hand, and the influence of competitiveness on entrepreneurship.

Thereby, the chapter is aimed to answer the folloing questiones:

Is there any relationship among entrepreneurship and national competitiveness?
Is there relationship among entrepreneurship and industrial competitiveness?
Is there any relationship among entrepreneurship and competitivness of companies?

On a country level, the elaboration considers how competitiveness creates favorable conditions for flourishing of entrepreneurship, and how entrepreneurship influences over competitiveness through its effects on the employment, diversification of products, and the quality of life.

On an industry level, it considers how the improved conditions, resulting from better competitiveness, open windows of opportunity for new start ups to emerge and to change the competition of the industry in which they operate, the industry' structure, its labor market, trade patterns and the added value it creates.

On a company level, it investigates how entrepreneurship, expressed through its elements, affects the companies' performances which reflect their competitiveness.

3.1 Literature review of the relation between entrepreneurship and competitiveness

The relationships between competitiveness and entrepreneurship have been analyzed in the literature, but considering that, the concepts, entrepreneurship and competitiveness, are multifaced, each of the researches, significantly differs from others. They take into considerations different assumptions and indicators for describing entrepreneurship and competitiveness, and use different variables in the analysis for estimating the relation of the concepts.

In this research, the works related with the examination of the relation entrepreneurship – competitiveness are sistematized in three groups according to the level on which the analysis of the relation is made. (See Table 16)

Part of the literature on this thematic explores weather the country's rate of entrepreneurial dynamics impacts its level of economic development, weather the entrepreneurial activity influence over economic growth depends upon the level of per capita income, .weather entrepreneurship plays a different role in countries with different stages of economic development.

Apart from the stage of development of the country, also important is the stage of industry life cycle, weather it is in an early stage or a mature stage of industry development. The differences are aparent depending on the environment in industries. Generally, there are two main views connected to the environment: the first is that entrepreneurial opportunities emerge in the environment, and the second is that entrepreneurs shape the environment (Renko, L. Edelman and H. Yli, 2010). This research accepts both as accurate. Thereby, competitiveness is determined by the external environment, the internal firm factors and the entrepreneurs (Chan, K. F and Man, Thomas Yunlong and Lau, Theresa, 2002).

The influence of firm factors and especially the impact of innovativenes, pro-activeness and risk taking as entrepreneurial elements have been investigated from many authors in theoretical and empirical researches. Among them there are two main groups, the ones who consider those elements as individual factors which influence over firms

performences (e.g., Lumpkin & Dess, 1996; Kreiser et al., 2002) and those who take them as one factor the entrepreneurial factor and state that their efect over firms performance is important when they are in combination Miller's (1983) work, Covin et al. (2006).

Table 16 The relation entrepreneurship- competitiveness – related works

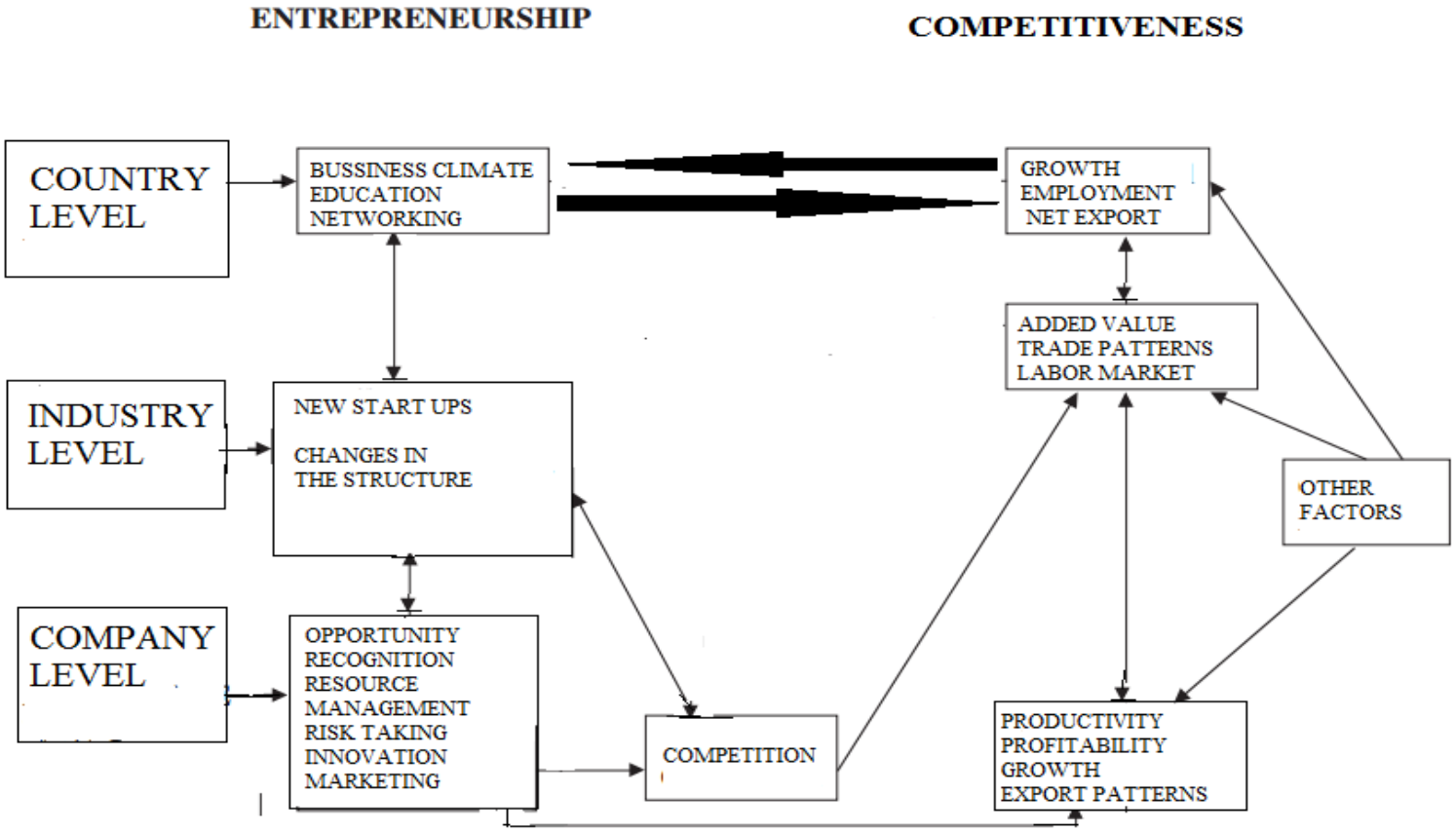
Level of Analysis	References
National level	Nascent entrepreneurship and the level of economic development (Sander Wennekers, Andre van Wennekers,Roty Thurik, Paul Reynolds, 2005) The Effect of entrepreneurial activity on National economic growth (Andre van Steel, Martin Carree, Roy Thurik, 2005) Entrepreneurship and competitiveness dynamics in Latin America (Zoltan Jacs, Jose Ernesto Amoros,2008) Entrepreneurship in Relation to the Competitive Potential and Position of Economies – a Regional Approach Based on Polish Provinces (Aleksandra Gawel,2014)
Industrial level	Measuring changes in entrepreneurial orientation following industry deregulation: The development of a diagnostic instrument. (Ginsberg, A. 1985.) Linking two dimensions of entrepreneurial orientation to firm performance:the moderating role of envoronment and industry life cycle (G.T. Lumpkin, GregoryG Dess,2001)

Firm level	The Competitiveness of Small and Medium Enterprises: A Conceptualization with Focus on Entrepreneurial Competencies (Chan, K. F and Man, Thomas Yunlong and Lau, Theres,2002) The relationship between firm level entrepreneurship and firm performance : The unique impact of innovativenes, pro-activeness and risk taking (Kreiser and Davis,2008) The Simultaneous effect of individual entrepreneurial competencies on SMEs competitive advantage (Rungwitoo,2012)

Dividing the literature according to the level of inestigation is usefull, but after separating the relationships at three levels, follows their sinthetizing in order to illustrate the big picture and the inter level relationships. They are visually presented on figure 10.

Namenly, the if the factors which influence the development of entrepreneurship such as positive business climate, quality educational system and networking supporting environment, are favorale, entrepreneurs are able to identify more opportunities, create innovetions and sell them on the markets. Also, they are encouraged to open new ventures and this way they intensify the competition which leads to a change in the industries structure. Increased competition is pushing companies to add more value in order to make their products and services more competitive. Also, it changes the trade paterns and the conditions in the labor market (qualification structure, salaries etc). These changes influence on micro and macro competitiveness. The micro - firm competitiveness effect is manifested by the improved productivity of workers which leads to higher profitability, growth and exports. The macro competitiveness efect is manifested in greather employment, growth and advanced export patterns. Improvements in these variables contribute for greather competitiveness which is better living standards and environment for doing business.

Figure 10: The relationship between the entrepreneurship and competitiveness



Source: Author's framework

3.2 The relationship between the entrepreneurship and competitiveness on a national level

The relationship entrepreneurship- national competitiveness has been investigated through the prism of the impact of entrepreneurship over growth and development (Naudé, 2013) (Thaddeus, 2012), the impact of entrepreneurship and entrepreneurs for national export features (Jolanda Hessels, André van Stel, 2008) (Igor Filatotche, Xiaohui Liu, Trevor Buck and Mike Wright,, 2009) and the impact of development, regulations and business climate over entrepreneurship (Leora F. Klapper, Anat Lewin and Juan Manuel Quesada Delgado , 2009).

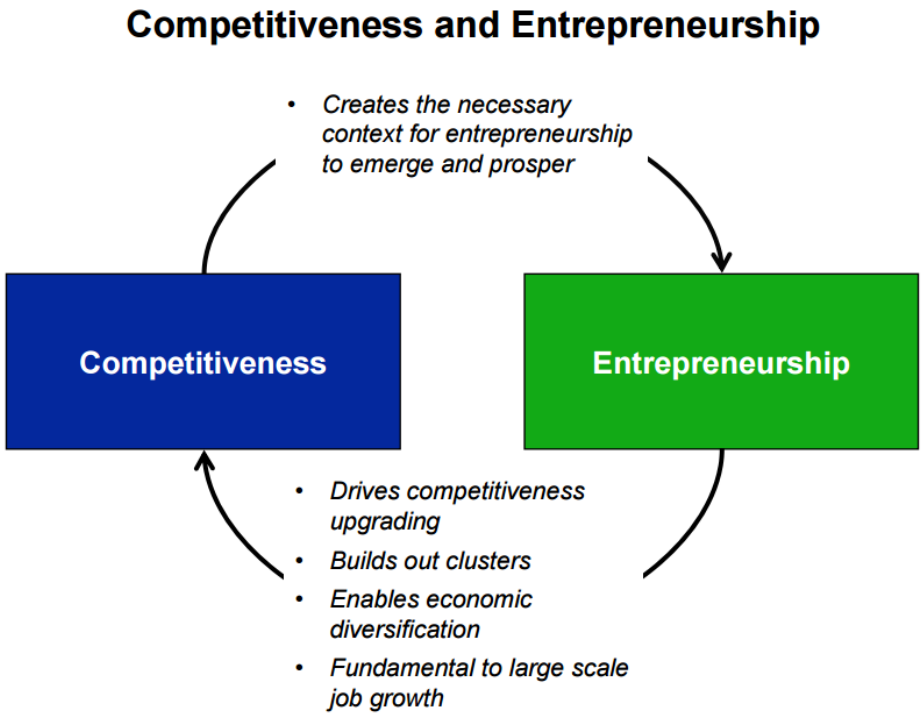
The greatest contribution in the exploration of the relationship national competitiveness - entrepreneurship has Michael Porter. In his works and speaches, he synthetizes the previous views and claims that national competitiveness depends from countries' endowments and macroeconomic conditions (policies, social development) on one side, and from the microeconomic capability of the economies, on the other.

Microeconomic capability of economies is again determined by the national business environment, the clusters and the entrepreneurship development. Therefore, creating positive business and cultural base and putting accent on supporting entrepreneurship and entrepreneurial capacity development among people, is the crucial factor for achieving national competitiveness (Porter M. , Innovation and Competitiveness, 2011).

However, entrepreneurship with its externalities as job growth, innovations, diversified products and services, which advance the standard of living of people, satisfy their needs and create competitive climate, despite being a factor for competitiveness, in the same time is affected by it. For instance, the improved competitiveness in a country creates more favorable business climate, tax policy, institutional system, and better education. These variables have an effect over the development of entrepreneurship.

In fact, the relation entrepreneurship –competitiveness, is never one direction process. On the contrary, it is a complex process where both variables affect one to each other, as illustrated on figure 11.

Figure 11: The relationship between the entrepreneurship and competitiveness on a national level

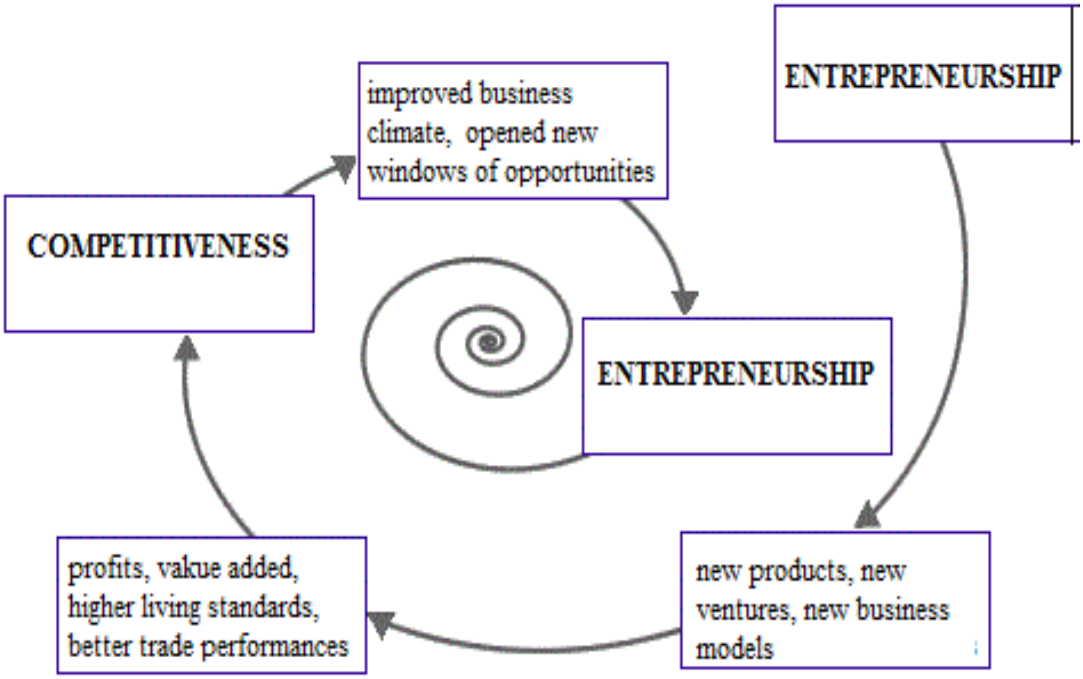


Source:http://www.hbs.edu/faculty/Publication%20Files/2012-0124_SaudiArabia_GCF_65a10518-39d6-4bf6-a7b1-8074892f0849.pdf

The mutual influence of competitiveness over entrepreneurship and vice versa of entrepreneurship on competitiveness can be compared with the spiral effect (See Figure 12).

The spiral effect is continuous and as shown on the picture goes like this: individuals with entrepreneurial capacity by recognizing profitable opportunities and taking all the necesseary actions to exploit them, undertake risks and introduce innovations which are further commercialized on the market. In this way, they create value for them and for the stakeholders. That leads to improved standard of living for entrepreneurs and stakeholders and improved export potential. The improvements results with advancement in the competitiveness at the domestic country and better international trade performance i.e. higher level of national competitiveness. Improved national competitiveness opens new opportunities for entrepreneurs and advanced conditions for entrepreneurship and business development, which leads to new products, businesses and so on. Therefore, the picture illustrates the accelerating rise in the level of competitiveness of a country, primarily due to the development of the entrepreneurship.

Figure 12 : The spiral effect entrepreneurship- competitiveness



Source: by the author

The tempo of the spiral, self reinforcing effect, depends of the existing entrepreneurial activity in a country. According to the GEM (Global entrepreneurship monitor) there are three stages of development of countries, depending on the economics features of countries, chalenges that entrepreneurs face with, the basis on which they compete and build their competitive advantage. The stages are: factor driven, efficiency driven and innovation driven economies (José Ernesto Amorós, 2014). There are also contries which are between two of the three stages of development, and are in transition from one stage to another.

- In factor driven stage economies, companies compete mainly on the basis of the endowements as cheap labor force and natural resources. Entrepreneurship is not developed and entrepreneurial activity is motivated mostly by neccesity. Only a small percentage of entrepreneurs are motivated by opportunity and implement innovations. In fact, innovations participate with only 5% of the economic activity in these economies (Zoltan Acs, 2010).

- In efficiency driven economies, competitiveness depends from markets efficiency and size, technology and higher education. Entrepreneurship is more developed and companies compete with efficient production processes and quality of products. However, the percent of innovations is still small (10% of the economic activity).
- Innovation driven economies are characterized with sophistication of businesses, developed education system, cooperation among research institutions and businesses, developed markets for goods and services, finance and labor, stable macroeconomic situation. Entrepreneurs base their competitive advantage on innovations, which account for 30% of the economic activity.

The stage of development of a country is important, because entrepreneurship plays a different role in countries with different stage of development. Some empirical analyses which quantify the relationship among entrepreneurship and national competitiveness, by finding links between the Global competitiveness index (GCI) as indicator of National competitiveness and TEA index[7] as indicator of entrepreneurial activity, have shown that in developed countries entrepreneurship increases the growth, and in less developed has negative impact on growth. The reason for that is that entrepreneurs businesses in developed counties are mainly based on implementation of original ideas. On the contrary, in less developed countries, entrepreneurship is more necessity than opportunity based. Entrepreneurs open businesses as an alternative for unemployment, so these businesses are not always exploiting a profitable opportunity. Therefore, they fail more often and do not conduct for national growth (André van Stel, 2004).

The Republic of Macedonia belongs to the group of efficiency driven countries. In the year 2013 most of the entrepreneurs were motivated by necessity (60.98%) and only 22.95% were motivated by opportunity. Compared with the countries in the region and the average for European Union countries, Macedonia has higher number of entrepreneurs motivated by necessity, a lower rate of entrepreneurs motivated by opportunity of all except Bosnia and Herzegovina.

The promotion of entrepreneurial opportunities has increased in recent years, but this has not resulted in an increase in the number of startups. The TEA index in 2013 was 6.63%,

[7] "Percent of adult population (18-64 years old) that is either actively involved in starting a new venture or the owner/manager of a business that is less than 42 months old" -

which is a large reduction compared to 2008 when it was 14.5%. Compared with countries in the region and the average value for TEA index in the European Union, Macedonia has the lowest TEA in 2013, except Slovenia. The percent of nascent entrepreneurs (those who have business to 3 months) was 3.35%, and the percent of new entrepreneurs (who have business activities up to 3.5 years) was 3.53%. The rate of innovation for businesses TEA in 2013 was 13.82%, while for established businesses 4.23%.

3.3 The relationship between the entrepreneurship and competitiveness on a manufacturing level

The relation between entrepreneurship and manufacturing competitiveness varies depending upon the stage of economic development of the country, the time horizon and the industries/branches where manufacturing companies are operating.

Traditionally, manufacturing firms have been transforming raw materials into products, in large companies where through economies of scale, the costs were minimized, in order to gain higher profits. Therefore, they aimed to make the process as efficient as possible, and the financial returns higher. However, the era of financial gains through mass production is coming to an end, and companies tend to create multiple values.

Today, value creation in the manufacturing sector has broader meaning than just earning profit through mass production. It includes expanding business offerings, providing better customers experience and maintaining long term customer relationships. That is related with a whole set of activities such as research, design and development, distribution, implementation, and interlinked products and services. Therefore, companies need to have entrepreneurial approach.

Entrepreneurs recognize opportunities, manage risks, solve problems and implement innovations. Many relate manufacturing competitiveness with technological innovation. Although, there are many examples of firms who have succeeded by implementing new technology, not every innovation must be connected with new technology. Some of them are connected with applying existing technologies in new ways, and creating new business models.

Lately, new business models often include networking, collaboration of entrepreneurs with other entrepreneurs and managers in the process of supply, production, marketing and after-sale services. In this manner, they actually create flexible, specialized and interdependent manufacturing value chains consisting of a number of interconnected and coordinated, primary and supporting activities, included in the process of converting inputs to outputs (Porter M. , On Competition, Updated and Explained Edition, 2008).

Primary activities are those directly related with the process of supply, production, logistics, marketing, sale and post-sale services, while supporting activities are the ones

related with the infrastructure of firms, human resources, administrative and organizational activities, information flows etc.

Entrepreneurs manage the linkages between all activities, within and around organizations, and make combinations with an aim to obtain competitive advantage. Moreover, they link, vertically or horizontally, with other entrepreneurs, and create broader value system. This results with redefined and restructured industry sectors, which change the playing field where companies compete, and open new opportunities.

Recognizing opportunities in networking and managing with value chains by entrepreneurs, enables them to implement innovations, enchase resources' efficiency, and satisfy customers' needs. The result is added value and improved manufacturing competitiveness.

From the above elaboration, we can conclude that entrepreneurship changes the landscape in manufacturing. Furthermore, this concept of transitioning of manufacturing from operations in large enterprises with huge production capacities and enormous fixed cost, into collaborative and innovative businesses in entrepreneurial small and medium enterprises, shows that entrepreneurs have power, to improve the competitiveness of manufacturing branches, by improving their firms' competitiveness.

Finally, in Figure 13 is presented mapping of the value chain for The Fruit and Vegetable Processing industry in The Republic of Macedonia.

Figure 13: Value chain -The Fruit and Vegetable Processing industry in The Republic of Macedonia

Source: authors

3.4 The relationship between the entrepreneurship and competitiveness on a company level

By now, the relatonship of entrepreneurship and competitiveness was investigated on an agregate level, in a national economy and in sectors. Thereby, several times, it was stated that the root of the relationship entrepreneurship - competitiveness should be investigated on a company level in order to get better understanding of concepts and their interrelations.

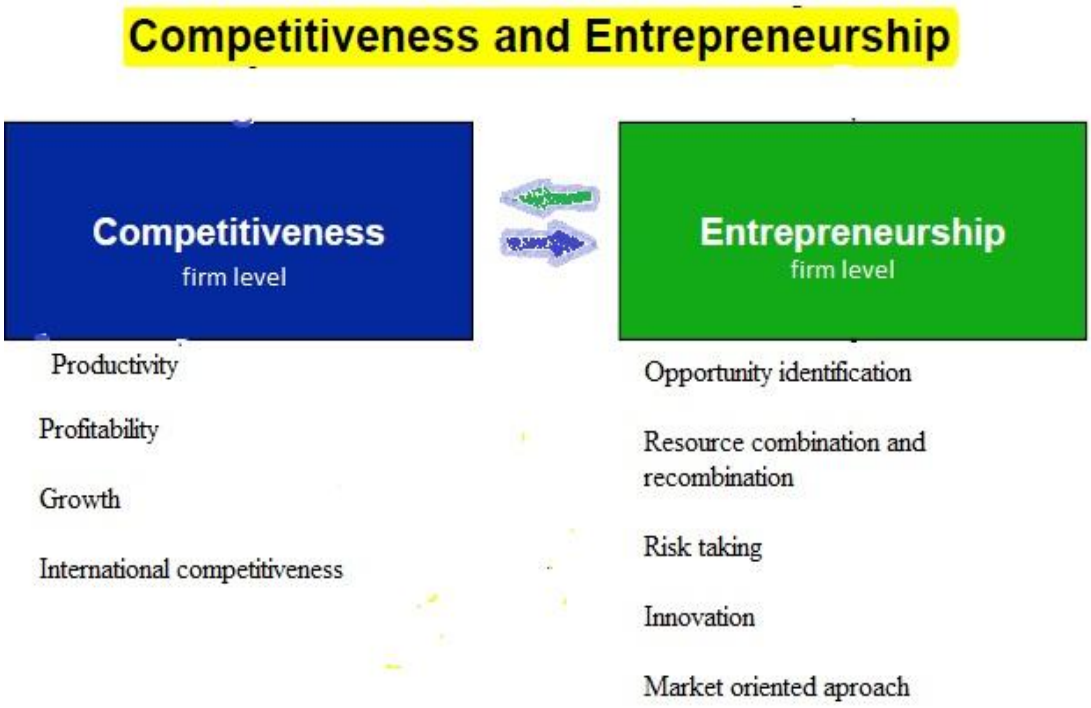
The literature points out some relationships found among elements linked with competitiveness such as productivity, profitability, growth and trade performances, and elements of entrepreneurship such as opportunities identification, resources management, risk taking, innovation and market approach.

Many researchers claim existence of a positive relation among entrepreneurship and firms' productivity. For example, some of them have investigated if entrepreneurship influences productivity of firms, and noticed that there is an influence which is negative at the beginning, and then, after few years comes the positive impact (Martin Andersson, 2010). Others, relate entrepreneurs with companies growth (Thomas M. Cooney, 2012), (Priya Dhamija Gupta, 2013), or growth rates and profitability measures (Jason R. Fitzsimmons, 2005).

Apart from entrepreneurially oriented firms' success on domestic markets, also, there are studies which examine how entrepreneurship is related with small and medium enterprises internationalization (Basile, 2012). Furthermore, they have found that the promotion of products, establishing and keeping contact with foreign customers, and how that contributes to better export performance for those firms(Rasha H. A. Mostafa, 2005).

Having into consideration the researchers above and many others which have investigated the separate relationships between entrepreneurship and competitiveness indicators, as well as studies which have investigated how entrepreneurial elements connect with competitiveness, here there is an attempt to investigate how entrepreneurial elements together affect competitiveness. Therefore, the aim is to offer a synthesis of all those linkages by researching the relationship of the two concepts entrepreneurship and competitiveness. (See Figure 14)

Figure 14: The relationship entrepreneurship-competitiveness on a company level



Source: Porter- adopted by the author

The subjects of the investigation in this study are companies in The Fruit and vegetable processing industry in The Republic of Macedonia. And the main hypothesis is:

H0: The entrepreneurial capacity of managers in the companies in Fruit and Vegetable Processing Industry drives competitiveness.

PART 2. METHODOLOGY

The methodology used in the thesis is in line with the research objectives and the research questions posed in the introduction part. Therefore, in this part I briefly discuss the activities undertaken, the data characteristics, the collection process, as well as the model used to analyze and test the assumptions and hypothesis.

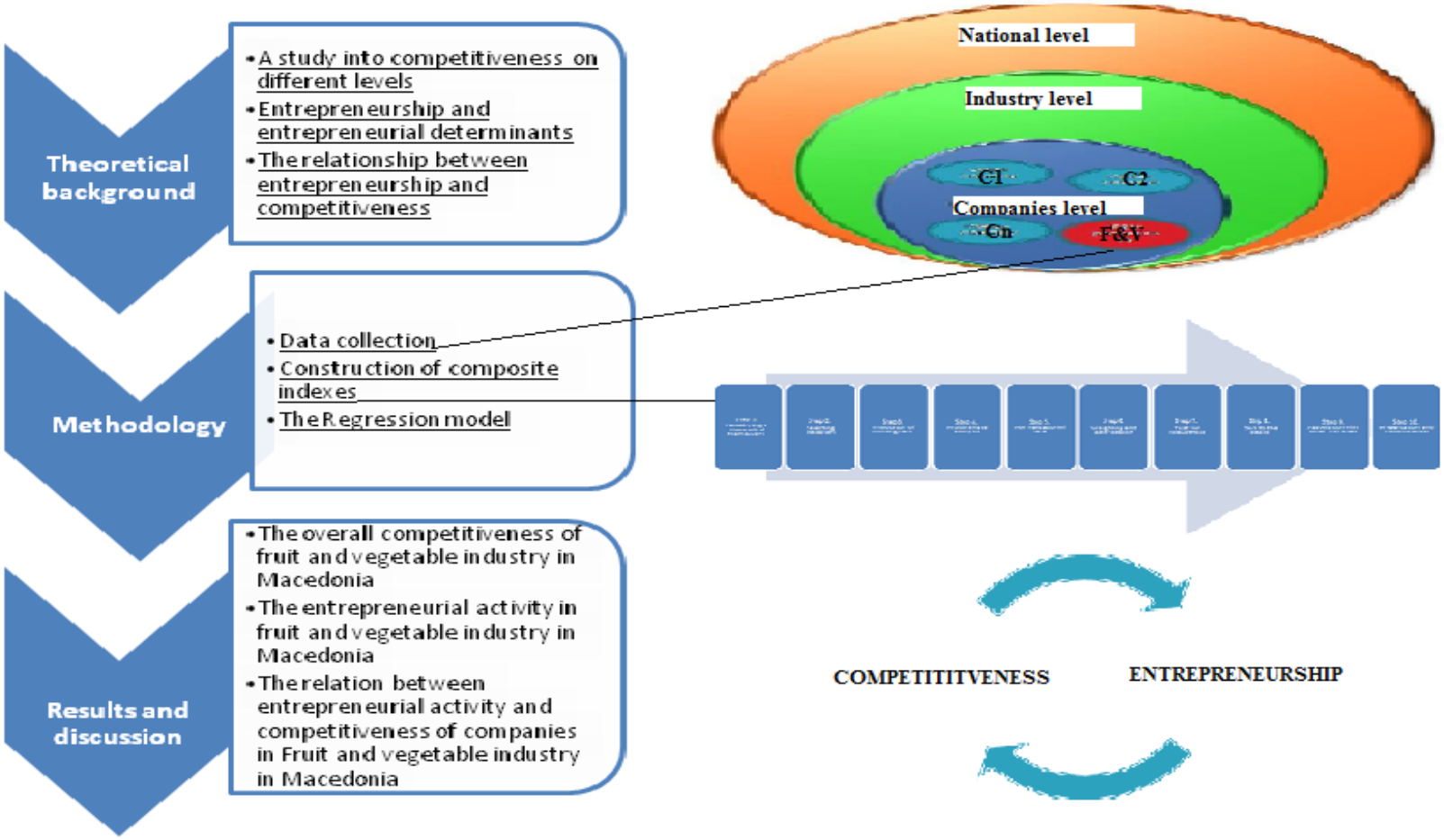
At first, the data type, size and sources are addressed, the data collection method and the responsiveness of companies and institutions is stated. Then, follows description the composite indicators' construction process, with all the necessary steps included in order to get composite indicators for the two areas of interest, firms' competitiveness and entrepreneurship.

The constructing process is not easy and simple, and there are many issues that should be taken into consideration from methodological point of view. To reduce the risk of missing on some important issue the process is divided in several subsequent stages. Each stage of the construction process is important for the quality of the final information and should be performed carefully.

Finally, the two obtained composite indicators, one for entrepreneurship and one for firms' competitiveness, are confronted and put into a regression model. The regression model shows if the relations among investigated subjects exist, which gives the answer of the main research question. The main research question and the sub questions and hypothesis are answered in the part which elaborates the discussion related to the results obtained from the research.

The methodology for this research is illustrated with a concept map (See Figure 15)

Figure 15: Research methodology – step by step



Source: authors

Chapter 4 Data collection

In the previous chapters of the study, the goals of the research were posed, the theory related with the investigated subjects was reviewed, and the research questions have been stated. Now, in this chapter follows definition of the population of interest, the characteristics of the population important for the purposes of the study, and the sources where the needed information can be found.

The data can be obtained by primary sources, when the researcher himself creates the questionnaire for the purpose of the study, and delivers it to respondents. Also, it can be secondary, when data is gotten from other sources institutions, reports, and other researches.

The final stage in the conducting of the survey is coding the data and preparing them for further analyses.

4.1 Population, Sample size and selection

The population is a set of all the units that have some common feature which is a subject of interest (Sotirovski, 2004). When the population is small enough, and the researcher can investigate each and every unit of it, then, he/she works with census. Whenever it is possible, it is recommendable to work with census because the punctuality is greater and the results are reliable.

Anyway, in social sciences, among which economics, it is almost impossible to reach and investigate all the units of interest, mainly because there are plenty of limiting factors such as consumption of time, costs involved in the research, management of the data, rate of responsiveness of the units etc. Therefore, sometimes, it is more appropriate to use a sample. The sample is part of the entire population, and should be representative of the population.

Sample and census data have both advantages and disadvantages (Parker, 2011). In table there is a comparison of positive and negative sides (pluses and minuses) of each of the approaches.

Table 17: Census data vs Sample- Advantages and disadvantages

	Advantages	Disadvantages
Census	• Reliability in the results for the whole population • Benchmarking possible	• Higher costs • More time is needed for collecting the data • More time is needed for processing the data • Lower responsiveness
Sample	• Lower costs • Reduced time for collecting data • Higher responsiveness • Results can be obtained sooner	• Lower reliability in the results

Source: based on (Parker, 2011)

Most studies, as well as this study, use sample, mainly because the limited time and budget provided for the purpose of investigation. The sampling procedure involves the following steps: defining the population, determining sample frame, determining sample size, conducting sample selection procedure.

Defining of the population includes determining of the sector of interest, the sampling units, the geographic area and the duration of the investigation. In this research, the population is The Fruit and Vegetable Processing Industry. The units are the firms that process vegetable and fruit and produce ajvar, conserved fruit, conserved vegetable, frozen fruit and vegetable, dried fruit and vegetable. The geographic area where the research is conducted is the territory of Republic of Macedonia and the duration of the investigation is one year, precisely in the period December 2013- December 2014. The first concept tested among firms is the presence of entrepreneurship in fruit and vegetable processing firms and

the entrepreneurial capacity of their managers. It is derived by the features that indicate existence of entrepreneurship. The second concept is companies' competitiveness domestically and internationally, and, it is derived from the financial indicators of firms.

The sample frame is the set of source materials from which the sample is selected, or in simpler terms the sample frame is a list of the units in the target population. It depends from the relationship among the target population and the units of selection. A perfect sample frame is one that is complete, accurate and up-to-date. This research sampling frame was taken from the Report for the performances of Fruit and vegetable processing industry page 23 and 24. The list is consisted of name of the company, address, phone number, e-mail address and web page. Another list was the list of members of Macedonian association of processors, where the same contact data were given and also a name of the contact person. Many of the companies on both lists repeat so the two sets were merged into one in order to avoid duplication. In that way every company was taken into consideration only once.

The sample size is important, because from the sizing of the sample, depends the reliability of the research. Larger samples are often better representativeness of the population, but are also more difficult to obtain in terms of time and costs. Therefore, it is meaningful to reach the balance where the reliability of the study is accomplished, the error is minimized and the time and costs are acceptable. The initial idea, in this study, was using a census data, primarily because the population is small in number of units. However, after the pilot research was done, it was obvious that all firms cannot be involved in the study. Part of them have not got any processing activities in the given period, and only traded these products, and part of them, were unwilling to participate in the investigation. So, using a sample in order to draw conclusions and answer the research questions set, came out as more appropriate option.

The sample selection procedure depends from the aims of the research. There are two major types of sampling, probability and non probability. If the purpose is to start from the sample and make generalizations and inferences about the whole population, the probability sampling is more convenient. This sampling method allows for every unit of the population a non- zero probability to be selected (Walonick, 2004). The simplest form of this

method is the random sampling where every unit from the population has an equal probability to be selected. This research uses probability sampling, concretely a simple random sampling.

4.2 Conducting of the survey and availability of data

Conducting of the survey depends from all the previous steps and should start after the goals are clear, the research questions posed, the supporting theory reviewed, the population and sample decided. When all those phases are finished, the next step is determining the source of the data and the model of administration.

The questions should correspond to the information that needs to be obtained. There are two main types of questions: open questions and close questions. Open questions give the respondents the possibility to answer however they want, so that makes harder for researchers to administrate. Close questions present a set of fixed alternatives and the respondents chose among the answers which are given. Therefore, it is easier to process the answers and to compare them.

The questions in our questioner are closed (See Appendix). It contains 25 questions, which are geared to answer the presence of entrepreneurship among fruit and vegetable processing firms. There are 6 possible answers for every question, and the design is as a Likert scale, which allows gradation from strongly positive attitude concerning the statement in the question, to strongly negative position on that same statement.

When the first version of the questionnaire was finished, a pretesting was made, in order to check how well the questions are accepted among respondents. The questionnaire was introduced to random selected firms' managers by calling them on phone and asking them to spend time answering the questions. Most of the firms gave answers, and helped me to precise some statements and make them more understandable. Also, they helped me to realize, that respondents are not willing to give financial information for their companies, so the data needed for measuring productivity should be obtained in a different way.

After the questioner was defined and finalized, the decision for the choice of the collection method followed. There are different methods for gathering answers such as email

surveys, postal questionnaires, telephone survey and personal interviews. The response rates, time, costs related to the survey depend from the method.

The questionnaire was initially sent by e-mail with a covering letter explaining the reason for the research and instructions how to respond the questions. The e-mail was sent to all the companies from the list. This method was chosen, because the companies are distributed in different parts of the country, the costs and time for delivering the questionnaire was minimal and they all got the questions in the same time. However, the response rate was minimal as well. In fact, it was less than 20%.

The non responses were followed and the questionnaire was sent to them once again, but this time the mails were personalized, by including the respondents name and surname and informing them in which sense concretely their response is significant for the research. Even though, there was an improvement in the response rate, many of the companies' managers remained uninterested to participate.

The next step was the telephone survey. The telephone survey has its advantages as having the possibility to explain the respondents, what the research is about, and how their answers will contribute to it, but on the other side, it is really hard to reach the right person who should answer the questions. However, I insisted to get the answer from the managers instead of their assistants, especially because the entrepreneurial traits of the management were investigated.

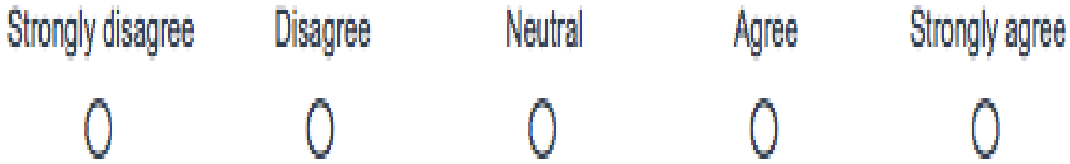
For those managers, who could not be reached by phone, a hand delivered questionnaires were prepared and given to collectors who live in the area where the companies are situated. This improved the response rate.

The questions about measuring productivity consisting mainly of financial data were removed from the final version of questioner even after the pilot testing. The reason was their sensitivity, and the resistance of companies' managers to give such a data. Therefore, they were obtained by the Central register of Republic of Macedonia. The institution offers financial reports of companies in abbreviated form. They contain enough data to calculate the needed financial indicators which illustrate the competitiveness of the firms. The supply is made by formal requisition and the data is delivered after the payment of the price for the service.

The next step, when the activities for collection of the data are over, is the coding process. Coding is actually translating responses in numerical codes so they can be easily

entered in the computer and manipulated. In this study, the questions were closed given with Likert scale as shown on Figure 16.

Figure 16: Likert scale



The coding of closed questions is often done before the data is collected, according to a coding frame with labels. The questions had assigned labels, by using the numbers -1,-2, 0, 1 and 2 as given in the Table 18.

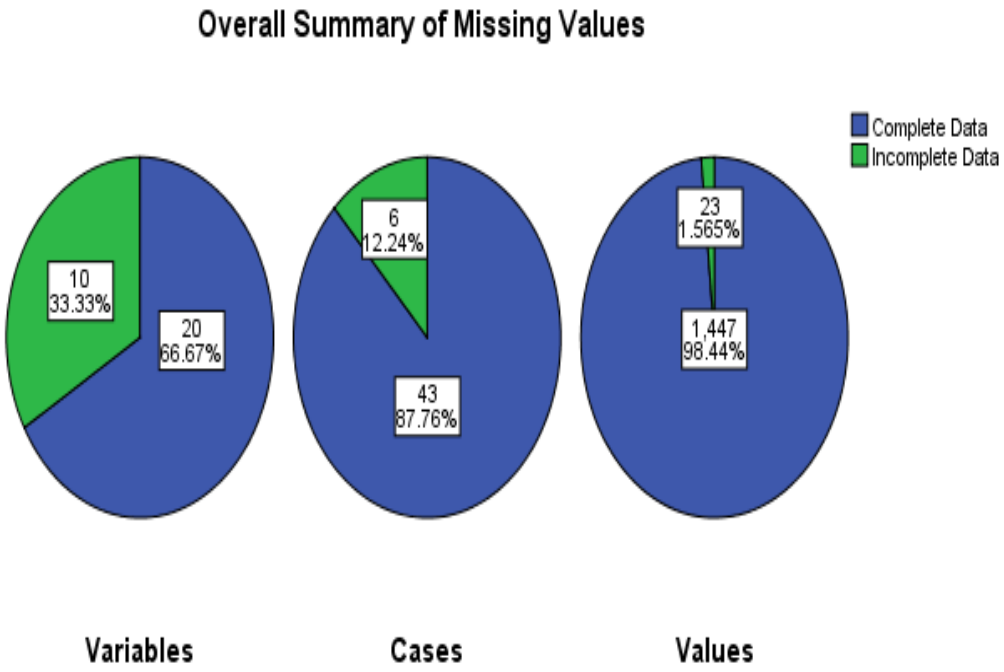
Table 18 : Labels for coding the answers

Label	Answer
-2	Strongly disagree
-1	Disagree
0	Niether agree, niether disagree
1	Agree
2	Strongly agree

After the data is completed and the process of coding is done, starts the checking. The main purpose of reviewing at this stage is to discover any accidental mistakes which can influence over the accuracy in the further process of data analysis. This is not editing the data, but only comprehensive checking in order to ensure that there are not noticeable errors as missing entry in the recording, duplication of an entry or using code outside the range (Bryman, 2012). Anyway, the possibility for errors as a result of wrong answers by the respondents remains.

The dataset contains 49 cases and 31 variables (See Appendix). During the verification process, it was noticed that there were some missing values in the dataset. The overall summary of the missing values is given in Figure 17.

Figure 17: Missing values



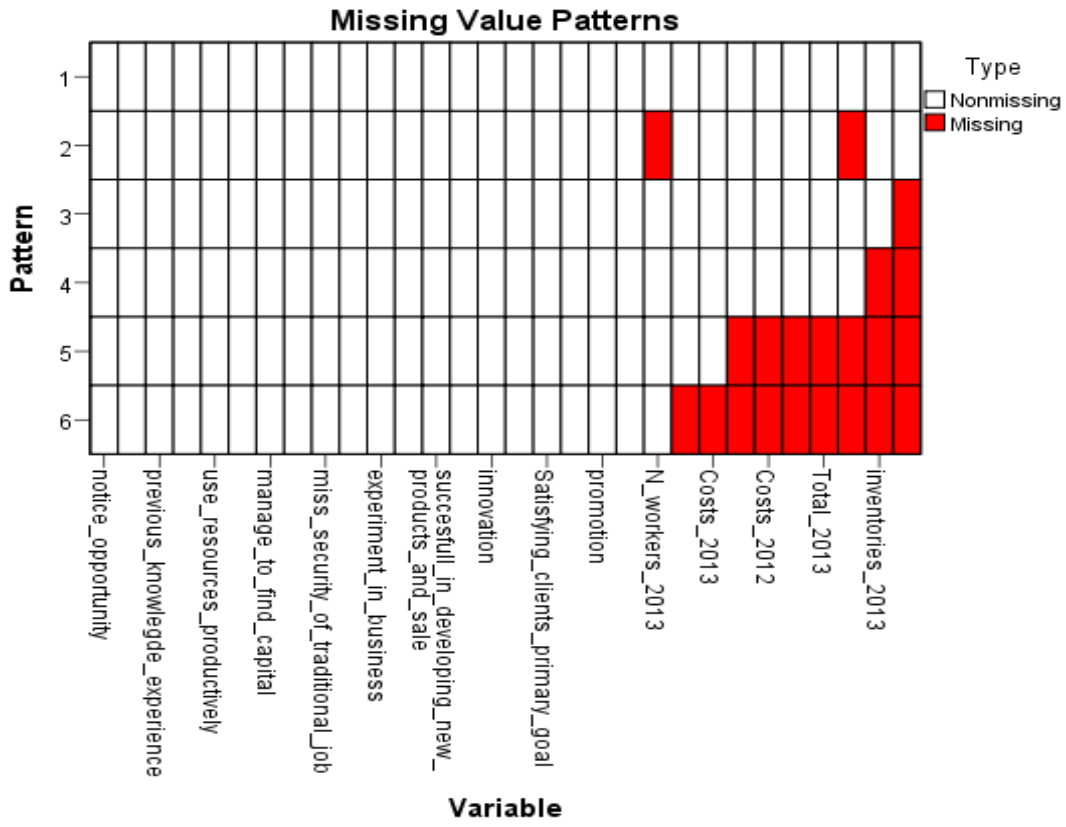
Source: authors missing values analysis

As given in the Figure the missing values were analyzed by variables, by cases and in total. Therefore, it was noted that from number of 30 analyzed variables[8], 20 variables (66,67%) had complete data, and 10 variables (33,33%) had some missing data. Furthermore, if we consider the cases in the sample, 43 of all 49 cases have answers of all of the questions, and only 6 of them have given incomplete data. This is a result of the achieved good response rate on the questions in the questioner which consider the entrepreneurship and entrepreneurial capacity of firms' managers, and the availability of secondary data, the abbreviated balance sheets, concerning the data for the competitiveness of firms.

In the variable summary, given at Graph 34 are given the missing values. Most of them are about inventories, number of workers, total assets, cost and revenues. The missing values were further treated, in order to get a full data set.

[8] Number of 30 instead of 31 variables, because the Variable Name of the company was used as identification tool.

Graph 34: Missing values chart patterns



Source: author's calculations

Chapter 5 Construction of composite indexes

One of the main challenges in any research is to manage to find the data for the investigation. However, when the methodology of the study includes composite measures the second main challenge is to assure that the construction process is sound and all the procedures have been executed carrefuly and the computed composite indexes are ready to fit in the explaratory model.

This chapter has a goal first to explain what composite indexes are, and separate them from other measures and indicators, then to provide guidelines for the construction process, to stress the main steps and judgements which need to be made, and after introducing the framework for creating the indexes to go into the practical aspects for creating the composite indexes for competitiveness and entrepreneurship.

5.1Composite indexes and their characteristics

"An indicator is a quantitative or qualitative measure derived from a series of observed facts that can reveal relative position in a given area and, when measured over time, can point out the direction of change"[9]. Indicators are useful in identifying trends in performance and policies and drawing attention to particular issues. There are basically three levels of indicator groupings (Group):

1) Individual indicator sets represent a menu of separate indicators or statistics. This can be seen as a first step in stockpiling existing quantitative information.

2) Thematic indicators are individual indicators which are grouped together around a specific area or theme. This approach requires identifying a core set of indicators that are linked or related in some way. They are generally presented individually rather than synthesized in a composite.

3) Composite indicators are formed when thematic indicators are compiled into a synthetic index, and presented as a single composite measure.

[9] https://ec.europa.eu/jrc/en/coin/10-step-guide/step-1

Composite indexes are created by a combination of different indicators, with an aim to explain multidimensional concepts. They include more individual indicators merged into a single one, which compile the dimensions of the concept being measured. By showing many aspects of one concept, they can go into its essence. In fact, by taking into consideration the different angles, the composite indicator is able to give the big picture (Handbook on constructing composite indicators Methodology and user guide, 2008).

The big picture, the puzzle, illustrated by composite indexes is more than just a simple aggregation of different parts. Simple aggregation means adding indicators which have common measure, which is not the case of composite indexes, and it also means getting just a sum of included indicators. The composite index, on the contrary, should get insights in the "whole", which is more than the sum of individual parts. They present a type of a common denominator of all the units they are consisted of.

Composite indicators are measurements intended to simplify the phenomena they are describing, to communicate the key information to their users enabling them to see the meaning behind the raw data, picture the current state of the object of interest, and measure the change over a period of time or even identify some trends.

However, in order to be valuable for the users, composite indicators must be crafted on the basis of sound theoretical background, transparent methodological approach, and above all that, to have a good narrative, a quality presentation (Handbook on constructing composite indicators Methodology and user guide, 2008). If any of these elements misses, the index may be misleading and to result in pure information tool.

In order to be meaningful information tool, composite indexes should have the following features: to be valid, reliable, relevant, measurable and timely. Valid means to give true information, one which captures the concept that is measured (Rugg). This is especially important when due to the lack of time or resources, in the data collection process instead of direct variables, the constructor of the index uses proxy variables. In such a situation, in order to maintain accuracy, it is preferably to stress out which of the variables are proxy ones, and, to state the reasons for using them.

Reliable is when no matter how many times, by who or in which period, the index is measured, if the data used for calculation is the same, the results will remain the same. In other words, reliability is present when the possibility for occurring measurement error is minimal. The error may occur if the sample is not representative, but also if there are

inaccurate answers or high non response rate. Also, error may be caused if there is subjectivity when interpreting data. In order to improve the reliability, the researcher should aim to avoid these pitfalls and examine the indicators for their reliability, including here, their timeliness.

The next feature, the relevance of indicators shows whether the indicators meet the need, they are crafted for. If an indicator is not linked with the reason for its existence, then no important information can be derived from it. Those indicators are not worth collecting and reporting, because they do not contribute in achieving the goals of their developer.

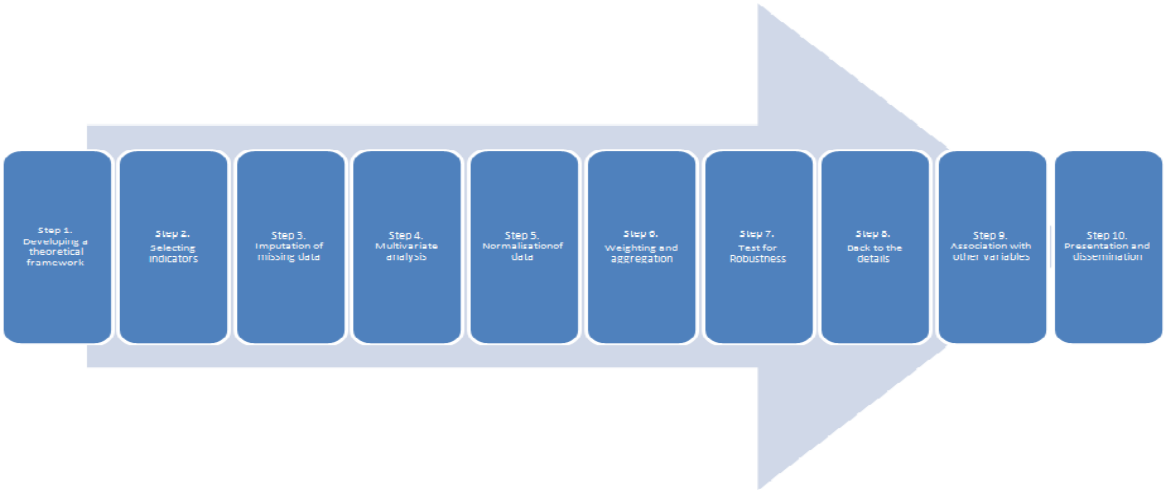
Another attribute that makes indicators useful is measurability. Measurability or ability to quantify, gives the researcher chance to scale, estimate and compare. Measurability is often hard to achieve, mainly because it is related with high costs for data collection. When the indicator is measurable and gives quantitative information, it can facilitate the communication with its users, and show progress over time.

All the above mentioned attributes, make composite indicators providers of better informational base for making decisions. Therefore, creators strive to calculate reliable, relevant, timely and measurable indicators, by using methods that suit the best for the indicators purpose. There are number of frameworks and methods for creating composites, each of them with its own strengths and limits. Nevertheless, there are some steps that are common for most of them, which are crucial for crafting meaningful indexes.

5.2 Steps for creating composite indexes

Creating composite indexes cannot just be captured in few successive steps because it is complex process. However, it is good to have some roadmap, as a reminder, which key things must not be omitted. There are no strictly established rules what should be involved in the process of developing indexes below are some guidelines that will be used for the indexes in this research. The latter is that some of them have already been encountered previously through the text. They are listed in the scheme on Figure 18(Group).

Figure 18: Steps in creating composite indicators



Source: https://composite-indicators.jrc.ec.europa.eu/?q=content/overview

- Step 1. Developing a theoretical framework: The first step is actually putting the foundations on which the creation process is based, and it is necessary for getting an adequate picture about the phenomena that is measured. In this phase, the researcher should explain what is being measured, the form, the substance, the dimensions included in the composition, and their participation in it.

  This step has been underestimated by many indexes creators, who were unaware that not drawing enough intention in this phase may affect the other phases and reduce the accuracy and relevancy of the index. Therefore, to keep the quality level of the index, we must take a serious approach even at the beginning, and precisely define the phenomena measured by the index, to use the right terms and to avoid ambiguity.

  When properly defined, the phenomena should be divided into its components. Each of them is separately analyzed, in terms of the dimension they describe, and the importance that dimension has for the overall composite index. Dimensions are measured with separate indicators. Therefore, it is crucial to elaborate the selection of the separate indicators in the index, and how those indicators relate with the

dimensions they describe. For each and every sub indicator the composer gives the pros and cons, and arguments which make the indicator meritorious to be part of the index. Moreover, the theoretical framework elaborates the information provided by individual indicators given separately, compared with the added value of the overall index.

- Step.2: Selecting indicators: This step is tightly connected with the choice of the indicators from which the index is consisted. Indicators must be selected on the basis of their power to explain the dimensions of the phenomena and to contribute in the whole index. If two indicators give the same information, it is recommended to be used only one. When two indicators, don't give the same information, but are highly correlated, both can be considered.

  Apart from being theoretically supported and capturing the essence of the dimension, indicators should meet other criteria, to be measurable, understandable, valid and feasible. Those characteristics desired for indicators, may be endangered if the data is not solid, if the access to data is difficult or there are many missing values. For this reason, for each individual indictor, the composer discusses and checks for each individual indictor, the availability of relevant data, through time and units, the source and the type of the data. If the data is available from updated databases and for all units it is recommended. If there is a lack of quantitative precise data, or proxy data is used, that should be reasoned.

- Step 3. Imputation of missing data: This step reduces the problems which arise with the incompleteness of the data. It refers to data imputation, treatment of outliers and scale adjustments. Data imputation is useful when there are missing values, because allows instead of case deletion, to impute values. This results with larger sample size. In such a situation, the constructor must be careful with the imputation, and use variance estimates in order to avoid misleading results. Also, he needs to explain the methods used, the procedures, the statistical properties. There are two types of imputation: single and multiple.

  The essence of single imputation is that it fills the place where the value misses by analyzing other responses, and putting the value which is most likely to be

suitable. When there are not many missing values, this approach is good, but when there are many missing values, it can cause misleading analysis due to the variance. Methods to impute values through single imputation are mean/median/mode substitution, regression imputation, hot and cold desk imputation and expectation-maximization imputation.

Multiple imputations are harder to compute, because the constructor uses simulation models such as Markov Chain Monte Carlo algorithm, in order to get confidence intervals and to find the range of answers where the variance is the smallest. They are appropriate for sets where the number of missing values is bigger.

- Step 4. Multivariate analysis: It refers to examination of several variables simultaneously and allows deeper understanding of the attributes of the data, the relationships among different variables. It is used for simplification of the data, in terms of reducing the dimensionality of the number of variables included in the study. Methods used in this phase are descriptive methods, Principal component analysis, Factor analysis, Cronbach' coefficient alpha and Cluster analysis.
    - ✓ Descriptive methods such as scatter plots between all pairs of variables shown together can illustrate how each variable is related to every other variable in the data set.
    - ✓ Principal component analysis is characterized with creating a new set of uncorrelated variables, called principal components, obtained as linear combinations of the first set of correlated variables. Therefore, the first principal component explains the maximum amount of variation, while the other linear combinations, independent of the first, explain the remaining variance. Principal component analysis is related with factor analysis.
    - ✓ Factor analysis aims to represent the interrelations among variables, and the common variance of variables excluding the unique variance. It is based on a statistical model.
    - ✓ Cronbach coefficient model is testing internal consistency of data, through investigation of the total variability due to the correlation among the variables.

- ✓ Cluster analysis also reduces dimension of variables in the composite index by grouping variables in clusters according to their similarity or dissimilarity.

- ➢ Step 5. Normalization of data: This step is important because it adjust variables in a way that they can be expressed in the same measurement unit. The selection of normalization method deserves attention, and depends from the properties of the data and the purpose of the composite index. There are several methods of normalization among which are: ranking, standardization, min-max, distance to reference measure, categorical scale, indicators above or below the mean, methods for cyclical indicators, and percentage of differences over consecutive time points. Table presents the methods of normalization, their positive and negative characteristics. The final choice on the method of normalization depends from the theoretical framework and the data features.

Table 19: Normalization methods

Method of normalization	Description	(+) positive aspects	(-) negative aspects
Ranking	Putting values in numerical order and then assigning new values to denote where in the ordered set they fall.	Simple Not affected by outliers	Loss of information in absolute terms It is not possible to folow the changes in the values over time
Standardization	Creating standarized indicators with mean equal to 0, and standard deviation equal to 1.		Extreme values have greather effect on the indicator
Re-scaling	Normalizes indicators to move into equal range	Wieden the size of indicators lying in a given interval and	The min and max can be unreliable outliers Could violate the transformed indicator
Distance to reference measure	Uses the ratio between the indicator value and a reference value	Consideres evolution over time or distance from the benchmark	The min and max can be unreliable outliers
Categoric al scale	Indicators have assigned categorial score (qualitative or quantitative)	Small changes in the score dont affect the normalized value	Loss of information
Indicators above or below the mean	Divides values depending on where from the mean (0) they belong- above (1) or below (-1)	Simple Not affected by outliers	Loss of absolute information
Percentige of diferences over consecutive time	Uses the ratio between the indicator and previous period value	Consideres evolution over time	Can be aplied only if data is available for more years

- Step 6. Weighting and aggregation: The index developer must approach seriously to this step, because weights given to single indicators show indicators' importance for the overall index. Therefore, weights need to be properly located in reference to the theoretical framework and the characteristics of the data among which the statistical significance and the level of correlation that exist between the sub indicators.

  The most widely used method of weighting, when constructing composite indexes, is equal weighting. The essence of this method is in not favoring any integral part of the index and considering all equally relevant. In fact components are assessed for significance, and are granted the same significance. However, although it is the simplest of all, the use of this method, may indicate lack of knowledge and understanding of the matter that is measured. That happens in cases where variables are highly correlated. It is almost impossible to find two indicators which determine phenomena and are not correlated at all. But, when a great degree of correlation exists, and they are equally weighted, the method can cause imbalance, and incorrect presentation of the phenomena measured. Therefore, all weighting methods should be examined in light of correlation among variables, before the selection is made.

  The methods for weighting may be based on statistical models or expert opinions. The ones based on statistical methods are principal component analysis and factor analysis, data envelopment analysis, regression analysis, and unobserved components models.

  - ✓ The principal component analysis and factor analysis first test the level of correlation between indicators in the structure of the composite indicator. Then, it finds latent factors which depend of coefficients that measure the correlation of indicators. After choosing them, follows the rotation of factors with an aim to minimize the number of indicators, and the allocation of weights.
  - ✓ The data envelopment analysis determines a benchmark, and later measures the distance with respect to the benchmark. This method uses linear programming.
  - ✓ The regression method is useful and dangerous in the same time. From one side, it can point out the links among indicators and the output measure, but,

on the other side, if indicators are highly correlated, the variance will be high and the model not adequate

- ✓ The unobserved components model is based on a linear regression, but the difference with the previous model is that the dependent variable here is unknown. However, it is related with all sub indicators and its assessment can help to recognize the indicators relation with the composite and to assign weights that minimize the error.

Models based on expert opinion, even through more subjective, sometimes are valuable source of knowledge. They are budget allocation, public opinion, analytical hierarchy process and conjoint analysis.

- ✓ The budget allocation method values experts competence and experience and is consisted of a given amount of points, which experts should allocate on individual indicators according to the judgment about their importance for the composite. It is usually used for small number of indicators.
- ✓ The public opinion method is similar as the first, with that difference that instead of experts' opinion, it considers public opinion, so it is usually used for indicators which enjoy public interest.
- ✓ The third method, analytical hierarchy process, evaluates pairs of indicators for their relevance and then calculates relative weights.
- ✓ The conjoint analysis method consists in evaluation alternative sets of values for indicators and estimating the probability of the preference.

Regardless of which of the weighting methods will be used, through this process, the composer should find how to bypass the problems that may arise from correlation among indicators, and then, to choose which indicators to aggregate.

Aggregation is summing the individual indicators which have previously been normalized and weighted. There are also various aggregation methods:

- ✓ Linear aggregation is used when we have totally independent indicators, and there exist total compensability among indicators, components in the composite index.
- ✓ Geometric aggregation is also based on compensability, with the difference that it is preferred for indicators with lower level, because some

improvement in them, will cause bigger improvement in the composite index.

- ✓ Multi criteria analysis is most suitable, if there is no compensability between indicators. This method uses mathematical formulation and is more complex than the other two.

- Step 7. Test for Robustness: It includes making uncertainty and sensitivity analysis in order to improve robustness. Uncertainty analysis finds the sources of uncertainty, whatever that is the quality of the data, or the normalization procedure, or maybe the weighting and aggregation procedure. The sensitivity analysis, on the other side, investigates the impact of each of the sources of uncertainty on the composite indicator as an output of the process of construction. Uncertainly and sensitivity analysis can be used separately, but are most effective when used together.

- Step 8. Back to the details: After creating the composite index, comes the phase when the same should be decomposed in order to explain the contribution of each of its components. So components are analyzed in light of strengths and weaknesses, and then units are compared in their performance for every component of the index separately.

- Step 9. Association with other variables: This step is linking the obtained composite index with other indicators. The composite may be correlated with other indicators or indexes, or there may be a causality relationship where one of them depends from the other, and the change in one of them causes changes in the other.

- Step 10. Presentation and dissemination: The visualization of the idea in front of other people and interested parties is crucial, because the composite is not created just to be, but to convey an important message, to trigger attention and cause action. To do that, it must be clearly explained and presented. The presentation can be in a table, bar chart, pie, trend line, radar, and other presentation tools depending on the purpose that need to be pictured.

5.3 Limitations of composite indexes

Composite indexes are powerful information tool because they allow explaining multidimensional phenomena with one single measure. Anyway, as much as this is their great advantage, in the same time, it is a limit. Sublimating many indicators into one includes all the steps in the previous section of this chapter, and one little mistake or misjudgment in one of them may affect the composite index' accuracy. Therefore, composite indexes should be calculated, but constructors should be aware of their limitations, and to make efforts for detecting them. Some of the disadvantages of the composite indexes are the possibility of sending misleading messages, the danger of being misused, the risk of provoking dispute for the choice of the normalization method and the weighting method, and the obtained results to be controversial.

In order to minimize the flaws that composite indexes may have, the developer has responsibility to increase the transparency in the creation process, by admitting limitations, starting from the moment when the theoretical framework is build and assumptions are made, when the data is collected, during the process of data transformation, and until the results are presented. Moreover, it must be clearly stated what the index can and what cannot explain. The most common risks with composite indicators are when selecting the variables that should be included in the index, when choosing the method for imputation missing data, and when deciding the normalization and weighing method.

The uncertainty starts with the judgment which variables will enter in the calculation of the indicator. Regardless of the number of arguments in favor of some variable, the final judgment, for its inclusion in the index, is made by the index creator. Therefore, there is some degree of subjectivity, so in order to be scientifically justified, all pros and cons for including the variable should be explained and documented.

Transparency is also crucial when selecting the method for imputation missing data. There are different methods for imputation of data, so the constructor uses the one which he considers as the most suitable. The decision depends of the data, their characteristics and quantity. If the sample is large, the constructor may delete the case. Otherwise, if the set is small and every single data counts, the described techniques for imputation are used. The

decision whether to single or multiple imputation techniques is determined by the size and quality of the data.

The main disputes arise about choosing normalization method and weighing method. Having into mind that the normalization and weighing are the core of the index, the attention in those parts needs to be at the highest level, the facts well elaborated, sustained and supported scientifically. However, it is rarely possible to achieve a complete objectivity in this stage, so all the subjective decisions should be augmented.

5.4 Construction of the composite index for competitiveness in the Fruit and vegetable processing industry

The development of a composite index, which will successfully measure the competitiveness in Fruit and vegetable processing industry in The Republic of Macedonia, asks for clear and defined concept, strong theoretical basis, clear index dimensions and sub dimensions, appropriate variables, available data, and method for combining them into an index.

In this study, the theoretical basis is given in the first part, in the third section named "Competitiveness on a firm level". Having into consideration competitiveness multidimensionality, the sub dimensions among which profitability, productivity, external competitiveness and growth were discussed and the indicators for their measurement were presented. Although, indicators for measuring competitiveness sub dimensions are numerous, in the study, they were selected according to the theoretical and statistical convenience, and the availability of data.

After deciding about the measures for productivity, profitability, growth and external performance, followed the dataset observation and treatment of missing values. The percent of missing values was minimal, but still, case deletion was not considered as an option. The reason for this is that the population is small, so every data counts. Therefore, by using the method of single imputation, mean values were entered at places where the data was missing.

Having the complete dataset, variables for the sub indicators were created by using formulas. In following each of the variables is briefly elaborated.

i. Productivity is measured as ratio of output and input. The output is the production of processed fruits and vegetables, while the input is the average number of employs in the company.

The formula for calculating productivity is:

PRODUCTIVITY = PRODUCTION/ AVERAGE NUMBER OF EMPLOYS

Where:

- Production is the number of products produced in a year, and it is obtained as (sale +current inventory) – previous inventory
- Average number of employs is a data taken from the Central register of The Republic of Macedonia

ii. Profitability can be measured as revenues minus costs, as operative profit margin and gross profit margin. I use the gross profit margin which is the difference between revenues and costs, divided by the costs.

PROFITABILITY = (REVENUES-COSTS)/ REVENUES

Where:

- Revenues are all operative and non-operative revenues earned by a company in a given year
- Costs are all operative and non-operative costs for that same year

iii. Growth, as the third sub indicator, can be calculated as ratio of assets in the current and assets in the previous year. Also, it can be expressed by the ratio of sales in the current year and sales in the previous year. In this study I use the measure assets in two successive periods, as given in the following formula.

GROWTH = TOTAL ASSETS IN YEAR T/ TOTAL ASSETS IN YEAR (T-1)

Where:

- Total assets in year T includes all the assets (current and noncurrent) of the company in year T
- Total assets in year (T-1) includes all the assets (current and noncurrent) of the company in the year (T-1)

iv. The external competitiveness can be calculated by the sales exported abroad in the current year and sales exported abroad in the previous year. The formula for external competitiveness is:

EXTERNAL COMPETITIVENESS = EXPORT IN YEAR T / EXPORT IN YEA R (T-1)

Where:

- Export in year T - is the percent of the revenues from sale earned on foreign markets in the year T
- Export in year (T-1) - is the percent of the revenues from sale earned on foreign markets in the year (T-1)

The new variables were created and then multivariate analyses were done, aimed to contribute for the reliability of the index, and to indicate if there is a need to include or exclude some data. Having into consideration the characteristics of multivariate analyses' methods, which were described before, the method Cronbach's alpha was taken as the most appropriate for our sample, because the sample is small, and the use of other methods (Factor analysis, Principal components) could have given incorrect results.

The Cronbach's Alpha analyses show some interesting information. For example, from the difference among Cronbah's alpha and the standardized value for Cronbach's alpha we can notice that variables Productivity, Profitability, Growth and External competitiveness do not follow normal distribution.

Table 20: Multivariate analysis (Cronbach's alpha) competitiveness sub indicators

Case Processing Summary

			%
Cases	Valid	9	100.0
	Excluded[a]		.0
	Total	9	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.303	.685	4

Source: SPSS author's calculations

Then, from the inter-item correlation matrix (See table 21), we can notice that correlation among sub indicators used in the creation of the index for competitiveness exists, but, it is not that high to endanger the reliability and truthfulness of the index, or to signalize that some of the items should be deleted.

The coefficient of correlation among productivity and profitability is 29,8%, between productivity and growth is 32.,9%, and between productivity and external competitiveness is 50%. Profitability and growth are in correlation 17,4%, and profitability and external competitiveness correlation coefficient is 34,6%. Growth and external competitiveness are in correlation 49,2%. From the coefficients, we see that the highest correlation exist among growth and external competitiveness

Table 21: Inter-Item Correlation Matrix- competitiveness sub indicators

Inter-Item Correlation Matrix

	PRODUCTIVITY	PROFUTABILITY	GROWTH	EXTERNAL_COMPETITIVENESS
PRODUCTIVITY	1.000	.298	.329	.473
PROFUTABILITY	.298	1.000	.174	.346
GROWTH	.329	.174	1.000	.492
EXTERNAL_COMPETITIVENESS	.473	.346	.492	1.000

Source: SPSS author's calculations

Finally, the dilemma if there is need to delete items, becomes clearer from the Table 19, where we compare the last column, "Cronbach's Alpha if item deleted" and the value for the Cronbach's Alpha which is 0,303. The values for "Cronbach's Alpha if item deleted" for productivity, growth and export competitiveness is smaller than the initial Cronbach's Alpha, and the one for profitability is not much higher. Therefore, there is no need to delete any of the variables, and all four variables can be aggregated into the final index. However, before the aggregation, they are first normalized and weighted.

Table 22: Item-Total Statistics – competitiveness sub indicators

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
PRODUCTIVITY	5803572.0429	9.033E14	.394	.256	.295
PROFUTABILITY	5840700.0012	9.414E14	.241	.143	.340
GROWTH	-396513.0073	6.036E13	.504	.255	.246
EXTERNAL_COMPETITIVENESS	6274340.8775	7.055E14	.509	.385	.055

Source: SPSS author's calculations

All sub indicators calculated for measuring competitiveness are in the form of coefficients, and have different measurements. To make them suitable for aggregation, we use normalization method of Z-scores standardization. The normalization results with new standardized variables: Z-productivity, Z-profitability, Z-growth and Z-external competitiveness. The new Z-variables are normally distributed, with mean 0, and standard deviation =/-3.

Before summarizing normalized variables into the index for competitiveness, they are given weights. The judgment about attaching weights on index components is one of the hardest and can change the end results. Considering that the correlation among sub indicators is not very high, as given in table 19, we assume that the components have equal impact on the competitiveness and give them equal weights.

Finally, the index is obtained, as sum of the sub indicators. The formula for the index is:

COMPETITIVENESS = PRODUCTIVITY + PROFITABILITY + GROWTH + EXPORT COMPETITIVENESS

5.5Construction of the composite index for entrepreneurship in the Fruit and vegetable processing industry

The construction process of the index for entrepreneurship starts with the theoretical basis given in the first part of the study, Chapter 2, where the concept, determinants of entrepreneurship and each of the components included in this index are elaborated and explained. Moreover, dimensions are chosen on the basis on the criteria of theoretically, statistically convenience and availability of data.

The first step after the decision about the sub indicators is the dataset observation. The data in this part is complete, and all companies have answered the questions in the questionnaires which can be seen from the analysis of the missing values patterns on Graph 34. The answers were measured with Likert scale and grades (in the range -2+2), were attached to every question, showing the entrepreneurial capacity of managers in Fruit and Vegetable processing industry, in discovering opportunities, resources management, risk management, innovativeness and market approach. Then, for each of these sub dimensions, were calculated variables. The variable is sum of the grades related to the questions which illustrate that specific element. They are given with formulas hereinafter.

i. Opportunity recognition is measured as a sum of the grades for the first four questions in the questioner. So the formula for calculating it is:

OPPORTUNITY RECOGNITION = Q1(grade)+Q2(grade)+Q3(grade)+Q4(grade)

Where:

- Q1 is the capacity for noticing chances to develop something perspective and valuable
- Q2 is the capacity to often come out with creative ideas
- Q3 is the knowledge and experience before starting this business

- Q4 is the managers opinion about the number of contacts they have

ii. Resource management is calculated at the same way. It is measured as sum of the grades for the questions considering the use of resources (Question 5-8 in the questionnaire). Shown with formula the calculation looks like this:

RESOURCE MANAGEMENT= Q1(grade)+Q2(grade)+Q3(grade)+Q4(grade)

Where:

- Q1 is the capability to always look for to use resources(workers, materials, equipment) more productively
- Q2 is the power to motivate people to work together in multifunctional teams, to exchange information, ideas and skills
- Q3 is the capability to manage to find the capital needed for starting business, its development and growth
- Q4 is the will to be informed about trends in economy, politics

iii. Risk taking as the third variable presents a sum of the grades for questions 9-12, and is given by the following formula

RISK TAKING = Q1(grade)+Q2(grade)+Q3(grade)+Q4(grade)

Where:

- Q1 is the level the person misses working traditional job because of security.
- Q2 is how much they try to minimize risk
- Q3 is likeness to experiment in the business

- Q4 is the choice made when investing money and the fear from losing money when invest

iv. The innovation can be calculated by summing the grades for questions 13-16as given:

INNOVATION = Q1(grade)+Q2(grade)+Q3(grade)+Q4(grade)

Where:

- Q1 is the business success in developing new products and their sale on the markets
- Q2 is the support of innovative ideas, no matter which organization level they come from
- Q3 is how often the business introduces innovation (new products, new marketing strategies, new distribution channels, new methods of production, new combination of resources)
- Q4 is the existence of special budget for research and development of new concepts

v. The marketing approach is sum of the grades from 1 to 5, and is given in the following formula:

MARKETING APROACH = Q1(grade)+Q2(grade)+Q3(grade)+Q4(grade)

Where:

- Q1 is the priority that is given to satisfying the needs of the clients

- Q2 shows if there is a market research before launching a new product , or change some of the exciting ones
- Q3 is the level of introducing the customers with the new products, promotions, and discounts offered
- Q4 is the number of loyal long term customers

The new variables created will be included in the index, but before that, multivariate analyses are made, in order to explain the reliability of the index, and if needed to exclude some data. Having into consideration the characteristics of the methods for multivariate analysis, the method Cronbach alpha is considered again, as the most appropriate, because the sample is small, and the variables are ordinal. The Cronbach's alpha is 0.562.

Table 23: Multivariate analysis (Cronbach's alpha) entrepreneurship sub indicators

Case Processing Summary

		N	%
Cases	Valid	49	100.0
	Excluded[a]	0	.0
	Total	49	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.562	.640	5

Source: SPSS author's calculations

In the analysis we investigate the correlation among opportunity recognition, the use and management of resources, the propensity for taking risks, innovativeness and the marketing approach. They are given in the table 24, from which it can be noticed that the correlation coefficients are not very high, the greatest correlation exists between resource's management and market approach, risk taking and innovation.

Table 24: Inter - Correlation Matrix –entrepreneurial elements

Inter-Item Correlation Matrix

	OPPORTUNITY_REC	RESORCES_MANAGEMENT	RISK_TAKING	INNOVATIVE	MARKET_APPROACH
OPPORTUNITY_REC	1.000	.224	-.008	.216	.151
RESORCES_MANAGEMENT	.224	1.000	.337	.357	.444
RISK_TAKING	-.008	.337	1.000	.440	.112
INNOVATIVE	.216	.357	.440	1.000	.347
MARKET_APPROACH	.151	.444	.112	.347	1.000

Source: author's calculations in SPSS

On table 25, we see the impact of the correlation. Furthermore, all values for "Cronbach's Alpha if Item Deleted" are smaller than the initial Cronbach's Alpha, except in the case of opportunity recognition.

Table 25: Item-Total Statistics

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
OPPORTUNITY_REC	19.5102	27.547	.213	.094	.672
RESORCES_MANAGEMENT	20.3878	32.159	.489	.313	.411
RISK_TAKING	21.0000	40.917	.262	.264	.540
INNOVATIVE	20.4082	35.955	.485	.319	.442

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
OPPORTUNITY_REC	19.5102	27.547	.213	.094	.672
RESORCES_MANAGEMENT	20.3878	32.159	.489	.313	.411
RISK_TAKING	21.0000	40.917	.262	.264	.540
INNOVATIVE	20.4082	35.955	.485	.319	.442
MARKET_APPROACH	20.0816	38.077	.376	.253	.491

Source: SPSS author's calculations

The next step in the index creation process is normalization. Therefore, standardization is made and Z-scores of the variables for the sub dimensions are created. Then, weights are attached to the components of the index. The decision for the weighting method is based on the assumption that the components have equal impact on the entrepreneurial capacity of managers in Fruit and vegetable processing industry.

Although, we must admit that there is some correlation among the variables, illustrating the entrepreneurship elements, it is not so high to affect the results. Moreover, each of the variables has it special and unique meaning for the composite index and their relations does not make them interchangeable.

Finally, the index is obtained, as sum of the sub indicators. The formula for the index is

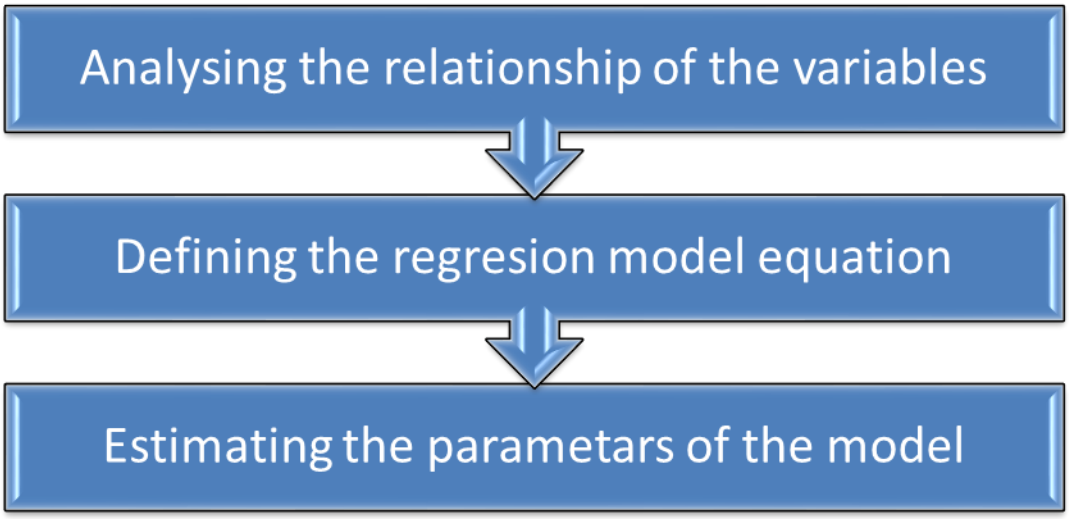
ENTREPRENEURSHIP = OPPORTUNITY RECOGNITION+ USE OF RESOURCES+ RISK TAKING + INNOVATIVENESS + MARKETING APROACH

Chapter 6: The Regression model

The regression model is used to analyze two or more variables and find their relationship, the strength and the direction of that relationship. In fact, the regression analysis examines the dependence of the variables one from another. Therefore, in this kind of analyses there is one dependent variable, and one or more independent variables.

The process of regression analysis is given on Figure 19.

Figure 19: Regression model



Source: author's

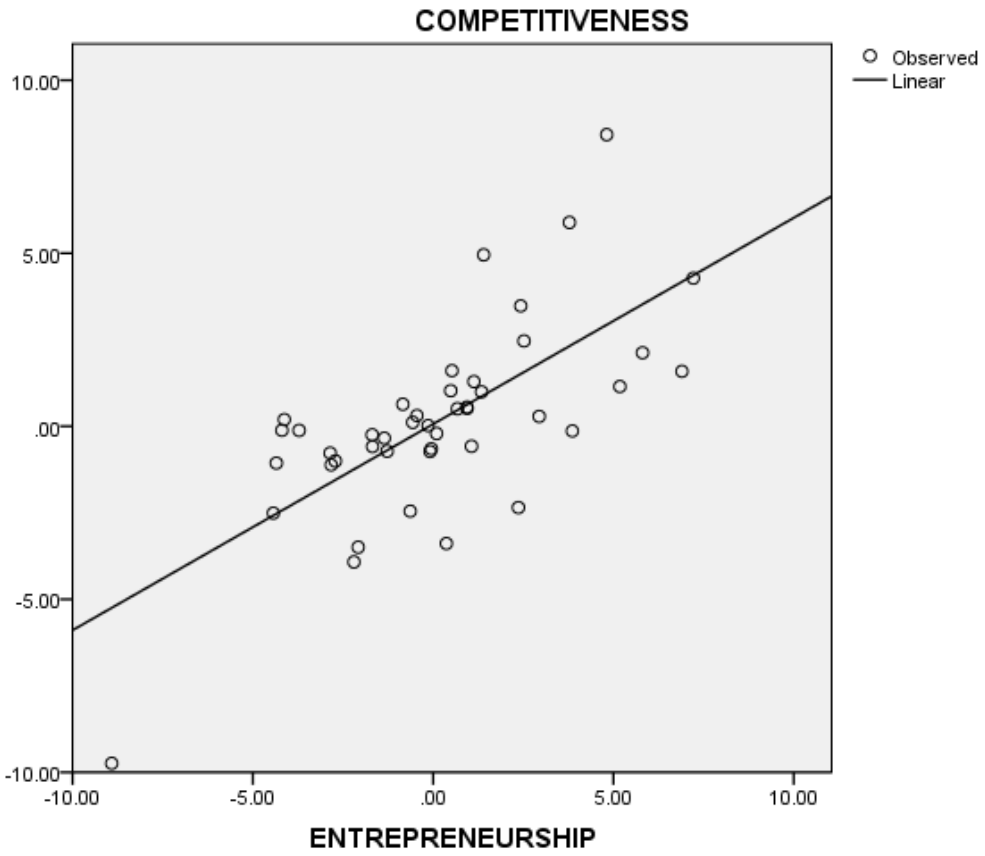
The first step of the regression analysis process is to define the equation of regression, which is to identify the form of the relationship (linear, non-linear), then to identify the direction of the relationship (positive, negative), to make logic analysis which of the variables is dependent and which is independent.

The next step is to combine the variables into a regression equation which represents the regression model, and has a systematic component and an error term. The equation can be used for estimation parameters which are unknown and for forecasting and analyses of parameters. Therefore, the researcher can make interpolations and extrapolations.

Finally the regression equation is evaluated through tests for statistical significance, autocorrelation and heteroscedasticity.

In this study, the regression analysis is used to investigate the relationship between competitiveness and entrepreneurship, the causality of the one variable upon the other. Moreover, the main interest is to estimate the quantitative effect of the entrepreneurship over the competitiveness. Their relation is estimated with the curve given on graph 35.

Graph 35: Regression model entrepreneurship competitiveness



Source:SPSS author's calculations

The assumption that entrepreneurially oriented companies are more competitive, the data for companies competitiveness and entrepreneurial capacity and the indexes created, now are put in an equation.

$$C = \alpha + \beta E + \varepsilon$$

Where:

- The variable C is for competitiveness and is "dependent"
- E is for entrepreneurship and is "independent,"
- α is a constant amount (the competitiveness of a company with zero entrepreneurial orientation)
- β is the effect of an additional unit of entrepreneurial orientation over competitiveness
- ε explains the other factors that influence competitiveness different from entrepreneurship.

The regression model is based on the assumption that the relationship between variables is linear and that predicted minus observed values follow the normal distribution.

CHAPTER 7 RESULTS AND DISCUSSION

7.1The overall competitiveness of fruit and vegetable industry in The Republic of Macedonia

The overall competitiveness in The Republic of Macedonia is first measured with the competitiveness index, and companies which hold the best position in the industry according to the index are pointed out. Then the index is decomposed to its part, in order to see where the most competitive companies have gained their scores, and in which of the elements of the competitiveness index they lead.

The results show that industry average score of competitiveness index of Macedonian fruit and vegetable industry is 0.14, with a standard deviation of 2.8. This number has no meaning by itself, but is meaningful when compared with values of the index for each company individually, in order to see if the company is below or above the average. As shown in Table 22, 50% of the companies, show competitiveness index greater than -0.49 and the remaining 50% are below -0.49.

Table 26: Competitiveness index descriptive analysis

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
COMPETITIVENESS	49	100.0%	0	.0%	49	100.0%

Descriptives

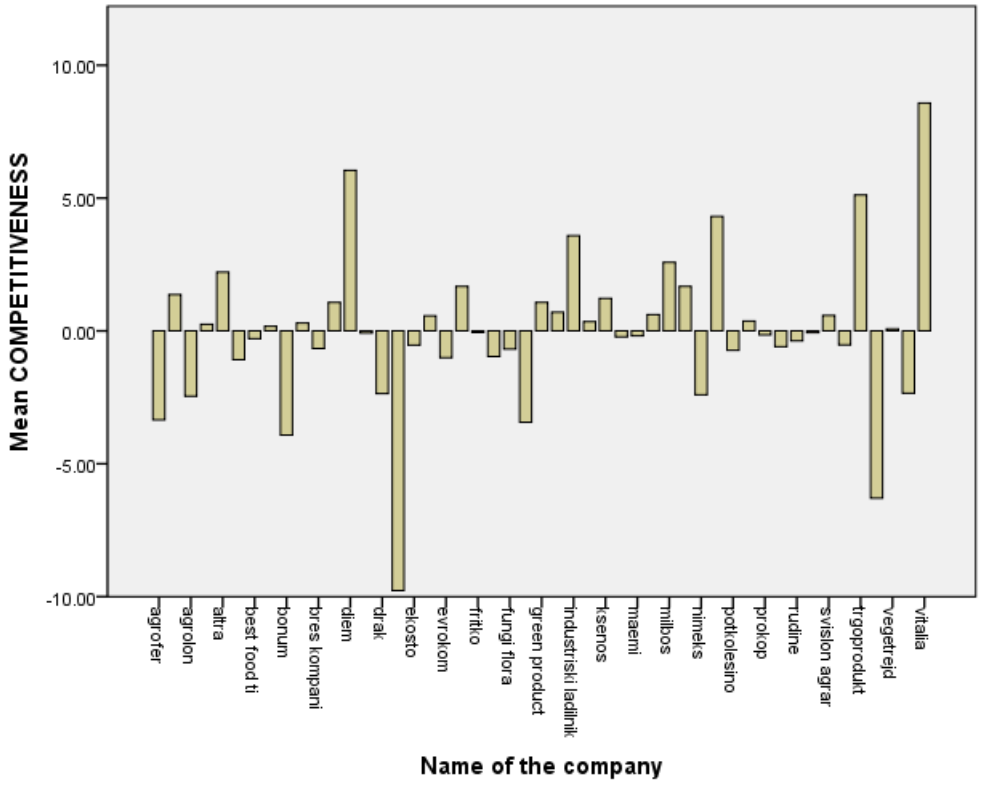
			Statistic	Std. Error
COMPETITIVENESS	Mean		.0000	.40972
	95% Confidence Interval for Mean	Lower Bound	-.8238	
		Upper Bound	.8238	
	5% Trimmed Mean		.0205	
	Median		-.0611	
	Variance		8.226	
	Std. Deviation		2.86802	
	Minimum		-9.77	
	Maximum		8.58	
	Range		18.35	
	Interquartile Range		1.92	
	Skewness		-.205	.340
	Kurtosis		3.562	.668

Source: SPSS author's calculations

The maximum value of the index shows the most competitive company of all, which in our case is the company Vitalia with a competiveness index of 8.58, then, follows Diem with competitiveness index 6.04, Trgo produkt with an index 5.12, Peroli with an index 4.31 and Industriski ladilnik with an index of 3.58 (See graph 36).

The least competitive company is Ds foods with a index of -9.77, thenUniverzal promet with an index of -6.3, Bonum with index -3.92, Global marketing (-3.44), Agrofer(-3.35).

Graph 36: Competitiveness index Fruit and vegetable processing industry



Source: SPSS author's calculations

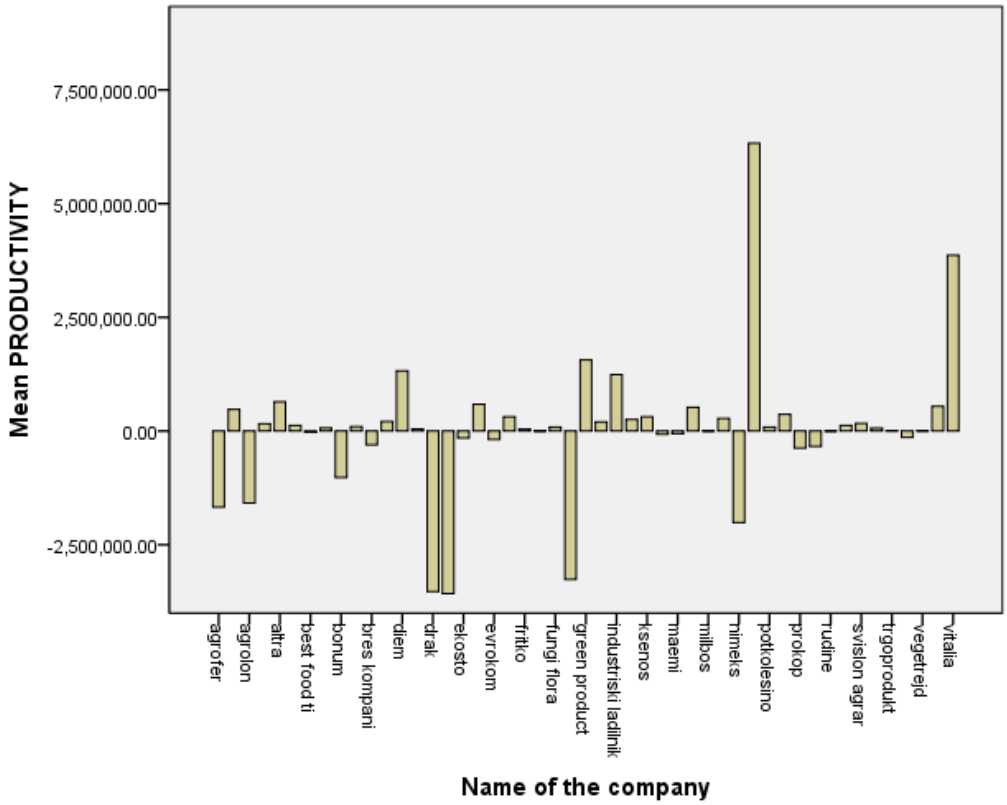
After, getting the most competitive companies follows decomposition of the competitiveness index in order to explain where their scores come from. For that purpose, I made a descriptive statistics for each of the sub indicators variables which are included in the composite.

The results are the following:

- Productivity: The average productivity of companies in fruit and vegetable processing industry is 0 with a standard deviation of 1. Half of the companies have productivity greater than 0.2 and the remaining 50% are below 0.2. Once again numbers have not value by themselves, but in comparison one to another.

As shown on Graph 37, the maximum productivity from 4.16 has the company Peroli, then follow Vitalia with productivity of 2,5, Green product with value 1, Diem with 0.85 and Industriski ladilnik(0.79). The minimum productivity show the companies Ds foods with value of -2.38, Drak (-2.35), Global marketing (-2.18) .

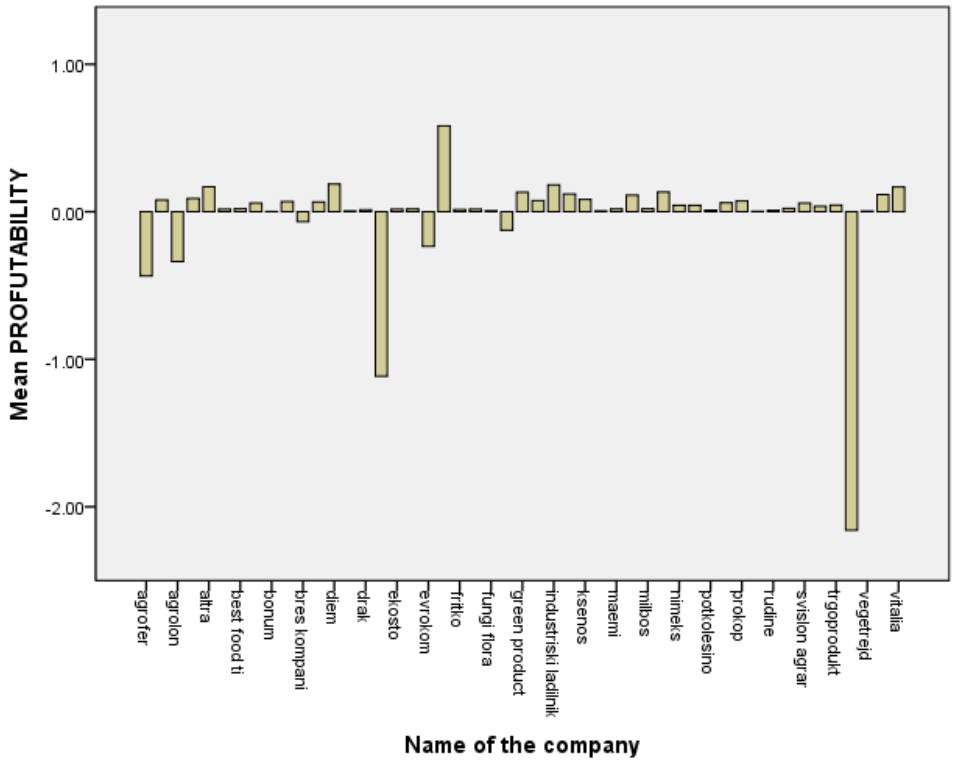
Graph 37: Productivity of companies in Fruit and vegetable industry



Source: calculations in SPSS

- Profitability: The average profitability of companies in fruit and vegetable processing industry is 0 with a standard deviation of 1 (standardized values). Half of the companies have profitability greater than 0.139 and the remaining 50% are below 0.139. The maximum profitability from 1.62 has the company Frites An, then folow Diem (0.57), Industriski ladilnik (0.56), Altra (0.52). The minimum profitability show the companies Univerzal promet with value of -5.63, Ds foods (-2.87), Agrofer (-0.7) and Agrolon (-0.4) (See Graph 38).

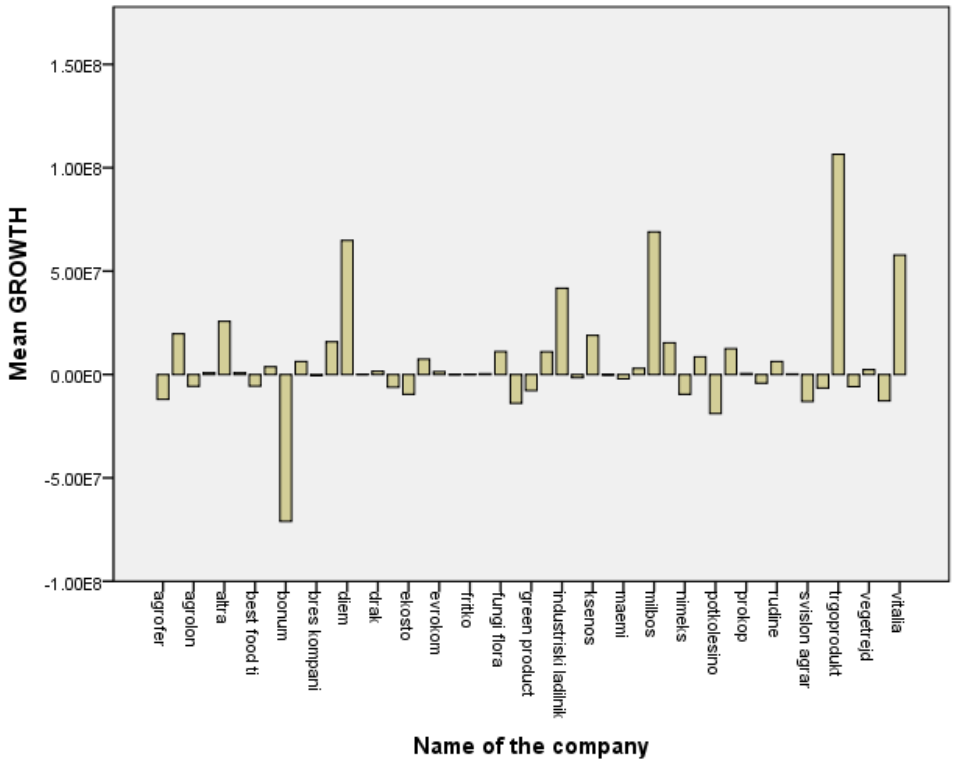
Graph 38: Profitability of companies in Fruit and vegetable processing industry



Source: SPSS author's calculations

- Growth: The average growth of companies in fruit and vegetable processing industry is 0 with a standard deviation of 1. Most of the companies have negative growth, half of them note growth is less than -0.22 and the remaining 50% are above -0.22. The maximum growth from 3.85 has the company Trgoprodukt, then follow Milbos (2.4), Diem (2.25), Vitalia (1.9) and Industriski ladilnik (1.3). The minimum growth show the companies: Bonum (-2.96), Potkolesino(-0.96), Global marketing (-0.77). (See graph 39).

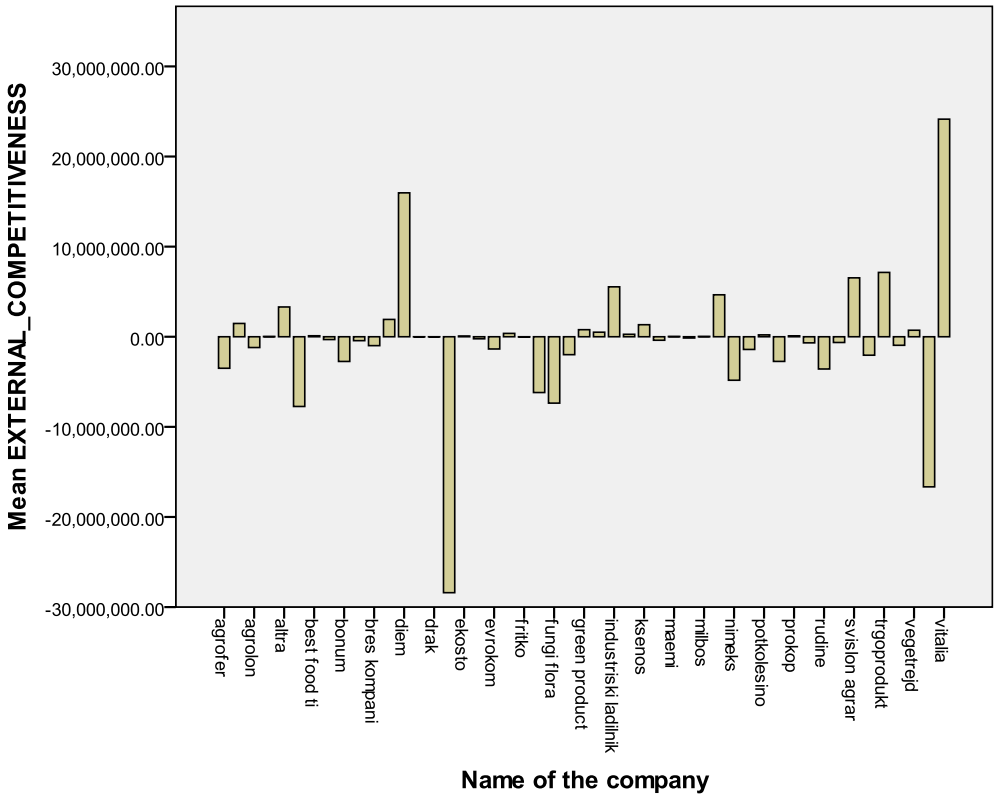
Graph 39: Growth of companies in Fruit and vegetable processing industry



Source: author's calculations SPSS

- Export competitiveness: The average export competitiveness of companies in fruit and vegetable processing industry is 0 with a standard deviation of 1. Half of the companies have export competitiveness greater than 0.059 and the remaining 50% are below 0.059. The maximum export competitiveness from 3.54 has the company Vitalia, and then follows Diem wit value of 2.3, Trgoproduct 1.09 and Svislon agrar with 1. The minimum export competitiveness show the companies Ds foods with value of -4.03, Vipro with -2.3, Baga (-1.05) (See graph 40).

Graph 40: External competitiveness of companies in Fruit and vegetable processing industry



Source: author's calculations

In the overall competitiveness rankings, Vitalia holds the best position as a result of its scores in all four sub indicators, which are all, above the average of the industry. For example the company holds the second highest position in productivity, it is among the five most profitable companies ranked by profitability, holds the forth position for the indicator for growth, and in export competitiveness has the first position.

The second company with the highest competitive index is Diem. The company is fourth in the industry according to the score in productivity, second according to profitability with value 0.57, holds the third place referring to the growth, and the second in export competitiveness. Diem, as well as in the case of Vitalia, is among the best in all four subcomponents, which results with a high final score for the competitiveness.

The third most competitive company is Trgo product. This company is not among the five most productive or the five most profitable companies in the industry. However, it is the fastest growing company in the industry, and it is also among the top three companies which are export competitive.

Peroli is fourth according to the overall competitiveness index, but it is the most productive company, with value for the productivity coefficient equal to 4.16, which is the main factor for its high positioning in the competitive index ranking.

At last, Industriski ladinlik, as the fifth most competitive company in the fruit and vegetable processing industry, is at the fifth place compared by its productivity, at the third place by its profitability, and at the fifth place by growth and by export competitiveness.

7.2The entrepreneurial activity in fruit and vegetable industry in The Republic of Macedonia

The entrepreneurial capacity of managers in fruit and vegetable processing industry in Republic of Macedonia was measured by creating the entrepreneurship index by aggregating five sub indicators for each of the entrepreneurial elements: opportunity recognition, resource management, risk taking, innovation and marketing approach. Then, companies which hold the best position in the industry according to the index are pointed out, and the index is decomposed to its part, in order to see where the most entrepreneurial companies have gained their scores, and in which of the elements of the entrepreneurship index they lead.

The results show that industry average score of entrepreneurship index of Macedonian fruit and vegetable industry is 0 with a standard deviation of 3.2. This number has no meaning by itself, but, it is meaningful compared with values of the index for each company individually, because it can illustrate where is the company position in the industry, below or above the average. As shown in the graph, 50% of the companies, show entrepreneurship index greater than -0.87 and the remaining 50% are below -0.87. The negative sign before the number shows that most of the companies in the investigated industry are not entrepreneurially managed.

Table 27: Descriptive analysis of Entrepreneurship index for companies in Fruit and vegetable processing industry

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
ENTREPRENEURSHIP	49	100.0%	0	.0%	49	100.0%

Descriptives

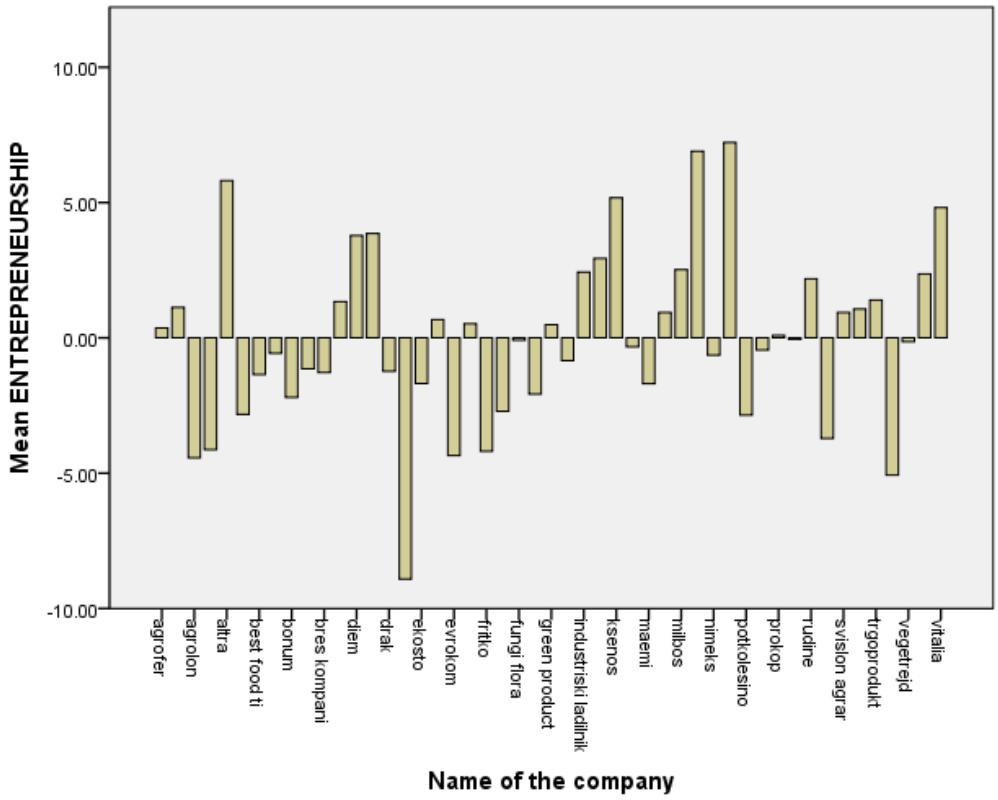
			Statistic	Std. Error
ENTREPRENEURSHIP	Mean		.0000	.45715
	95% Confidence Interval for Mean	Lower Bound	-.9192	
		Upper Bound	.9192	
	5% Trimmed Mean		-.0171	
	Median		-.0868	
	Variance		10.240	
	Std. Deviation		3.20007	
	Minimum		-8.91	
	Maximum		7.22	
	Range		16.13	
	Interquartile Range		3.68	
	Skewness		.029	.340
	Kurtosis		.581	.668

Source: SPSS author's calculations

The maximum value of the index shows that the most entrepreneurial of all companies is the company Peroli, with an index of 7.22, and then, follow the companies Mirana with index 6.90, Altra with an entrepreneurial index 5.81, Ksenos with an index 5.18 and Vitalia with an index of 4.81. (See graph 41)

The least entrepreneurial company is Ds foods with an index of -8.91, then Universal promet with an index of -5.07, Agrolon (-4.43), Evrokom (-4.35) and Fritko (-4.19). (See graph 41)

Graph 41: Entrepreneurship among companies in Fruit and vegetable processing industry



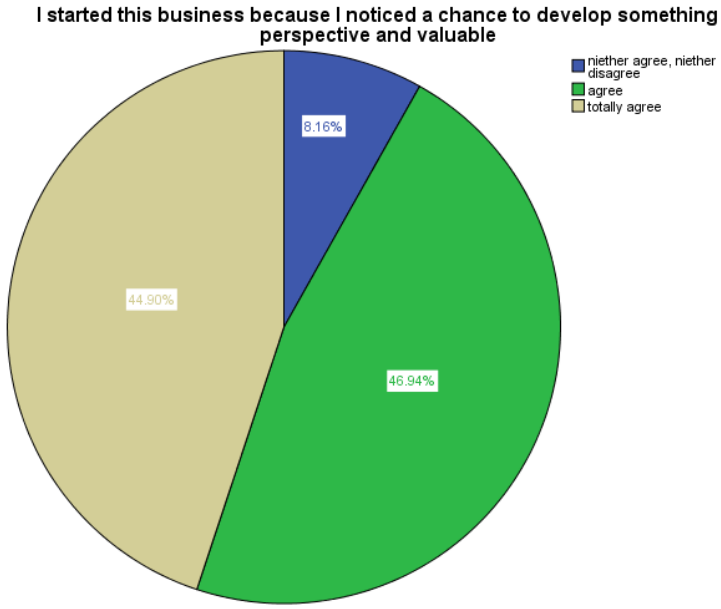
Source: SPSS author's calculations

The rank, of the most and the least entrepreneurial companies, is explained with decomposition of entrepreneurship index. For that purpose, I made a descriptive statistics for each of the sub indicators variable included in the composite. The sub indicators were created from the data obtained by the answers of managers on the questions from the questioner.

- Opportunity recognition: The first four questions picture the ability of entrepreneurs to notice opportunities measured through their answers on questions about noticing chances to develop something valuable, coming out with creative ideas, previous

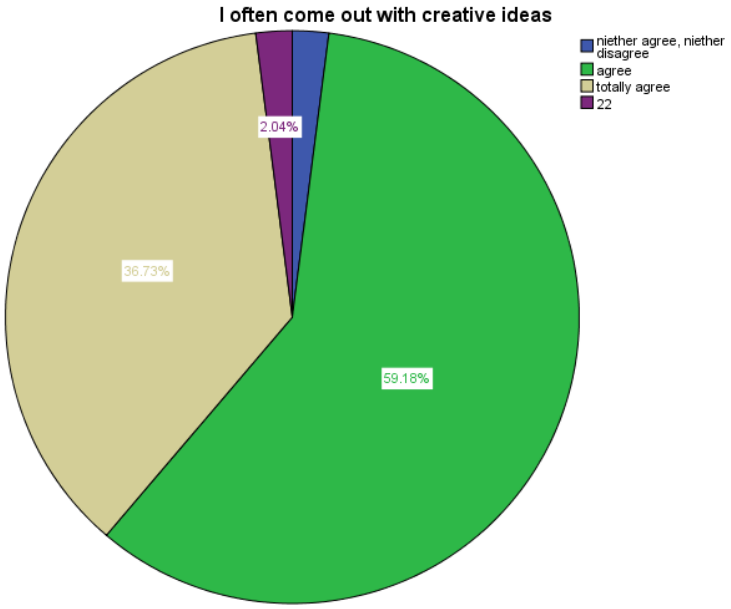
knowledge and experience and number of contacts. The answers are given as pie-charts in graph 42, graph 43, graph 44 and graph 45.

Graph 42: Notice opportunities



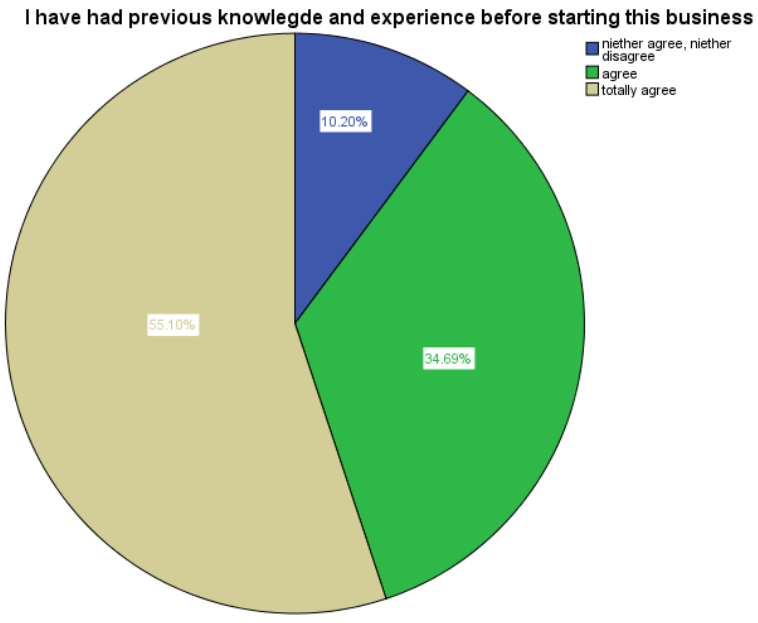
Source: author's calculations

Graph 43: Creative ideas



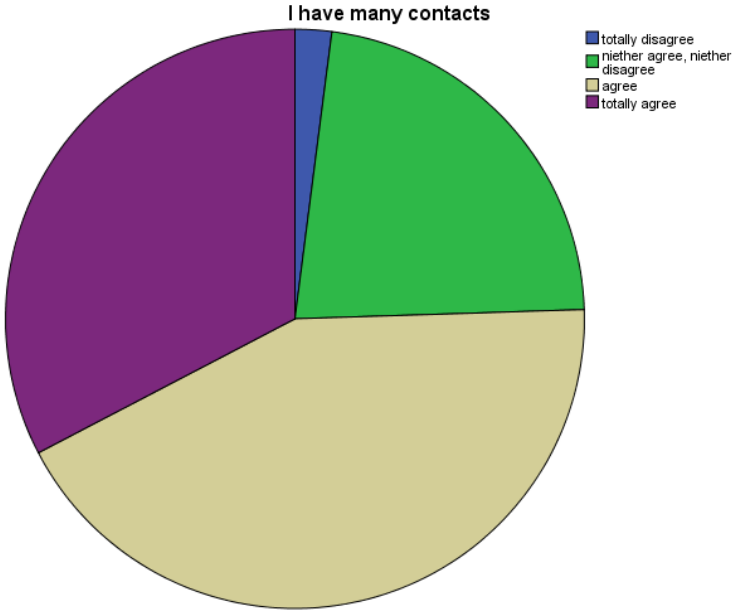
Source: author's calculations

Graph 44: Previous knowledge



Source: author's calculations

Graph 45: Contacts

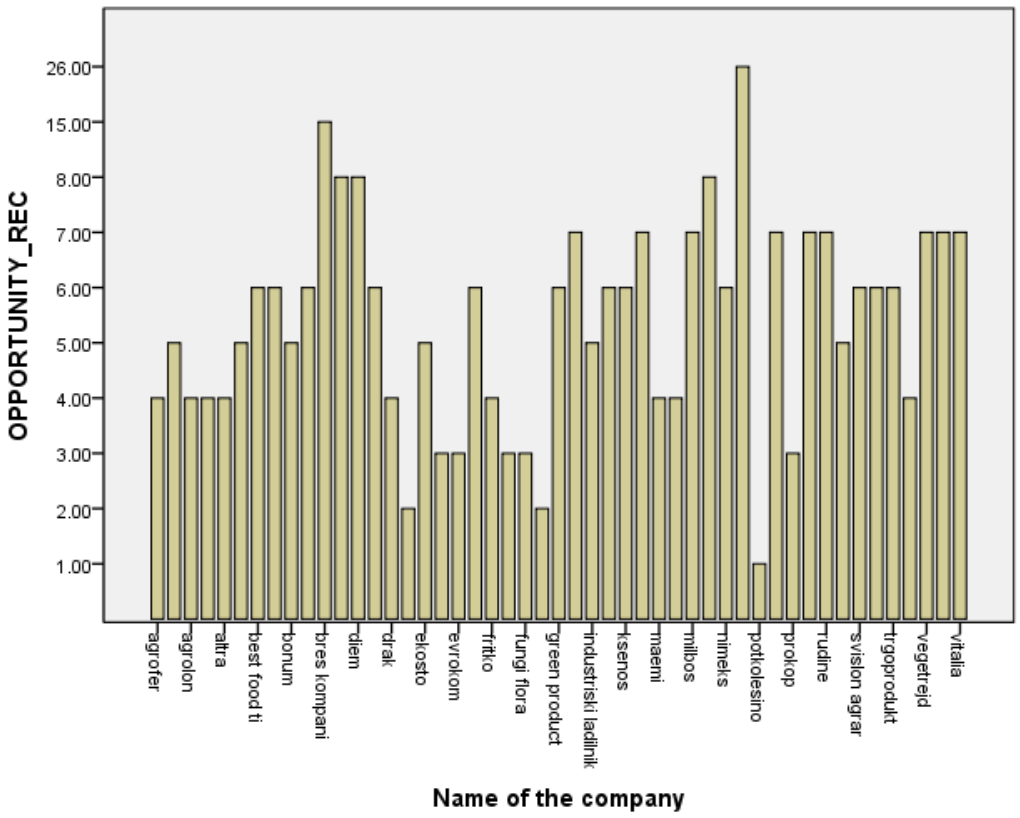


Source: author's calculations

The average ability to recognize opportunities of companies in fruit and vegetable processing industry is 0 with a standard deviation of 1. Half of the mangers recognize opportunities more than 0.04 and the remaining 50% less than 0.04. The maximum capacity for opportunity recognition is 5.5 and has the manager of the company Peroli, then follow Bres company (2.5), Diem (0.59), Mirana (0.59), Dentina (0.59) and Vitalia (0.31). The minimum shows the company Potkolesino with value of -1.3, and the companies Ds foods (-1), Global marketing (-1), Frutana (-0.7) and Evrokom (-0.7).

Opportunity recognition among companies is given in the graph 46

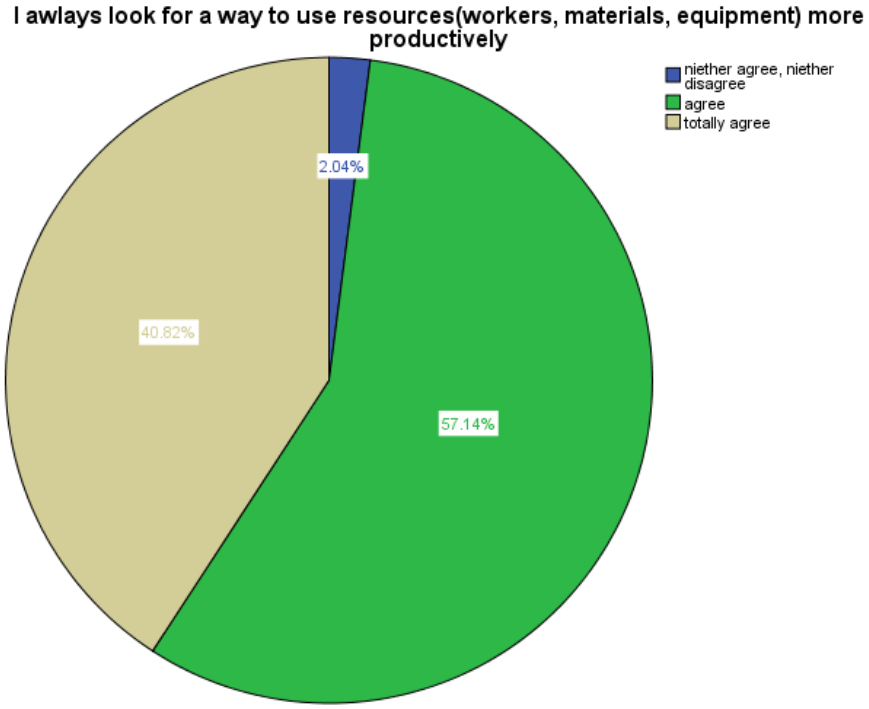
Graph 46: Opportunity recognition among managers in Fruit and vegetable processing industry' companies



Source: author's calculations SPSS

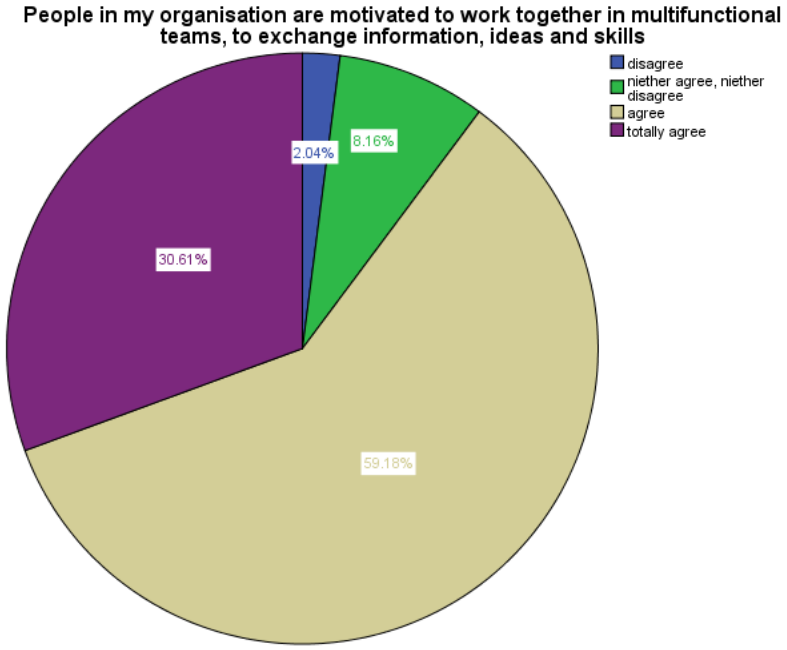
- Resource management: The questions 5, 6, 7 and 8 in the questionnaire aim to picture the efficiency with which resources in the industry are managed, and the way they are combined and recombined by managers in order to create higher value. The graphs 47, 48, 49 and 50 show the factors which determine the resource management of companies. They refer to the way managers of the companies look for a way to use resources productively, encourage team work and exchange of information, as well as if they are informed and willing to use different sources for finding the capital needed for current operations and growth.

Graph 47: Use of resources



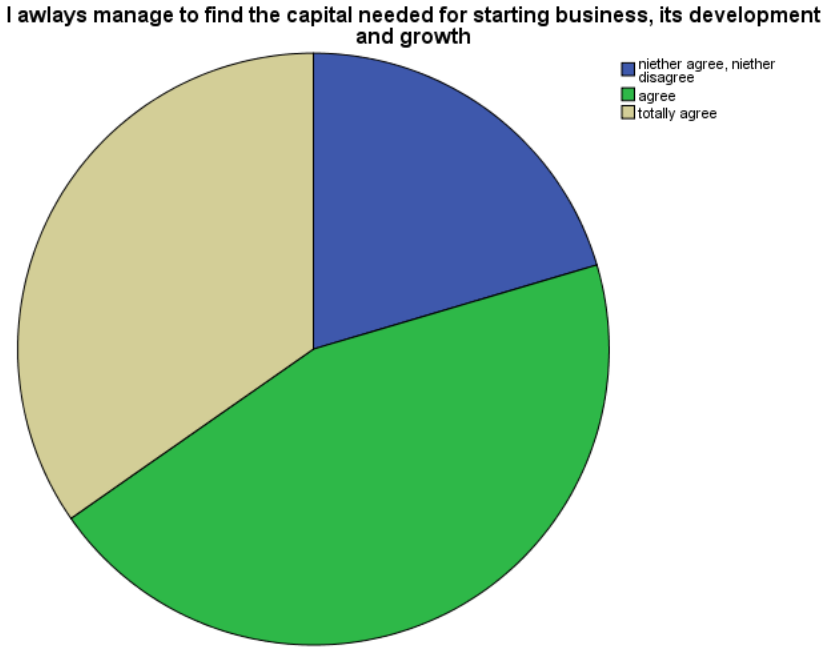
Source: author's calculations

Graph 48: Human resources



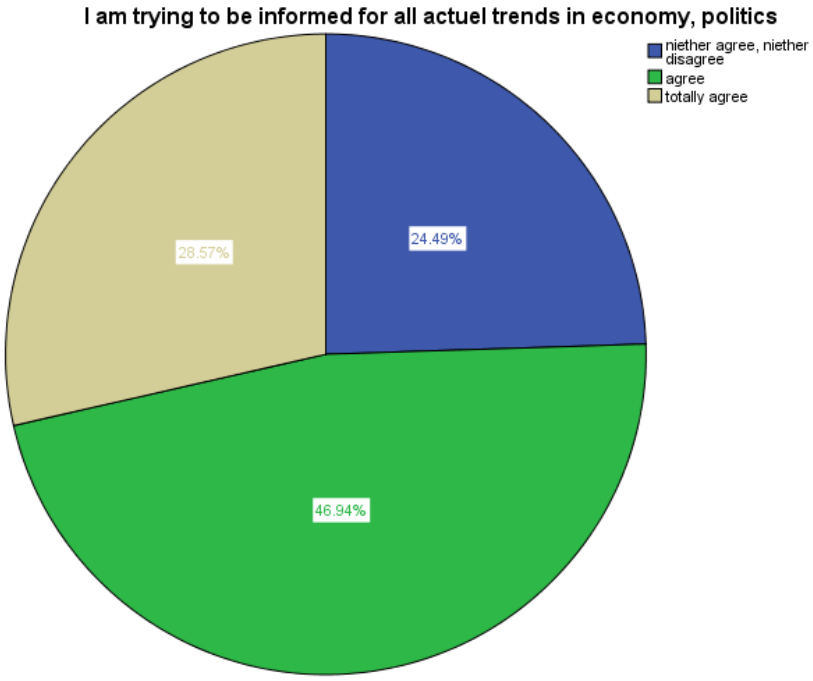
Source: author's calculations

Graph 49: Access to capital



Source: author's calculations

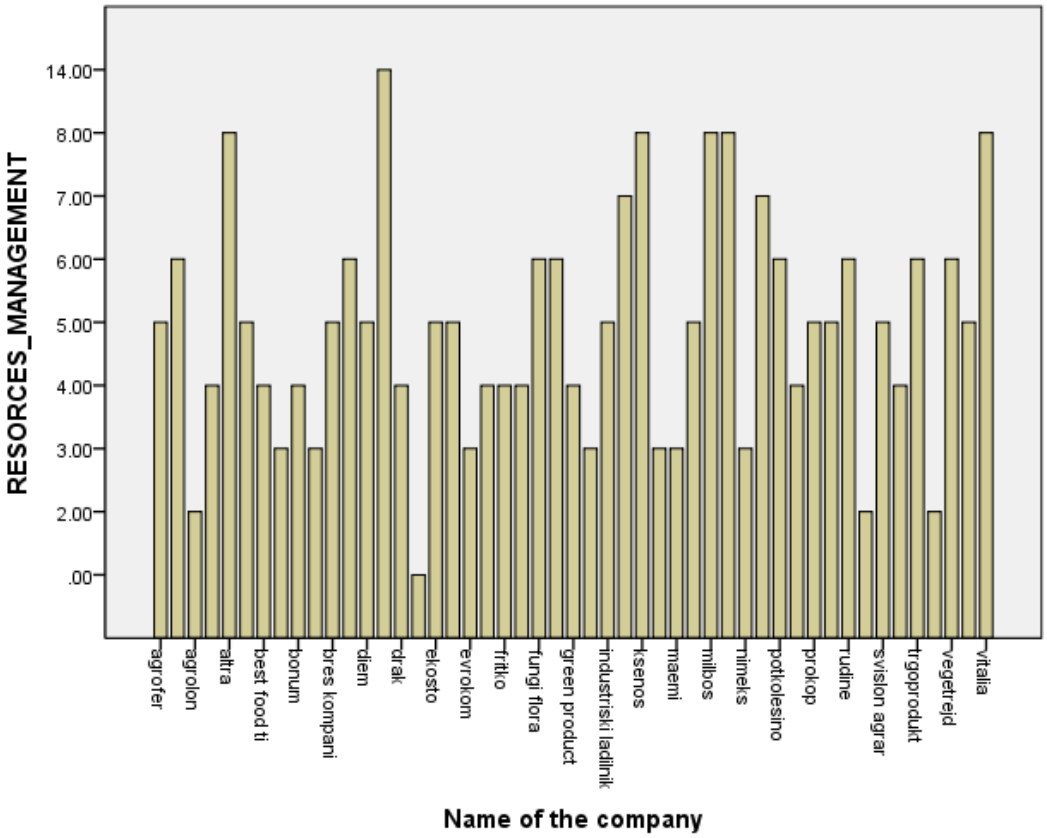
Graph 50: Informed



Source: author's calculations

The average capacity, among managers in Fruit and vegetable processing industry' companies, to manage resources is 0 with a standard deviation of 1(standardized values). Half of the companies manage resources more than the median value of 0.018 and the remaining 50% are less than 0.018. The maximum value of resource the management capacity is 4.11 and has the manager of the company Dim komerc, then follow Mirana, Vitalia, Milbos and Ksenos, while the minimum shows the company Ds foods with value of -2.25 (See graph 51).

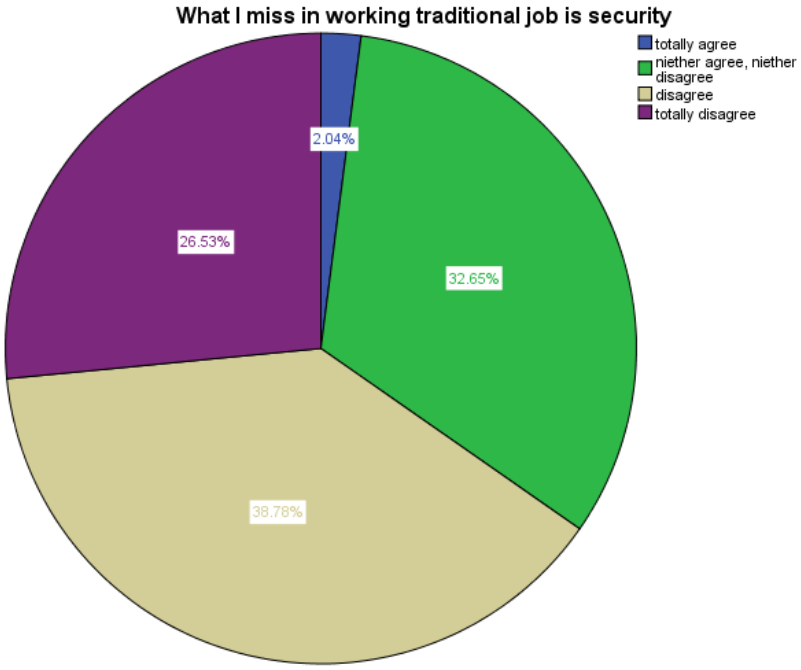
Graph 51: The resource management in the companies in Fruit and vegetable processing industry



Source: author's calculations

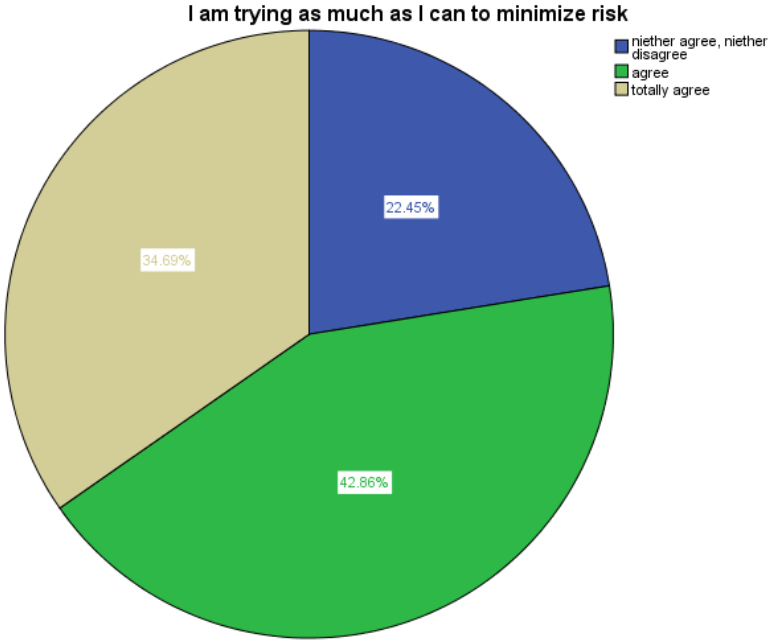
- Risk taking: The questions 9, 10, 11 and 12, picture the propensity of managers to take risks. The answers for questions related with the risk appétit are given as pie-charts in graph 52, graph 53, graph 54 and graph 55.

Graph 52: Traditional job vs entrepreneurship



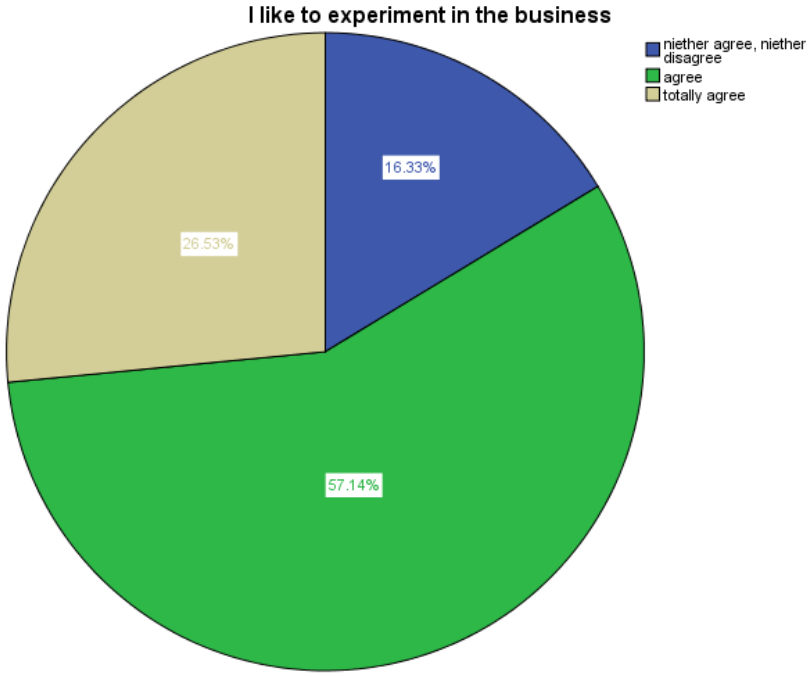
Source author's calculations

Graph 53: Minimize risks



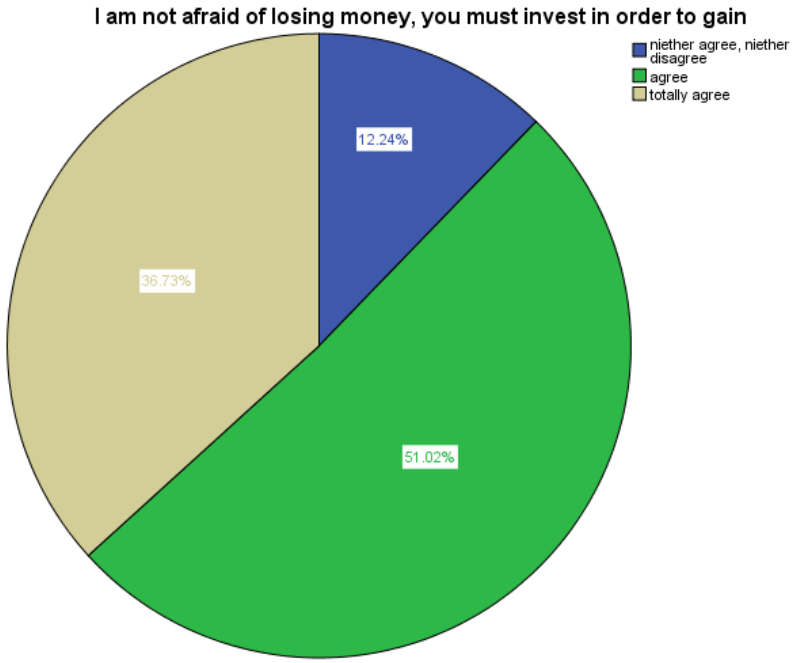
Source author's calculations

Graph 54: Experiment



Source: author's calculations

Graph 55: Risk prospendity

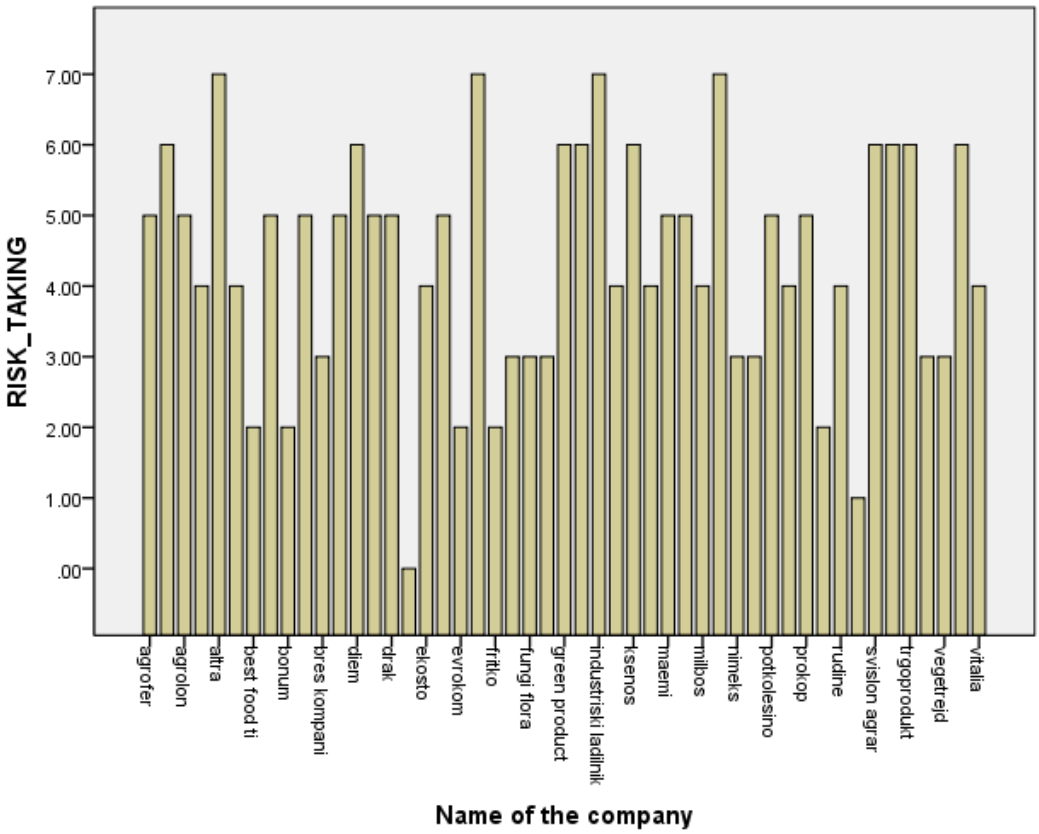


Source author's calculations

They show that most of the managers of fruit and vegetable processing companies are not afraid to take risks, and are aware that in order to win profit they must undertake risks.

However, they do try to minimize the risks, and to undertake calculated risks. The risk taking' indicator shows the following characteristics: average propensity to take risks of 0 with a standard deviation of 1(standardized values). Half of the companies' managers take risks more than 0.39 and the remaining 50% take risks less than 0.39. The maximum risk taker is the manager of the company Mirana, then follow Altra, Industriski ladilnik, FritesAn and Ksenos. The minimum risk taker is the manager of the company Ds foods with value of -2.6, and also Sika, Evrokom and Fritko. Risk taking propensity by all companies in fruit and vegetable processing industry is given in the graph 57.

Graph 56: Risk taking propensity among the managers in the Fruit and vegetable processing industry

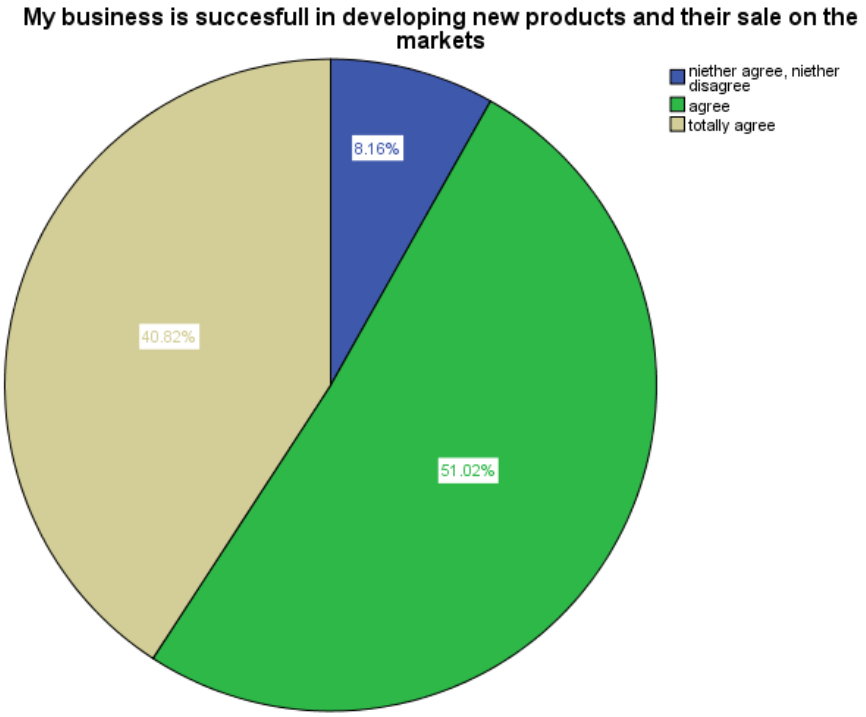


Source: author's calculations

- Innovation is illustrated by the questions 13, 14, 15, and 16, about the orientation of companies on new ideas for products, services, markets, the support of the ideas and the success in developing and implementing them in the companies. The answers to

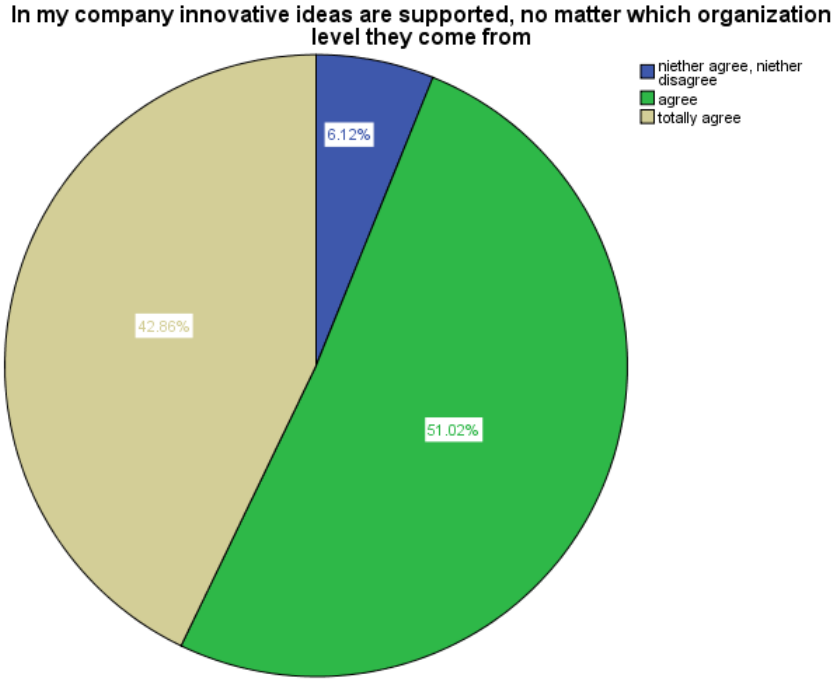
the questions related with introducing new concepts show that companies encourage ideas, develop new products, and also introduce other types of innovations such as new markets, new distribution methods. However, they do not always plan special budget for innovations.

Graph 57: New products, markets



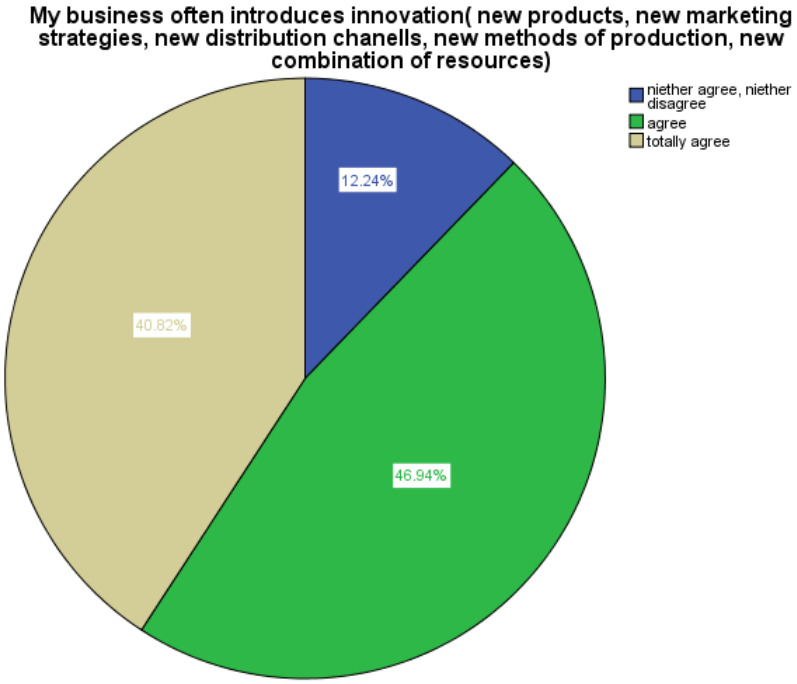
Source author's calculations

Graph 58: Innovation support



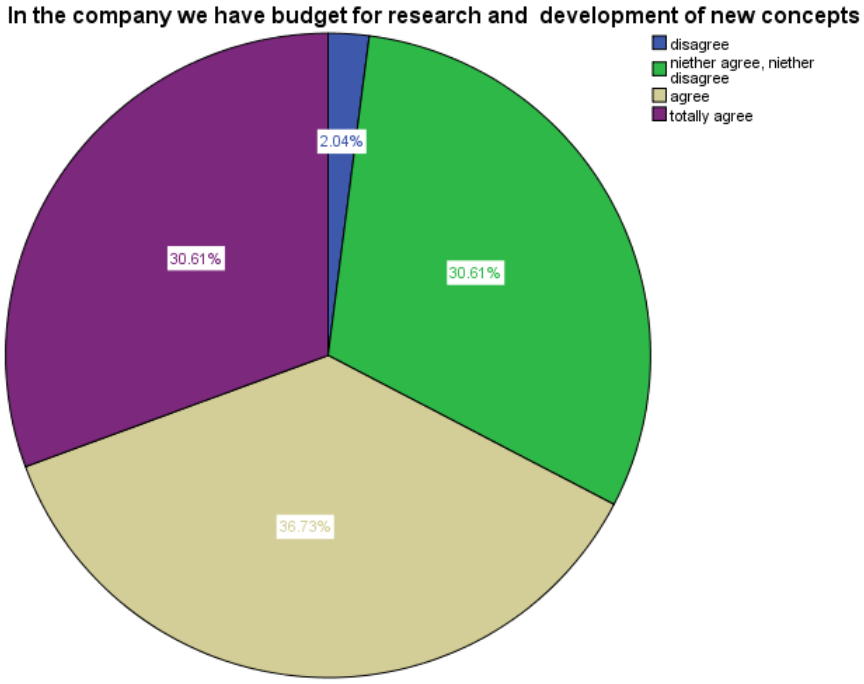
Source: author's calculations

Graph 59: Introduce innovation



Source: author's calculations

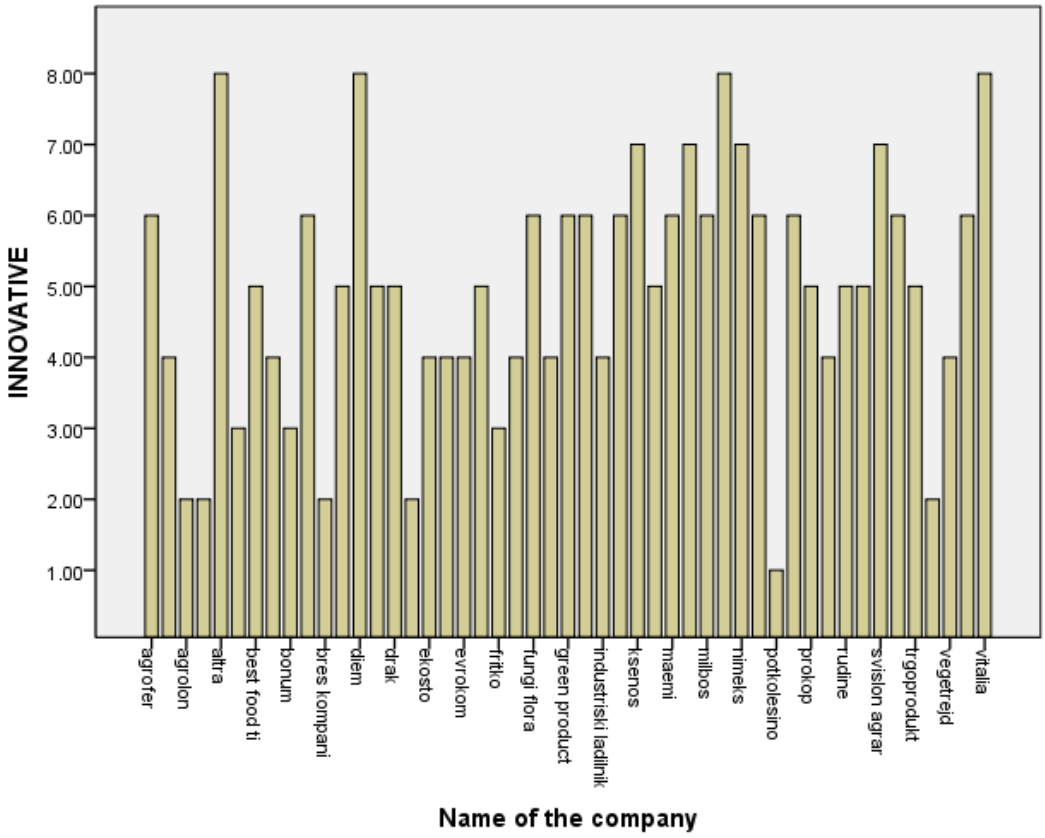
Graph 60: Innovation budget



Source: author's calculations

Therefore, the innovation indicator shows the following characteristics: average ability to innovate of 0 with a standard deviation of 1(standardized values). Half of the managers of companies innovate more than 0.035 and the remaining 50% innovate less than 0.035. The maximum value of the innovation indicator is 1.75 (the company Mirana) then follow the companies Altra, Diem, Vitalia and Ksenos, while the minimum value is -2.25 (the company Potkolesino). The innovation indicators among all investigated companies are as shown on Graph 61.

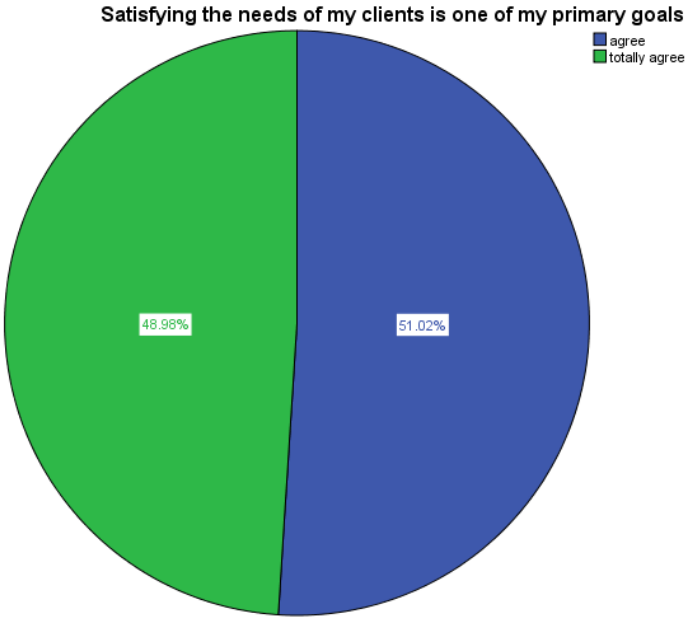
Graph 61 Innovation among the managers in the Fruit and vegetable processing industry



Source: author's calculations

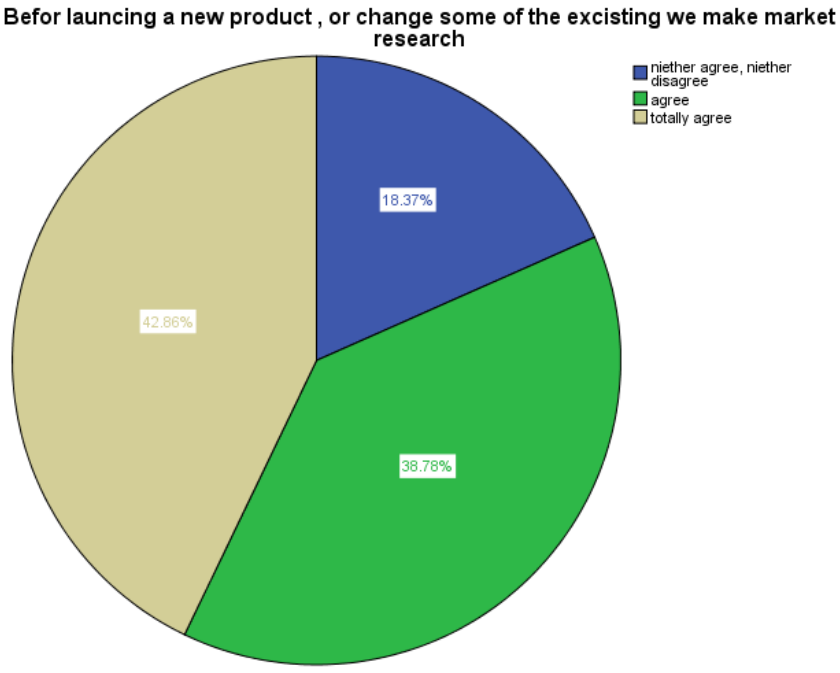
- Marketing approach, among companies in fruit and vegetable processing industry shows that satisfying customers' needs is primary goal of the companies' managers, and they do make marketing research before lancing a new product. Also, they communicate with clients, inform them about the discounts, promotions, and therefore they do have loyal customers. (See graphs 62, 63, 64 and 65)

Graph 62: Satisfying customers



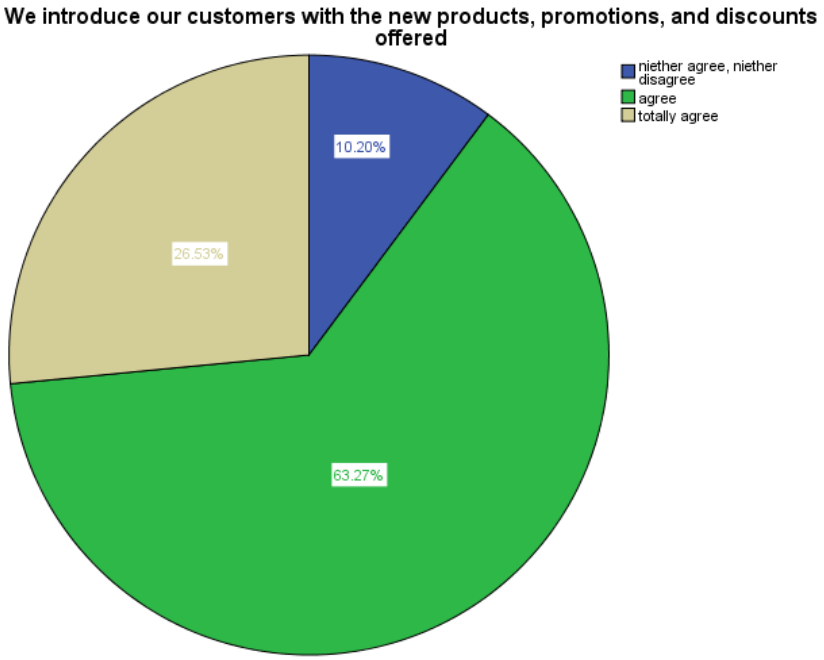
Source

Graph 63: Market research



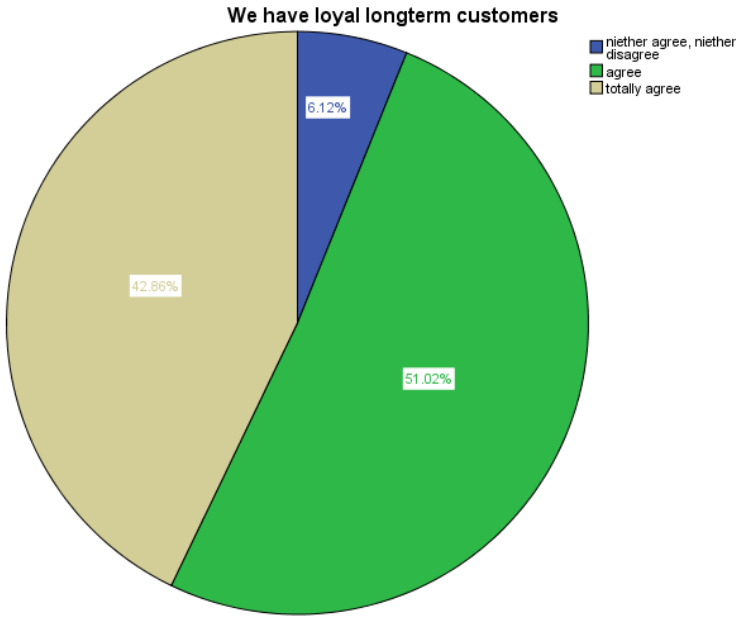
Source

Graph 64: communication with customers



Source: author's calculations

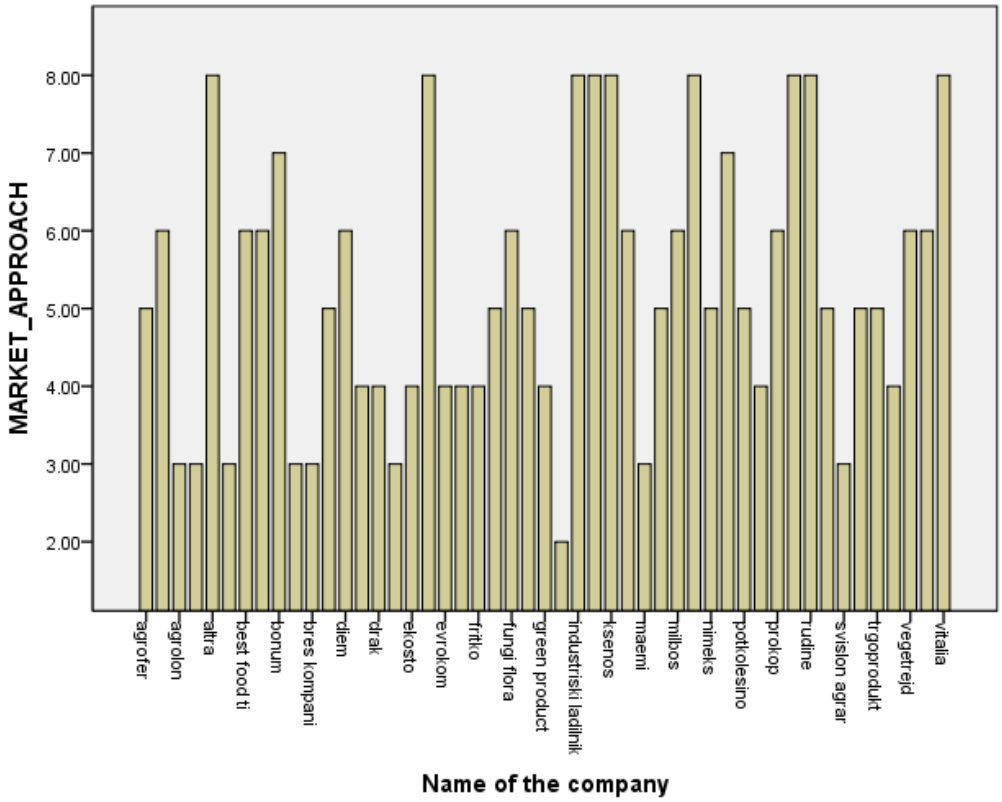
Graph 65: Loyal customers



Source: author's calculations

Even through, the general conclusion is that according to their answers they do implement market approach, some of them, are better than others. (See graph 67). The best marketing approach has the company Mirana with value of 1.57 for the specific indicator. Half of the companies have an indicator greater than -1.52, and the other half lower than -1.52. The lowest value holds the company Grinfungo and it is -1.87

Graph 66 Market approach among the managers in the Fruit and vegetable processing industry



Source: author's calculations

In the overall entrepreneurship rankings, Peroli holds the best position as a result of its scores in sub indicators, especially in opportunity recognition, where the company holds the first highest position. Also, it is among the first seven companies ranked by resources combination and recombination, and among the tenth most market oriented firms.

The second company with the highest entrepreneurial index is Mirana. The company holds the third place in the industry according to the score in opportunity recognition, with a

value of 0.59, second according to resource management, and holds the first place for risk taking and managing, innovation and market approach.

The third most entrepreneurial company is Altra. This company is second according to risk taking, innovation and market approach, and third in resources management.

Ksenos is ranked fourth according to the overall entrepreneurial index. The company is among the fifth best companies in the areas risk taking, resources managing and innovating, and is fourth in market orientation.

At last, Vitalia, as the fifth most competitive company in the fruit and vegetable processing industry, is at the six place compared by the criteria opportunity recognition, at the third place according to resources managing, fourth place if we consider the innovation capacity and third in the market oriented approach.

7.3 The relation between entrepreneurial activity and competitiveness of companies in Fruit and vegetable industry in The Republic of Macedonia

The results obtained about competitiveness index and entrepreneurial index show that some companies are more competitive and more entrepreneurial than others. In Table 23 we can see that the number of positive and negative values for entrepreneurship and competitiveness is similar. We observe that often the same firm that has better score in the competitiveness indicators, and in the competitiveness composite index, has better scores in entrepreneurial indicators, and consequently in the composite index for entrepreneurship. For example the company Vitalia is positioned first according to the competitiveness index, and it is among the first five most entrepreneurial companies. Similarly, the company Diem which is second by competitiveness is among the seventh most entrepreneurial companies. Trgoprodukt is third most competitive, and has high rank for entrepreneurship (seventh position). Furthermore, Peroli is in the same time the most entrepreneurial managed company, and fourth most competitive company. Industriski ladinlik is among the fifth most competitive and the tenth most entrepreneurial firms. Altra holds the third position for entrepreneurship and is among the seventh most profitable companies. Mirana and Ksenos also are among the first tenth most entrepreneurial and most competitive firms.

However, observations are not enough to conclude that entrepreneurship and competitiveness are related. Therefore, the two commonly used statistical techniques for investigating relations among variables, correlation and regression analysis, were applied.

The first is the correlation, which investigates if two variables are related with each other, without considering the direction of the relation. The correlation analysis is illustrated in table 28, where we can notice that there is relation among variables. The Pearson Correlation coefficient may have values in the range 0-1, where 0 is a sigh that there is no correlation, and 1 reflects perfect correlation. Any value, between shows the level of correlation among variables. In our case, the Pearson coefficient is 0.7, which shows a strog correlation among entrepreneurship and competitiveness.

Table 28: Correlation between entrepreneurship and comptitiveness

Correlations

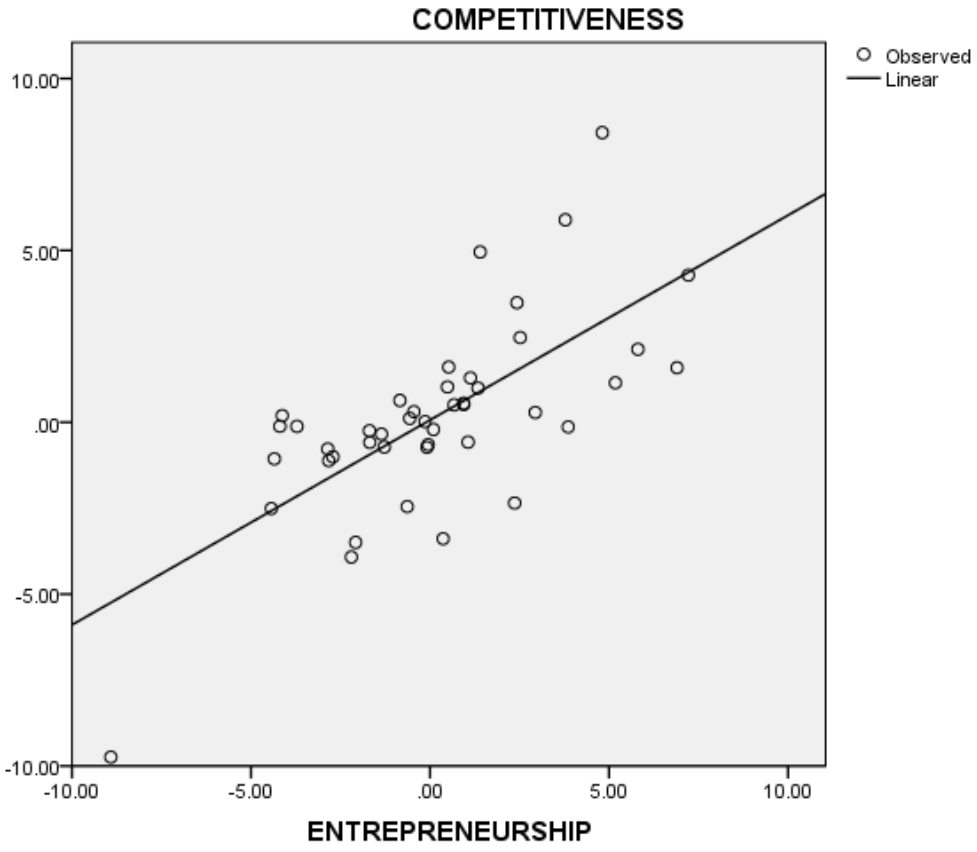
		COMPETITIVENESS	ENTREPRENEURSHIP
COMPETITIVENESS	Pearson Correlation	1	.703**
	Sig. (2-tailed)		.000
	N	49	49
ENTREPRENEURSHIP	Pearson Correlation	.703**	1
	Sig. (2-tailed)	.000	
	N	49	49

**. Correlation is significant at the 0.01 level (2-tailed).

Source: author's calculations in SPSS

In order to see the direction of the relation, we use the regression model, which is illustrated on figure 20.

Figure 20: Regression model Entrepreneurship and competitiveness



Source SPSS

The model indicates that entrepreneurship has a high power in explaining the competitiveness variation (R-Square of 0.70). This means that 70% of the variation in the competitiveness index among firms in fruit and vegetable processing industry is result of the entrepreneurship presence in those firms, and the other 30% is a result of other factors. Considering that 70 % is not negligible percent, companies should foster entrepreneurship in their firms in order to improve competitiveness.

Table 29 Regression model entrepreneurship and competitiveness

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
	.703[a]	.495	.484	2.05994	.495	46.045	1	47	.000

a. Predictors: (Constant), ENTREPRENEURSHIP

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	195.387	1	195.387	46.045	.000[a]
	Residual	199.438	47	4.243		
	Total	394.825	48			

a. Predictors: (Constant), ENTREPRENEURSHIP
b. Dependent Variable: COMPETITIVENESS

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
(Constant)	2.652E-16	.294		.000	.000					
ENTREPRENEURSHIP	.630	.093	.703	6.786	.000	.703	.703	.703	1.000	1.000

a. Dependent Variable: COMPETITIVENESS

Source: SPSS author's calculations

From the table with coefficients, other information about the relation between entrepreneurship and competitiveness can be seen. They show that when there is no entrepreneurship in companies, their competitiveness is -2.6 However, this data is not statistically significant (the p-value is much higher than 0.05).

The second coefficient is more meaningful and it is statistical significant in the same time. It shows that if there is a change in entrepreneurship in companies, for 1 unit, the competitiveness will increase for 0.63. This leads to conclusion that if managers in fruit and vegetable processing industry nurture and develop entrepreneurial skills, attitudes and behaviors their firms may become more competitive.

CONCLUSIONS AND RECOMMENDATIONS

Today, after more than 20 years of researching the national competitiveness and in a time when competitiveness is among the main goals that countries are interested to achieve, the concept is still not clear enough. Although, there are many definitions about what national competitiveness is, none of them is generally accepted. Some authors consider competitiveness as productivity and growth, others, as dominance on international markets, third as improved living standards and development. Many times researchers equate competitiveness with its determinants, and by trying to measure the determinants, they create measures for competitiveness.

One of the most popular measures for competitiveness is The Global Competitive Index. According to the value of the index, countries are ranked, and the lower the rank, the greater is the competitiveness of the country. In the case of The Republic of Macedonia the rank is decreasing continually since 2008, and in 2013-2014 the country was on the 73 place, which is a relatively good position. Compared with Western Balkans, The Republic of Macedonia is in a better position of all Western Balkans, except Montenegro. Compared with the EU countries, The Republic of Macedonia is more competitive than four European economies which is a good indicator. However, further improvements are needed especially in the industry/ manufacturing competitiveness.

Industrial competitiveness is important for the overall prosperity of a country. Manufacturing is the process of converting inputs into final goods and creates the real base upon which services then develop. In order to have a strong economy and structural competitiveness manufacturing matters a lot. In The Republic of Macedonia, compared with other Western Balkans and EU, manufacturing is not as developed. Measured with the CIP index, the economy shows worse results than other countries in “manufacturing value added”, and also in “manufacturing exports”. Moreover, its greatest weakness is the technological advancement.

In order to improve the current situation, it is not enough to state the need to improve, but rather to analyze where the improvements can be made. I investigated each of the main industries by using quantitative indicators such as value added, employment and exports by sector, but also by applying qualitative approach – The Porter Diamond. The results from the quantitative research clearly show that Wearing apparel sector, Production of iron and steel,

Tobacco products and processed fish, meat, fruit and vegetable are the key sectors. The qualitative research stresses the positive and negative sides of each of these industries and contributes to locate the sectors from main interest for achieving faster development and country' national competitiveness.

The results from the research indicate that the industries Processed fruit and vegetable and Wearing apparel have potential to be competitive on domestic and international markets. They contribute into the value added, employment and exports. However, their contribution in the value added should be increased, and that will improve also the international competitiveness. In the domestic economy, it will contribute in supporting the employment and wages in the concrete industries. Furthermore, once the spiral is started, the development of the industries and supporting industries as well will accelerate as well.

In order to achieve the effect and initiate the process of development of industries measures should be taken on macro, but also on micro level. Macro level measures may concern the climate for doing business, the legal environment, monetary and fiscal policies. These areas have already been widely investigated and strategies, plans and programs have been developed by policymakers to advance them. However, only by themselves, macroeconomic improvements cannot be effective in achieving the main goal. They need to be supported by the micro level measures.

The micro level measures depend of the businesses and their manager's capacities to notice opportunities, organize the process of work, to innovate, and to have more market oriented approach. Those capacities depend from the level of the entrepreneurial spirit. Entrepreneurial spirit in The Republic of Macedonia is relatively high. The GEM Report, which represents the largest research in entrepreneurship in the World shows that the degree of the total entrepreneurial activity in The Republic of Macedonia is good. However, this research includes entrepreneurship motivated by opportunity and entrepreneurship motivated by necessity.

Entrepreneurship motivated by opportunity is recognizing opportunities and creating a business upon them. The process of recognizing opportunities is influenced by external factors economic, demographic, technological and political forces, and by internal factors which determine the degree to which entrepreneurs are capable to discover the opportunity. Among them are the knowledge, the alertness, creativity and social contacts of the person. Entrepreneurs with these characteristics are more likely to identify business chances.

After identifying opportunities follows their implementation which includes taking risks, combining recombining and substituting different kinds of resources in order to use them in the most appropriate and most effective way. If resources are combined in a new way, or the final result is something new, or there is new way for distribution of the value to customers, then, there is an innovation.

Innovation is crucial element of entrepreneurship. It is not just having a new idea, but, also it is important the new solution to be recognized as valuable on the market, and to be implemented and exploited. Therefore, the other important element of entrepreneurship is the market orientation.

Market orientation is creating relationships with customers, continuously trying to satisfy their needs, to attract them and keep them as loyal customers. Considering that different customers have different whishes and needs, and even the same customers can have different needs in two different periods, entrepreneurs should be able to analyze them and recognize their needs. This can be done by close relationships with customers, researching the trends on a continuous base and acting as the customer is “the king”. Even though it may sound as a cliché, this statement, it is pure reality in today’s society. Namely, the fast life of the 21 century and the ever changing environment has created a world where customers loyalty gained through entrepreneurial approach are the best competitive advantages a firm can have.

Competitive advantages as ability to recognize opportunities where others see nothing, to take risks in order to exploit that opportunities, to recombine given resources in a new way or introduce new ones, to implement innovations and bare the risk of their acceptation and demand on the market for a long period, are really rare among firms. So, the firms who have them, the ones who are managed by individuals with special characteristics, the entrepreneurial ones, are those which will gain the higher profits, the fastest growth, the higher productivity levels and the higher levels of exports. In one word, entrepreneurial firms are the ones which are most competitive, and which can improve competitiveness of sectors where they operate.

Supporting more firms to be entrepreneurial will result with greater competitiveness. The results from this study show the entrepreneurship in The Fruit and Vegetable industry in Republic of Macedonia has an important influence over the competitiveness of the industry. Namely, the entrepreneurial oriented firms have greater chances to be competitive than their

competitors. The relation between entrepreneurship and competitiveness is relatively strong and 70% of the competitiveness in companies in Fruit and vegetable processing industry depends from the presence of entrepreneurship in the way companies are managed, and only 30% of the competitiveness depends from other factors.

The results obtained for the Fruit and vegetable processing industry in Macedonia may be applied on other industries as well. Therefore, by fostering entrepreneurship in Macedonian firms and industries, the entire national competitiveness of The Republic of Macedonia can be improved. By reaching that goal we will be more competitive on European markets, and consequently the standard of living will be improved.

CONTRIBUTIONS FROM THE RESEARCH

The results and conclusions of this study have twofold contributions: practical application for making improvements by entrepreneurs and by policymakers, and scientific application which is more empirical than theoretical.

First, the practical value of the study lies in the applicability that findings have for the managers of companies in fruit and vegetable processing industry. Namely, they may see where their company stands among competitors, which are its strengths or weaknesses compared with other firms, to discover the reasons for the company's particular rank, and detect which dimension should be improved, and which dimensions are satisfying.

Moreover, by pointing out how managers can improve their companies' competitiveness through developing their entrepreneurial capacity, many managers can contribute as well. They can understand the key factors in the entrepreneurial management of the company, and may make efforts to act more entrepreneurially, to risk more, to innovate etc. For example, if they notice that other firms are more competitive, because they are more informed about trends, or have better resource management, or introduce more innovations, and are customer oriented, they detect the areas for potential improvement.

This research may affect improving competitiveness not just in the fruit and vegetable processing industry, but in many other industries as well. If we take into consideration that industries are sum of many firms working and producing same, similar or supporting products, by confirming the positive effect that entrepreneurship can have over the success of the companies, the competitiveness of a whole range of national industries can be advanced. For example, managers from other industries can use the methodology and calculate their competitiveness and their entrepreneurial potential, then, to see the areas of weaknesses in their firms and in their managing approach, in order to fix them.

Policymakers can calculate the competitiveness and entrepreneurial index on a larger population, as all manufacturing firms, or all service firms, all companies in the country. Therefore, based on the results they may take measures to foster entrepreneurship where it is not developed, review the industrial strategy and so on. This can further improve the competitiveness of the whole country.

Second, the significance of the study for scientific purposes, as stated at the beginning, is more empirical than theoretical. Indeed, in the theory the externalities that entrepreneurship has for developing competitiveness are not new and unknown. On the contrary, it has already been investigated by many researchers. However, most studies have been theoretical review, and less had some quantitative approach. Moreover, they are mainly oriented on the effect of entrepreneurship on the national industries competitiveness, and rarely tackle the problem of entrepreneurial elements as determinants and drivers of competitiveness on a company level. By investigating the indicators and creating composite indexes for competitiveness and entrepreneurship, this study quantifies those categories and goes into econometric modeling of their relationship. Therefore, the research is not a breakthrough, and its scientific contribution is small, mainly enriches the microeconomics approach in examining competitiveness and entrepreneurship with quantitative calculations. However, without it, the researches student this area would be less for one.

LIMITATIONS OF THE RESEARCH

The research has its limitations that I would like to admit, and inform readers and users about, in order to avoid further misunderstandings.

- ✓ First, the indicators used for the index are theoretically sustained, but they may not be the only ones which determine competitiveness or entrepreneurship. This limitation is covered, by assuming other factors influence in the regression model.
- ✓ Second, in the chapter explaining the manufacturing competitiveness the data for the CIP index used to make calculations and comparisons among countries is from the year 2010, because of lack of newer data available.
- ✓ Third, the research used questioner which was delivered to the managers by mail and phone, so even through the intention was 100% security that the questions are answered by the managers of the firms, they may have been answered by other employs.
- ✓ Fourth, the indexes were constructed by using proxy values which may not give completely objective results and includes a dose of subjective judgment. For example, managers gave their own perception about the loyalty of customers, the introducing of innovations, which does not have to be 100 % true.
- ✓ Fifth, in the construction process, the methods used for normalization and weighting, even through based on theoretical background and other researchers' experiences, include subjective judgment by the resercher/ constructor.
- ✓ At last, the research has found that entrepreneurship determines competitiveness, states that entrepreneurship should be increased among managers, but it does not give measures how to improve entrepreneurship in companies.

Finally, the research limitations are mainly because of lack of data, time and resources for further research and validation. However, they are addressed, and it is recommended to be leveled in further researches.

RECOMMENDATIONS FOR FURTHER RESEARCH

This research has found that there is relationship among entrepreneurship and competitiveness in fruit and vegetable processing industry, but further research may investigate their relation in this industry in other countries, and make e comparisons among countries, or it may explore the relationship in other industries as well.

Also, future researchers may include other factors which are important for understanding competitiveness and entrepreneurship different from the ones taken into account in this study and use the same methodology.

Finally, they may offer some measures and strategies how to improve and stimulate entrepreneurship on a company level.

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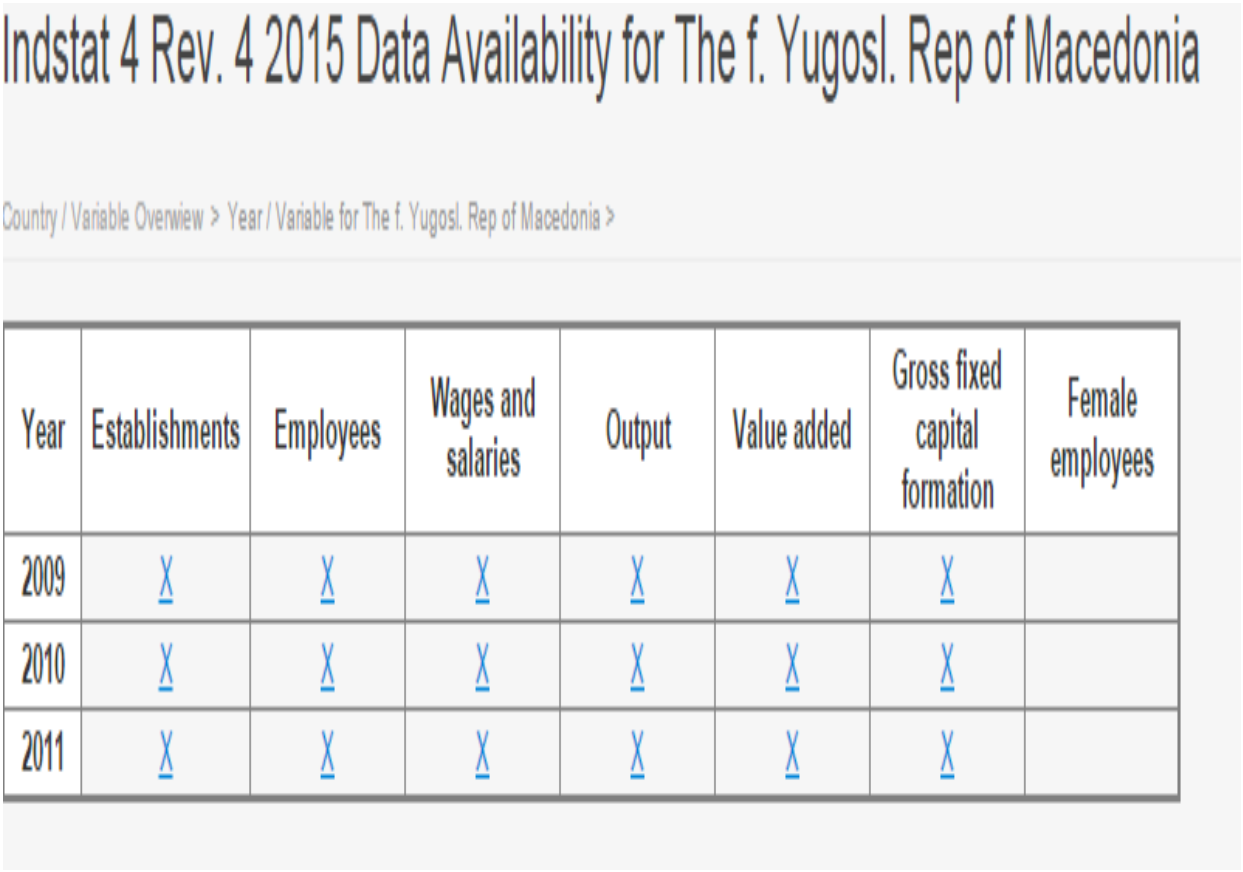
APENDIXES

Appendix 1

ISIC	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
15 - Food and beverages													X	X	X	X	X	X	X	X	X	X	X	X	X	X
16 - Tobacco products													X	X	X	X	X	X	X	X	X	X	X	X	X	X
17 - Textiles													X	X	X	X	X	X	X	X	X	X	X	X	X	X
18 - Wearing apparel, fur													X	X	X	X	X	X	X	X	X	X	X	X	X	X
19 - Leather, leather products and footwear													X	X	X	X	X	X	X	X	X	X	X	X	X	X
20 - Wood products (excl. furniture)													X	X	X	X	X	X	X	X	X	X	X	X	X	X
21 - Paper and paper products													X	X	X	X	X	X	X	X	X	X	X	X	X	X
22 - Printing and publishing													X	X	X	X	X	X	X	X	X	X	X	X	X	X
23 - Coke,refined petroleum products,nuclear fuel													X	X	X	X	X	X	X	X	X	X	X	X	X	X
24 - Chemicals and chemical products													X	X	X	X	X	X	X	X	X	X	X	X	X	X
25 - Rubber and plastics products													X	X	X	X	X	X	X	X	X	X	X	X	X	X
26 - Non-metallic mineral products													X	X	X	X	X	X	X	X	X	X	X	X	X	X
27 - Basic metals													X	X	X	X	X	X	X	X	X	X	X	X	X	X
28 - Fabricated metal products													X	X	X	X	X	X	X	X	X	X	X	X	X	X
29 - Machinery and equipment n.e.c.													X	X	X	X	X	X	X	X	X	X	X	X	X	X
30 - Office, accounting and computing machinery													X	X	X	X	X	X	X	X	X	X	X	X		
31 - Electrical machinery and apparatus													X	X	X	X	X	X	X	X	X	X	X	X	X	X
32 - Radio,television and communication equipment													X	X	X	X	X	X	X	X	X	X	X	X		
33 - Medical, precision and optical instruments													X	X	X	X	X	X	X	X	X	X	X	X		
34 - Motor vehicles, trailers, semi-trailers													X	X	X	X	X	X	X	X	X	X	X	X	X	X
35 - Other transport equipment																		X	X	X	X	X	X	X	X	X
36 - Furniture; manufacturing n.e.c.													X	X	X	X	X	X	X	X	X	X	X	X	X	X
37 - Recycling													X	X	X	X	X	X	X	X	X	X	X	X		
D - Total manufacturing														X	X	X	X	X	X	X	X	X	X	X	X	X

X	data available
C	data available for a combination of two or more sectors
<blank>	no data available

Appendix 2



Indstat 4 Rev. 4 2015 Data Availability for The f. Yugosl. Rep of Macedonia

Country / Variable Overwiew > Year / Variable for The f. Yugosl. Rep of Macedonia >

Year	Establishments	Employees	Wages and salaries	Output	Value added	Gross fixed capital formation	Female employees
2009	X	X	X	X	X	X	
2010	X	X	X	X	X	X	
2011	X	X	X	X	X	X	

Appendix 3

Detailed structure and explanatory notes

SITC Rev.3

(Standard International Trade Classification, Rev.3)

- 0 - Food and live animals
- 1 - Beverages and tobacco
- 2 - Crude materials, inedible, except fuels
- 3 - Mineral fuels, lubricants and related materials
- 4 - Animal and vegetable oils, fats and waxes
- 5 - Chemicals and related products, n.e.s.
- 6 - Manufactured goods classified chiefly by material
- 7 - Machinery and transport equipment
- 8 - Miscellaneous manufactured articles
- 9 - Commodities and transactions not classified elsewhere in the SITC
- I - Gold, monetary
- II - Gold coin and current coin

Appendix 4

Questionarie

Please nite the answer which is closest to your oppinion related to the statement

1 . I started this business because I noticed a chance to develop something perspective and valuable

o I totaly agree	**o I agree**	**o Niether agree niether disagree**	**o o I disagree**	**O I totaly disagree**

2 . I often come out with creative ideas

o I totaly agree	**o I agree**	**o Niether agree niether disagree**	**o o I disagree**	**O I totaly disagree**

3 . I have had previous knowlegde and experience before starting this business

o I totaly agree	**o I agree**	**o Niether agree niether disagree**	**o o I disagree**	**O I totaly disagree**

4 . I have many contacts

o I totaly agree	**o I agree**	**o Niether agree niether disagree**	**o o I disagree**	**O I totaly disagree**

5 . I awlays look for a way to use resources(workers, materials, equipment) more productively

o I totaly agree	**o I agree**	**o Niether agree niether disagree**	**o o I disagree**	**O I totaly disagree**

6 . People in my organisation are motivated to work together in multifunctional teams, to exchange information, ideas and skills

o I totaly agree	**o I agree**	**o Niether agree niether disagree**	**o o I disagree**	**O I totaly disagree**

7 . I awlays manage to find the capital needed for starting business, its development and growth

o I totaly agree	**o I agree**	**o Niether agree niether disagree**	**o o I disagree**	**O I totaly disagree**

8 . I am trying to be informed for all actuel trends in economy, politics

o I totaly agree	**o I agree**	**o Niether agree niether disagree**	**o o I disagree**	**O I totaly disagree**

9. What I miss in working traditional job is security

o I totaly agree	**o I agree**	**o Niether agree niether disagree**	**o o I disagree**	**O I totaly disagree**

10 . I am trying as much as I can to minimize risk

o I totaly agree	**o I agree**	**o Niether agree niether disagree**	**o o I disagree**	**O I totaly disagree**

11. I like to experiment in the business

o I totaly agree	**o I agree**	**o Niether agree niether disagree**	**o o I disagree**	**O I totaly disagree**

12. I am not afraid of losing money, you must invest in order to gain

o I totaly agree	**o I agree**	**o Niether agree niether disagree**	**o o I disagree**	**O I totaly disagree**

13. My business is succesfull in developing new products and their sale on the markets

o I totaly agree	**o I agree**	**o Niether agree niether disagree**	**o o I disagree**	**O I totaly disagree**

14 .In my company innovative ideas are supported, no matter which organization level they come from

o I totaly agree	**o I agree**	**o Niether agree niether disagree**	**o o I disagree**	**O I totaly disagree**

15 . My business often introduces innovation(new products, new marketing strategies, new distribution chanells, new methods of production, new combination of resources)

o I totaly agree	**o I agree**	**o Niether agree niether disagree**	**o o I disagree**	**O I totaly disagree**

16. In the company we have budget for research and development of new concepts

o I totaly agree	**o I agree**	**o Niether agree niether disagree**	**o o I disagree**	**O I totaly disagree**

17 . Satisfying the needs of my clients is one of my primary goals

o I totaly agree	**o I agree**	**o Niether agree niether disagree**	**o o I disagree**	**O I totaly disagree**

18 . Before launcing a new product , or change some of the excisting we make market research

o I totaly agree	**o I agree**	**o Niether agree niether disagree**	**o o I disagree**	**O I totaly disagree**

19 . We introduce our customers with the new products, promotions, and discounts offered

o I totaly agree	**o I agree**	**o Niether agree niether disagree**	**o o I disagree**	**O I totaly disagree**

20. We have loyal longterm customers

o I totaly agree	**o I agree**	**o Niether agree niether disagree**	**o o I disagree**	**O I totaly disagree**