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The impact of economic crises on the development of innovation and entrepreneurship

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MASTER IN BUSINESS ADMINISTRATION

The impact of economic crises on the development of innovation and entrepreneurship

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Abstract

Economists are describing crises affect in numbers how crises has affected counties all over the world, but how do companies are finding solutions to overcome crises when financial resources are less available and does dynamic capabilities have positive relationship with creation of innovative products in times of crises is not explored enough. By performing qualitative interviews, research will draw main lines how enterprises are overcoming crises and in which ways firms reorganize inner resources and processes, which are supported and performed inside companies to keep advantage and rivalry. Research will give some suggestions and ideas that might help to other companies to think over their inner processes in times of crises and might give inspiration to find better solutions firms can reorganize resources and capabilities inside companies to overcome crises situation and through this process might be created also some new innovative variations of existing products.

1. Introduction

As it has been explained by many economists, the last economic crisis, which started in the world by the end of 2007, was the worst since the 1930s. This shows that this crisis had a major impact on the economy, which subsequently affected the companies all over the world.

The most recent economic crises was disruptive and unpredictable event, which by the Joseph Alois Schumpeter theory might promote new innovations and creation of new products that comes and replace old ones due to sharp environmental shift. Schumpeter is mentioning innovation as one of the sources of competitive advantage, (Schumpeter, 1950) and he was firs one who suggested that firms are losing value and superior advantage of their products in longer time due to economic dynamic processes, which are tended to perfect competition.
Schumpeter is first, that creates originally first definition of innovation in 1934, regarding service sector innovations, he states that: "Economic development is driven by the discontinuous emergence of new combinations (innovations) that are economically more viable than the old way of doing things" (Schumpeter, 1934). Does it really happen in such disruptive event like last economic crises, when many companies suffered from crises negative and disruptive nature? Most researches are done with large companies which usually have different way of operation and have more access to finance resources and business connections. Larger companies are usually less elastic as smaller companies.

I suppose there are some processes besides investing in science and research activities how companies are finding solutions for developing innovative products. These reorganizing, renewing and extended activities characterize dynamic processes and capabilities in companies.

How does business are adapting to economic environment shift and how does it affected ability to innovate is main research topic. As people ability to buy products are lower and not as before crises. There are processes that companies should evaluate how to minimize expenses if the sold amount reduces to keep incomes that could cover worker salaries and work with profit but not with losses. Does an economic crisis will affect the strategic choices to find new markets or

find new solutions how to produce and sell 6 products? Large countries are more oriented to grow globally, does small country like Greece will be able to make some shift or probably there might be some specific products that are oriented to satisfy some customer segments and such small companies might be more able to adjust and find new markets? My research will contribute to gain understanding how organizational and dynamic capabilities inside companies are changed to fit with economic environment. In common world picture it can give an understanding how small country Greece is affected and how companies find solutions to overcome crises with perspective of dynamic capabilities in companies. Research will give some suggestions and ideas that might help to other companies to think over their inner processes in times of crises and might give inspiration to find better solutions with some ideas how organization can reorganize resources and capabilities inside companies to overcome crises situation and through this process might be created also some new innovative variations of existing products. dynamic capabilities have positive relationship with creation of innovative products in times of crises By performing qualitative interviews, research will draw main lines how enterprises are overcoming crises and in which ways firms reorganize inner resources and processes, which are supported and performed inside companies to keep advantage and rivalry.

Research purpose and actuality

My research question is: "How does dynamic capabilities foster creation of innovative products in times of economic crises?" Main meaning of dynamic capabilities that are defined by researchers is following: "Dynamic capabilities are all capabilities that initiate change and renewing of existing tangible and intangible resources in way that new opportunities are realized in practice by creating new products that better fit with environment. Research will contribute by giving some answers and expanding understanding what needs to be changed to improve firms' performance and overcome crises negative affect by using dynamic capabilities that can promote higher innovation level and help to adapt to environmental change to be successful.

There is the gap and space of research - how companies are activating dynamic capabilities, how they reorganize their resources to gain better performance and competitive 7 advantage in time of economic crises situation. It appliers in media information that crises has negatively affected lot of industries, including innovation and entrepreneurship. The aim and purpose of this research is to find out how exactly does companies felt crises affect and how do they adapt to crises situation to overcome negative effect to recover and again have positive financial balance like it was before crises. What dynamic capabilities are important to activate and how better to adjust to new crises environment is not researched enough. My research will contribute to understanding of firms' adaption and recovery and give inside how this process affect creation of innovative products.

Companies lose previously established market place and lack of previous finances are making to reorganize inner resources, then the purpose of research is to find out in which ways firms are organizing their inner resources and capabilities during economic crises to keep marketplace.

Focus is to find out, what firms had to change, and how do they create innovative products or improved product versions that can be seen as incremental innovations, that are based on previous knowledge and experience. My research is performed by purpose to gain knowledge and deeper understanding how financial crises has hindered innovation in Greecen firms and what can be done to overcome it and improve innovation level in firms performance.

There is a lot of theory but too less information how firms practically implement some solutions in their daily routines. There might be some particular aspects or changed strategies, that can foster dynamic capabilities, that helps to creation of innovation products. Would be meaning full to find out practical solutions what firms has change and what is particularly important in crises situation to be successful, that could use other companies in economic crises situation. I personally feel interested how a crisis has affected innovation and firms' performance in last years. Research question will contribute how crises affected different firms in times of economic crises. I suppose there are some processes besides investing in science how companies are finding solutions for developing innovative products.

As people ability to buy products are lower and not as before crises there are processes that companies should evaluate how to minimize expenses if the sold

amount reduces to keep incomes that could cover worker salaries and work with profit but not with losses.

Research will give some suggestions and ideas that might help to other companies to think over their inner processes in times of crises and might give inspiration to find better solutions with some ideas how organization can reorganize resources and capabilities inside companies to overcome crises situation and through this process might be created also some new innovative variations of existing products.

Economists are describing crises affect in numbers how crises has affected counties all over the world, but how do companies are finding solutions to overcome crises when financial resources are less available and does dynamic capabilities have positive relationship with creation of innovative products in times of crises is not explored enough. By performing qualitative interviews, research will draw main lines how enterprises are overcoming crises and in which ways firms reorganize inner resources and processes, which are supported and performed inside companies to keep advantage and rivalry.

2. Theory and thesis proposals

2.1.Theoretical background of dynamic capabilities

Theoretical background of dynamics capabilities is based and grounded on evolutionary economists' main findings and conclusion, and on the Schumpeterian innovation theory perspectives. Many researchers are agreed that: "Dynamic capabilities are very much connected with creation of innovation, because through renewing, extending and modifying existing resources are created new innovative products or innovations, that more fit with demand in that particular time and in such way they also promote fitness with environment.

From theory background theories there is a link between dynamic capabilities, organizational change and innovativeness. Based on this theory link between dynamic capabilities and innovation, will be performed my research in times of economic crises environment.

Researchers are explaining meaning of dynamic capabilities following: "Dynamic capabilities pompously initiate change and renewing of existing tangible and intangible resources in way that new opportunities are realized in practice by creating new products that better fit with environment

This theory that are stating researchers approves that innovation is result of exploiting opportunities by activating dynamic capabilities and innovations makes companies easier to adjust to environment and to survive in crises situation as long innovations are reasonable and well –considered.

Schumpeterian view points out that: "capabilities and routines contain firm's fundamental structure". Each company has its routines and daily performed operations that provide delivery of final product, but the fit between these routines and environment is describing to which extent firms have positive fit with environment. This combination between routines and environment helps to gain competitive element in that particular time and environment, where firms is operating. To gain this fit with environment, that helps to reach fundamental element of competition is especially important in times of creative destruction. Economic crises can be seen as destruction process, which is caused not by created new innovation that ruins markets for previously invented technologies, but disruptive process in economic crises

situation is caused by the limitation of finances. In crises situation firms are losing markets for previously created products and technologies and there is need for other replacement products or product versions that would satisfy new demand. Crises environment affected customers' ability to buy, and that changes values and characteristics that are required for certain maximally affordable price of products. It is understandable that in times of crises majority of people will not buy highest quality and most expensive technologies, for example, like improved iPad versions, if the prices of these products will 10 times exceed average monthly incomes of customers. This is very drastic example, but explains the crises environment situation. It makes producers to change products and produce them cheaper by using existing resources more effectively. It is vitally important to have competitive advantage over others also in times of crises, to retain customers that ensure ability to firms survive.

Schumpeter is clarifying that: "innovation is built from entrepreneurs' prior knowledge and resources. Knowledge and resources is building also dynamic capabilities, which are united aspect that unites dynamic capabilities with innovation. Schumpeter and other researchers are declaring that "the evolutionary fit between the firm and the environment is the measure of performance." Performance should be even higher in crises environment, because it demands more organizational and all kind of resources to be used in right time and amount to gain the expected outcome in contrast with more elastic pre crises environment, when expected performance was much easier to reach with less efforts. Crises environment demands more effective and appropriate use of all resources.

Recent literature questions about firms ability and capacity to create innovations in conjunction with routine operations This is one of my research questions as well, that need to find answers in thesis research: "to which extent firms are able to create new innovations, meanwhile performing daily routines in crises environment?" It is more likely to assume, that that besides daily operations, are produced some new products, new innovative versions or new service approaches based on prior knowledge and practices. In literature there is suggestion to combine resources in a new ways and in such way renewing also organizational activities.

Literature is building understanding of innovation creation that is built on evolutionary theory of the firm's resources. Important role plays capabilities that are transforming static resources and competences into new innovative and novel products or processes. Literature tries to describe that this transformation process

when statistic skills are been used to create novel products, also creates the basic set of skills and capabilities that are building innovation and competitive advantage.

Finally Hill and Rothaermel are proposing theory that: "capability-enabled innovativeness and innovation facilitate adaptation to the environment and success on the markets". As their theory could be respected, it has not yet been tested in all kind of environments. Does this proposal also is true in time of crises in countries that has suffered a lot from economic crises, is worth to find out in this thesis research cases, because first impression is that crises affected negatively also capability innovativeness, but does it is true in all cases, would be worth to approve also in crises environment. Could it be also true that some innovations might not help to adapt to environment and ensure success in times of crises?

Organization activities leading to value creation are whether exploitative or explorative) To understand what the difference between them, it is explained in literature, that:

- " Exploration refers to finding new ways of transforming existing ideas"
- "Exploitation refers to refining existing capabilities and resources, in order to create better value"

Usually most of successful companies are able to manage their current business demands or explore resources and capabilities inside company and meanwhile adapt to the changes in the outer environment by exploring resources and capabilities. Both processes are happening meanwhile. My research will contribute to understanding whether is crises situation these both processes can happen in the same way as it has happened before economic crises and what has changed inside company regarding adaption and exploring of resources in crises economic environment, because these exploring and exploiting processes are leading to understanding how firms are finding way to gain better value and more efficient way of operating to overcome crises situation.

Exploitation might come first in time of crises because in such way firms efficiency might grow and be more adjusted to new environment situation, because firms need first to figure out which way resources should be reorganized and used in a adjusted way that form new values by creating some innovative changes of produced products or services.

Exploration process might play some certain role in time of crises, because some departments need to perform it in order to find out the needed directions how to

adjust new ways of existing ideas and creating innovative products or product versions, for example, direction of transformation might be initiated by market reaching tasks, by customers' needs or by some other institutional or other factor influenced parameters.

It is also crucial to understand the theoretical difference between dynamic capabilities and organizational capabilities. Best explanation between operational capabilities and dynamic capabilities is giving Winter and Zahra: "Operational capabilities include the means and practices of efficiently configuring existing resources into products and services, whereas dynamic capabilities reflect the explorative side of the organization" Main concepts are built on the division between exploitative and explorative organizational activities. Then dynamic capabilities are more connected with explorative activities, all activities that are performed to search and research new ways how ideas and knowledge can be used in a new ways that could give some additional competitive advantage and additional value over others. Exploration process is very much connected with outer environment, because it includes finding and realization of new opportunities in order to create value by crossing boundaries in connection with other actors in surrounding business connections

Adaption to environment can be seen as exploration process and successful management of current business demand can be seen also as exploitation operations

The innovation fitness to environment that is created by valuable dynamic changes in organizational level, it cannot be taken as absolute state, because after some longer period of time it might not be actual and not fit anymore with environment. It needs all the time to follow the speed of environmental changes and adjust again by activating dynamic capabilities mechanism, in such way firms can develop in sustainable manner. There has been discussed that firms can follow negative inertia moment, if they don't govern the rate of change in operational capabilities

The firm changes through dynamic capabilities. Dynamic capabilities refer to organizational change, that fosters and promotes innovation and as a result gives better evolutionary fitness.

Literature describes many dimensions of dynamic capabilities; the essential dynamic capabilities are sensing and seizing, learning and knowledge creation, integration, reconfiguration and leveraging.

Scientists are dividing these capabilities in two groups: regenerative and renewing capabilities.

Regenerative capabilities help to renew old practices and modify firm's resources in ways that it creates new organizational changes. Renewing capabilities are more related to refreshing nature of source, for example, creation of new product lines.

In order to renew existing resources are needed regenerative resources, which let modification and development and these capabilities are: reconfiguration, leveraging, and learning.

Sensing and seizing is important capability, because organizational capabilities together with external requirements require ability to sense and seek opportunities

All this theory leads to innovations, because ability to see and sense opportunities in environment together with the capability to generate new knowledge lets the firm to create new product variations, which actually is incremental innovations, in accordance with customers taste and demand. Not many firms has this ability to find out changes of customers demand, but the ones which has knowledge and ability to have recommendations or feedback from customers are relatively successfully managing to adjust to changes and create new products. In economic crises important feature is price that satisfies customers, probably not so high quality for high prices like it was before, but reasonable products for adequate prices will satisfy customers in economic crises situation.

Knowledge creation includes following knowledge creation processes: transformation, realignment and integration of knowledge inside the company

Of course it might be impossible to integrate all the relevant knowledge in the firm, but the vitally important one would be needed. Besides knowledge integration inside company, it is important to absorb knowledge from outside. This would be particularly important when business or firm is international, because in each country there are different norms, customer taste and demand and it requires ability to absorb knowledge and adjust to this demand. In 14 would be good to take examples from

other companies in other countries how they act and overcome crises and what knowledge they use to adjust to changes in environment.

Dynamic capabilities makes easier adaptation to environmental change in highly dynamic enviroments , but their value is especially valuable in environmental turbulences like economic crises. Economic crises environment is unpredictable with sudden changes and it demands larger adjustments and faster responses from companies to take right decisions to survive and still operate in such changeable limited environment, because it makes to reconsider whole approach and business strategy. Turbulent and unpredictable environment increases the value of dynamic capabilities. The value of dynamic capabilities is highest when operating capabilities become not elastic through exogenous shock, like it happened in last economic world crises 2007/2008 Main question for successful business "How do we make many?" might have totally other answer in economic crises situation. To realize new way of creation changes, there are needed adjustments and renewing and regenerative capabilities are necessary to put in practice to adjust to change. What might work as very successful business in stable economy might not have place in economic crises environment.

Firms are becoming in a way rigid and robust in their performance because of the lack of finances and sudden fall and change in demand, but it is essentially important to sense and have all abilities and knowledge to change products that would meet market changes even in hard economic crises environment. Literature and newspapers had lot of articles about need to remember what was important ten years ago in market and how companies developed when it was also change of currency and country started to build up its economy again. Some companies are even changing their whole offer or assortment as such to satisfy change in customers demand.

2.2. Firm performance in a financial crisis and its dynamic capabilities

Many companies bankrupted by beginning of economic crises negative effect in 2008, because most of these companies probably were not fit enough to survive or adjust to crises changes and so sudden bad financial situation and market change with less clients and 15 purchasing power made business to drop. The shock was so sudden that companies simply could not adapt to changes and reorganize their operations and capabilities or did not have time to think about even other values and strategies that could give more chance to overcome crises effect and continue business, while other companies which are alive have made some changes and are ready to work with minimal or half of incomes and reorganizes and take some strategic decisions how to survive in crises situation. It would be interesting to find out how large part of these changes played innovation and innovative activities and improvements, because as it was told before even small improvements are considered as innovations. It is interesting to research in the economic situation, when so sudden disruptive change as economic crises has come, how much and in which way companies implemented these changes to overcome crises and how does it affected overall firms performance.

Economy can be described with a strong dependency on global economic development. Economic fluctuation and economic downturn makes deep negative industrial changes and market changes.

Many industries experienced state of economic crises and main question is how to overcome faster crises situation negative effect and what is needed to be changed? This ability to reorganize all way of performance until goods are sold in market and find new approaches how to get incomes with less financial resources by spending less on some activities and activate some human resources capabilities or develop some other values of existing product can be referred to dynamic capabilities and innovative activities. Most successful companies utilize their core competences in several compatible areas and even changed their main business directions that more fit with crises situation expenses and customers demand.

It is understandable that economic crises is bringing large changes in environment that surrounds each individual company, meaning the demand of goods

are decreasing due to cut of salaries and common financial situation influences business environment with less consuming and demanding goods and services, that is why economic crises might be seen also as an environmental change. In a way it can be described as environment and market becomes more inelastic. Innovation ability is connected with each company's ability to organize inner resources, capabilities in these different environmental conditions, and that is the main debate theme - the link between the organization and its operational environment - among organizational theorists.

There is concept that it exists closed system approach, that exclude interaction with the environment, and on the other hand opposite - open system approach theories, that consider that organizations and firms exist to convert external inputs by adding value to products that are sold or spread further to potential suppliers and clients into outer market or environment. There is continuously evolving cycle between external output and internal input, and this continuous process has significant impact on characteristics of organizational performance.

Organization performance is determined by the fit between organization and environment, this is contingency theorists point of view. In a way it is understandable that there are companies who are developed and by its inner structure and performance are more able to survive in crises environment and other companies, that probably don't have such capabilities and financial and human resources to overcome crises situation. It means that some companies are more able to have better performance, because they more fit with environment, their organization is more adjusted and adapted to crises environment. It does not necessary mean that small companies are less capable to fit with environmental change due to less finances or other resources in contrast with large companies, it is more about ability to change and might be situations when small companies are able faster to adjust and reorganize structural and operational processes in order to fit with environment than large companies, which might be less able to adapt and fast change all previously established routines.

In terms of fit, there are again to extremes: deterministic and the voluntaristic view. Voluntaristic view explains that companies actively takes strategic actions to influence its fit with environment, instead of passively waiting of environment changes. Deterministic view states that organization's survival depends on its more fixed and previously developed characteristics. It is sure by the point of deterministic

point that it is not possible to adapt to environment changes, it just separates whether company fits better to environment or not.

Roughly and mechanically it is possible jut to separate all firms with a worse or better fit to environment. It is seen as one sided mechanism, but actually it is possible to suppose that also environment is bringing changes from outside. In a way all of previously mentioned theories have a part of truth is some percent in each company's performance, meaning that some of companies are more sophisticated and analyze situation regularly to take right decision to adapt to changes, that way it makes them more elastic and capable to survive.

By open system view it is assumption that firms adapts to environment, at least to some extent, with its limits of firms resources and capabilities. In literature regarding dynamic capabilities it is mainly emphasized need for firms to change their resource and capabilities and to adapt to environmental change, because "inherited routines will lead to less adaption and lead to observing environmental changes instead of adapting to environment." . Unfortunately negative crises affect makes many companies to have this routinized observing point of view on economic crises, instead of changing inner resources and capabilities to adjust and activate firms' dynamic capabilities. It takes time to change previous routines and to start to adaptation and improvement process especially in crises times. This attitude also is because of negative financial affect when economical processes slow down and markets become less active and elastic, this negative change makes majority of firms to take waiting attitude instead to faster adapting and activating inner dynamic capabilities.

Adaption can be achieved by implementing changes and all kind of innovations in service and production industries, although it could be made little changes in each field of sector, still it would bring improvements in performance and lead to slow recovery after crises. Incremental innovations and administrative innovations inside companies are much better that routinized approach and passive waiting for better financial situation in world and country.

Economic crises in 2008 led to a drastic economic downturn. This downturn brings environmental instability that affected each company to adjust dynamic capabilities to environmental changes. Firms differ how they experiences crises, some suffered dramatically and some avoided negative effects. Interesting to know what strategies or capabilities they applied to overcome crises negative effect, and in case

companies has changed some approach or all strategies, it is innovative approach and improvement, some little adjustments in a way firms funiculate in crises still can be considered as organizational or administrative innovation. These dynamic capabilities are influencing innovation level or creating some new minor changes, that might be summarized by but qualitative effect on performance and will be mentioned in my research further on in analyze and conclusion part. From this point it is contribution to previously done research in innovation and dynamic capabilities theories.

Literature is mentioning that firms are benefiting from dynamic capabilities and operational capabilities, and that: "environment effects and moderates the need and use of these dynamic capabilities" . Environment plays important role on the use of 18 dynamic capabilities, but in which extent and how it affects dynamic capabilities in so sudden negative downturn hit like last economic crises, that makes negative economic environment. This relationship is not researched enough my research will contribute to get the understanding of crises environment impact on dynamic capabilities and innovativeness.

2.3. Innovation indicator development theories

As the purpose of my thesis is to find out in what way innovation is less than before crises, I need some measurable parameters that could be used in interviews and give some answers of innovation level in times of crises.

To find indicators for innovation that could be used for measurements and could describe novelty, conceptual foundation of innovation and complex background in the Research and development scientifically data and actions has been ignored. The fact that innovation is based on an act of research and discovery has been forgotten. Nathan Rosenberg in 1992 and 1997 in OECD s Innovation Manual has made some changes in understanding what innovation is and how to look on it, he challenges the notion of research based discovery as a preliminary phase of innovation and that it has to be separated from diffusion processes before commercialization improvements. Rosenberg explained that diffusion process involves long and cumulative processes before commercialization improvements.

Rosenberg and Kline in 1986 have defined basic aspects of innovation: *Innovation is learning process, which involves many interactions and feedbacks in knowledge creation. It is not linear process, it does not happen smoothly and predictably, but it is quite complicated process of combination of interactions, knowledge of inventor or inventor group, connections and resources that are available for creation of innovative products.

*Innovation is not depending on invention process. Research and discovery process is problem solving process, but research process is not the initiating factor of innovation. Discovery of new principles serves to some idea or new concept of product, but not opposite – product does not serve to innovation.

Rosenberg and Kline in 1986 both together are defining two new implications of understanding innovation indicators:

First Rosenberg and Kline are clarifying that novelty contains not just created completely new products, but also small scale performance or characteristic changes in products that can be considered as novelty. These small performance or quality changes over a longer time might bring major economic and technological directions.

Second implication what Kline and Rosenberg points out is that should be taken in consideration the importance of non-research and development aspects like exploration of markets for new products, engineering developments and experimentations, design activities and training.

These non research and development activities were performed a lot in companies before economic crises to keep marketplace and hold clients. These non-research and development activities are not directly innovation, but are processes that are important and affects innovation performance and at the end might create over longer period of time new improved products.

From mentioned theories I can consider that even minor incremental improvements, that are changing performance or product quality and if they might bring to larger technical changes in future by having economic effect in firm's performance, can be considered as innovation as well. My research will try to find out to what extend there are such minor improvements in crises situation, because before economic crises firms tried to improve products to have some better parameters over similar concurrent products.

2.4. Innovation concept and definitions

Before doing some interviews with companies about how last 2008 .year economic rises effected companies' ability to innovate, it would be needed to define what has been understood by word "innovation", what are indicators of innovation and novelty by the existing theories in literature until now. This is particularly important to know before constructing research questions, because there might be some differences how companies' managers understood innovation and what has been considered as innovative by majority of 21 enterprises and practiced recently as innovative to maintain market place and keep being competitive against other enterprises.

Schumpeter is mentioning innovation as one of the sources of competitive advantage, or a way how is gained superior advantage. He was firs one who suggested that firms are losing value and superior advantage of their products in longer time due to economic dynamic processes, that are tended to perfect competition. Competition makes other companies to invent and come up with better solutions what naturally makes previously evaluated products become less valuable due to the new replacement products. By innovative improvements and new products companies can again have previous place in market; only with better performance is possible to have leading competitive role unless it is not eroded again over a longer time.

Schumpeter is first, that creates originally first definition of innovation in 1934, regarding service sector innovations, he states that: "economic development is driven by the discontinuous emergence of new combinations (innovations) that are economically more viable than the old way of doing things" By his notion, he was meaning to cover five following areas:

1. Product innovation - new product or better quality of product
2. Process innovation - new method of production
3. Market innovation – opening a new market
4. Input innovation - achievement of new supply sources or inputs
5. Organizational innovation - create new organization in industry

Schumpeter is clarifying that true innovation does not have to be radical or unpredictable, it still is considered as real innovation if it has even minor quality improvements and he emphasizes the cumulative nature of knowledge that is leading to innovations, because only in such way are created radically new technologies.

These revolutionary new innovations are created from previously accumulated knowledge and experience, based on previous development. Nowadays innovation is also associated with economic growth and development, because Schumpeter has explained, that innovation has a role and potential to move economic systems toward more sudden changes, what is seen as development. Schumpeter is describing opposite process of destruction if economic actors or agents are passive and not changing, then it will 22 lead to infinitesimal movement or as he says: " eternal movement of statistical agents…, that sink towards the center of gravity"

2.5. Innovation adoption in organizations

There are two ways how innovations are acquired or created used in firms, they might be whether generated or adopted from outside. Generated innovations are used for companies own needs or for sale to other companies but the main purpose is to reach new and novel technology outcome as a new service, product, program or technology, that can be used whether by inventor company or some other company, that has bought this new innovation outcome. For company, that generates innovation, it means all processes from innovation creation in beginning that includes idea generation, project definition, designing, development of the service or product and finally marketing and commercialization.

When the innovation is adapted from outside, it means for adapting company to form awareness and attitude to implement new innovative idea within company with existing resources and finding all solutions and missing resources and capabilities to assimilate innovative concept to company and realize new product or service

2.6. Environment changes and its role to innovation

Innovation adaption in organization as response to environment changes makes organizations during the time improve effectiveness or performance. Environment initiates and influences to make changes in products, because environment with its customers and their demands and fashion trends are whether

accepting or rejecting organizations products, and then it is up to each company whether to perform changes in response to actual environmental change or to stay and perform as before without any changes. Mainly it is manager's decisions to change and create some novel version and each management team should have good ability to predict and fell how environment will change. How managers allocate and reorganize company's resources affects rate and speed of innovation creation. Environment has strong influence on firms' ability to innovate or adapt innovations.

2.7. Speed and rate of adaption of innovations

Innovation researchers are agreed that that both the extent of organizational innovativeness across organizational units would help to raise organizational effectiveness and competitiveness

To have high organizational effectiveness in organizations is main priority for managers especially in times of crises, when efficiency should replace the lack of finances and in such way overcome the gap what creates limited resources. Even though it seems similar terms, but their impact is different in different environmental changes. To understand the differences between innovation speed and rate Lenligh Hall in 1992 is giving his definitions and main meaning is that:"

●"Speed relates to timing in which firm is adapting innovation. Speed shows firms ability to response fast and quickly in comparison with competitors in that particular industry.

●"Rate,on the other hand, shows the number of innovations been adapted in particular time period. Rate describes firms ability to be innovative continuous and permanently

Companies with high rate of adapted innovation should possess good inner organization and all needed resources that they can bring to accord all needed parameters of new inventive product or process. This might be the case of dynamic and competitive environment with high technological and market dynamism In the case of economic crises, which is opposite environment to dynamic market environment, it is less likely that firms will adapt many innovative ideas, therefore

speed will play more important role for innovation adaption, because customers might change their values and it is important to keep them by novel product versions.

High speed has been associated with high organizational performance. That is logical assumption, because only very well coordinated organizations with good management and good inner communication network and balanced processes can fast adapt novelties and integrate them in their old daily routine practices

If environment changes fast, also companies should be able to respond and adapt fast new innovations, if they want to be effective and keep their place in market. Changing environment is challenging companies to reflect in shorter time and adopt quicker that predictable and stabile environment

Before economic crises environment was more dynamic. Now in economic crises situation first impression is that all every week might bring some new changes in demand, but before were regular routines and it was not panic about surviving and over living crises.

After crises market environments stayed in some waiting position, by waiting in what direction will go state economic financial situation, up or down wards. After economic crises also environmental and interaction between buyers and sellers or producers become slower when I compare it with times before crises. Because of lack of finances, customers' ability to buy get less and that also made environment to slow down trade and business temps, which affected also temps of adjusting products to demand changes. Environment played a role on innovation level and last theories of innovation adaption makes to conclude first proposal:

"Economic crises left negative effect on the rate of adapted innovations, because negative crises environment causes also affect to slower innovation adaption in companies."

This can be shortly explained by lack of finances in companies and more passive demand of products. Companies are more concern about their existence and due to demand reduction also environment becomes more passive that hinders ability of adapting innovations". It cost to adapt new ideas and concepts inside company when is not clear whether product will be sold in times of crises. There might be long

period when managers need to figure out crises strategies and how to operate further with less financial incomes.

2.8. Innovation measurement difficulties and issues

As there is need to characterize and describe with some qualitative or quantitative parameters the situation in innovation and entrepreneurship, it would be reasonable to make some summary what means innovation and how to measure it. "Traditional" indicators are not matching and presenting enough insight about innovation level. Due to this issue my research will contribute by qualitative research to get understanding about innovation building and creation process

In literature there has not been mentioned some key measurements or aspects that measure innovation in processes and outputs. Mainly these measurements are done by numbers of research and development done in country, number of patents per country or how much it has been used and developed science and technology

By the definition innovation means novelty, that some product or service has been made from other angle and by new approach. The main problems of measurements are novelty -what has been understood by word "new", and comparability.

This novelty is main aspect that makes it hard to be measured. If the new invention is absolute novelty it is hard to find object to compare with and create also some reasonable measurement that would characterize something new or it affect for inventor or firm. One way how to measure novelty of some product would be some to find characteristics, which would affect outcome or give some better effectiveness compared to old one version or product, but in majority of cases novelty covers also other dimensions, that is difficult to measure aspect like learning, knowledge creation, amount of changed competences and capabilities that lead to innovation.

2.9. Market orientation and innovation – opening new markets in time of crises.

Global economical crisis started in 2007, when it was global economy down turn process from beginning of 2007 until third quarter of 2009, only after it started slow and sluggish recovery process. Worldwide global economic crises affected negatively manufacturing companies. Economists are explaining that due to the lack of demand also started industrial crises in recession condition. Industrial crises added just to economic crises when global demand narrowed and mainly global lack of demand for outputs in manufacturing and all sectors, can be also main reasons that lead to such economic situation as it is explained by economists. This global economy affected negatively many countries and nearly all industries worldwide. We can say that market become more inelastic.

Despite this negative fact, there are companies which are recovering faster and are doing much better than other manufacturing companies. Some companies are having greater ability to withstand negative effect of economic crises and higher ability to 27 survive. My research cases are from the perspective of five different companies in different fields and industries. There are also some companies in Greece that are more able to get over crises better than other companies. Economists are expressing the need of better management in all companies in time of economic crises that could put in action survival mechanism. These "mechanisms" or activities that are performed in some companies, that helps to adjust to new market and environmental conditions can be characterized by dynamic capabilities. Recently ability to innovate has been recognized as one of such dynamic capabilities, that characterizes companies that are outperforming others. Market shift from elastic and dynamic market, as it was before crises to inelastic and passive after economic crises in each country is connected with the global economic crises processes, that is why ability to adjust and survive is connected with firm management and performance, inner organization and resource use. From the view of resource based perspective, Barney in 1991 admits that better management helps better to manage economic conditions by using organizational resources and capabilities.

As one of the survival mechanism is mentioned also marketing innovations, which are defined as : "improvements in product promotion, placement, pricing and design." This has been actively practiced in many countries large trade businesses, especially which are related to basic products that people are buying every day, like food chains supermarkets are regularly offering some discounts. Placement of product in shelves plays important role how to motivate customers to buy certain products, similarly it is in clothes shops and other kind of shops. Price might be important for customers and also design influences decision to buy some products.

But besides marketing innovation that has been also actively performed before crises, more important role takes value of products. Bennett and Cooper nearly 30 years ago is explaining how marketing innovations is influencing customer demand and their shift of perceived values, that could be very related to market during crises "Marketing innovation emphasizes growth by shifting customer demand from elastic to more inelastic market segments through delivery of better value – actual and perceived by the customer" This statement characterizes also that market in time of crises is becoming more inelastic and market segments are also becoming more inelastic. The only way how to overcome this negative crises effect is by creating more competitive products with higher value that are in compliance with crises time demand. Bank specialists 28 and managers are also admitting that customers are more careful in purchases and that makes them to characterize as more inelastic as it was before economic crises.

Due to this I can develop second proposal that can be related to market situation:

Second proposal "Economic crises environment is shaping situation that larger ability to overcome crises will be to these companies that will create innovations and products with higher actual or perceived values from customers' point of view"

Innovation incorporate some content of risk or certain degree of uncertainty because it means for innovation adapting organization to create and sell something new that has not been tested in the market before. Damapour in 1992 states in Industrial Marketing Management journal in his article "Firm survival through a crises,." that: "Innovation represents the successful exploration of ideas that are new

to an adopting organization, into profitable products, processes and services" This statement could be more approved in economically good conditions, but it has not been proven in majority of cases in crises conditions. Does the majority of innovations will bring profit in times of economic crises conditions when demand has rapidly declined and available financial resources are less available, has not been proven yet. I suppose that this can be true when the innovations are tested in large markets and that is giving greater opportunity to find right segment of people who will buy products. It might depend how elastic are customers and what they will evaluate. Customers' ability to spend money also will affect final decision to buy certain new products. It will not be so easy exploring new ideas, when unemployment has grown and incomes per families has reduced in times of crises.

Many researchers in literature are stating that: "market orientation is having positive relationship with performance" Market orientation is important aspect especially in time of economic crises when customer's ability to buy is less elastic and is harder to sell things. Market orientation is defined as "understanding and satisfying customers' needs." Besides customers it includes also relevant stakeholders. Market orientation also can be explained like "the implementation of the marketing concept". Market orientation is: "companies' ability to respond to customer, 29 competitors and employee's needs" in most appropriate ways to be profitable and keep competitive place in market.

Innovations whether incremental or radical can be part of the following response to possible changes of demand in market.
Researchers are mainly all consensual to the idea and I agree with this statement that: " New modified products, which are aimed to improve organizational performance, depend on understanding and satisfying customer needs better than any other competitor, therefore it is logically true that innovation and market orientation are connected constructs." .Improvements that are made in products and processes are innovative, because it includes underlying knowledge and new product version development. Even little improvements that are implemented require knowledge, new processes and sometimes even new technologies. Managers perform these improvements when they have found out that customers will evaluate them better than previous product or concurrent products. To create innovative improvements it

demands better organization and more efficient cooperation inside company to use existing intellectual knowledge and employees resources in a better way than before.

Until know from available articles about market orientation would be possible to group them in two groups- a behavioral and cultural perspective.

Cultural perspective defines market orientation as: “the organization culture that most effectively and efficiently creates the necessary behaviors for the creation of superior value for buyers and thus superior performance for the business” . Naidoo Vikash explains behavior aspect for market orientation as: "behavioral response to the competitive operational dynamics that an organization faces during operation" in longer period.

Based on these studies market orientation is defined as: "competitor orientation, customer orientation and inter functional coordination" Then as we can see all dynamic processes and implemented changes that are adapted inside company due to orienting to market changes is explaining behavior aspect. Market changes to all interested stakeholders in industry, not just 30 customers, but also competitors, cooperation partners, subcontractors, makes company to behave differently to keep being competitive because nothing is statistic and permanent. To be competitive, it means also constantly to follow to changes and to change companies’ behavior and final out put products. Market orientation is leading firms to orientate resources and coordination processes by purpose to create super value products that will satisfy customers. Innovation is this mechanism that helps to transform market orientation into superior outcome, performance or products. Barney is defining competitive advantage as better value crating process in such way that no other concurrent have done it before, and competitive advantage is maintained so long as replicate products has not been created. Barney defined competitive advantage with following words: "Firm, attains a sustainable competitive advantage when the benefits of its value adding strategy are not competed away by the replication efforts of its competitors ". As we know there are countries that might create replicate products, China is good country example, where easily replacement similar products are developed in fast speed. In such countries it is much harder to keep value and competitive advantage over others. It takes to be more efficient and faster to be one step always in front of other concurrents. In smaller counties it would be much easier to keep competitive

advantage over longer period and in such way collect all first mover benefits, but still it does not cancel possibility that sooner or later it will appear similar concurrent products.

Some have made studies, that conceptualize innovation as the "actual mechanism that transforms market innovation into superior performance.". It time of economic growth this might be true, but how about times of economic crises that was nearly worldwide not enough research has been done yet. Whether it is true also in small country case like Greece or some other countries that has suffered deep economic crises and when lack of finances are even more hindering creation of innovative products or marketing innovation in existing companies, when it has been hit by crises and innovation level is considered low already before start of crises, could be worth to find out about innovation role on market orientation. There it might be more likely that market orientation is creating innovative products with better performance than opposite. Based on previously mentioned theory aspects there are main links that are connected all previously done research. First link mentioned in article "Firm survival in crises- The influence of market orientation, marketing innovation and business strategy" by Vikash Naidoo in 2010 is:

"In order to exhibit marketing innovation capabilities, a firm needs to adopt a market orientation approach

Secondly - "marketing innovation capabilities help to develop and sustain a competitive advantage

Third link- "a competitive advantage allows a firm to better perform and survive in an economic crisis"

Market orientation	Marketing innovation and product innovation	Competitive advantage	Performance. Firms' survival in time of crises

Conceptual model. (source from : V. Naidoo, 2010, figure 1)

Based in these links third proposal that connects product value as a result of innovative process and market orientation is following:

"Market orientation has positive relationships with higher added value of improved innovative product versions in times of economic crises"

This proposal basically express that it is not enough to produce valuable high quality products in times of crises. It can gain profit only in combination with market oriented strategies to achieve better turnover that will bring expected incomes. Added value creates competitive advantage and that is positively related to firm survival in times of crises. Besides having high added value for new products, enterprises need to be market searching and marketing innovative to be able to find new market segments for newly improved products.

Before crises market was more active and purchasing power and ability was much bigger and it was not hard to sell product unless it was qualitative and was good designed and advertised. Crises circumstances are different; the focus to find market is essential in times of crises, because many enterprises lost their previous customers in volume and that can be threat that can lead to bankruptcy. Companies need to reevaluate whether their product still will satisfy customers' needs and probably it is needed not just to find more efficient ways how to produce and sell cheaper but also think whether product matches with customers' needs and crises values. Manu companies bankrupt, because they did not manage to reconfigure their resources and adjust to crises situation and did not manage to understand that market and values has changed, for example, many large enterprises in so small country like Greece bankrupted because ability to buy them products in local market dropped Market orientation Marketing innovation and product innovation Competitive advantage Performance. Firms' survival in time of crises 32 dramatically and they did not manage to find new customers and adjust production in more efficient ways. Financial investment needed for such help is large enough and if there is not any financial support from government, then without financial support from outside, companies are not usually able to find solutions. One way of finding addition financial support is to sell some part of enterprise share to foreign stakeholders, which can also bring their customers and cooperation partners as potential "market amplification". As these crises touched many countries such market orientation approach and partly enterprises amalgamation can be solution for larger regions like some groups of countries,

because due to different resources one country may have advantage over other country and if it is cheaper to produce product in one country then potential customer segments might be in other countries not just the production country.

2.10. Innovation adoption features of organizations in four different environmental conditions

Theory for organizational structure and innovation adoption, a role of environmental change

As environment is influencing properties and behavior of firms ,then environment as open environment system plays important role to firms' competiveness and innovativeness.

Firms are searching for balance with environment change; they have to change in response to environment change also firm's behavior, structures, strategies and processes. Due to environment is a complex system with multiple dimensions researchers are focusing on dynamism dimension, because dynamism is describing environmental change and dynamism as environmental change is more closely related to innovation capability.

Theory indicators are based on previously made theories, when Dess and Beard (1984) described dynamism in two components: stability and predictability – meaning - extent of turbulence Four environment structures help to find prepositions for relationship between firm's structure and innovation. In this framework innovation is seen as adapted innovations in firms, meaning where firms should adjust inner resources to create novel products, but not to create novel idea themselves.

Innovation could be analyzed through different environmental and institutional aspects like rationalistic, institutional, political and it can give better understanding, but it makes it hard to get common general results, because perspectives of analyze is so different..Due to this problem still many researchers are agreed, that in case when "research method is having certain perspectives, it can be applied in certain contextual conditions" therefore Damanpour environmental condition analyzes (1998) can be

related to crises environment from point of dynamic change and in such way also my following research cases can be categorizes from their structure and ability to innovate. Different industries ability to innovate in certain environmental condition might differ; therefore also this method could help to understand innovation ability for different firms. Environment as complex system also describes and is very much connected to firm's competitive element. Innovation also is creating competitive element that is why environment is connected with innovation, because the purpose is the same – to create better outcome and outperform others with better performance and more valuable products.

This method also approves previously outspoken preposition that states: "organizational effectiveness is high for firms, where environmental change fits the structure and innovation adoption characteristic portrayed."

To find out what incremental improvement processes are still performed to create some changes and do there are some supportive activities like - in the same level organized inner personal learning courses that promotes innovation process, I need to find out company's ability to innovate in conditions that has changes due to sudden economics crises. This theory what I will describe and explain comes from journal of "Engineering of technology management Jet -M", 1998.,written by Fariborz Damanpour and Shanthi Gopalakrishnan, graduates of school of management in USA. Theory is defining four different environment conditions using stability and predictability variables that describe environmental changes. In all conditions there are also mentioned areas of business that most probably and often are operating in these four conditions and described also how usually in such conditions these companies are able to innovate. Mentioned areas helps to understand more closely differences of ability to innovate in different conditions, because you can immediately imagine for example film industry ability to innovate or some other field and its 34 typical operation characteristics. This framework helps to examine contextual and organizational variables than affects organizational innovation. Fariborz Damanpour, Shanti Gopalakrishnan, (1998) theory helps to predict structural characteristics that help innovation adaption in four different environmental conditions.

Four different environmental conditions

Environmental condition 1 (EC1): stable, predictable

In this environments changes are emerging slowly and predictable. The environment lets to adapt innovations infrequently, that is also reason why organizations can also adapt innovations in planed and structured way. Due to this planning and predictable environment, rate on the adaption is low. The examples of organizations in this environment are hospitals, universities, gas and electric utilities and food packing companies. Mainly innovations are incremental, innovations are based on existing knowledge. The main concern for companies and organization in this group is operation and actual work than innovation.

The structure of such companies is very structured in hierarchy form and all power is concerned in top management, organization operations and well developed procedures affects employees behavior and, as it is known, such hierarchy structure is mechanic and inflexible and this inhibits innovation development. This environment does not promote to develop higher professionalism and specialization.

Environmental condition 2 (EC2) : stable, unpredictable

In stabile but unpredictable environment, when "the pattern of change is unpredictable", companies are innovating not continuously and frequently. Unpredictable environment makes companies to be alert and to be able to adapt innovation quickly to keep competitive advantage. Damanpour states that : "therefore companies in this group are able to innovate quickly and adaption speed is fast, when it is needed" Examples of organizations in this group are fashion clothing, music industry, mail-order retailing, advertising companies and personal computer manufacturers.

For innovation resources are used acquisitive and imitative resources.

These companies are having external focus, since quick decisions need to be made as response to market change in unpredictable environment, therefore companies are resembling ”market” form, where managers are concerned to keep competitive advantage of company in unstable environment, and it demands to react in integrated

and quick fashion. The structures of such companies are: "with high centralization and usually are control-oriented and mechanistic."

This is environment condition that could characterize crises situation in countries which were affected from negative impact, which made environment more stabile and passive because the changes did not occur so often as before crises, but meanwhile is hard to predict how situation might change in next following months in each industry.

Environmental condition 3 (EC3) : unstable, predictable

In this group the pattern of change is predictable and the rate of change is high, because the unstable environment demands to adjust. The predictable environment gives time to plan innovations, but these plans must me more complex and more flexible than plans in environment EC1. Managers could be able to innovate all the time, it cannot be the goal of entrepreneurship, but innovation should be planed and managed wisely due to limited resources and time restrictions, managers should plan resources and decide which innovations to develop that are more urgent, and which drop.

Situation in 1990s was having such environment, when examples of companies in this group where chemical companies, financial services firms, hospitals, it includes some electronic firms and film industry

The speed of innovation is moderate. As situation is not so urgent, the rate is of adaption is moderate. Such environment might be when countries will start to recover from deep crises affect in the next following ten years, depending on each European state economy condition. Usually organizations rely on existing knowledge to refine existing products and services, but also radical innovations are supported in EC3 environment due to continuously changing environment. Zara and Coving explains that innovation is kept by finding new opportunities, they explain that: "These organizations 38 retain innovative momentum by continuously searching for new design changes, opportunities, and more economic ways of producing their goods and services" (Zahra and Covin, 1994.). They rely on incumbative source and usually structure of such companies is flexible, because frequent changes require changes in administrative policies, programs and structures. As administrative, so technical

innovations are supported, organizations concerns not just for production, but also for development of employees. Such organizations have clan structure, because decisions have to be spread fast from top to productions, when fast decisions are taken. The example could be some popular goods and food production fabrics or large companies.

Clan form puts main effort to be united team, and success in company is defined in terms to customers and clients and satisfaction for organization members.. Zammuto and O'Connor is explaining sensitivity to customers' needs following: "Sensitivity to customers' needs makes companies to create products that satisfy clients' demands, and for company members company tries to provide climate, where employees can achieve better result and develop themselves. Structure usually is flexibility – oriented and organic. Such organization can be often characterized with high differentiation and professionalism." (Zammuto and O'Connor, 1992.)

Environmental condition 4 (EC4): unstable, unpredictable

This environment can be characterized as hyper competitive with high velocity., therefore the rate of innovations is high with high adaption speed. To keep competitive place in so dynamic and active environment, companies has to create incremental and radical innovations. Companies' environment is creative, it is created culture of innovativeness that helps to create innovations, also structure is organic and elastic of such companies that motivate employees to take initiative, risks and face challenges.

These innovations have to match with magnitude of change in existing system inside company as with suddenness of change from assimilation of new practices. The examples of firms that fit in this environment is telecommunication companies, leading computer manufacturing companies, research oriented biogenetic companies and pharmaceutical firms. International teams are formed to use all knowledge and promote development of innovations. Such companies are opened to experimentations and innovations to be on the leading edge in the industry.

3.Methodology

Before choosing methodology it was important to remember purpose of thesis and research question to find best suited method. Greece as a country is this research is taken just as a context country where research is done. Similar research might be done in other countries that also suffered from last economic countries. Culture, history, previously established structures in companies and larger enterprises, other society norms, traditions and religion might have impact on result as these are elements that influence common environment in which companies operate, but that is hard to measure and categorize, there for research results are discussed from previously discovered proposals from other researchers from the perspective of dynamic capabilities.

The purpose of this thesis is to extend the understanding how firms are adapting to crises environment with its dynamic capabilities and what needs to be changed to improve firms' performance and overcome crises negative affect to raise organizational performance and be successful

By qualitative semi structured interviews will be explored some companies from different industries to reach understanding how firm's inner dynamic capabilities are influencing adaption process to large disruptive events like last economic crises and how dynamic capabilities practically are affecting innovation process in companies.

To find answer to my research question, I choose to use semi structured interviews, because this type of interview leave space for some other unexpected directions of conversation to find answers that could better explain firms inner organizational aspects and ways how they coped in crises situation and in which level innovation played a role to overcome crises situation. Semi structured interviews gives the freedom to explore general opinions in detail, that is main advantage why this kind of interview type was chosen. Some structured questions were planned before because there are needed some guiding questions that holds interview to chosen problem field but also gives possibility to move to other unexpected directions. Qualitative answers are descriptive therefore it is best suited to semi structure interview type, because this interview lets to reach better descriptive answers in depth.

Five cases study methodology was used to determine how economic crises has affected firms ability to innovate and how financial crises affected entrepreneurship activities. My research question ""How does dynamic capabilities foster creation of innovative products in times of economic crises?" could give answers that more describe processes in companies that are leading to adapting to crises environment are related to dynamic capabilities.

Five semistructured interviews were conducted from different industries, because it might give better understanding about dynamic capabilities and innovation level in country in times of crises in more than just one industry. The best result of research question would be reached by conducting more interviews from all possible leading industries in country, which might be further task for broader research. My interviews can give inside and credible answers to my research question because until know it has not been done lot of research in innovation in crises environment. Interviews were conducted from largest chocolate and sweets production company, small honey production company, medium large car metal surface parts montage company, road building company and working clothes designing and producing company.

Questions that were constructed in research is more focused on dynamic capabilities, because dynamic capabilities are promoting fitness with environment and are very much connected with innovation. By activating dynamic capabilities firms are modifying existing resources that leads to innovative product versions, which more suits with environment. The firms balance or fitness with environment is especially important role is in time of crises, and that makes role of dynamic capabilities more important . Research questions are constructed by purpose to address firms' activities that could lead to dynamic capabilities that are reorganizing and changing firms' performance approach and strategies, because the aim is to find out what exactly firms has changed in their performance in last years of crises.

Crises environment is turbulent and unpredictable environment with negative effect on business activities. Firms need to make changes to fit with environment changes and through modifying and adjusting existing tangible and intangible resources, dynamic capabilities also promote fitness with environment Many researchers has come to similar conclusion and they state that: *"Dynamic capabilities are very much connected with creation of innovation because through renewing, extending and modifying existing resources are created new innovative products or*

innovations" innovations".(Makkonen,2014; see Eisenhardt & Martin, 2000; Helfat et al., 2007;Winter, 2003; Zahra and others, 2006; Zollo and Winter, 2002).

By questions that focus on dynamic capabilities dimensions, hopefully will be reached answer how innovation activities has been affected in times of crises, because innovation is closely connected with firms' performance and dynamic capabilities.

To find out what kind of modifications were maid and how resources were reconfigured main questions were constructed that could lead to dynamic processes in companies: *"How decision making process in your company happens? Has there something changed in company management and organizational performance in times of economic crises?"* This is question that leads to dynamic capabilities, because usually managers' are initiating changes and it is their task to over evaluate and reuse existing resources in a new more efficient ways - the meaning of dynamic capabilities.

Other important question to find out dynamic capabilities and processes in performance change is :"*What is particularly important to reach higher performance, what has changed in company in times of crises?"*

Regarding innovation processes main questions were constructed:

1. " How does the financial crisis has affected your business and innovative activities in your company? In which ways and how? Can you give examples?"

2. "What resources play a key role in creating new products, how happens improvement initiation process to create new versions?" and

3. "What kinds of improvements are more adapted- radical or incremental improvements, how often such improvements are created and how they are appearing in company?"

Main question regarding crises affect and entrepreneurship activity in times of crises was question:

1. "Does the economic crisis give some new business opportunities for your company? If yes, in which ways?", because ability to see opportunities and find solutions creates competitive advantage and gives might give chance even to grow. New opportunities might make also companies to over evaluate strategy and inner values, but it is part of adaption process to new crises environment

As defined by researchers dynamic capabilities dimensions that are mentioned previously in theory part are: "*sensing and seizing, learning and knowledge creation, integration, reconfiguration and leveraging"* (H.Makkonen, 2014; Ambrosini et al., 2009 Barreto, 2010; Bowman & Ambrosini, 2003; Teece, 2007; Teece and others, 1997).. To address this theory and find out most important dimensions of dynamic capabilities, research questions were made that could lead and refer to these named dynamic capabilities dimensions. Question that addresses this theory has been constructed:

"*Which resource has the greatest power in decision making and how these resources have changed the role in the times of financial crisis? -Knowledge; Technology; Finances for innovation and the development of the research process;- Lack of trained and experienced human resources ,- Government support; Laws and regulations , or other aspects ?* "

Analyzing answers I hope to find some common patters related to dynamic capabilities, processes of innovation creation and main reasons how innovations are created. Answers can cover firms changed strategy approaches that firms are using to keep competitive advantage and overcome crises negative affect and to find out how inner resources are organized to build better performance.

Confidentiality should be obeyed to protect the sensitive companies' information. It is also a disadvantage of semi structured interviews because precise numbers and technical measurement parameters of production process nobody was willing to give, as it is part of competitive advantage and commercial secret information. It is my duty as a researcher to respect each person's wish to keep secret information and confidentiality, therefore by starting each interview with persons I marked that they are not obliged to answer more than company confidentiality allows and that in my research report companies names will not be noticed, just the industry to ensure companies secrecy and confidentiality. Interviews were conducted from one of the largest chocolate and sweets production company, small honey production company, medium large cars metal surface parts montage company, road building company and working clothes designing and producing company.

This is qualitative type of research and it is expected to find out qualitative descriptive answers, besides just approving or denying previously accepted proposals. Research should contribute by giving directions and ideas also to other companies not just in Greece but even in other countries, that also suffered from crises, how to promote innovative ideas and improve.

Companies were selected by available information online, but mainly that the common fact that these companies were mentioned between most fast growing companies in last years. As the growth can be stimulated by some dynamic capabilities or other entrepreneurial aspects, I choose to interview them, because these companies can give example to other companies what needs to be improved to overcome economic crises negative effect.

3.1. Description of five interviewed companies

1. Company that works in car manufacturing industry. Company which *produces metal housings for car surfaces.* In company works 40 people. Company has strict structure and has been respected job positions, for example, mechanic employees are obeying to managers and orders from top management. Company had to reduce employees in crises time, but now it is tendency to employ new employees, because the demand of production has grown recently. Company receives required technical parameters for special car models with its measurements and drawings and produces it, after production, assemblies are shipped to clients and they continue to adjust and montage the rest details of the car. Company is producing just parts of the car, it is half product. Production mainly is oriented to foreign market and foreign customers.

Ability to innovate and create something new is limited due to precise montage details that are given by clients demand, therefore it is hard to change parameters or design because it will not fit with final car model. Company is competing by fulfilling client's wishes in timely and qualitative manner. Final product can be improved from quality aspects. Mainly demand of metal parts of cars comes

from Germany, Austria, Belgium and other countries, but nothing is produced for Greece.

2. *Company that designs and produces working people clothes*, which are meant to wear in work. In Greece it is employed approximately 160 workers. Crises affected negatively enterprise, company had to reduce the number of workers and release some employees as a result of crises effect, but now situation is more stable at this moment. Production from new designs creation to tailoring is performed also in Greece, but top management is located in Cyprus. Market research and management decisions are done in Cyprus work is performed in cloth contact with Cyprus management team. Company regularly plans what will be produced and is sensitive to market change, innovative new working clothes designs are created based on most sold designs and client wishes. Company could overcome economic crises based on brad sourcing and global supply chain, in such way company can be cost efficiency.

3. *Chocolate and other sweet production company*. Totally around 700 employees are working in company. This company is large sweets manufacturers in Greece that nowadays exports to many countries. Company is popular with its chocolate candies; it is one of the few manufacturers in Europe that produces chocolate from beans until final product, not from half produced chocolate powder. Company is having 87 years' experience in sweet production, it is successfully combining historical heritage with innovations, which mainly are created to meet foreign customers demand.

4. *Honey collecting and honey products producing company*, which employs up to 5 employees. Main products are collected honey that is mixed with different kind of berries that gives different tastes and value in eyes of customers. Honey products are ecological without any additives. Mainly they are innovative honey mix with berries is sold in state largest cities in one of the largest supermarkets and some smaller shops as well. Honey is collected from local fields Company use regional earth around city and sometimes more further, because there is no restrictions of honey collectors.

5. Road construction company, that provides road construction, reconstruction and repair. Company produces asphalt in 3 production facilities, as well company has high level laboratory that can also be used mobile on the building place to control quality of used raw materials. Used manufactured asphalt has gained CE mark, which is recognized worldwide. Since last year little bit less than 50 % of shares are bought by German company. Company has projects in Europe, Germany helps to find cooperation partners. Main market driven and quality driven decisions are taken by German share holding company. Ability to innovate is limited with state tenders and rules in norms in road building industry and balancing costs of used raw materials.

4. Results

4.1. Proposals before research

This not the purpose of qualitative research, more results are described in discussion part, but for clarity will look through previously accepted proposals before doing research:

Proposals	Approval
1. "Financial crises as more passive environment, in contrast with dynamic pre crises environment, affected negatively firms' ability to innovate	Partly supported. Some industries are affected negatively like road building industry and some industries are not able to create some changes due to the technical precise specification and parameters that need to be followed, like it is in car manufacturing industry. There are other companies that have started to create new improved product versions by activating dynamic capabilities in faster speed than it was before crises. Companies are sensitive to environmental change.
2. Second proposal "Economic crises environment is shaping situation that larger ability to overcome crises will be to these companies that will create innovations and products with higher actual or perceived values from customers' point of view"	Supported in majority of cases.
3 "Market orientation has positive relationships with high added value of improved product versions in times of economic crises"	Supported in all cases

4.2. Findings about economic crises impact on entrepreneurship and innovation

Crises left mainly negative effect on entrepreneurial activities, and after analyzing interviews impacts are following:

Companies lost previous customers and even market segment groups. This was expressed by clothes design and production company, road building company and company that produces metal surfaces for cars. This negative effect made companies to find solutions how to find new customers and follow more carefully to market changes. All interviewed companies express that customer wishes are priority and are initiating changes.

The lack of finances does not allows to create more qualitative final products in field like road building industry, where entrepreneurship is very much connected with state regulations, norms and financing.

State issued tenders for road renovation jobs are putting constrains to companies due to the work that needs to be done and financial price to win the tender, but lower price lets to fulfill job in minimal required quality specifications. Qualitative improvements also is categorized in product innovation group.As higher quality of roads would cost more, ability to create more higher quality roads is limited from financial resources and state issued norms of tenders. Innovation can be analyzed also through institutional, political and other environmental aspects. Clothes designing and manufacturing company also admitted that they lost previous market segments and now they are doing market research to build again stabile place in market.

Companies had to dismiss some part of employees due to sharp drop in product and service demand that reduced turnover in the first two years of economic crises. This is especially related to medium and large size enterprises that employ more than 50 employees. Firm's ability to innovate depends on limited financial and human resources. Employees were dismissed in the downturn point of economic crises nearly in all interviewed companies, except honey production company, that started to operate later in 2011

Largest chocolate manufacturing company mentioned, that local country - Greece market cannot anymore provide with enough customers that would guarantee existence and needed earning, as it was before crises, when large part of products and services were sold in Greece country. This company even had to reevaluate the companies' mission and values in times of crises and they decided to sell production to foreign markets. Sales representative explained:"Economic crises create tendency to grow, we are oriented to export. Enterprise has reorganized and over evaluated its

goals and vision, it has changed. The strategy is changed. Our vision is tended to export and we have explained also this to our workers. We sell abroad and also produce for foreign."

Some particular products are having opportunity to sell their products better than before crises, customers evaluate particular products in time in crises and they form separate exceptional group of products that has not suffered from crises effect - chocolate, economic honey with berries, caramels and other products. This can happen because these products are having higher added value that customers are evaluating.

5. Discussion

5.1. Findings after analyzing answers from interviews

Of course lack of finances is making constraints and is narrowing down ability to invent new products. Besides finding inventor or research group that creates new products, there might be some dynamic capabilities and approaches that can foster creation of innovative products. Due to renewing and regenerative processes enterprises might create new ways or slight differences or incremental innovations. In following chapter it will be analyzed interviews from themes that come up after summarizing all five interviews:

5.1.1 Reorganized ownership of companies

Companies have reorganized ownership by selling shares to some foreign owner and in such way are gaining additional financial resources and companies start to perform as daughter enterprises under some larger European enterprise. By open system view it is assumption that firms adapts to environment, at least to some extent, with its limits of firms resources and capabilities. Firms are financially limited and as solution are found reorganizing and selling some shares of company. In such way are acquired additional resources to adjust to crises environment. In literature regarding dynamic capabilities it is mainly emphasized need for firms to change their resource and capabilities and to adapt to environmental change, because inherited routines will lead to less adaption and lead to observing environmental changes instead of adapting to environment.

5.1.2 Orientation to global market

Market orientation is: *"companies' ability to respond to customer, competitors and employee's needs"* (Naidoo Vikash, 2010) in most appropriate ways to be profitable and keep competitive place in market.

Many researchers in literature are stating that: *"market orientation is having positive relationship with performance"* (e.g. Narver & Slater, 1990; Ruekert, 1992; Slater & Narver, 1994) Market orientation is important aspect especially in time of economic crises when customer's ability to buy is less elastic and is harder to sell things. Market orientation is defined as "*understanding and satisfying customers' needs."* (Day, 1994; Narver & Slater, 1990). Kohli & Jaworski)

Some researchers have made studies, which conceptualize innovation as the "*actual mechanism that transforms market innovation into superior performance*." (Deshpandé 1993; Hurley & Hult, 1998; Jaworski & Kohli, 1996)

Companies are gaining access to foreign market through newly established ownership, because European shareholders with headquarter enterprise is contributing with its management approach and providing with additional clients and cooperation partners for product and service selling. This is related to chocolate factory, work clothes design and manufacturing, car industry company that fabricates metal surface for other car building factories in Europe. Small honey producing company has gained high growth of turn over due to selling its product to one of the biggest grocery supermarket chain. Through newly reorganized and gained ownership with foreign partners ore shareholders, are opened new markets, which Schumpeter is classifying as one of innovations category: "Market innovation – opening a new markets Cultural norms play important role in each country. Each country will have different norms, traditions and customer behavior, which is very important to know and take in consideration before creating any opening new market. Market innovation is when new markets are opened to sell product.

Novelties are created by the market initiated characteristics. Important role plays external contacts and communication to gain information about favourable changes and then company tries to adjust and produce expected product what people are buying most. Innovation is connected with market demand in a way more than it was before crises when with good marketing and advertisements was possible easy to sell even things that people actually did not expected to purchase

Company has really integrated all existing resources to reorient sales for outer global market. Respondent was stressing that companies turnover has grown in recent years a lot due to selling product abroad, and that all business values and strategies has been changed to adopt for selling in other countries.

Sales representative explained:*"Economic crises create tendency to grow, we are oriented to export. Enterprise has reorganized and over evaluated its goals and vision, it has changed.*
The strategy is changed. Our vision is tended to export and we have explained also this to our workers. We sell abroad and also produce for foreign."
It gives more approval that approach and strategies that was working in stable economic environment might not work in economic crises environment and in fact each company would need to answer again main questions what normally are asked in business: "What value and what pain we solve for customers, do they still evaluate the same our product? How we are earning money, in which markets we are selling, which is our main customer segments?" In crises need to reorganize all strategies, because markets changes and might be worth to consider to sell abroad, if in so small country like Greece, where lives 1, 6 million people purchasing ability has been dropped due to smaller salaries and all market has become inelastic and frozen..

To implement new strategy chocolate fabric with its 700 employees organized inner meetings and regularly informed all employees of changed goals and strategic decisions, because each employee needs to know vision and main focus they are working for to reach larger synergy and higher efficiency. People need to have the same goal, which is management responsibility to inform all employees. I consider it as important inner organizational capability, because common motivation, learning and integrative approach gives better output. Literature describes many dimensions of dynamic capabilities; the essential dynamic capabilities are:"*sensing and seizing, learning and knowledge creation, integration,* reconfiguration and leveraging." It is organizational capability. Only when team is able to be united and effective, it can also think about different kind of improvements and variations of products efficiency and innovative outcomes, in this case – different kind of chocolate candies and other sweets.

5.1.3 Higher value products gain competitive advantage in time of crises

Products are all the time improved to provide better and higher value and adjusted to customer values and demand characteristics. Barney is defining competitive advantage as better value crating process in such way that no other concurrent have done it before, and competitive advantage is maintained so long as replicate products has not been created.

This strategy of building sustainable advantage by creating higher value products, has been taken in consideration all respondents .Higher ability to overcome crises is to enterprises that provide higher value products than customers are expected. In such way is overcome barrier of inelastic markets. Companies are reaching customers by providing qualitative products in timely manner in such way they reach inelastic market segments "*through delivery of better perceived and actual values"*

The higher delivered value of chocolate fabric that provides competitive advantage is in their full technological process. Representative of export department told: *"We are the only one compared with many European sweet producers, who are having full chocolate processing process. We are nearly the only one in Europe who performs full chocolate creating process in factory - from beans, not from powder or half produced chocolate products, as it is done in other European factories. They buy powder or half made components from other factories and then make chocolate, but we make all ourselves. Beans we transport direct from Africa and we start chocolate creating process from beginning until the end and that is the main reason why we have so high quality."*

5.1.4 Knowledge use as refining dynamic capability

Some company like chocolate fabric is having higher performance because company has long experience and knowledge of creating sweets and chocolate that has been accumulated around 87 years, relatively long experience to accumulate knowledge is also to road construction company, honey production company manger has experience around 20 years in honey collecting. These new innovations are created from previously accumulated knowledge and experience, based on previous

development. Knowledge and resources is building also dynamic capabilities, which are united aspect that unites dynamic capabilities with innovation. Schumpeter and other researchers are declaring that "the evolutionary fit between the firm and the environment is the measure of performance**.**"

Product innovations are created mainly based on the previous knowledge and experience of employees and their suggestions how to improve production process and production technology. (Chocolate fabric, clothes production. Especially valuable are employees with long experience in industry (chocolate fabric) and managers that have leading experience in crises and stress situation to find unordinary solutions and also professional experience in production industry (car building industry, road building, clothes production industry). Schumpeter is clarifying that: "innovation is built from entrepreneurs' prior knowledge and resources. (Schumpeter, 1934**).** Inner learning process of employees also helps to hold productivity and reach higher experience and suggestions how to improve process and product to reach new qualitative parameters of products that would satisfy customer demand by their taste and values. This is case of chocolate factory, clothes production company, honey products with berries. Besides customer demands companies themselves have nominated firms typical quality criteria that are also added into new product improved version. This relates to all interviewed cases: chocolate fabric, road building company, clothes factory and car metal surface production firm, honey firm.

Some products are having even higher expected turn over in times of crises because customers has changes values in the favor of its product, like it is in case of ecological honey products with different tastes of natural berries. Barney is defining competitive advantage as better value crating process in such way that no other concurrent have done it before, and competitive advantage is maintained so long as replicate products has not been created. Barney defined competitive advantage with following words: *"Firm, attains a sustainable competitive advantage when the benefits of its value adding strategy are not competed away by the replication efforts of its competitors "*. Customer evaluate natural product that has high actual and perceived value because in contrast to other products that are full with additives, this product does not had any as chemical additives. Product as such is novelty in food industry, besides traditional honey product and it provides with higher quality. Similar

unexpected growth of demand in crises situation is after chocolate sweets, caramels, and some other products. (There would be needed further research to find out the list of products that are demanded especially in time of economic crises. This list of products might differ in each country due to different customer values, that are affected by cultural values, tastes, norms and perceptions in society as well) Chocolate candies are having also extraordinary high quality due to the rarity of its production process. All the time has been created new improved chocolate sweet candies that satisfy customers' needs. All improved product versions of chocolate and also honey product versions with berries can be seen as product innovations.

Then can conclude that product quality and innovative receipts make the superior value over other honey products. Then I asked to owner of honey production company :" How and when this idea was created? "

Honey production company's owner told: "*No, business idea and recipes I had already in my mind before economic crises, I just could not realize it in that time."* It shows that crises have changed the customers' behaviour and they evaluate products differently than before economic crises.

5.1.5 Innovative products by its concept and innovative product variations creates success

Hill and Rothaermel are proposing theory that: "capability-enabled innovativeness and innovation facilitate adaptation to the environment and success on the markets". (see e.g., Hill & Rothaermel, 2003).This is true to some innovative products like innovative product honey with different berries. The product and business idea involves innovative approach, when honey is mixed with berries, which gives different tastes and flavours. The advantage over other honey products that even more raises the value in eye of customers is that products do not have additives. Nowadays nearly all products have additives, and people understand that it is unhealthy and harmful when such products are eaten every day, therefore food without additive substances, that in old times was considered as a just understandable norm, now has become as luxus food and it is extremely rare to find such kind in shops. Honey is one of these products, therefore it is also considered as valuable beside its nutrient features.

Some products are valuable and are particularly sold in crises conditions than before; some products opposite are sold less. Customers have more power than before economic crises, because before crises all had nearly double higher salaries and may products was bought because customers did not overanalysed where they spend money and in a way didn't evaluate so much what they bye. With fewer incomes people are more carefully evaluating where they spend their money and what they get back. Customer's values have changed in times of economic crises; this changed way of purchasing products and changed customer needs initiates creation of innovative products.

Reconfiguration of organization strategies and companies' ability to find out the value what company delivers to client in times of crises helps to overcome crises

Important aspect that companies have understood is that people are valuating products differently. Incomes of family in households' plays important role of choosing what kind of products are needed to buy regularly and what products might wait .Bennett and Cooper nearly 30 years ago is explaining how marketing innovations is influencing customer demand and their shift of perceived values, that could be very related to market during crises *"Marketing innovation emphasizes growth by shifting customer demand from elastic to more inelastic market segments through delivery of better value – actual and perceived by the customer"* (Benett and Cooper,1979;Hurley and Hult, 1998). Despite this fact that many products lost markets, there are some few products where the total amount of sold products was growing, because customers evaluate them by the value they give to them, like it happened with natural honey mixed with berries, product is not having additives.

Before crises there was bigger chance to sell any product because incomes were nearly double in families. Certain products simply are not bought because people can't afford them to buy and they don't consider them as valuable and needed when the value of money is high, when the work done for the same money has to be done double more than before crises to buy some certain products, if there is another cheaper and more ecological solution for example like honey instead of snugger. Honey with berries is innovative product and added value and competitive advantage

lies in fact that berries are not boiled and there is not added any additive substances or snugger, it is ecological product.

Owner of honey production company answered to question how crises affected his business:" "It has been positive changes in last years. Actually, personally my enterprise has just expanded and benefited from economic crises. I am selling much more products to shops and potential clients than I did before economic crises. Before it was very hard to sell honey in such amounts like it is now. I know that other fields have suffered, but honey production has just benefited from crises."

5.1.6 Technologies are fostering creation of innovative products

Technologies are serving and fostering creation of innovative incremental improves of products and processes (laboratory equipment and production equipment in clothes and car industry) mainly technologies are provided with the financial support of foreign headquarters companies support. State and government has not supported or provided with new technologies and equipment. Without financial support these companies might not be able to continue their performance in such level as they are doing now, when it is observed even slow growth and starts some stability period.

5.1.7 The reaction speed to market changes helps to keep advantage over competitors

The speed to react in right time to market change plays important role. Ability to adapt to environment in appropriate time and consistent manner plays important role. All inner organizational dynamic capabilities are activated in the way that all resources are oriented to fit with environmental change. Schumpeterian view points out that: "capabilities and routines contain firm’s fundamental structure". Each company has its routines and daily performed operations that provide delivery of final product, but the fit between these routines and environment is describing to which

extent firms have positive fit with environment. Literature is mentioning that firms are benefiting from dynamic capabilities and operational capabilities, and that: "*environment effects and moderates the need and use of these dynamic capabilities*" (Ambrosini, Bowman, & Collier, 2009; Eisenhardt & Martin, 2000; Zahra, Sapienza, & Davidsson, 2006).

This has been done by regular market analyzes and weekly meetings when top management takes decisions how they will organize their work and resources for that particular week until the next one week. Companies are more sensitive to the change of environment and market than it was before and the speed of reaction to environmental has been growing in companies that are leaders in industry, but the rate of adapted innovations is moderate, it depends on each industry separately and characteristics of enterprise – size, organizational structure, available finances, the professionalism of employees, inner work processes and work norms.

5.1.8 Organization structure and management style affects innovativeness

Organization structure and management leading style affects information flow and ability to respond to environment change by efficient use of all resources in right time, this is inner dynamic capability that inner resources are reorganized to achieve higher performance and competiveness. This can be related to clothe production company, car building industry administration department and chocolate fabric. Companies which are taking decisions in integrated and elastic teamwork are more able to adjust to change and create new product versions or at list products with higher quality than that companies which has mechanic strictly planned structures. Clan structure can be related to clothes, car industry, chocolate fabric .Clan form (Quinn and Hall, 1983) puts main effort to be united team, and success in company is defined in terms to customers and clients and satisfaction for organization members. This is the structure of chocolate fabric, because they have exactly this goal to satisfy clients' needs and to have united team.

5.1.9 Sensitivity to customers' needs

Sensitivity to customers' needs has been mentioned by clothes designing and manufacturing company, company that manufactures of car metal surfaces, chocolate fabric, road building company and honey producing company. The sensitivity to customer needs makes companies to create products that satisfy clients' demands, and for company members company tries to provide better climate, where employees can achieve better result and develop themselves. The only difference from this sensitivity theory in my cases is that not always structure is flexible.– but usually Such organization can be often characterized with high differentiation and professionalism. Company that operates in car production industry is not flexible in lower level in manufacturing department; they should follow and obey the hierarchy in company. Chocolate fabric can be described as clan structure with more elastic approach, because respondent stressed that most valuable are suggestions from old technologists and they take it in consideration, when creating new versions for different customers.
Honey products also are produced and sold by customer demand. When I asked:" How does company keeps clients", answer was:

Yes, all the time we think about new receipts of honey mix and more we produce what has been sold out, , which product is going good and in common dialogs I get information what kind or products are needed to produce. We also try to invent new offers and then shops let me to know how they are selling." Communication and change of information plays important role between customers, suppliers and producers.

Organizations are more sensitive to environmental changes and market changes, they try to be as responsive as possible by organizing regular meetings and transforming all information in much faster ways inside company than it was before crises. Reaction and speed to adjust to market changes plays important role in cloth production enterprise, car metal surface production company, chocolate fabric and similar attitude was also in other companies that speed to react and inner organization to adapt to demand is very important:

"We are much sensitive to market changes, to clients demand and their wishes, we all the time follow the models that they order more often to understand tendencies and to know what is more demanded and what less.., we have to predict and react more faster than before economic crises. We are much more, how to say…, more sensitive and faster in our reactions to clients wishes. We are more responsive and responsible in our decision, what to produce, we are evaluating more often situation what we are planning to produce and in what amounts, otherwise we will lose incomes and clients. Every week we evaluate and plan before starting production process". There is described is companies' inner dynamic capability to adjust and reorganize inner resources to demand in appropriate speed. The company is sensitive to changes and tries to respond in appropriate speed. Lengnisch Hall in 1992 explained that : "Speed relates to timing in which firm is adapting innovation and speed shows firms ability to response fast and quickly in comparison with competitors"

The number of adapted and created clothes designs has not been named, but from answer that they evaluate each week, it also shows that they all the time adjust some minor improvements in designs that more satisfies clients. One of main concerns is continuously to improve designs according to demand.
Inner dynamic capabilities are main source for incremental innovations for existing products. Mainly in my interview cases incremental innovations are created, radical innovations appears over longer time.

5.1.10 Innovation variation and quantity depends from industry

There are fields that are connected with state politics like road building industry in my research case, and it hinders innovation. In different countries these rules and industries might differ.
Laboratory leader from road building company explained: *"Yes we did testing, but just in regular testing to meet minimum certification requirements, general tests. In road construction and building process there was not much innovative activities. Very minor improvements or innovations are possible to make, nearly nothing, because if*

builder wants to build more qualitative roads from new road materials it costs much and then it is not worth to perform works, also is hard to take any tenders. All what is qualitative costs more and that builders can't afford. All decisions are made without research, without quality, because then we simply will not be able to earn nothing!"

Ability to innovate is limited from the nature of product or other outer aspects that might hinder innovations. In road building company state politics and state tenders how they are organized, lack of finances does not let builders to create novel innovation projects or use more expensive materials. Financial limitations from point of providing service or accomplish final product, especially it is important in building industry and road building industry.

In car building industry where technical parameters should be followed, is harder to invent changes than it is in food industries where receipts can be improved easier. To question: "*Does there is some space for innovations or some novel things, which company could add during production process?" respondent answered: "not really, we can't change parameters, we have to produce precise montage details how clients are demanding, but once this parameters or specifications is received our quality department together with production and logistic department things how to fulfill quality demands and client wishes. We can't invent anything much new; just from point of quality improve final result."*

5.1.11 Fitness with environment moderates firms' ability to adapt innovations

All respondents told that they try create changes that fit with customer demands. The ability to fit with environment is especially important in crises environment. Due to environment is influencing properties and behavior of firms then open environment system plays important role to firms' competiveness and innovativeness..That is reached by using organizational dynamic capabilities by integrated communication, meetings, common problem solving approach are found new solutions and better product versions that are economically most viable solution. These process happens

all the time and it fits with Leonard – Barton statement that :"The innovation fitness to environment, that is created by valuable dynamic changes in organizational level, it cannot be taken as absolute state, because after some longer period of time it might not be actual and not fit anymore with environment." Dynamic capabilities are very much connected with creation of innovation because through renewing, extending and modifying existing resources are created new innovative products that more fit with demand in that particular time and in such way they also promote fitness with environment

Main finding is that inner dynamic capabilities are used to creating incremental improvements and variations of existing products in times of crises. Improved products by some characteristics and parameters are product innovations by Schumpeter classification.

Researchers are agreed that :"*Dynamic capabilities pompously initiate change and renewing of existing tangible and intangible resources in way that new opportunities are realized in practice by creating new products that better fit with environment." (*Makkonen,2014; see Eisenhardt & Martin, 2000; Helfat et al., 2007;Winter, 2003; Zahra et al., 2006; Zollo &Winter, 2002). Renewing capabilities are more related to refreshing nature of source, for example, creation of new product lines. Adaption to environment can be seen as exploration process and successful management of current business demand can be seen also as exploitation operations, Doty is stating basic theory regarding organizational effectiveness and firms structure: "*organizational effectiveness is high for firms, where environmental change fits the structure and innovation adoption characteristic portrayed''* From my cases this can more fit to chocolate fabric. In case of chocolate fabric and clothes productions all the time are created new models or "*new product lines that are refreshing the nature of basic products"*. These small product variations that fit with environment still is considered as real innovation if it has even minor quality improvements

The firms changes through dynamic capabilities to adapt to environment. Dynamic capabilities refer to organizational change, which fosters and promotes innovation and as a result gives better evolutionary fitness.

Innovative honey mixtures with berries can be categorized in environmental condition EC3, where environmental stability is unstable and predictability is high. The rate of

adaption of innovations in this condition is high and speed is moderate depending on demand. In the same environmental condition can be categorized chocolate fabric and clothes manufacturing company, they have organic clan structure and they are also able to adapt innovations in moderate speed

Car metal surfaces manufacturer can be categorized in environmental condition EC1, where innovation adaption by rate and speed is slow. Road building company relates to environmental condition EC2 with low rate and fast speed of adaption, because of limitations the number of innovations is less, but once some innovation receives permission from management to be realized in practice, it will be fast implemented, because all knowledge, technology and human resources with needed skills company is having. Innovations can be implemented fast.

Unfortunately none of my research cases does not match in four environmental condition EC4 by F Damanpour environmental theory, where speed and rate is unpredictable and inner culture is to promote innovative solutions, because my interviewed companies are small and medium side and are not so large leading leaders in industries. Usually such companies are telecommunication companies, leading computer manufacturing companies, research oriented biogenetic research companies and pharmaceutical firms. It could be case of Apple company, Dell computer company or other large and well known pharmacy companies. This condition could be specially expressed to more dynamic environment in particular named industries and more related to time before economic crises.

6. Conclusions

Economic crises makes people to evaluate what they are willing to buy and what products are worth to buy with incomes they get, in a way there is more consideration where money has been spend. Due to this circumstances without will people are having bigger purchasing power than before crises and demand is allocated toward more quality and valuable products than it was before crisis. Companies need to make sure that products they manufacture or offer for customers will meet expectations and values in crises situation, this process relates to firms adaption to crises environment.

Products with higher delivered value and innovative products like honey with berries are having competitive advantage in times of crises because they are more evaluated from customers.

Adaption to environment can be seen as exploration process. Successful management of current business demand can be seen also as exploitation operations. All companies are trying to adapt to crises environment and more effectively use management skills, therefore managers with ability to find solutions in crises and stress situation are especially searched by their field of expertise as it happened in company that manufactures and assembles automobiles metal surfaces.

After conducting interviews with five different companies, main finding is that: Dynamic capabilities positively affect firm's ability to generate innovative products. Dynamic capabilities plays big role when financial resources are less. The lack of finances is solved by reorganizing ownership and selling some shares of company to foreign companies. Many researchers are naming following dimensions of dynamic capabilities: "*sensing and seizing, learning and knowledge creation, integration,* reconfiguration and leveraging." , then in my research also can see that ability to sense and see market opportunities and using existing knowledge for creation of new product variations plays important role to lead to recovery and growth of companies.

As a result of crises, external dynamic capabilities also plays important role, for example all companies expressed that they are adjusting production to sell products to Europe market and are searching for new markets, meaning firms capacity and ability to switch from domestic to foreign markets. Recently growing companies

have tendency to switch all processes to global market. Opening new markets is one from five innovation combinations or types by Schumpeterian innovation definition

Companies has lost their previous clients and possible customer segments and now in time of crises again companies try to grow and find potential customers with even more improved performance, faster dynamic response and higher quality products in different variations. This is case of clothes manufacturing, chocolate fabric and honey products. Before starting and opening business in some other countries need to meet customers' needs and values and perceived norms of what is fashionable and valuable.

Dynamic capabilities are main force that generates innovative incremental changes in existing products. Clothes production company regularly are organized meetings and created new designs of clothes based on clients wishes and most frequent purchased clothes designs from catalogues. Chocolate fabric also is adjusting and creating incremental innovations based on existing knowledge and previous product creation technologies, that new variations can satisfy customer needs. Are used organizational capabilities by organizing regular meetings. Renewing capabilities are having refreshing nature of source, for example, create new product lines, and development of these capabilities lies in reconfiguration and learning. All products are trying to create fresh variations in my research cases, or at list higher quality products like it is in car surface production company and road building company. Companies are having inner learning processes that are aimed to educate especially new employees. These all are incremental innovations that are characterized with high value and are oriented to satisfy market demand. In companies that are having innovative incremental changes and are even growing, dynamic capabilities are playing main role in companies' performance.

Companies are activating inner organizational capabilities to reach more effective outcome with available resources in timely manner. In company that produces metal surfaces by customers technical parameters solutions are found in integrated approach when quality department works together with logistic and production department. They mentioned that it has become more important to transfer important information in right time. It means that also speed of reaction and ability to create innovative solutions is important parameter in time of economic crises.

Clothes production companies' respondent told that difference in performance from time before beginning of economic crises is in "sensitivity how company reacts to changes" of market demand. The speed and sensitivity to react to environmental changes plays important role to companies fit with environment and it fosters creation of some small improvements and novelties. Chocolate fabric respondent, clothes production respondent, car metal marts manufacturing company and honey company manager approved that speed and inner ability to adjust product improvements to demand has become extremely important. Lengnisch Hall in 1992 explained that speed importance in time of economic crises: "Speed relates to timing in which firm is adapting innovation and speed shows firms ability to response fast and quickly in comparison with competitors." Dynamic capabilities are associated with speed and it indicates growing importance of dynamic capabilities in time of crises. Companies are adapting innovations in appropriate speed by organizing regular meeting. Evidence of an internal DC are mentioned, that management regularly at list one time per week organizes common meeting, when all week plans are discussed that companies performance can match with environmental change for that particular week.

Communication in firms' fosters faster reorganization process and innovation adaption process. By meetings and frequent inner change of information happens more efficient use of existing resources and resource transformation. Efficiency to change and deliver information has been mentioned as one of priorities in inner performance in car metal surface manufacturing company. In this case company can compete just by precise and qualitative products, because technical characteristics given by clients are not letting to create any other kind of innovations. In this case more qualitative product or better quality of product also is considered as innovation type by Schumpeterian innovation definition, it is "*product innovation"* (Schumpeter, 1934).

Foreign investments in companies and reorganizing ownership is one way how companies are finding solutions to limited financial resources. Companies are more globally oriented by investor management team guidance or head quarter company suggestions. Financial support and organizational unity with foreign shareholders help to find potential business partners in foreign countries and it plays positive impact on companies' ability to overcome crises negative affect and create also innovative competitive products. In such way is provided work to employees and opened new

markets as well. Incremental innovations in product in longer time shape new product variations, which satisfy also global market.

By effective exploiting all resources and technologies and in parallel exploring of market environment changes are created new innovative product versions. This is the case of clothes manufacturing, company, chocolate fabric and cars metal surface production company, only road building industry is less able to create innovations due to state political restricted tenders. Ability to innovate depends of product or industry type. Some companies in particular industries can afford to create more variations than others companies that are creating more precise and technically reglamented products and services.

Elastic and clan structure help better to create innovative products in firms are such firms are more able adapt innovations. Mechanic and complex structures inhibits communication between levels and creation of innovation.

6.1. Further research

My research might draw picture and broaden understanding of crises impact on innovation, but it could be suggested that further research might be done in other countries as well, because it is not possible to put equality sign and generalize that equally similarly in the same way are affected other countries due to cultural, historical and economic situation differences, even though some findings could refer to other countries similarly. Many countries felt the same negative effect from recent economic crises and entrepreneurship has suffered a lot from crises.

In my qualitative research with semi structured interviews there has been gained results just from five different companies within different product fields, but would be recommended to broaden and continue research by interviewing companies also from other industries, then it would give more sure results that could be generalized without any doubts. Might be needed also to interview and research industries where speed and rate to innovate is unpredictable, that would match to environmental condition EC4 by Damanpour and Gopalakrishnan structural theory of environment conditions.

These companies are larger and usually are industry leaders, like leading computer developing companies, pharmacy and bioengineering companies. Such companies are not included in this research.

As my thesis come to conclusion that ability to innovate is different in different industries, further research could be done to name the more creative and innovative industries in contrast with that industries where ability to innovate is limited by some outer factors and technical parameters, that is related to that particular field.

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Appendix

Constructed questions about conducting interviews

1. Can you tell me a little about your company? When it was founded, how many employees you have, and what are the company's main products? Which markets you do You sell products ? (introduction question)
2. How does the financial crisis has affected your business and innovative activities in your company? In what way and how? Can you give examples? I am especially interested in how the financial crisis has affected the business of innovation activities. (Innovation oriented question)
3. How happens decision making process in your company, has there something changed in company management and organizational performance in times of economic crises? (Dynamic capabilities oriented question)
4. What is particularly important to reach higher performance, what has changed in company in times of crises? (Dynamic capabilities, quality and performance questions)
5. Does the economic crisis gave some new business opportunities for your company? If yes, in which ways ? (Market searching and competitive advantage related question.)
6. What resources play a key role in creating new products, how happens improvement initiation process to create new versions? (Dynamic capabilities oriented question)
7. Which resource has the greatest power in decision making and how these resources have changed the role in the times of financial crisis? -Knowledge; Technology; Finances for innovation and the development of the research process;- Lack of trained and experienced human resources ,- Government support; Laws and regulations , or other aspects ? (Dynamic capabilities oriented question)
8. What kind of improvements are more - radical or incremental improvements, how often such improvements are created and how they are appearing in company? (Innovation oriented question)

9. What is the company's core strength and strategic lines to keep efficiency and keep the market in these economic crises times? Whether it has changed over time as a result of the financial crisis? Could you tell some examples? (Strategy and market oriented question)
10. How would you describe the structure of the company, does the structure promotes innovation? (Structure affect ability to innovate, therefore innovation related question)
11. Can you predict economic changes in circumstances in country and how you manage to adapt to the new changes? (Adaption to environmental change)

Sub – questions

1. How are created final product and could You describe all companies production process
2. Who is taking the decisions in company? How company is deciding to approve some product version or some solution instead of other, does it has been performed some analyze before it?
3. Does economic cries conditions affected company innovation processes in last 5 years?
4. Does the lack of finances stopped to develop new versions or completely radically new products or services in your company?
5. Does Your Company had some improved versions of the same product that bring extra incomes or raised effectiveness inside company, compared to old product version?
6. Do there are still being discovered and improved services and goods in last years or not? In what way it is less and why?
7. How big role plays technologies in providing better quality products?
8. How do you evaluate competency of employees, does they contribute in production process?
9. How does company raise the competency of employees, it is hard to find appropriate people with needed skills in time of crises? Does there are some , do You organize some inner learning