

Finland's Loss of Competitiveness from 2007 to 2017

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<p>Abstract</p> <p>After the breakthrough of the Finnish telecommunication cluster -Nokia being its key driver- and the well-known paper industry, Finland has had outstanding economic performances since the last decade of the past millennia. However, at the turn of the 21st century, Finland's global competitiveness forefront position wavered, and a weakening begun specifically after the onset of the Global Financial crisis of 2007. This welfare nation has not regained its glory days ever since.</p> <p>The objective of the present study was to gain insights into the factors and determinants behind Finland's loss of competitiveness between 2007 and 2017 and to highlight their impact on the Finnish economy.</p> <p>A qualitative research approach was chosen, and the primary data was collected through semi-structured interviews with three prominent Finnish professionals. Additionally, secondary data was acquired from trustworthy sources such as the Bank of Finland, Etila, Statistics Finland and the EU Commission reports. The World Economic Forum's Global Competitive Index was selected as the theoretical framework which rigorously guided the overall process of the present study.</p> <p>The findings revealed that the downturn of Finland's competitiveness was related to three pillars of the GCI: macroeconomic environment (III); goods market efficiency (VI); and business sophistication (XI). Insufficient funding, restrictive labor regulations, limited ability to innovate, high cost-competitiveness, ageing population and the downsize of the mobile and paper clusters were among the causes of Finland's abated level of competitiveness.</p> <p>Practical implications for future development were suggested including efficient allocation of funds, reforms to the welfare system and labor regulations. Recommendations for further research activities involved an exploration of a similar study comparing Finland's competitiveness performance to its peers and an investigation of Finland's financial market development that showed an impressive growth during the studied period. The limitation of the present study was its generalizability because national competitiveness includes a range of factors and determinants which affect countries differently.</p>		
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1 Introduction

“National prosperity is created, not inherited. It does not grow out of a country’s natural endowments, its labor pool, its interest rates, or its currency’s value, as classical economics insists”

-Porter 2008, 171

In a world of growing globalization, nations have become increasingly decisive when it comes to the establishment and absorption of knowledge, which is the utmost driver for any country to compete on a global scale. Refined industries are the cornerstones of any developed economy, and their ability to innovate and upgrade is due to the country’s competence in creating the substantial determinants of production e.g. specialized human resources and scientific research institutions among others, consequently, setting the difference between a competitive and a non-competitive nation. (ibid.)

1.1 Background

Nowadays, hardly a day passes by without countries competing, running up the ladder of global competitiveness to achieve higher standards of living, productivity, prosperity and to attract foreign investments.

The controversies about the meaning of “competitiveness” have been held for a long time, as many researchers and institutions agreed upon the bewildering variety of ways to define it. Various authors, researchers and organizations elaborated definitions in a way that mirrors their disparate viewpoints. However, economists’ most prominent definitions oscillated around productivity and prosperity (Delgado, Ketels, Porter & Stern 2012, 6). Specifically, the World Economic Forum (WEF) (Schwab 2017, 11) defines national competitiveness as *“the set of institutions, policies, and factors that determine the level of productivity of an economy, which in turn sets the level of prosperity that the economy can achieve”*.

Countries aiming at economic development and prosperity, employ specific strategies relative to their unique physical, social and political contexts, which consequently determine their level of competitiveness in comparison with others (Porter 2008, 171-172). As a matter of fact, this term highlights three important benefits: (a) productivity, which creates wealth and higher living standards; (b) more a country is productive and prosper, more it attracts investments; and (c) competitiveness implies economic resilience and stability (Schwab 2017). Prominently, a nation's objective shouldn't only involve its competitiveness but the means to sustain it as well. Unreasonable as it may seem, the concept of nations' competitiveness can be misleading, it doesn't refer to a zero-sum game where the gain of a party is balanced with the loss of another, a nation's level of competitiveness can go down even if the latter is improved (Sala-I-Martin 2016).

In line with this, Finland a remote Nordic country has been a pioneer in terms of global competitiveness. From resource driven to knowledge driven economy, this country's economic performances have been on the international competitiveness leaderboards since the last decade of the past millennia. However, at the beginning of the 21st century, Finland's global competitiveness forefront position started waning and specifically a weakening begun during the Great Recession, the country has not regained its glory days ever since. This research is an attempt to understand and provide elaborate explanation to the reasons and factors behind Finland's weakening levels of competitiveness over the last decade.

Finland, is a remote country with a total area of 338,145 square kilometers (Statistics Finland 2018), located in the northeastern corner of Europe, forming a symbolic border between western and eastern Europe. Neighboring Norway to the north, Russia to the east, Sweden and the gulf of Bothnia to the northwest and the Baltic sea to the south. Finland is one of the most sparsely populated countries, with a low density of 18 people per square kilometers and a population of 5,550,976 as of December 2018 and an average annual growth of 0.4% between 2000 and 2018 (Worldometers 2018). The largest city and capital: Helsinki with an urban population of approximately 1.5 million inhabitants, standing for roughly 27% of the total population in 2018. The Finnish economy was historically driven from the wealth deriving from its natural inherited resource endowment: trees, forests standing for more than 76% of

total land area in Finland. Hence, leading to an overabundance in timber and a substantial paper & pulp industry. Speaking of industries, this Nordic country's prominent businesses are in: (a) Forests leading to pulp & paper industry (and production of related machinery) which in turn was a driver to the production of bioenergy; (b) metals; (c) electronics; (d) chemicals and (e) industrial machinery & shipbuilding. (Statistics Finland 2018.)

Until the 1990s, lying in the gloom of its hefty neighbor Russia, Finland was considered an isolated and sleepy country in the northeastern corner of Europe. Being a part of Sweden for six centuries, until 1809 when it was renounced to Russia, Finland gained its total independence on the 6th of December 1917, joined the European Union in 1995, nonetheless adopted the euro later in 2002. Anyhow, even after 1917, Finland was still breathing heavily in terms of economic development and depending largely on Russia. Through many initiatives of the Finnish government to innovate and invest in R&D related to social welfare and infrastructure, in the 2000s Finland became one of the fastest growing economies in the world and gained a leading competitive position. (Sölvell & Porter 2011.)

On the turn of the 21st century, Finland was a country that has successfully transformed itself from a resource-driven to a knowledge driven economy. The birth of the ICT cluster, Nokia as its main actor and the abundance of forests helped boosting Finnish economy to its peak, throughout the 1990s to the beginning of the new millennium. After joining the European Union in 1995, various integration and harmonization of many laws and regulation brought Finland into the EU Common Market which implicitly meant a full removal of trade and investment barriers and a substantial increase of trade volumes with other EU member states. (ibid., 3-4.)

The degree of market openness implemented through liberalization of trade and investment stood for a key driver for Finland's economic growth. Especially for innovation performance of its telecommunication industry, by appreciating competitive pressures, easing technology and knowledge relocation, also generating economies of scale for R&D investments and leading to high economic performances. However, market openness is not an adequate condition for generating technology and innovation retention, which is crucial for economic growth in productivity. (Lesser 2008.)

The Finnish government has played a significant role in nurturing a favorable business environment for innovation, by implementing effective R&D investments (mostly dedicated to initiate businesses' innovation abilities), education policies and strong links between industry and academia through institutes of collaboration. Those institutions are: (a) The Science and Technology Policy Council (STPC), who is a lead actor in Finnish innovation policies recommendations; (b) TEKES, the National Technology Agency; (c) SITRA and (d) The Research Institute of Finnish Economy (Etlä). (Werner 2003.)

Finland's welfare economy is globally known, the key factors of this economic status oscillate around 3 mains areas: high quality education, promotion of equality and national social health and wellbeing system, all leading to the citizens' better quality of life. Hence, the investment in Research & Development (including public, universities and enterprises), placing Finland among the biggest spenders with an expenditure of 2.72 as a percentage of total GDP in 2017. This remote nation is known for its exemplary social health system, achieving a leading global position, ranking first in the world in 2017. Additionally, Finland cares a lot for the education of its citizens, as they are the resources to build the future, having a sophisticated high education system, ranking 2nd to best in the world and having 73% of total population with educational qualification. (Statistics Finland 2018.)

Anyhow, according to WEF's Global Competitiveness Index (GCI), Finland has been dominating the leaderboards since the beginning of the 2000s (see Figure 1).

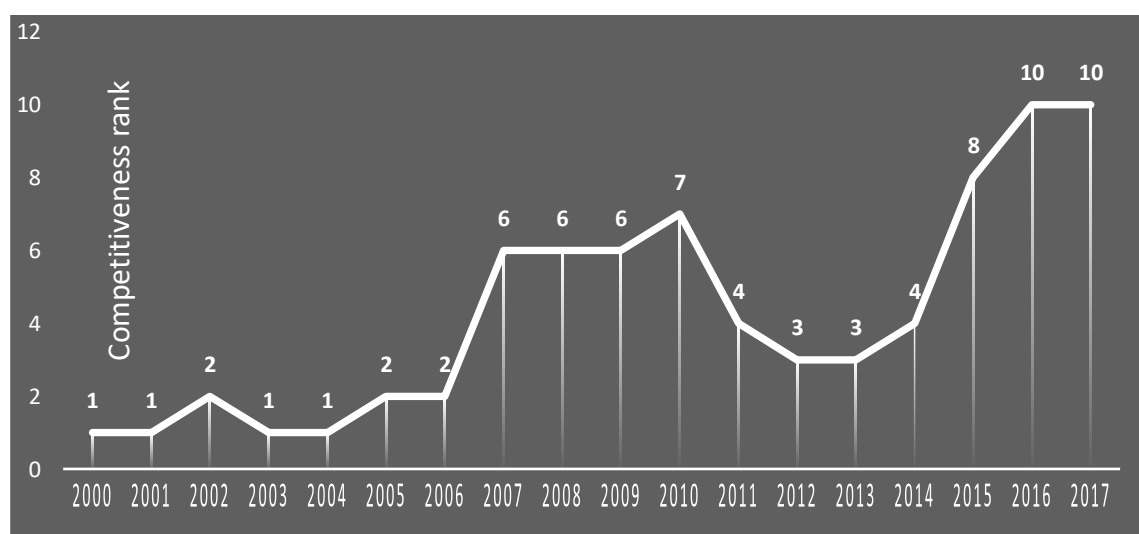


Figure 1. Finland's competitiveness rank 2000-2017 (adapted from GCI 2000-2017)

Nonetheless, according to Figure 1, starting 2007, Finland was slowly but surely fading from the forefront seat and a gap was created, eventually, the country never recovered, kept the downturn trend and was never to see its glorious days again, hitting the 10th place in 2017. Amongst regional and local crisis, the Great Recession was a global phenomenon, yet it didn't impact all nations similarly. Some recovered and others didn't, the determining factor was the countries' economic resilience to crisis, which was not the case in Finland. (Suni & Vihriälä 2016, 3). In this research, the reasons that led to such competitiveness downturn will be studied through an extensive longitudinal analysis of the different pillars of the GCI to identify the potential problem areas with the Finnish economy, then triangulating results with qualitative approach to understand the reasons behind such phenomena and their impact on Finland.

1.2 Motivation for the research

Finland's competitiveness has been of interest for many researches and studies trying to explain and explore how this remote and scarcely populated Nordic country successively reached a global forefront position. Mainly, those literature where about the miracle ICT cluster and Nokia being its key driver: Successfulness of the ICT cluster (Paija 2001) and the Impact of Nokia on the ICT cluster on Finland as a whole (Hirvonen 2004; Rouvinen & Ylä-Antilla 2003) for example. This forefront position was mainly due to Finland's innovativeness in the field of information technology. Furthermore, after the decline of this so called miracle cluster due to Nokia's inflexibility and inability to cope with market dynamics to say the least, many academic literatures were interpreting what went wrong with the Finnish ICT and/or Forestry clusters: Reasons behind Nokia's failure and its impact on Finland (Ali-Yrkkö 2010) amongst others. Nonetheless, the studies involving Finland's loss of competitiveness -as a country- were few or limited to a certain time, especially when using data from GCI: Impact of the Great Recession on Finland's competitiveness when compared to its Northern Peers (Suni & Vihriälä 2016) and the Paradoxical Competitiveness case of Finland (Apunen & Pajarinen 2013) as examples.

As previously explained, a country's competitiveness determines the level of prosperity, productivity and standards of living. On societal level, the purpose of this

study is to provide citizens with a holistic understanding about the reasons behind governmental actions, such as rising taxes, increased R&D spending and the famous Finnish competitiveness pact for instance. Productivity is of utmost importance, a loss of competitiveness directly means a decrease in productivity, because it's the main driver for growth and economic development, which is closely related to human welfare. Therefore, understanding the causal sequence following a decrease in competitiveness is crucial, as well as perceiving the role of governments acting as catalyst which can hinder or bolster a nation's global position. Furthermore, governments might use this information to have a comprehensive perspective of Finland's loss of competitiveness which can assist in policy making and regulations both which are desperately needed to mitigate or cope with future occurrence of such phenomenon.

Economics have always interested me, the way government, individuals, businesses and households make decisions upon the allocation of their scarce resources to generate more value, productivity and prosperity. Competitiveness, as bewildering as this term can be, is of utmost importance to countries to improve their economics and offer the best standards to their respective citizens. As many others, I understood it broadly from news, professionals and relevant literatures and researches, however never had the chance to dig deeper and have a narrower understanding of the factors that are salient to achieve competitiveness and the means to do so. Incarnating another research about the successfulness of a country was not my goal, as it was already done and understood, I wanted to conduct a distinctive study. Before coming to Finland, the country was familiar to me because of its well-known welfare system and Nokia, anyhow I didn't have a clue that this nation has been a leader in terms of global competitiveness. Particularly, during my track studies in economics of competitiveness and internationalization, I learned that Finland started experiencing problems in the aftermath of the Great Recession and was ever since on a downturn. As a matter of fact, this raised concerns about the Finnish economic resilience, and I was very motivated to discern the reasons behind such happening to a country that seemed to be untouchable in terms of global competition in the beginning of the 21st century. After all, the best way of learning is through mistakes that would be an opportunity for improvement and eventually success, hence my choice for Finland.

Additionally, through this study, I will enrich my academic research and writing skills, as well as refine my data analysis, all-in-all to provide a well written and elaborative explanation of the facts backed up by literatures and evidences. Consequently, introducing a research paper that could potentially offer relevant knowledge about Finland's competitiveness plunge to all interested stakeholders.

1.3 Research approach and structure


Research problem and objectives

Teivainen (2018) during an interview conducted by Helsinki Times with Vesa Vihirlälä the managing director at Etna, reported that the latter has pointed cautionary concerns regarding Finland's downturn growth in the aftermath of the Great recession and says, *"the growth has been notably weaker than the EU average"*. After the breakthrough of the Finnish telecommunication cluster, Nokia being its main driver and the well-known forestry industry, Finland has had outstanding economic performances since the last decade of the past millennia up until Lehman Brothers' collapse starting 2007. Thus, this industrialized, and knowledge driven country felt a heat emphasized by its weakening levels of competitiveness, falling from the global leading position to 10th in 2017. Therefore, through this research, the researcher aims to gather data backed up by literatures to understand what happened to Finland's competitiveness during 2007-2017. Determining the factors that led to such downturn and their respective impact on the Finnish economic.

Research Question and approach

"If I had an hour to solve a problem and my life dependent on it, I would use the first 55 minutes determining the proper questions to ask" -Albert Einstein, n.d.

After reviewing all the relevant literatures on countries' competitiveness, the following research question was formulated:

 "How did Finland lose its leading competitiveness level in the aftermath of the Great Recession of 2007 and over the last decade?"

To answer to my research question, my study will be a qualitative and longitudinal case study by nature (refer to chapter 3. For detailed information). In other words, comparing Finland's competitiveness level through a range of factors over a period of 10 years i.e. since the Great Recession until 2017. It is very important to take an informed decision about the research design, as it will determine which data are more relevant and the procedure of collecting and analyzing it. The qualitative approach is more flexible and suitable for my research objective, as it is conducted when a certain problem needs to be further explored (Creswell 2007, 39-41). Necessitating a study of small sample of individuals via semi-structured interviews, to reveal alternative explanations, as it involves the conclusion of an argument based on given evidence. (Saunders, Lewis & Thornhill 2009, 125-127.)

To help me direct and organize my data analysis and the overall process of my research, WEF's Global Competitiveness Index has been taken into consideration as the theoretical framework for this study. GCI involves 12 pillars which purpose is to assess and evaluate a nation's performances on multiple levels and aspects and eventually computing its total global rank. The relevance of my choice goes on the fact that GCI uses various data and nations' level surveys conducted with the help of partner organizations (i.e. IMF, World Bank, UN agencies) to eventually assess nations competitiveness based on global ranking. (Schwab 2017.)

It also aims at capturing the underlying drivers of productivity and their differences, consequently, analyzing the nations' growth stages and development. Another argument is the broad consideration that this framework includes to assess nations competitiveness level, through detailed sub-indexes to particularly identify and give a more holistic understanding of problematic areas in the Finnish economic performances, hence, it will help me design my qualitative interviews accordingly.

1.4 Structure of the thesis

The following chapter i.e. chapter 2 would be the relevant literature related to my research question and objective, providing a critical review to develop, understand and link previous researches to this one. Then comes the "Methodology" chapter 3, where the researcher will provide a detailed explanation of my research approach

and context as well as the argumentation for data collection and procedure for data analysis. Succeeding this is the chapter 4 “Results”, where the researcher will try to clearly and concisely communicate answers to my research question. Finally comes the “Discussion & conclusions” i.e. chapter 5, which involves a summary of the findings, implications, link of the results with the literatures discussed, limitation of the research and finally my recommendation for future research.

Additionally, Figure 2 shows the overall procedure in conducting this research

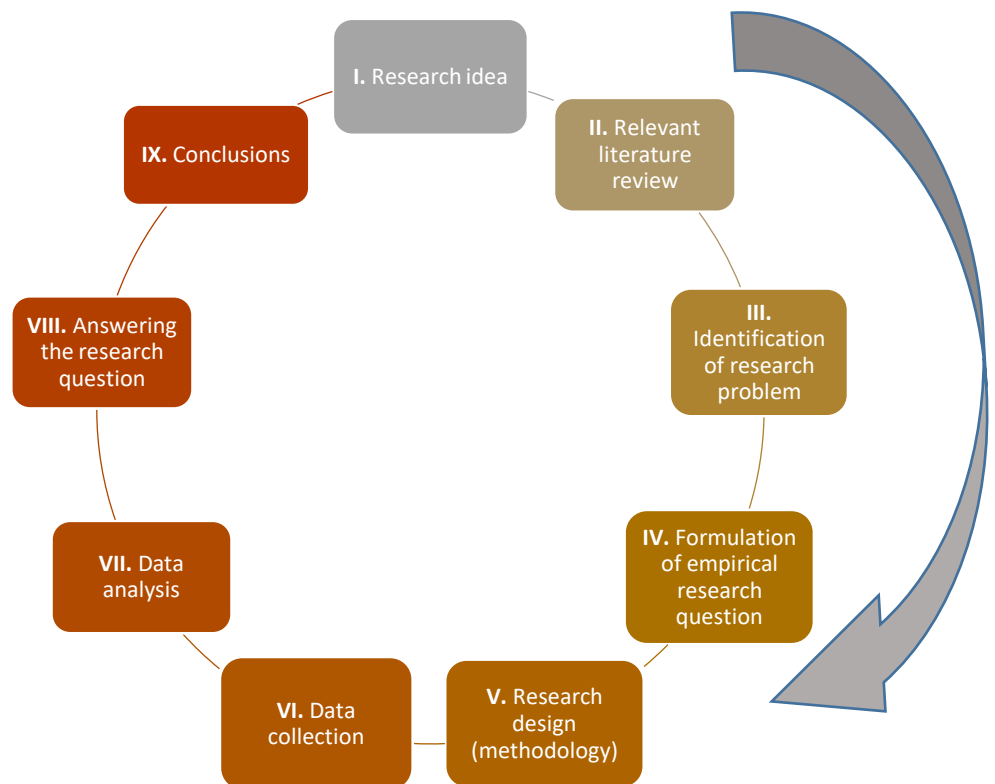


Figure 2. Overall research process

Briefly, after reading and reviewing literature relevant to this topic, the research problem and empirical question were formulated. Next step would go around deciding the research methodology which shapes the data collection and analysis methods. Therefore, leading to results that answer the research question and completing with a discussion emphasizing on practicalities, assessment of those results in term of literature, limitation of the research and future recommendation of the research.

2 Literature Review

2.1 Contrasting approaches assessing National Competitiveness

The debates on the meaning of “competitiveness” have been held for a long time, as many researchers and institutions agreed upon the bewildering variety of ways to define it. Various authors, researchers and organizations are elaborating definitions in a way that mirrors their disparate viewpoints. Some defined it as the ability of a nation to compete internationally, while achieving high standards of living and economic prosperity (Huggins, Izushi & Thompson 2014); though, others focused on the ability to achieve specific economic outcomes such increasing exports and attracting foreign investments (Garelli 2014). Ultimately, economists’ definitions roamed around productivity and prosperity (Delgado et al. 2012, 6). However, the evolution of the competitiveness debate has wavered around four main ideas: market shares, costs, productivity and welfare.

Nonetheless, the concept of a countries’ competitiveness is “a dangerous obsession”, as stated by Krugman (1994). While, Krugman argued that “it is dangerous to consider nations or regions in competition with each other”, simply because, an uncompetitive firm can’t be sustained, countries on the other hand do not go out of business (*ibid.*). Sölvell (2015), on the other hand, disputed that the term “competitiveness” should be more referred to the firms’ advantage over others and the term “attractiveness” ought to be considered when alluding to the advantage of locations.

Back in the 1980s, the public dispute in the United States of America was overwhelmed by fears of the exponential rise of the Japanese economy, giving “competitiveness” its first importance and value. This term was identified with lower labor costs along with policies that aided companies to gain market shares in the global market (Krugman 1986). Back then, multiple researches on strategic trade seemed to advocate that countries have the potential of growing their economies and increasing their welfare through achieving leading market positions in specialized sectors or industries, with the help of governmental institutions (Spencer & Brander 2008). However, Delgado *et al.* (2012, 7) agreed that high market shares could be an advantage of a country’s competitiveness over others, despite that, it could also be

reached through manipulated subsidies. Consequently, large market shares are not the goal of economic policies nor the cause of their comprehensive performance. (ibid.)

Hence, debates concerning the term competitiveness of countries, were refocused to the fact that the latter derives from wealth creation and economic performance, which is directly related to productivity (Porter 1990). Following this perspective, countries that are more competitive have higher level of productivity and contribute to higher levels of income for their citizens, thus, achieving a better quality of life, reflecting on economic growth (Sargsyan 2017).

Moreover, Porter (1990, 78) thought that competitiveness depends solely on the capacity of a country to create a suitable environment for its different industrial sectors to innovate, develop and promote long-term growth. Thereupon, based on a 4-years study of 10 countries, the theories about the term competitiveness were integrated and the "Diamond Model" was created (see Figure 3) (ibid.). It included four main interconnected attributes of a nation:

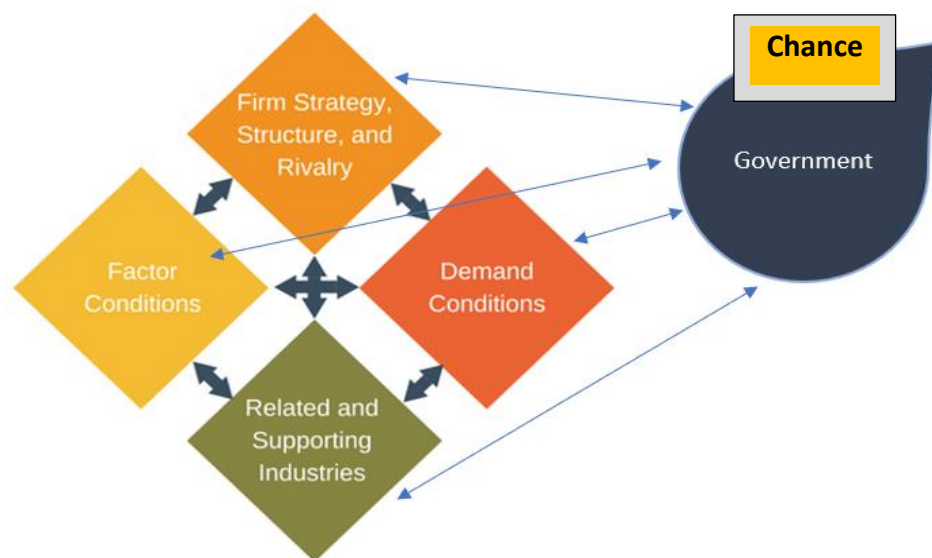


Figure 3. "Diamond Model" of National competitive advantage (Porter 1990, 78)

1. **Factor Conditions (input):** The nation's position in factors of production, bolstering access to higher quality of business inputs. Distinguishing be-

tween human, physical, knowledge & capital resources as well as infrastructure which are created and developed through investments and innovation to create a more sustainable advantage of a country.

2. **Demand Conditions:** Nature of national-market demand for the industries' products and/or services, focusing on differences rather than similarities to explain countries' competitiveness. The size and sophistication of home demand shape the way firms perceive and respond to buyers. Therefore, compelling national firms to continuously innovate and improve their position in terms of competition to meet high product quality and service demands.
3. **Related and Supporting Industries:** Availability and quality of suppliers and other supporting related industries within a region. Specialization leads to location attractiveness which represent a source of countries' competitive advantage. Resources, economies of scale and clusters are the reason why specialization occurs and thus why location matters.
4. **Firm Strategy, Structure, and Rivalry:** The conditions, local rules and incentives in which a country creates a favorable environment for companies to do business and favors the intensity of local competition as a mean to innovate and promote growth. The main emphasis is that firms' strategies and structures depend on the national competitive environment, which forces local firms to be cost competitive, hence constantly improving and innovating.

& Government: acting as a catalyst to support firms and create a suitable business-environment (e.g. through investments and research institutions (Coccia 2010)), which will foster well-being for its citizens.

& Chance: referring to random events (e.g. wars, shifts in exchange rates, foreign countries' sudden decisions) that have nothing to do with the circumstances in a nation and are beyond the control of a company. Chance plays a key role in altering the above 4 determinants of the Diamond Model.

Macerinskiene and Sakhanova (2011), considered that the Diamond model is defined as the ability of a country to create a suitable and sustainable environment for its companies to innovate and produce, hence underlying the importance of productivity. Nonetheless, some authors, thought of productivity and competitiveness as being

two related but disparate concepts; claiming that the former represents an aspect of the state while the latter reflects on the economic position of a country in comparison to others (Onsel and Ulegin 2008).

Following the introduction of the “diamond model”, there were a couple of expansions. Firstly the “Double Diamond Model”, which covered international activities in the diamond models of the neighboring regions (Rugman and D’Cruz 1993). And secondly the “Generalized Double Diamond Model”, by implementing the previous analysis directed toward smaller economies (Moon et al. 1998). Nonetheless, some researchers argued the complexity of measuring its determinants, “The diamond model in essence is easy to understand, but the four determinants represent a diversity of sub-determinants, which are difficult to measure” (Akpınar, Can & Mermercioglu 2017).

Additionally, another well-known theoretical framework to assess the competitiveness of countries: the “Emerald model” by Sasson & Reve (2012). It reveals the fact that national competitive advantage is obtained through a country’s various abilities to attract: (a) **Talent attractiveness**, highly talented employees leading to more competitive firms and industries; (b) **Educational attractiveness**, educational institutions and departments to increase potential knowledge of the human capital; (c) **Cluster attractiveness**, implementation of specialized related and supporting industries to share the “know-how”; (d) **R&D and innovation attractiveness**, centers and institutions increasing competitiveness while decreasing the probability of failure i.e. dynamic readiness; (e) **Ownership attractiveness**, support for companies to mature and innovate; (f) **Environmental attractiveness**, advanced implementation of environmental solutions. (ibid.)

Yet, another approach to the term of competitiveness was identified by Staskeviciute and Tamosiuniene (2010) as *“a list of fundamental macroeconomic determinants to a country’s advantage over others: high standard of living, high rate of employment, high productivity, commercial equilibrium, high national attractiveness, high ability of objective implementation, healthy politics, high flexibility and ability to sustain growth”*. Following this idea, Balkyte and Tvaronnaciene (2010) said that the term “competitiveness” is associated to the national economic performance measured by

the competence of a nation to offer superior quality of life to its citizens. Furthermore, most recent literatures associate competitiveness to welfare and defined it as the *"ability of a country (region, location) to deliver the beyond GDP goals for its citizens"* (Aiginger & Vogel 2015).

In response to these misconceptions about competitiveness, Delgado et al. (2012, 8) expended Porter's work done in 1990, and elaborated a new definition to competitiveness of nations that is closely akin to prosperity: "Foundational Competitiveness", defined as *"the expected level of output per working-age individual, given the overall quality of a country as a place to do business"* (ibid.).

Similarly to the previous productivity and prosperity focused approach to national competitiveness, international organizations such as the Organization for Economic Co-operation and Development (OECD), refers to competitiveness as *"the ability of a country to produce goods and services, under free and equal market conditions, that pass the test of the international market and at the same time ensure long-term growth of living standards"*, connecting it to productivity and social prosperity. (OECD 2010.)

Equivalently, the World Economic Forum (WEF), which has published annual global competitiveness reports- analyzing and evaluating countries' competitiveness levels on many factors and determinants- defined competitiveness as *"the set of institutions, policies, and factors that determine the level of productivity of an economy, which in turn sets the level of prosperity that the economy can achieve"*. Measured by the Global competitiveness index (GCI) and based on over 100 criteria in 12 pillars, originally developed by Xavier Sala-i-Martin in collaboration with WEF since 2005. (Schwab 2017.)

Both of those organizations, along with others such as the International Institute for Management Development (IMD), attempted to calculate complex indexes, including multiple aspects related to countries' economy, social status, technology, infrastructure and other performances for benchmarking and ranking purposes.

2.2 Diagnostic of National competitiveness

Having showcased contrasting approaches to the term of national competitiveness, the remaining challenge is to identify the set of drivers, indicator and foundational determinants through policy actions, which leads to a competitive advantage of a nation regarding others. A lot of researches have appeared to understand and identify the underlying drivers for cross-countries' differences to promote and increase prosperity and productivity.

Accordingly, over the last decades, the focus shifted from capital to knowledge to institutions as salient determinants of prosperity (Ketels 2016). Thus, competitiveness is no longer implemented through amassing performances (indicators and determinants) but rather by their systemic interaction (ibid.).

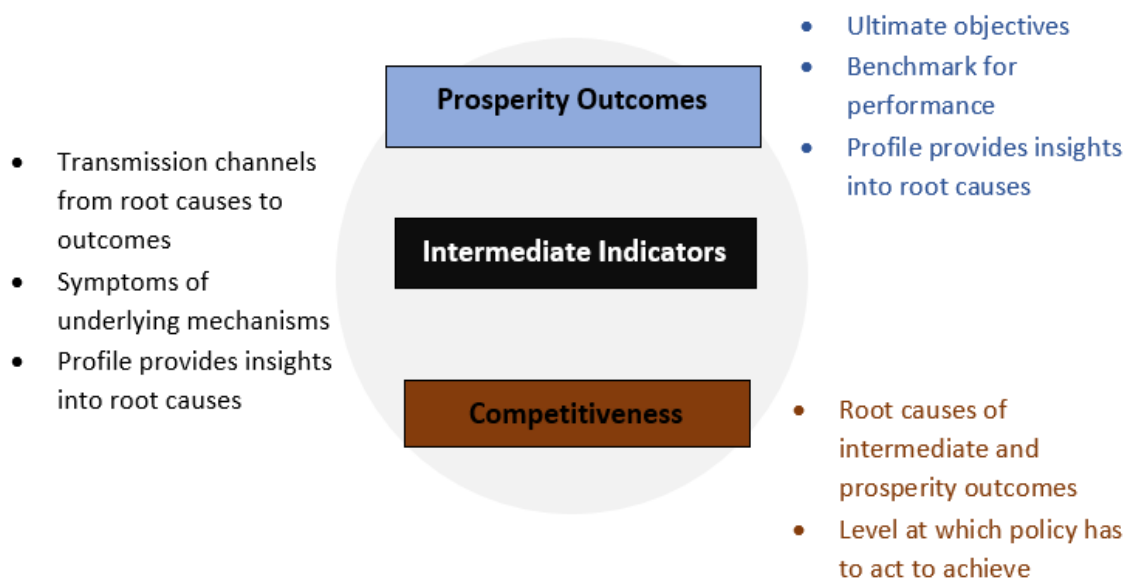


Figure 4. Diagnostic of National Competitiveness (Ketels 2016,13)

According to Ketels (2016), competitiveness at the base of Figure 4, represents the causes of intermediate indicators and prosperity outcomes which is reflected in the productivity-based view of competitiveness fundamentals (Delgado et al. 2012). Following which, the intermediate indicators that lead to increased levels of prosperity (e.g. exports, R&D, Foreign Direct Investments (FDI), innovation) and the benchmark for performance comparing countries (i.e. measurement of competitiveness, e.g. GDP) (Ketels 2016).

2.2.1 Intermediate Indicators and Enablers

Between outcomes which are measures of prosperity, labor productivity and allocation, and the underlying fundamentals reflected in the productivity-based view of national competitiveness by Delgado et al. (2012), there are the intermediate enablers that show the process through which the fundamentals are used to achieve and promote prosperity. Ketels (2016) argued that these indicators are powerful diagnostic tools aiming at better understanding national competitiveness. However, there is a possibility of them being dangerous tools of assessment, e.g. if a country devalues investments or if policies try to target them directly in a misleading manner, therefore a failure to achieve prosperity (ibid.).

Knowledge

Knowledge has always been considered as one of the most salient features of competitive advantage, simply because it is a propulsive force to innovate and aftereffect create technologies and provide sustainable economic development. So, to produce knowledge and create technology, countries must train and educate individuals. Higher education aims at providing effectiveness by offering humans resources the possibility of gaining qualifications in different sectors. According to Keser (2015), higher education is very important to any country's development, competitiveness and sustainability because specialized workforce develop production systems, innovate and implement innovative technologies and management systems which can adapt to dynamic economic changes. Therefore, this will lead to productivity, hence, increasing competitiveness and promoting sustainability (ibid.). The author goes further on to illustrate that importance from the conceptual framework of Bloom, Canning & Chan (2006, 16) showed in the following schema:

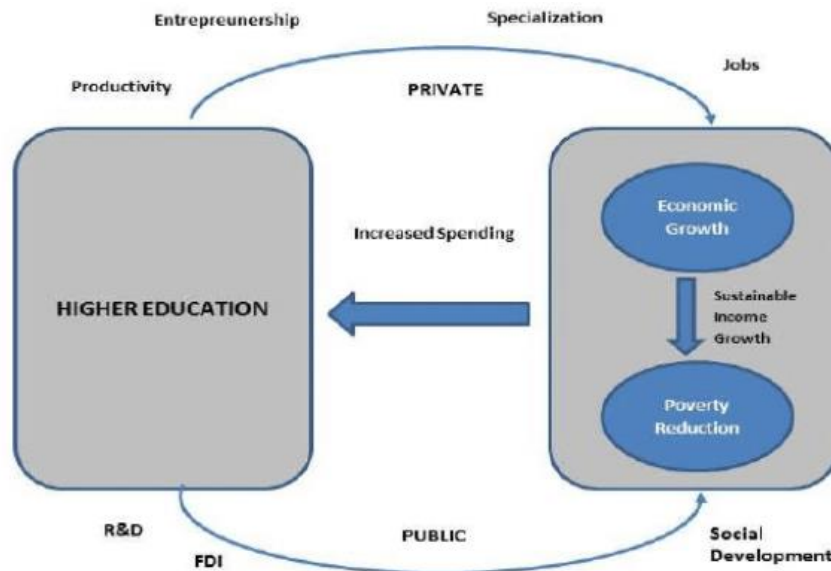


Figure 5. Conceptual framework: the role of higher education on competitiveness (Bloom et al. 2006, 16)

Accordingly, Keser (2015) explains that higher education creates qualified individuals for both the private and the public sectors. Starting off by the private sector, it provides expert workforce that are specialized in different industrial sectors who create production and management systems that increase productivity. Education helps promoting the entrepreneurial culture which provides good conditions to boost productivity as well as to create new jobs, and by so, directly leading to economic growth (ibid.). As for the public sector, highly specialized workforce directly lead to an increase in research and development activities that helps creating innovative technologies to support the demand and also to increase productivity and competitiveness, which by its turn will help in social development (infrastructure, health, environmental issue) and the attraction of foreign direct investments. (ibid.)

Technology

Additionally, another indicator of competitiveness was discussed by Pope (2013), technology which is a very important factor for economic growth and development. Technology, aids in improving manufacturing systems and processes, while making national economy as well as society more efficient and productive, and it also helps countries compete efficiently in markets for new goods and services. Nonetheless, technological competitiveness has become closely related to the level of technological readiness and innovativeness of a country, which is measured by the number of

patents acknowledged (even though patents refer to inventions not innovations but along with the R&D expenditure and spending, an overall idea can be deduced regarding a country's technological competitiveness level). (ibid.) Furthermore, it is important to understand that those descriptive serve as guidelines directives for governments to benchmark their activities and improve technological systems (ibid.).

Research & Development

To keep pace and adapt fast to dynamic changes of markets and economies, nations opt to an effective economy of R&D investment expenditure, with purpose of innovating and creating technologies that support sustainable economic growth and emphasis on wellbeing of societies (Coccia 2012). OECD (2016) defines R&D as the *“creative study conducted by basing on a systematical background in order to increase amount of information and develop new practices dependent on this information”*. Furthermore, according to Coccia (2010, 75) understanding the relationship between public and private R&D expenditure is crucial to justify the reasons behind investments at the expense of society. However, expenditure from public sector should be lesser than that of the private sector, to have a positive impact on the country's productivity (ibid.). Countries with a high development level (in term of high GDP per capita) tend to have higher private R&D investments (as percentage of the GDP) in comparison to public investments. Whereas, less developed countries (low GDP per capita), which have a weak economic and industrial structure, have a higher public R&D expenditure in comparison to private R&D investments. (Coccia 2012, 380-381.)

Foreign Direct Investment

Investments (inbound or outbound) are considered as a very important determinant to gain a competitive edge nationally and internationally (i.e. FDI). As explained in Porter's Diamond model, investments are crucial in both factors: input conditions and context for firm strategy and rivalry, as capital investments. FDI are transferred to the host country through many forms: capital, specialized human resources, technology and management systems and practices and would contribute directly to the improvement and development of human resources, technologies and knowledge in the host countries, thereafter, leading to economic growth by increasing export rates for example. (Ristovska, Stoilkovska & Ravlikj 2017.)

The urge for international competitiveness has led companies to expand in cross borders strategic activities, but, according to the authors, that can only happen if certain conditions are available to facilitate and attract foreign investment. Following which, tax systems, procedure and regulations, labor force, investment opportunities, demand in the host countries and favorable safety conditions are amongst the factors of FDI attractiveness. (ibid.)

Export

The concept of international trade started from Ricardo's comparative advantage theory in the 19th century, relying solely on cost differentiation between countries. Nevertheless, such theory came with difficulty when explaining modern patterns of trade in equivalent products amongst countries. (Krugman, Obstfeld & Melitz 2012.)

In line with the previous, exports are considered to be the country's ability to compete in foreign markets. Studies showed that exports expansion seems to be strongly related to FDI attractiveness, however there is a thine and limited impact on the nation's technological sophistication and upgrading. (Honglin 2015.)

Exports are crucial intermediate indicator for economic growth, consequently national competitiveness, though not the only one (Gaglio 2015). In association, a nation's export ability can't fully describe its competitiveness, because it does not measure nor show either the sustainability of the economy nor the quality of life of the citizens. (ibid.)

Innovation

According to the European Innovation Management Academy (EIMA 2016), innovation is *"the successful exploitation of a new product, service, process, organization or new business model which is new to a company, new to a market or new to the world"*.

It has been the aim of many researchers to understand the relationship between innovation and economic development leading to a nation's productivity and competitive advantage. Results of those researches showed that innovation is one of the main drivers and influencers of a nation's competitiveness in emerging markets. (Ku-

mar, Mudambi & Gray 2013). However, according to Atkinson and Ezell (2015) to foster competitiveness through innovation, some principles should be implemented, i.e. policies, institutions, adequate knowledge, communication and proper R&D investments.

2.2.2 Determinants of Countries' Competitiveness

Various frameworks have been introduced to analyze and explain the different determinants of competitiveness. Delgado et al. (2012, 8) introduced the productivity-based view to competitiveness fundamentals, that distinguishes (a) macroeconomic factors setting the broader environment where firms act and operate (quality and macroeconomic policies); (b) the microeconomic factors that directly impact firms' productivity (business-environment); and (c) endowments (inherited and created attributes) which affect the macro and microeconomic factors and set policies accordingly to improve prosperity (ibid.). However, Ketels (2016) argued that endowments influence prosperity but not the fundamental productivity.

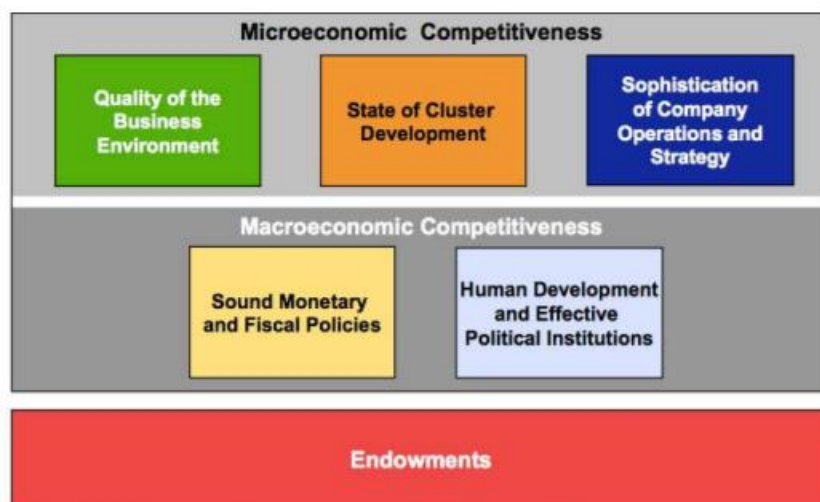


Figure 6. Productivity-based view of competitiveness fundamentals (Delgado et al. 2012, 41)

Macroeconomic factors

Macroeconomic competitiveness is guided by a scope of institutions, policies and public good investments that determine the context for a country's entire economy.

Human development implemented through social infrastructure upgrade and sophistication (e.g. aspects such as education, health care and public safety) is necessary to

promote and enable productive economic activities (Delgado et al. 2012; Ketels 2016). In line with the previous, if parts of the population have limited access for minimum social infrastructure activities such as basic education (e.g. reading and writing), safety and health; along with physical infrastructure such as basic human needs (e.g. electricity and water), their competence and capability to actively cooperate and participate in the economy is limited (ibid.). Moreover, according to a study done by the Institute for Competitiveness and Prosperity (2015), while developed nations considered physical infrastructure as a basic requirement and enclosed it, thus nowadays it is something that needs constant monitoring, investment and upgrade to achieve sustainable prosperity.

Additionally, to sustain and develop social and physical infrastructure, a nation should adopt a good public investment policy (Delgado et al. 2012, 9). Hence the value of R&D expenditure (Coccia 2012) and FDI (Ristovska et al. 2017) as inbound sources of growth.

The other aspect of macroeconomic competitiveness reflecting monetary and fiscal policies, has been the focus of many debates, arguing their short-term impact on economic activities. However, those policies can also have an impact on the long term, only in certain cases such as high inflation. (Delgado et al. 2012; Ketels 2016.) Governments, following political decisions, set rules and regulations on markets and companies, consequently impacting on the cost of doing business. This issue was the focus of many discussions, particularly when it comes to the structural reforms of nations after crisis. (Thimann 2015.)

Microeconomic factors

Microeconomic determinants are factors that are directly shaping firms' ability to be productive (i.e. labor and capital productivity and mobilization). Consequently, differentiating inputs (e.g. investments from government) and stimulus (i.e. rivalry and broad-mindedness) as crucial factors to increasing productivity (Delgado et al. 2012, 10-11). Porter (1990, 78) combined those two factors for good business environment in the "Diamond model", however adding demand conditions and the availability of related and supporting industries to the equation, all in all, as a way to assess and understand the fundamental determinants of national competitiveness.

Globalization created openness to global markets' competitiveness, through trade (i.e. export and import) and investment (e.g. FDI), which brought advanced knowledge and technologies to nations, thus, leading to companies' sophistication and innovation in operations and strategy, consequently improving their productivity (Atkinson and Ezell 2015). Additionally, many researches aimed to understand the differences of companies' performances and sophistication across different locations and their impact on productivity and prosperity, indicating that firms involved in global markets are stronger on many levels than average local companies (Bloom and Van Reenen, 2010).

Additionally, another dimension that affects a "good" business quality environment is the presence of clusters of related and supporting industries (Porter 1990; Delgado et al. 2012, 12). Porter (2008, 9) defines clusters as *"geographical proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and externalities"*. Clusters play a crucial role as competences concentration poles (i.e. proximate and interconnected suppliers and firms), its initiatives are a potential to increase the economic growth hence the competitiveness by providing access to specialized labor force, related suppliers, knowledge share and effective information flow (through coopetition) for a more efficiently productive business environment (Gills & Kerr 2015). Globalization has strengthened the roles of clusters and promoted their development. The eradication of barriers between countries due to the phenomenon of globalization have allowed clusters to reach far out their original boundaries, therefore, supplied the best environment to do business related to specific market needs. (Bordei 2016, 142.)

Endowments

A country's endowments come in two forms: inherited (e.g. natural resources, geographical location, country size) and created or given. They create ground for prosperity, which arises from the productivity in their use to creating a better business environment. (Mustapha, Stephen & Solomon 2017.)

A nation's geographic position can have a potential positive impact on its international trade. Additionally, country's size and its population positioning (urbanization) can indeed attract FDI, in order to access local markets and implement economy of

scale (i.e. giving local firms the ability of producing at larger scale), consequently influencing overall competitiveness (Porter 2013). Hence, the reason why the WEF's Global Competitiveness Report includes country size as one of its indicators when calculating countries' competitiveness levels (Schwab 2015).

While endowments in general, have a positive impact on a nation economic development and prosperity, however, many researches and studies argued the adverse relationship between economic growth and natural resources' endowments (Sachs and Warner 1995).

2.2.3 Measuring Competitiveness

The earlier two sections helped analyzing various determinants and indicators that national competitiveness could be possibly measuring: outcomes indicators, intermediate enablers, fundamental factors (macro and microeconomic) and endowments (Ketels 2016, 13). As a core dependent variable, the conventional analysis adopted the Gross Domestic Product (GDP) to assess the levels of productivity and prosperity of a nation, consequently measuring its competitiveness. Increased growth rates mean development of the economy, industrial production, exports and the flow of FDI, thus the acceptance of GDP as a measure of economic welfare. (ibid., 14.)

However, GDP growth is not accepted by societies as the only direct influencer on improving quality and standards of life for a nation's population (Porter, Stern & Green 2015). Hence studies were made to understand the correlation of GDP and citizens' welfare (World Happiness Report 2016). Simply because not all regions of a nation could appreciate this growth to the same extent. Piketty (2014) argued that inequalities as well as poverty may arise, and some regions will not experience prosperity similarly to others. Moreover, many researches and studies discussed whether GDP is the only measure for a nation's competitiveness and what else could be captured beyond this value (Aiginger & Vogel 2015; Porter et al. 2015). Nevertheless, Porter & Kramer (2011) debated that aside economic performance, social progress is of immense importance for a country's growth and naturally its competitiveness. Therefore, competitiveness should measure the economic welfare as well as the social wellbeing to measure a nation's competitiveness levels (ibid.).

The “beyond” GDP measures form the non-income indicators related to the standard of living in a society, they cover issues like environment, equality, public service, education, social infrastructure, health and many others. Hence many studies were made to measure those factors (Balkyte & Tvaronaviciene 2010). Additionally, Social Progress Index (SPI) and other institutions such as OECD are examples to measure the non-GDP factors (Urbano, Aparicio & Querol 2016).

Even though, there are many approaches to measuring a nation's competitiveness levels and benchmarking it to other countries, two prominent indices are used:

- ✚ Global Competitiveness Index by **WEF**: which evaluates competitiveness under 12 different pillars including institutions, infrastructure, macroeconomic environment, health and primary education, higher education and training, goods market efficiency, labor market efficiency, financial market development, technological readiness, market size, business sophistication, and innovation (Schwab 2015). (This section will be particularly evaluated in the following sections, because it's the theoretical framework chosen to answer to the research problem)
- ✚ The World Competitiveness Index by **IMD**: this index evaluates several factors of economic performances, political rules and regulations' efficiency (government), business environment efficiency along with physical and social infrastructure, represented in more than 300 criteria (Garelli 2014).

2.3 Theoretical framework: WEF's Global Competitiveness Index

Whether evaluating a quantitative or qualitative study, a theoretical framework should be implemented to guide the process of the research. In attempt to understand the competitiveness of nations, the Global Competitiveness Index of the World Economic Forum has been taken into consideration as a theoretical framework for this research. The relevance of this choice is the fact that GCI uses various data and nations' level surveys conducted with the help of partner organizations (i.e. IMF, World Bank, UN agencies (Schwab 2017)) to eventually assess nations competitiveness based on ranking. It aims at capturing the underlying drivers of productivity and

their differences, consequently, analyzing the nations' growth stages and development, while also attempting to reveal some key challenges to it. Additionally, through the analysis of quantifiable measurements of multiple performances (pillars of GCI), a conclusion can be drawn to explain whether a nation has weakened or progressed in terms of its competitiveness, and/or other countries have had faster growth. The Global Competitiveness Report originally co-published by the IMD and WEF ended in 1996. The mentioned report then became two separate ones, what we now today as the World Competitiveness Report (WEF) and the World Competitiveness Yearbook (IMD). (IMD 2015.)

WEF's annually published Global Competitiveness Report carries out respective computation of the competitiveness index by combining 114 indicators that capture productivity and long-term prosperity (Schwab 2017). Furthermore, these indicators are arranged in 12 pillars (see Figure 7). In turn, these pillars are placed under three sub-indexes, measured by the GDP per capita and export shares of each nation: basic requirements; efficiency enhancers; innovation and sophistication factors, which represent the stage of a nation's economic development: factor-driver, efficiency-driven and innovation-driven respectively. (Schwab 2017.)

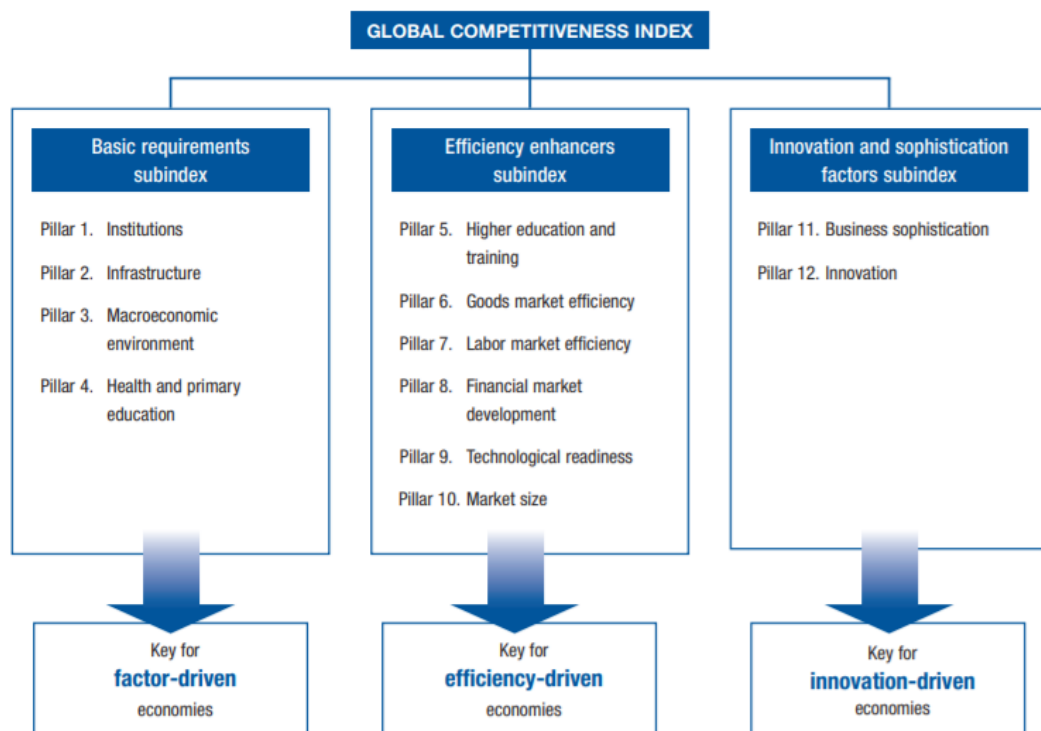


Figure 7. The Global Competitiveness Index framework (Schwab 2017, 12)

1st pillar: Institutions The legal and administrative structures in which individuals, firms as well as governments cooperate efficiently to determine the quality of public institutions. consequently, impacting on economic growth and competitiveness. This structure influences as well on investment decision of the production organizations and is a key in which societies allot benefits and bear costs. (Porter 1990, 79.)

2nd pillar: Infrastructure An efficient infrastructure (e.g. logistics, electricity and communication sectors) is crucial for an effective and sustainable functioning of the economy (Schwab 2017). Many studies have assessed the impact of infrastructure on growth, suggesting that it is crucial for effective productivity and competitiveness of any nation (Serebrisky 2014).

3rd pillar: Macroeconomic environment Macroeconomic competitiveness is guided by a scope of institutions, policies and public good investments that determine the context for a country's entire economy (Delgado et al. 2012, 9). The macroeconomic environment is essential to the overall competitiveness of a nation, however alone, it doesn't lead to an increase of productivity but if neglected it will prompt the collapse of the economy (e.g. high inflation rates, deficient fiscal policies) (Schwab 2017).

4th pillar: Health and primary education Health and primary education are important for individuals' efficient participation in economic activities. If parts of the population have limited access or no access at to basic needs such as basic education (e.g. reading and writing) and safety & health, their competence and capability to actively cooperate and participate in the economy is dramatically limited (Ketels 2016). According to WEF's report, poor health arouses significant costs to business productivity and efficiency (Schwab 2012).

5th pillar: Higher education and training In this pillar the quality of higher education and training is a salient key to get past the straightforward process and practices of production (Schwab 2015). Today's everchanging market demands nations to be very wary about dynamic economic fluctuation, hence nurturing a well-skilled labor force to be able to adapt and be dynamic enough in doing their tasks or finding fast and innovative solutions to business and market demands (Keser 2015).

6th pillar: Goods market efficiency According to the supply and demand conditions, nations having an efficient goods market in both national and foreign trade can produce the demanded products and services on international and domestic level. Consequently, driving business productivity (Schwab 2017). From this point of view, it is essential to have sustainable competitiveness through the demand condition, with the help of government limited intervention (Porter 1990).

7th pillar: Labor market efficiency Countries having an efficient labor market are well-placed when distributing their labor force to their most effective use, towards a healthy, cost-efficient, productive and competitive economy. Inefficient labor implies higher costs, low participation and low labor productivity (added-value per employee), which ultimately affects markets' competitiveness. (Schwab 2016.)

8th pillar: Financial market development Investment in businesses is critical to productivity, hence competitiveness. A healthy financial market is efficient when allocating its capital in form of investment for business with optimal condition so they can invest and create more value to the economy as a whole, thus, the emphasis on sound, trustworthy and transparent banking sector. The importance of financial market efficiency has been highlighted in earlier world crisis. (Schwab 2017.)

9th pillar: Technological readiness Represents the ability of a nation to improve the productivity of its industries through embracing recent technologies. As well as taking advantage of the information and communication technologies (ICT) to increase productivity by more efficient processes, sharing the know-how. FDI for instance is an essential mean to access foreign technologies, but to attract investments, a nation's technological readiness should be high enough. (Schwab 2014.)

10th pillar: Market size The size of a nation's market is crucial for its growth, hefty markets allow economy of scale, however small ones will depend merely on exports, to which nations will be more vulnerable when facing any international market fluctuations. After the deregulation of markets' frontiers following globalization, most nations resorted to exports as a substitute/necessity to replace/back up domestic markets. (Schwab 2017.)

11th pillar: Business Sophistication The business environment includes the aspects of a nation's overall business networks and individual firms' operations and strategies. In other words, suppliers and companies' proximity, when those two factors are geographically proximate and interconnected (i.e. cluster), business and innovation opportunity are enhanced through knowledge share, efficient information flow and overall better environment to do business. (Schwab 2016.)

12th pillar: Innovation In today's world, all developed nations moved from resource-based to knowledge-driven, hence the emphasis on knowledge, generating more value through innovative products and processes (Pope 2013). Those activities are bolstered by high investment on R&D and adequate business environment, e.g. (a) high-quality education institutions providing specialized workforce; (b) research institutes generating knowledge dedicated to innovative technologies; and (c) collaboration and interconnection of the aforementioned factors (Schwab 2015).

Additionally, according to Schwab (2015), given the fact that those 12 pillars are used separately to assess factors of a nation's competitiveness accordingly, thus they can't work in exclusion of each other as they are interrelated, tend to reinforce one another and a weakening of one has a potential negative impact on others.

Porter, Ketels & Delgado (2007, 57) characterized economic development as *"a process of successive upgrading, in which a nation's business environment evolves to support and encourage increasingly sophisticated and productive ways of competing"*. Hence according to Porter (1990), characteristic stages can describe this development process:

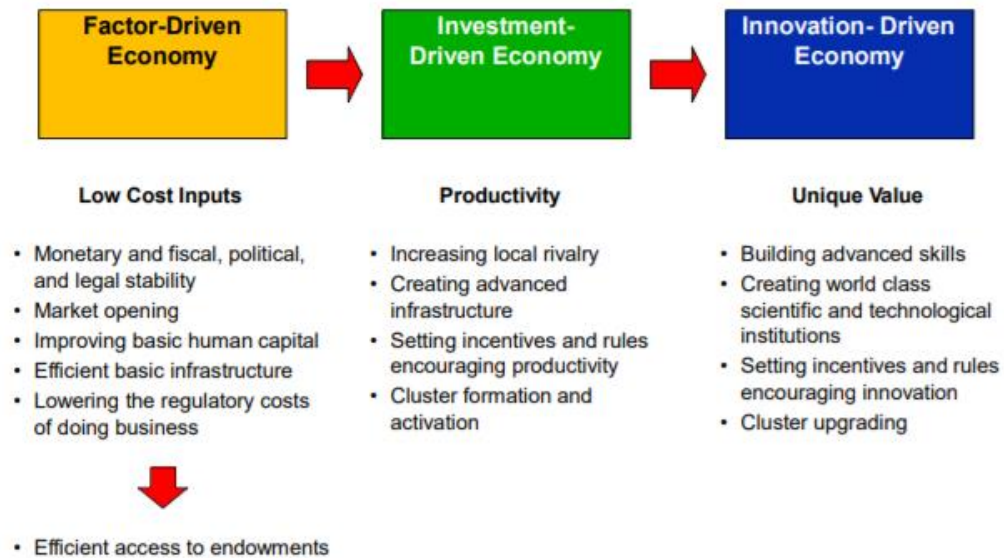


Figure 8. Stages of National competitiveness' development (Porter 1990, 545)

At the first stage, economies compete on low costs based on their endowments' factors i.e. unskilled labor and natural resources, depending primarily on the first 4 pillars of the GCI. Towards the second stage of investment-driven economies, a nation begins to develop higher and more efficient production processes to increase quality and productivity, depending on the 5th, 6th, 7th, 8th, 9th and 10th pillars of the GCI (Schwab 2017). And at the third and final stage, for economies to sustain their advantage, the unique value of a nation's products, services and business models are crucial, enhanced by innovation and entrepreneurship (Ketels 2017). As nations' economies develop through those three stages, the emphasis on a range of factors of competitiveness and the policies that affect them change (ibid.).

3 Methodology

For a study to be appropriately answering the research question an adequate methodology should be implemented and followed in a way that guides the research to be valid and reliable, while answering to the preset objectives. Thus, the topic, context and objectives of the research are highly connected with the choice of the research methodology which determines the extent of accuracy of the research's results.

As a reminder for the reader, this study aims to understand the reasons behind Finland's dwindling levels of competitiveness over the last decade i.e. from 2007 until 2017, going from global leader prior to the Great Recession to the 10th rank in 2017.

And the proper chosen research question was: “How did Finland lose its leading competitiveness level in the aftermath of the Great Recession and over the last decade?”

3.1 Research approach

This research’s approach is qualitative by nature; it aims at finding the causal relationship between variables and not proposing a new theory. As a matter of fact, the researcher will be going through theories addressed by the literature review e.g. factors and determinants to assess and measure competitiveness, attempting to find an explanation to the weakening performance of Finland in terms of its competitiveness levels and the reasons behind such happening.

Prominently, a **qualitative** approach seemed to be the most suitable in this paper study. According to Creswell (2007, 7), Denzine & Lincoln (2011, 3) described qualitative research as a study of a phenomena in its natural context. In other words, it tries to interpret problems in terms of the individual’s explanation, hence, examine the situation from a more open-ended perspective. Qualitative process involves a researcher who is focused on interpreting data in a way that makes sense and has a meaning that can be translated into results aligning with his study’s objectives (Creswell 2007, 37). Another relevance for my choice is to gain thought and opinions of interviewees whom are national professionals in their respective fields, and dive deeper into the problem to provide further insight and eventually developing a solution for the given problem.

It is wise to note that this process has its limitations and difficulties as it involves human behavior, there is no objectively verifiable results (Choy 2014, 101). Additionally, Saunders et al. (2009, 154) argues that qualitative as well as quantitative data collection techniques has their weaknesses. Arguments are that there is a direct relationship between the techniques used and the results obtained, the effect of the former on the latter is hard to verify and uncertain. Hence, the soundness of combining those previously mentioned methods of data collection to cancel out the method effect. (ibid.) However, due to the level and time of this research, it is not possible and wise to conduct and implement a multi method data analysis. Anyhow, my decision

to use numerical data representation from GCI reports as well as qualitative methods is to further strengthen the validity of my results.

Furthermore, this research strategy will be a **longitudinal case study** of Finland's competitiveness as the researcher will be assessing and comparing through many factors the phenomena over a time horizon of 10 years. Saunders et al. (2009, 145) defines a case study as being a strategy involving an empirical investigation of a real-life context phenomena. Additionally, the strength of implementing a longitudinal study in this research is its capacity to showcase change and development (ibid., 155) which goes hand in hand with my research objectives. Hence, as a way for the results to be more reliable, valid and eventually providing a comprehensive answer to the research question, the researcher will be using multiple sources of data i.e. triangulation (ibid., 146). Through the theoretical framework chosen for this research i.e. GCI, the researcher will be analyzing data for a period of 10 years to find the problematic areas impacting on Finland's competitiveness, then assessing the respective sub-indexes of the mentioned pillars to narrow my study and design suitable and relative qualitative data collection techniques and procedure.

Consequently, after deciding the topic, identifying the problem, stating the objectives and reviewing related literature, the overall research approach is summarized in Figure 9.

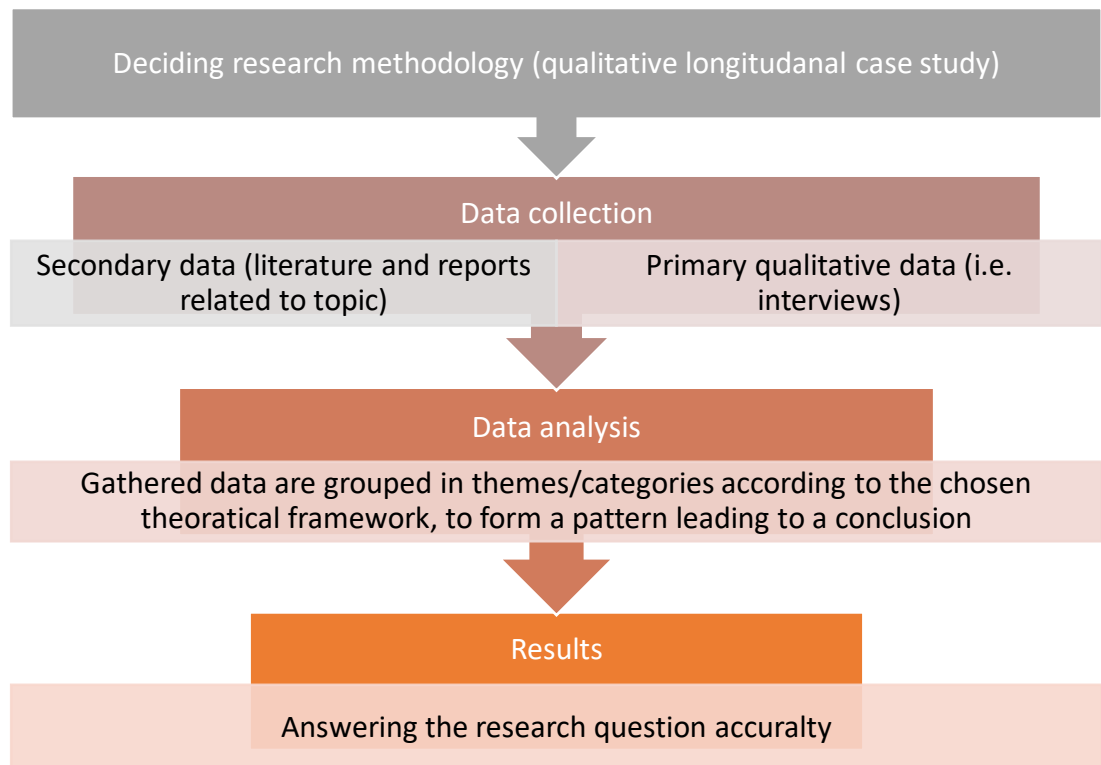


Figure 9. Overall research approach

Lastly, to ensure proper application of the mentioned methodology, the researcher has considered the ethicality while conducting this research paper. As the choice of the topic will be governed by the attention to ethics. In other words, my research design has been implemented in a way that acknowledges the fact that accessing individuals and/or organization should be informal and with consent. (Saunders et al. 2009, 160.) Hence, the detail provided to WEF'S responsible individual of GCI report through the email requesting the archival data and the reasons behind such request. Additionally, individuals involved in the qualitative primary data collection were consented and informed about the purpose and the use of the gathered data.

3.2 Research context

The research context is crucial for any study, it's the way to submerge the reader into the discussed topic, especially, after reading and understanding the relevant literature review. In other words, it is an informal part where the researcher describes the topic studies, its relations with the case and its importance, in a way that helps shaping the overall research. Now the reader should have been immersed in the topic

through the literature review regarding the diverse meanings and implications of national competitiveness, the factors and determinants that bolster it, the way to measure it and finally the theoretical framework used to guide this research.

After a successful and even exemplary competitive economic performance of Finland at the turn of the 21st century, In 2007, the long mortgage periods of low interest rates lending set by the central bank of the USA, was pressured by federal government because of borrowers' inability to pay, huge risks of investment greatly above the accounting leverage, tax benefits from mortgage loans and lack of transparency led to a global financial and banking crisis in 2008, "The Great Recession" (Russell 2008). The crisis hit most of the world's developed countries. Finland a remote northern European country having strong economic indicators, healthy political institutions and ranking as one the most competitive economies prior to the crisis showed a paradox when it was badly impacted by the crisis (see Figure 10). Ranking the worst amongst its European peers and even falling behind the world (Suni & Vihriälä 2016).

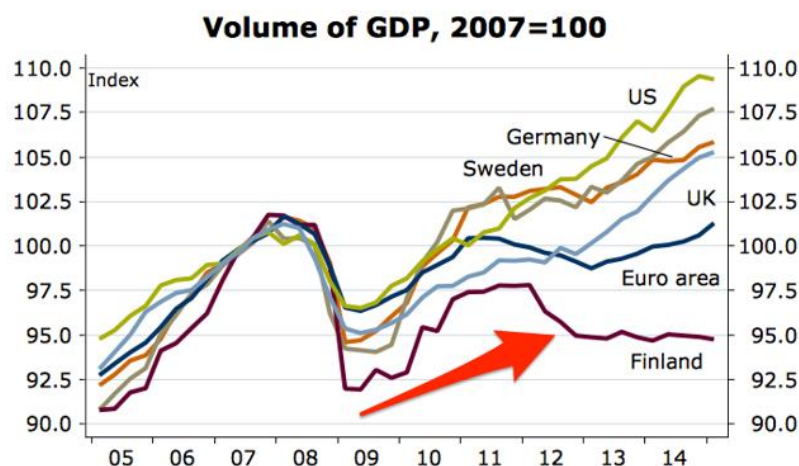


Figure 10. Finland GDP fluctuations compared to its peers from 2005 to 2015 (The World Bank 2015)

According to the World Bank (2015), the Finnish economy has showed variation in its GDP since the onset of the Great Recession and thereupon continued furthermore. However, following the determinants and measurements of countries competitiveness elaborated in the literature review and to expand the readers understanding, the researcher will provide more detailed data in a way that elucidates the context of this research even more (see Table 1).

Table 1. Key performance indicators of Finland (Statistics Finland 2013; Schwab 2007, 2017; Tulli Statistics 2015; & UNCTAD 2017)

	2007	2017
Competitiveness Rank	6th	10th
Gross Domestic Product GDP (billion USD)	255.3	251.8
GDP per capita (USD)	48 288	45 597
Real GDP annual growth (%)	4.1	2.8
Exports (Billion USD)	65.7	59.7
Inward FDI stocks (billion USD)	91.7	85.9
Unemployment rate (%)	6.8	8.6
Inflation rate (%)	2.5	0.7

Finland is a highly industrialized nation having a distinctive free-market model that is considered one of the best in the EU and even in the world in some specific areas. According to Schwab (2017) Finland ranked as the world's 10th most competitive economy in 2017, behind Switzerland (1st), USA (2nd), Singapore (3rd), Netherlands (4th), Germany (5th), Hong Kong SAR (6th), Sweden (7th), United Kingdom (8th) and Japan (9th).

As stated by the International Monetary Fund (IMF) Finland was the world's 44th largest economy in 2017 with a nominal gross domestic product (GDP) of 251,8 billion USD and a GDP per capita of 45 597 USD, with an annual growth rate of 2,8% between 2016 and 2017 (see Table 1). The GDP of Finland originated from agriculture (2,7%), industry (28,2%) and service (69,1%) and was composed of exports (35,2%),

imports (36,5%), domestic household consumption (55,2%), Gross capital formation (21,9%), and government consumption (24%) (CIA 2017).

In a nutshell, Finland's level of competitiveness showed a paradox, moving from: a global leader in the 2000s *"The last decade of the past millennium marked a fundamental change in the industrial structure and international position of Finland. It became one of the world's most high-technology intensive economies and gained a position in the forefront of the global digital economy."* (Pija 2001); to a sluggish performing country in 2017 *"Finland the sick man of Europe"* (Walker 2016).

3.3 Data collection

In this chapter the researcher will elaborate in detail the sources of collected data as well as their types and methods, in other words, outlining the entire process of data collection. Both secondary and primary data have been used, complementing each other in an established system i.e. theoretical framework, empowering the researcher to answer to the research objectives and therefore question. The data collection process will include 2 steps: firstly, secondary data which will be gathered with the help of the theoretical framework and secondly primary data, collected through interviews. WEF's GCI has been using different parameters and data collection methods before 2007 and after 2017. Hence, for reasons of compatibility and accuracy, the time frame of this study as well as its data collection have been limited from 2007 to 2017.

Secondary data

When considering an empirical study answering to a specific research question, researchers often acknowledge the possibility to reanalyze relevant but already existing data even though it was meant for other purposes. This type of data is called secondary. (Saunders et al. 2009, 256.) Specifically, the research question, objectives and reviewed literature instructed the availability and use of secondary data. Saunders et al. (2009, 258-263) explained the distinct types of secondary data, ranging from: (a) documentary; (b) multiple source; and (c) survey. Furthermore, there are

many advantages in using secondary data, such as the thrifty use of resources, its inconspicuousness and its ability to provide longitudinal comparative data (ibid., 268-269) which are particularly needed for this research.

Particularly, for this research objectives and question, the research considered all three mentioned types of secondary data aiming at an overall accurate knowledge provision. **Documentary**, specifically the written ones are the accumulation of raw data sources, which can be used for quantitative as well as qualitative purposes (statistical representations) (ibid., 259). The researcher used written documents such as organizations' databases & websites, journals, public records and newspapers, among others. Additionally, **survey-based** secondary data was also used, referring to data collected through survey method, originally for a specific purpose and often presented as matrices of raw data (ibid.). Distinctively, governmental census (where participation is obligatory and needed for specific governmental departments); ad-hoc surveys (governmental, academical and from organization specific to a subject in matter); and finally continuous and regular surveys (which by definition are repeated over time). (ibid., 259-261.) Finally, the researcher also sought area and time-based **multiple source** secondary data for quantifiable geographical and time-based information such as governmental and organizational publications (ibid., 262-263).

The secondary data used in this research was collected through the internet and JAMK's library. The sources of data were archival reports from organizations and the Finnish government, providing quantitative and qualitative data regarding specific economic performances of Finland as well as its competitiveness; and peer-reviewed articles and books of prominent professionals in the field of national competitiveness. More specifically, data was mainly collected through the following: **(a) websites:** www3.weforum.org/docs/GCR (additionally some reports were sent to the researcher by email upon request to WEF); www.imd.org; www.oecd.org; www.worldhappiness.report.org; www.stat.fi; www.imf.org; www.cia.gov; www.unctad.org; www.etla.fi; www.europa.eu; www.bofbulletin.fi (Bank of Finland); www.tulli.fi (Finnish Customs); www.worldbank.org; www.vm.fi (Finnish Ministry of Finance); and **(b) books & articles:** there are too many to mention here but the reader can find the full set of secondary data in the "References" chapter toward the end of this thesis.

Even though the main research approach is qualitative, the need for secondary data is crucial. Through the guidance of the theoretical framework, secondary data was gathered from governmental statistic agencies and international institutions amongst other sources. Enabling the researcher to find and then narrow the problematic area of Finland's poor economic performance over the studied period. Therefore, designing the type and method to conduct primary data, to get in depth and accurate answers to the research question.

Inherently, secondary data has disadvantages, such as its difficult or costly access; compilation and collection may be unsuitable; no control over quality; and presentation of data may be subject to its initial purpose (ibid., 270-272). In an attempt to mitigate such disadvantages or at least minimize it, the researcher reviewed and obtained data from publicly available sources in a way that serves the research objectives and question, asked for usage permission when and if needed, and cross-referenced data for reliability and validity purposes.

Primary data

Primary data is the type of data that is personally collected by the researcher, contrary to secondary data which is collected by someone else for a specific topic. Consequently, it is original and highly accurate because of its direct relevance to the topic and objectives chosen and directly answers to the research question. Primary data is collected through various techniques categorized in three primary methods: (a) observation; (b) using interviews; and (c) using questionnaires. Each having its own merits and disadvantages that aligns with specific research topics and objectives. (Saunders et al. 2009, 288-360.)

As for the choice of primary data methods, the researcher settled for semi-structured interviews. According to Saunders et al. (2009, 318), Kahn & Cannell (1957) said that *"an interview is a purposeful discussion between two or more people"*, and King (2004) referred to semi-structured interviews as qualitative research interviews. Nonetheless, this technique of interviews is considered when researchers are conducting qualitative researches and have a list of specific themes and questions to be answered in a particular context related to the studied topic, however, it could differ

from interviewee to another (Saunders et al. 2009, 320). Contrary to unstructured interviews which are informal and involves an exploration of in-depth conversation covering a general area of interest, semi-structured interviews consider a directed and guided conversation toward particular sought off topics and themes, through a flexible communicative flow (ibid., 320-321). Furthermore, for this research, observation and questionnaire methods were not possible either because it is irrelevant and doesn't align with the objectives nor answers to this study's empirical question or because of time restraint, respectively. Consequently, for the reasons mentioned above, the researcher has implemented semi-structured interviews providing a flexible flow of information however, in a guided way to answer to particular sought off themes relevant to the studied topic.

The choice of the participating interviewees was thought of thoroughly by the researcher. As the most suitable individuals whom can answer to this research question accurately ought to be Finnish nationals, pioneers in the field of business and competitiveness. Furthermore, before conducting the interviews, the researcher has sent a copy of the questionnaire to each participant, so they could have some insights about the topic and the questions involved. This will lead to a better discussion between the researcher and the interviewee.

The interviewees, their titles, the organizations they work for and details about the conducted interviews are showcased in Table 2.

Table 2. Interviewees and interviews details.

	<i>Title</i>	<i>Organization</i>	<i>Language</i>	<i>Data & length</i>
<i>Mika Kataikko</i>	Project Manager and Business Development	Business Jyväskylä (Supported by Tekes)	English	18/03/2019 1 h 10 min
<i>Sanna-Mari Hynninen</i>	Managing Director (toimitusjohtaja)	The Central Federation of Finnish Enterprises (Keski-Suomen Yrittäjät)	English	27/03/2019 56 min
<i>Ari Hiltunen</i>	Managing Director (toimitusjohtaja)	The Central Finland Chamber of Commerce (Keski-Suomen Kaupapakamari)	English	01/04/2019 1 h 20 min

The researcher thought of ethicality while conducting the mentioned interviews, where all disclosed information in Table 2 was consented by the participants themselves. Business Jyväskylä is an organization funded by Tekes aiming at developing projects for the city of Jyväskylä. The Central Federation of Finnish Enterprises is an organization- based in the city of Jyväskylä- providing various services for small to medium enterprises. The Central Finland Chamber of Commerce influences province's industrial policies and invokes areas for development. Hence, having insights from participants belonging to those organization will be valuable to answer to this research's question.

To ensure proper primary data collection, the researcher has followed the process highlighted in following figure.

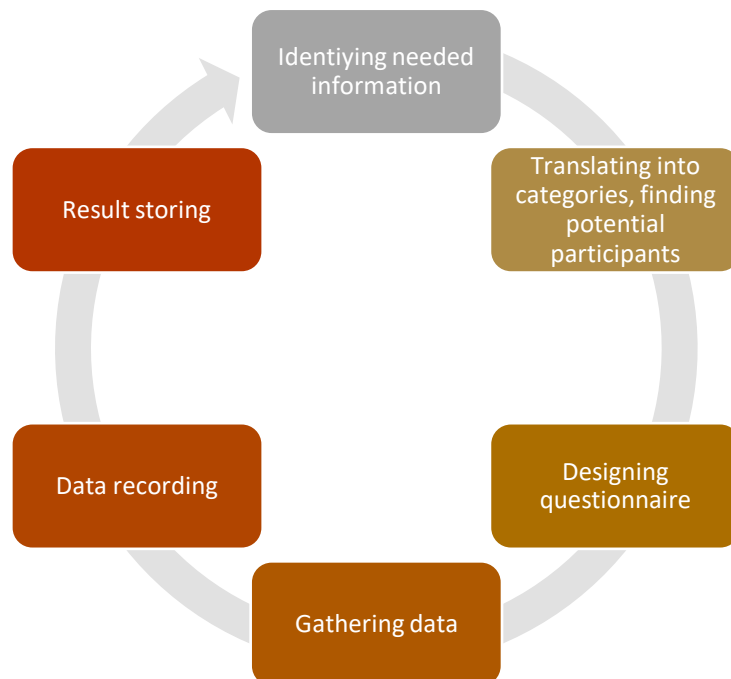


Figure 11. Primary Data collection process (adapted from Saunders et al. 2009, 318-341)

According to Figure 11, explaining the primary data collection process implemented in this research, the following are the detailed steps:

1. **Identifying needed information:** After gathering the secondary data through the theoretical framework, problematic areas of Finland's competitiveness performance were highlighted, therefore, identifying the needed primary data and then acting accordingly.

2. **Deciding on participants:** When a researcher is facing time or resource restraints, it's advisable to use sampling techniques e.g. non-probability sampling (quota, purposive, snowball, self-selection and convenience methods). This provides various methods to minimize the amount of data that needs to be collected. (Saunders et al. 2009, 210.) Additionally, since it involves a case study research, it is prudent to choose the non-probability technique as the sample frame doesn't exist or it isn't appropriate for a specific research, which also provides more flexibility regarding the sample's size (ibid., 233). Since the approach in this research is mainly qualitative, the researcher sought purposive sampling- a method that considers individuals that are particularly informative (ibid., 237)- and data was limited to professional individuals' query following this paper's objectives and providing insight for the research question. Therefore, justifying the researcher's decision to conduct semi-structured interviews, looking for in depth information about the topic.
3. **Designing questionnaire:** After deciding on the interviewees, the researcher designed a questionnaire (see Appendix 1) that highlights needed information relevant to the topic and the objectives of this research, answering to the empirical study. Questions were open-ended allowing the formation of a discussion and arranged according to specific themes needed to form an overall picture of the case, therefore leading to accurate results (Saunders et al. 2009, 324).
4. **Gathering data and recording it:** During the interviews, data was recorded on a mobile phone. The researcher also took additional notes to back up the recording and understand the context in which the interviewee was discussing. It is important to note that during the discussion, the researcher was active and taking part when possible to promote a collaborative communication environment, however, without being subjective or bias in affecting the interviewee's answers (ibid.). Additionally, the researcher paid large consideration for ethics while conducting the interviews, the individuals involved were informed and consented for the provided information's usage.

5. **Data storage:** After gathering the needed primary data, results were stored on a computer and was ready for analysis. (Please refer to “data analysis” sub-chapter 3.4)

Lastly, Saunders et al. (2009, 326) highlighted that interviews had their limitations, because an interviewee can be biased in front of the interviewer, provide unreliable information and/or have problems with validity and generalization. For those reasons, the research conducted the interviews after achieving a full understanding of the subject in matter to seek objective and accurate information.

3.4 Data Analysis

This chapter was designed to provide a comprehensive explanation regarding the data analysis techniques and process implemented for this research’s purpose according to the studied variables gathered through the theoretical framework. Data analysis is a process that includes different set of activities implemented to organize, categorize and conceptualize raw collected data to generate a meaning, based on words or numbers depending on the data collected and the nature of the research: qualitative or quantitative respectively. The several types of data collected for this research, need to be analyzed for it to be useful and generate understandable and relevant meanings. (Saunders et al. 2009, 482.) It is also important to note that Creswell (2007, 150) stated that data analysis is a coiled and interactive analysis where activities may happen parallelly to each other or at the same time, differing from the original plan.

Based on this research problem, objectives and empirical question, the appropriate and most suitable data analysis technique chosen was content analysis. The appropriateness of this technique is that it helps finding and understanding the emerging themes, patterns and relationships from collected qualitative data. (Saunders et al. 2009, 488-489.) Additionally, the types of qualitative analysis processes implement in this research were: (1) summarizing, condensation of notes; (2) categorizing or fragmentation, involving two steps: creating categories (done accordingly to GCI) and placing info in chunks of data; and (3) structuring using narrative, which is mainly used through non-standardized type of data (in-depth or semi-structured interviews)

(ibid., 490-497). The theoretical framework helped identifying the problematic areas/pillars of Finland's competitiveness i.e. variables used for this research and they go as following: (a) Infrastructure; (b) Macroeconomic environment; (c) Goods market efficiency; and (d) Business sophistication. These variables were measured with the help of a numerical comparative longitudinal analysis of GCI's pillars related to Finland's competitiveness from 2007 to 2017. Moreover, for a more in-depth and accurate analysis, categorization was according to these variables and their respective sub-indexes (refer to "results" chapter).

The following figure stands for the data analysis process that the researcher used for this study's purpose:

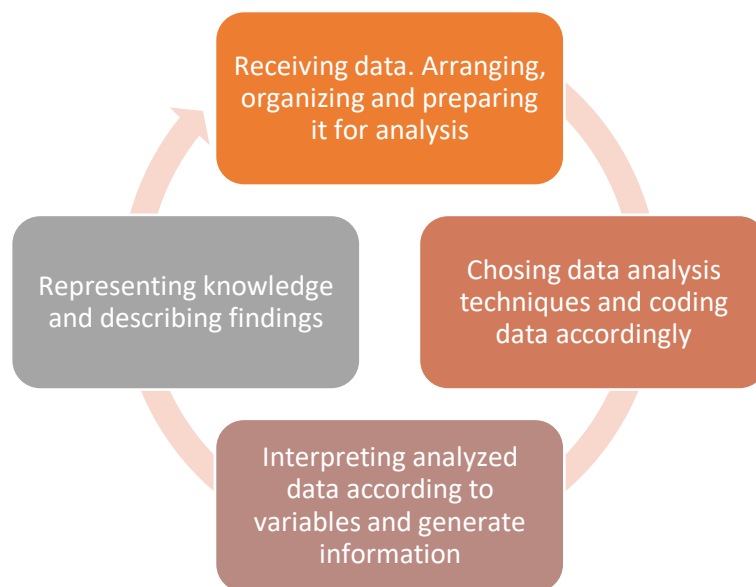


Figure 12. Data analysis cyclical process (adapted from Saunders et al. 2009, 485-500)

The following part will be focusing on the data analysis in a more detailed manner and according to the earlier process. Starting off by data **preparation and organization**, primary data was recorded via a mobile phone and later transcribed, which involves the procedure of reproducing recorded data in a written form using the exact words of the interviewees. Each interviewee's transcription was placed in a separate word-processed file including his/her name on the researcher's personal computer to ease identification. Non-verbal communication was also taken into consideration by the research through separate notes written during that data collection proce-

ture, to make sure it is linked circumstantially to the interviewee and therefore easing analysis. (Saunders et al. 2009, 485.) Additionally, secondary data should also be taken care off during this stage of analysis (ibid., 487-488). This web-based data was already in a written form and saved on the researcher's computer using original headings as filenames for identification and categorization purposes. Nonetheless, the secondary data was also categorized in folders related to the different variables and relevant information was extracted to word-processed files to smoothen the analysis of proper data.

Secondly, all the organized and prepared files were read and reviewed thoroughly to ensure a comprehensive understanding of their respective meanings. Then, information was **coded** according to the various variables derived from the theoretical framework i.e. infrastructure, macroeconomic environment, goods market efficiency and business sophistication. Gibbs (2007, 38) refers to coding as the process of defining and grouping data according to specified themes. Thus, in practice, the collected data was coded in chunks and highlighted using assorted colors respectively to the pre-defined variables to ease visual identification and analysis.

The third step of this research's data analysis process involves the **interpretation of data**. The content of the coded data was then interpreted by the researcher, based on the reviewed literature on national competitiveness' factors, determinants and impact on countries' respective economies. As an example, a problematic pillar of the GCI of Finland's competitiveness, considered as variable showing a downturn over the studied period will be interpreted (causes and impacts) through the relevant literature and the primary data related to that specific problem. Finally, information will be structured using narrative and findings will also be described with the help of visual representation e.g. tables and graphs to provide the reader with an overall inclusive understanding of the results.

3.5 Verification of findings

"Unless you can show your audience that the procedures you used to ensure that your methods were reliable and your conclusions valid, there is little point in aiming to conclude a research dissertation."

-David Silverman (2000, 175)

For those reasons, the researcher dedicated this part of the research to provide explanation to the reader regarding results verification in terms of data reliability (internal and external), validity and researcher's objectivity.

Validity

The internal validity of a research implicates the soundness of the findings, in other words whether the results make sense and provide accurate answers to the empirical question. According to Saunders et al. (2009, 273), *"data that fails to provide you with the information that you need to answer to your research question and meet your objectives will often results in invalid answers"*. Therefore, after initially reviewing the literature review on the subject in manner, an empirical question was formulated, answering to a given problem (Finland's weakening level of competitiveness over the last decade). Hence, a theoretical framework was chosen to guide the data collection and analysis of problematic areas of Finland's competitiveness, according to variables derived from the GCI which ensures internal validity of results (Yin 2003). Additionally, the choice of methodology was carefully thought off and justified for its suitability for this research purpose and objectives (see sub-sections 3.3 and 3.4), resulting in accurate and valid findings. Consequently, the correct choice of methods and the link between those distinct parts of this research assure the validity of the results, which make sense and provide relevant answers to the empirical question.

On the other hand, external validity also referred to as generalizability referring to the extent in which the research results can be generalizable, in other words, whether the findings can be used in other research settings (Saunders et al. 2009, 158). Accordingly, the researcher doesn't assume by any means that the results of this study can be generalizable to any extent, simply because it is a matter of national competitiveness which is directly and indirectly impacted by factors and determinants respective to the studied country and most probably differ from one nation to another. Additionally, this research by nature is a qualitative case study, based on the use of a small and unrepresentative sample of interviewees, causing a concern for generalizability (ibid., 335). As such, this study doesn't aim to generalize results but to provide a holistic understanding of the topic in the light of the adopted theoretical framework (Gibbs 2007, 100).

Reliability

Reliability refers to the *“extent to which your data collection techniques or analysis procedures will yield consistent findings”* (Saunders et al. 2009, 156), in other words the quality of findings. As for the reliability of secondary data, according to Saunders et al. (2009, 274), Dochartaigh (2002) emphasized on the reputation of a source to measure its reliability and trustworthiness and the appropriateness of data collection methods. Large and well-known organizations are more than likely to provide reliable data, hence the choice of the researcher for reliable web-based data belonging to infamous world-ranked organizations (e.g. GCI, applied theoretical framework) as well as national institutions (e.g. Etila, Bof) and statistical data-bases (stats.fi). Reliability issues can also arise from inappropriate use of data collection methods (ibid., 274-276). However, the data collection techniques were justified for their appropriateness and used according to proper literatures, which aligns with the research objectives.

Furthermore, there are threats of reliability regarding primary data collection, involving participants' error and bias (ibid., 156-157). Interviewee's error occurs when the time chosen for the interview is not suitable (e.g. Friday) and the latter's bias is when the participant fears of saying something that may interfere with his organization's authoritarian management style and therefore risk his employment. This bias is difficult to detect (ibid., 277) but can however be mitigated. The researcher was well prepared in advance with a high level of knowledge regarding the topic and the interviewees' organization context, the level of information supplied to the participants allowed them to be prepared and therefore supply correct organizational documentation and information. Moreover, the researcher gave the choice and time of location to the interviewees to create an interactive environment therefore emphasizing on trust to gather reliable information. (ibid., 328-329.)

Additionally, as a mean of cross-check verification of primary and secondary data, the researcher used triangulation method to ensure reliability, involving the use and critical review of multiple sources to confirm the same conclusion. Specifically, any

information found was cross referenced to check by a variety of sources for its reliability, subsequently providing accurate and reliable knowledge aligned with the research objectives and answers to the empirical question.

Objectivity

Saunders et al. (2009, 157) argues that researcher's error and bias occur when there are multiple individuals conducting a research reflecting various interpretation of data which results in unreliable findings. (ibid.) Since there is only one researcher conducting this study and the use of relevant data collection methods and analysis procedures were justified for appropriateness, I can assume that there shouldn't be much error or bias from my side. However, I do acknowledge that there will be some bias and subjectivity when conducting this research, because of my recently acquired knowledge regarding the topic of competitiveness, meaning that I may overrate or undervalue some information during the data analysis. Anyhow, the subjectivity of the researcher will be existent but minimal with the help of relevant literature and the theoretical framework to guide this research interpretation of results and description of findings. Lastly, to a certain extent, any researcher having the same objectives as this study can achieve similar findings based on the same data.

4 Research results

This chapter showcases the research's results under two main sections and a summary. The first part is about the preliminary results which highlights the problematic areas of Finland's competitiveness according to the theoretical framework and explores the problems and crisis that led to such weakening performance from 2007 to 2017. The second part shows in-depth results deriving from secondary data and primary data i.e. semi-structured interviews, guided by the highlighted problematic pillars of the GCI. Hence, communicating the answers to this research's question in a clear, logical and understandable manner.

4.1 Preliminary results

The Global Competitiveness Index has been chosen as a theoretical framework to measure Finland's competitiveness performance. Divided into three stages including 12 pillars, Table 3 benchmarks Finland's competitiveness from 2007 to 2017.

Table 3. Finland's competitiveness performance (Adapted from Schwab & Porter 2007, 2008; Schwab 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017)

			2007 (/131)	2008 (/134)	2009 (/133)	2010 (/139)	2011 (/142)	2012 (/144)	2013 (/148)	2014 (/144)	2015 (/140)	2016 (/138)	2017 (/137)
Global Competitiveness Rank			6th	6th	6th	7th	4th	3rd	3rd	4th	8th	10th	10th
Stage 1	I Institutions	Score (1-7)	6.2	6.2	6	6	6	6	6.1	6.1	6.1	6.1	6.2
		Rank	1	2	4	4	4	3	1	2	1	1	1
	II Infrastructure	Score (1-7)	5.8	5.9	5.9	5.6	5.6	5.6	5.6	5.6	5.4	5.3	5.4
		Rank	10	9	10	17	19	23	21	19	25	26	26
	III Macroeconomic environment	Score (1-7)	5.9	6	5.8	5.6	5.7	5.7	5.4	5.3	5.4	5.1	5.5
		Rank	9	8	12	15	20	24	36	43	36	46	33
	IV Health & primary education	Score (1-7)	6.6	6.6	6.5	6.8	6.8	6.8	6.8	6.9	6.9	6.9	6.9
		Rank	1	1	1	2	1	1	1	1	1	1	1
Stage 2	V Higher education & training	Score (1-7)	6	6.1	6	6.1	6.1	6.2	6.3	6.2	6.1	6.2	6.2
		Rank	1	1	1	1	1	1	1	1	2	2	2
	VI Goods market efficiency	Score (1-7)	5.4	5.2	5	4.9	4.9	5.1	5	5	5	5.1	5.2
		Rank	10	11	19	24	21	18	15	18	21	19	17
	VII Labor market efficiency	Score (1-7)	4.8	4.8	4.9	4.8	4.9	5	4.8	4.7	4.7	4.8	4.8
		Rank	29	23	23	22	15	15	20	23	26	23	23
	VIII Financial market development	Score (1-7)	5.6	5.5	5.3	5.4	5.9	5.5	5.6	5.5	5.4	5.5	5.5
		Rank	17	12	7	4	9	4	5	5	6	5	4
Stage 3	IX Technological readiness	Score (1-7)	5.4	5.5	5.6	5.2	5.7	5.9	5.9	6	6	6	6
		Rank	11	14	10	15	12	10	11	11	13	16	16
	X Market size	Score (1-7)	4.1	4.2	4.2	4.1	4.1	4.2	4.2	4.2	4.2	4.1	4.2
		Rank	49	52	53	56	54	54	55	55	59	59	60
Stage 3	XI Business Sophistication	Score (1-7)	5.5	5.5	5.4	5.3	5.4	5.5	5.5	5.9	5.3	5.3	5.3
		Rank	11	10	9	10	9	7	5	9	14	12	14
Stage 3	XII Innovation	Score (1-7)	5.7	5.6	5.5	5.6	5.7	5.8	5.8	5.8	5.7	5.7	5.7
		Rank	3	2	3	3	3	2	1	1	2	3	4

The GCI is divided into 3 stages: (1) factor-driven economies; (2) efficiency-driven economies; and (3) innovation-driven economies, each includes related pillars showing the overall performance of Finland. According to Table 3, highlighted in red are the pillars in which Finland has shown a decreased performance: (II) Infrastructure; (III) Macroeconomic environment; (VI) Goods market efficiency; and (XI) Business sophistication. Particularly, the 2nd and 3rd pillars -belonging to the factor-driven stage 1- i.e. Infrastructure and Macroeconomic environment respectively, have shown the worst performances. Pillar (II) Institutions' global rank worsened from 10th in 2007 to 26th in 2017 and its score decreased to 5.4 in 2017 compared to 5.8 in 2007. On the other hand, pillar (III) i.e. Macroeconomic environment proved a staggering downturn where its rank heightened to 33rd in 2017 compared to 9th in 2007 and its score declined from 5.9 in 2007 to 5.5 in 2017. Furthermore, pillar (VI) Goods market efficiency (efficiency-driven stage 2) and pillar (XI) Business sophistication (innovation-driven stage 3) showed a slight downturn with ranks declining from 10th and 11th in 2007 to 17th and 14th in 2017, respectively.

Nevertheless, pillars (I) Institutions; (IV) Health & primary education; and (XII) Innovation displayed constant performances during the studied period. While pillar (VII) Labor market efficiency has had a constant score of around 4.8, its ranking enhanced from 29th in 2007 to 23rd in 2017. This doesn't mean that there has been an improved performance, but simply other countries underperformed. Withal, pillars (V) Higher education and training; (IX) Technological readiness; and (X) Market size have showed a slight improvement in terms of their respective scores, yet their ranks worsen. This doesn't necessarily mean that there has been an underperformance in these pillars of competitiveness, the reason being is that other countries outperformed Finland. Particularly, pillar (VIII) Financial market development- highlighted in blue- exhibited a staggering improved performance, moving from 17th rank in 2007 to 4th in 2017 placing Finland on the leaderboards.

Finland was affected by many crises during the studied decade i.e. 2007 to 2017: Starting from the Global Recession in 2007 to the Sovereign debt crisis & the 2nd Finnish recession between 2010-2012 to the Russian oil crisis & EU sanctions originating in 2014. Affecting the world generally and the European Union particularly, those crises had the worst impact on Finland which underperformed compared to its

peers (see Figure 10). Table 4 displays the impact of these crises on Finland by showing the variation of its economic performances during the studied period.

Table 4. Finnish economic performance indicators (adapted from Statistics Finland 2013, 2014, 2015, 2016, 2017a; & UNCTAD 2017)

	<i>The Global Financial Crisis: The Great Recession</i>			<i>Sovereign debt crisis and start of 2nd Finnish Recession</i>			<i>Russian oil crisis & EU sanctions</i>				
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
GDP (billion USD)	255.3	283.7	251.1	247.8	273.6	256.7	269.9	272.6	232.4	238.6	251.8
GDP annual growth (%)	5.2	0.7	-8.3	3.0	2.6	-1.4	-0.8	-0.6	0.1	2.5	2.8
GDP per capita (USD)	48 288	53 401	47 107	46 202	50 790	47 415	49 638	49 914	42 424	43 433	45 597
Inward FDI stocks (billion USD)	91.7	83.5	85.1	86.6	89.2	96.6	88.7	91.9	81.6	80.7	85.9
Exports (billion USD)	65.7	65.5	45.1	52.4	56.8	56.9	56.1	55.9	53.8	51.8	59.7
Unemployment rate (% of total)	6.8	6.3	8.2	8.4	7.8	7.7	8.2	8.6	9.3	8.8	8.6
Inflation rate (%)	2.5	4.1	0	1.2	3.4	2.8	1.5	1.0	-0.2	0.4	0.7

The Global Financial crisis of 2007 was a breakdown of trust between banks. It was a direct cause of the US subprime mortgage crisis due to the use of unregulated derivatives and the trade of risky securities. Spreading to mutual funds, pensions and corporations that owned those securities, this global crisis led to unprecedented unemployment rates in the US and widespread global impacts breeding the **Great recession** that began in 2008. (Berkeley 2018.)

Despite its remote Nordic location, Finland couldn't escape the aftereffects of the Financial Crisis and thereafter the Great Recession. According to Table 4, GDP growth per annum falling deeply from 5.2% in 2007 to 0.7% in 2008, and finally hitting the slump in 2009 with a staggering deficit of -8.3%, representing a downfall of 9% during the crisis and synchronously GDP went down from 283.7 to 251.1 billion USD from 2008 to 2009 respectively. Simultaneously, unemployment which was declining steadily but on a slow rate since 2000 increased by roughly 25% from 2008 (6.3%) to

2009 (8.2%). Inflation hit an unprecedented failure rate of 4.1% in 2008. Finnish exports collapsed hitting a record downfall of 30% from 2008 (65.5 billion USD) to 2009 (45 billion USD). Therefore, this global Financial crisis hit Finland badly affecting most of its economic indicators, hence its productivity and competitiveness; where it ranked 6th in the peak years of the crisis (2007-2009) compared to 2nd in 2006 (see Figure 1). This also led to a recession that has shadowed over the Finnish economy for many years after.

On the dawn of October 2009, Greece announced a budget deficit of -12.7% of GDP due to the Global Financial Crisis, more importantly, misleading EU about underlying financial and macroeconomics imbalances (Lane 2012, 56). The Euro zone is interdependent, any trouble in one country will be reflected on the others. Therefore, to stabilize it, the European Commission agreed to provide stability support to Greece by bilateral loans and financing from the International Money Fund (IMF) to balance its deficit and improve its competitiveness (European Commission 2010). Finland's share to Greece was 1.6 billion Euro (Bank of Finland 2010, 130). Consequently, the huge interest rates led to even bigger fiscal deficits, the inability to refinance debt incited the collapse of financial institutions and led to high government debt, which resulted in the **European Sovereign Debt Crisis** from 2010 to 2012 (Lane 2012, 58-60). This debt crisis affected Finland's economy badly in 2010-2011 and started the **2nd Finnish recession** in 2012. GDP annual growth accounting for 3% in 2010 foundered to 2.6% and then to a deficit of -1.4% in 2011 and 2012, respectively; slowly recovering until 2015 when it finally hit 0.1%. Simultaneously nominal GDP decreased by some 7%, falling from 273.6 in 2011 to 256.7 billion USD in 2012; Inflation grew back to 3.4% in 2011 compared to 1.2% in 2010 (see Table 4). Anyhow, because of its EU membership, Finland faced yet another crisis that poorly altered some of its economic indicators.

The Finnish-Russian dilemma in 2014, the global oil prices took a nosedive of nearly 40% in 6 months' time. Russia being very dependent on energy exports was heavily impacted. (Kuepper 2018.) Additionally, in the same year, the European Commission condemned and sanctioned Russia for illegal annexation of Crimea, which led to a total ban of trade between the EU zone and Russia (European Commission 2014). Fin-

land depends on importing raw materials, energy and some components for manufacturing, with exception of wood and several minerals, Russia being one of its big trading partners (Statistics Finland 2014). The EU sanctions and the Russian oil crisis had a negative impact on Finland's trading relations with its hefty neighbor. The percentage of Finnish trade with Russia accounted for 18% of total imports and 10% of total exports in 2013 which decreased to 11% and 5.9% in 2015 respectively (Tulli (Finnish Customs) Statistics 2015).

During 2014-2015, Finland's global competitiveness worsened from 4th to 8th rank, respectively (see Table 3). However, Russia was not the only responsible for such poor and decreasing economic performance since the Great Recession. The failure of the Finnish ICT cluster and the once called biggest manufacturer of telecom and mobile handsets: Nokia- whose share in the total Finnish GDP was considerably big- bolstered Finland to be the "Sick man of Europe" (Walker 2016). As late as 2007, Nokia had paid 23% of all corporate taxes in Finland, employed more than 100,000 Finnish employees, spent 30% of national corporate R&D and stood for some 28% of ICT cluster's exports (Sölvell 2016, 6-7). With Nokia's demise in 2013 and the decline of the Paper & Pulp industry (Forest Industries statistics 2017), the Finnish economy was heavily pressured, hence, Finland's economic indicators were worsening. Thereupon, according to Table 4, Finnish total exports took a hit on 2014, decreasing from 55.9 billion USD to 53.8 billion in 2015. Simultaneously, GDP decreased to 232 billion USD in 2015 from 272 billion in 2014, unemployment rate increased from 8.6% to 9.3% in 2015 and inflation hit a negative level i.e. deflation of -0.2% in 2015. Additionally, foreign direct investments (FDI) had a slump of nearly 11%, going from 91.9 billion USD in 2014 to 81.6 billion in 2015.

4.2 In-depth results

The earlier sub-chapter displayed the problematic pillars of the Finnish competitiveness (i.e. pillars II; III; VI and XI) and provided a comprehensive explanation about the crises and problems that affected Finland's economy and its global competitiveness levels during the studied decade.

However, to further narrow the results of this research -guided by the theoretical framework- the researcher opted for secondary data and in-depth interviews according to GCI's previously highlighted pillars and respective declining sub-indexes.

Although **Pillar (VII) Labor market efficiency** of Finland has been developing over the years with an improved performance ranking 23rd in 2017 compared to 29th in 2007 (see Table 3), persistent market rigidities have offset it. Upon further investigation of this pillar's sub-indexes, the researcher found that the Finnish flexibility of wage determination has been ranking among the worst of all GCI participating countries. Throughout 2007-2017, this sub-index has been performing badly, ranking 123rd in 2007 and further declining to 138th in 2017. For Finland, one of the most problematic factors for doing business was identified as the restrictive labor regulations (Schwab 2017).

Pillar (II): Infrastructure

Furthermore, infrastructure i.e. pillar (II) was one of the 4 highlighted pillars which illustrated Finland's competitiveness problem, it showed a decline during 2007-2017. For Finland, this pillar scored 5.8 in 2007 and was ranked 10th when compared to 5.4 and 26th in 2017 (see Table 3). Upon a closer examination of this pillar's sub-indexes, the following information- represented in Table 5- was found:

Table 5. Finland: Pillar (II) Infrastructure sub-indexes ranks (Adapted from Schwab & Porter 2007, 2008; Schwab 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017)

	2007 (/131)	2008 (/134)	2009 (/133)	2010 (/139)	2011 (/142)	2012 (/144)	2013 (/148)	2014 (/144)	2015 (/140)	2016 (/138)	2017 (/137)
Quality of overall structure	6	5	7	8	6	3	3	4	6	7	7
Quality of roads	18	12	12	13	15	9	9	14	12	12	21
Quality of railroad infrastructure	7	6	6	7	10	6	6	5	5	6	8
Quality of port infrastructure	7	6	4	6	7	7	5	5	4	7	5
Quality of air transport infrastructure	8	8	8	15	16	11	6	5	9	5	5
Available seat kilometers	46	45	46	49	45	48	48	47	47	47	47
Quality of electricity supply	8	2	4	4	5	11	5	3	6	13	9
Telephone lines / 100 pop.	32	34	39	49	52	65	76	79	79	82	85

According to Table 5, all the sub-indexes were constant over the studied period except for “Telephone lines / 100 pop”. This sub-index -highlighted in red- showed a wobbling decline in terms of global rank, going from 32nd in 2007 to 85th in 2017.

Reason being that the world has shifted to a more wireless form, no need for hard lines, maintenance costs and related workforce. Finland, the first implementer of telecommunications has made good cellular phone plans to reduce the use of land lines. For those reasons, no further explanation nor research is needed, and the researcher decided not to dedicate a complete sub-chapter for this problematic pillar.

4.2.1 Pillar (III): Macroeconomic environment

Pillar (III) Macroeconomic environment is one of two pillars that proved the worst performances of Finland’s competitiveness. This pillar scored 5.4 and ranked 33rd in 2017 compared to 5.9 and 9th in 2007 (see Table 3).

Macroeconomic environment refers to all institutions, policies and public good investments that determine the context for a country’s entire economy. Even though macroeconomic stability alone can’t guarantee an increase of a nation’s productivity, but its disarray or instability can badly affect the whole economy (Schwab 2017, 318). For instance, a government can’t provide public services efficiently if it has great debts with high interest rate payments. A nation working with fiscal deficit limits its ability to provide a good environment for doing business and to react to economic cycle i.e. expansion or contraction of GDP. Additionally, uncontrolled inflation rates limit the operation efficiency of all actors in the economy. (ibid.) Hence the interdependence and the impact of macroeconomics on all other pillars.

To investigate the reasons for this pillar’s demise over the studied decade, a further examination of its sub-indexes is needed. Hence, Table 6 shows the performances of those sub-indexes from 2007-2017.

Table 6. Finland: Pillars (III) macroeconomic environment's sub-indexes ranks
(Adapted from Schwab & Porter 2007, 2008; Schwab 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017)

	2007 (/131)	2008 (/134)	2009 (/133)	2010 (/139)	2011 (/142)	2012 (/144)	2013 (/148)	2014 (/144)	2015 (/140)	2016 (/138)	2017 (/137)
Government surplus/deficit	22	16	19	18	55	35	55	67	65	73	47
National savings rate	41	36	53	82	58	68	80	90	74	77	69
Inflation	6	12	22	45	1	34	55	1	1	65	46
Interest rate spread	15	5	3	6	7	5	7	8	10	12	12
Government debt	56	73	71	93	92	93	101	95	96	90	95

Macroeconomic environment (pillar III) is composed of 5 sub-indexes: Government surplus/deficit; National savings rate; Inflation; Interest rate spread; and Government debt. According to Table 6, all sub-indexes- highlighted in red- were badly performing except for “Interest rate spread” which has been constant over the years. Finnish government surplus/deficit has showed a decline, ranking 47th in 2017 when compared to 22nd in 2007. Finland's national savings rate also demonstrated a downturn through 2007-2017, going from 41st to 69th, respectively. Finnish inflation was varying along the studied period hitting 46th in 2017 compared to 6th in 2007. Lastly, Finland's debt rank has been exponentially increasing from 56th in 2007 to 95th in 2017.

Finland has been hit hard by global and regional economic downturns, which were a cause for its weakening macroeconomic environment. During 2007-2017, due to its relatively low diversification of economic subdivisions and export destinations; and the consecutive shocks to its main industries- i.e. ICT & paper- and to one of its main exporters i.e. Russia (after the EU sanctions) this remote country's economic was badly affected. (European Commission 2015.)

Thus, to provide the reader with more exact information about Finland's macroeconomic pillar, the researcher compiled Table 7 which shows quantitative data on the problematic sub-indexes.

Table 7. Numerical representation of Finland's macroeconomic sub-indexes (adapted from Statistics Finland 2013, 2014, 2015, 2016, 2017a)

		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Government surplus/deficit	€ million	9 577	8 098	-4 577	-4 883	-2 056	-4 362	-5 315	-6 597	-5 782	-3 727	-1 542
	% GDP	5.1	4.2	-2.5	-2.6	-1.0	-2.2	-2.6	-3.2	-2.8	-1.7	-0.7
National saving rate (% of GDP)		-0.1	0	4.2	3.9	2.2	1.5	2.2	0.6	0.1	-0.6	-0.9
Annual Inflation rate (%)		2.5	4.1	0	1.2	3.4	2.8	1.5	1.0	-0.2	0.4	0.7
Government debt	€ million	63 425	63 254	75 482	88 160	95 490	107 708	114 801	123 696	133 206	136 150	137 278
	% GDP	34.0	32.7	41.7	47.1	48.5	53.9	56.5	60.2	63.6	63.0	61.3

According to Table 7, the state of Finland's public finances has been weakening for nearly a decade i.e. 2007-2017. The Finnish government has been in deficit since 2009 with a GDP loss of -4,577 million euros and furthermore continued its downturn trend to 2017 with a shortfall of GDP -1,542 million euros. This deficit has been simultaneous met with an exponential increase of public debt which almost doubled throughout the same period. Inflation was fluctuating a lot and national saving rate has been weak.

The Great Recession heavily impacted Finland, particularly since 2009 the Finnish general government finances have been deeply deficient. This is primarily due to an extended period of sluggish economic and employment development (European Commission 2014).

After the onset of the global fiscal crisis followed by the Sovereign crisis and the EU sanctions on Russia, international and particularly European economic development had been depleted. In addition, a sector examination showed that Finland's exports were largely intermediate goods compared to low consumer goods exports, thus, increasing Finland's vulnerability to international cyclical fluctuations (Bank of Finland 2016). This has proven a decline in demand for Finnish goods, illustrated in the downturn trend of export throughout 2007-2017 (see Table 4). Additionally, the demise of Nokia -the Finnish mobile phone business- which was the main player in Finland's ICT cluster and the decline of the paper & pulp industry led to a continuous loss of export market shares and therefore worsened the financial situation of the welfare society (Finnish Ministry of Finance 2017, 11).

Despite the recovery of international markets, Finland was still struggling to repair the structural problems in its tradable sectors. Following Finland's integration in international value chains, Finnish companies opted to replace domestic investment by international investment i.e. favored outward FDI over exports, which was another reason that fueled the declining performance of exports. (European Commission 2015, 4-5.) Furthermore, due to restrictive labor regulation -among other things- cost competitiveness is a major problem for Finland. Domestic costs have been increasing due to wage growth, the inability of the Finnish economy to fix the problem resulted in a depression of profitability and investment. (ibid., 6.) Despite the Tripartite Competitiveness Pact tentative in 2016 to stimulate growth in exports, the associated tax reduction will increase Finland's financial deficiency before the effect of this pact is to be seen. (Finnish Ministry of Finance 2017, 13)

Moreover, the retirement of the "baby-boomers" generation made a change to the Finnish population age structure (reduction of the size of working-age population) which have directly increased pension expenditure hence, further pressured government finances. Due to this rise of pension expenditure, Finland opted to complement it with spending cuts -made in the largest expenditure items i.e. education and social benefits- and tax increase, however, the government is still running on large deficit. (ibid., 11-12.)

Another reason that burdened public finances is high unemployment rates (see Table 4), the related expenditure (unemployment benefits, housing allowance and social assistance) in 2015 for instance, totaled 6 billion euros which was equivalent to 2.6% of GDP that year. In accordance, the Finnish Ministry of Finance (2017) said that "as the period of unemployment lengthens, the probability of employment declines, because after unemployment becomes structural it will not necessarily fall when economic conditions improve". (ibid., 9-10.) The decline of Finnish export shares in international markets with the parallel decrease of total productivity -due to unemployment and ageing population- suggest that those two sluggish performances are the results of Finland's inability to recover from the downsizing of its ICT and paper industries (European Commission 2015, 16-17).

Thereupon, Finland's general revenue will not be enough to cover and support all public structures, which caused a financial deficit, hence resulting in a substantial

simultaneous increase in public debt -slightly surpassing 60% of GDP- through 2007-2017 from 63,425 million euros to 137,278 million, respectively (see Table 7).

Nevertheless, the Finnish government's financial deficit was also a cause of the continuous fall of national saving rates. Generally, national savings originate from both public and corporate sectors. Since the aftermath of the global financial crisis, the collapse of Nokia, the decline of paper industry and the rise of unemployment contributed to lowering tax revenues, alongside the increased public spending led to a drop in national saving rates. (Silvo 2018.)

Theoretically, the *"savings rate is the ratio of household savings to disposable income"* and the household savings is *"the difference between disposable income and consumption expenditure"* (ibid.). Thus, if income is lower than consumption expenditure, the national savings rate would be negative. This depends largely on the Finnish pension system which is a "pay-as-you-go" system where all income originating from pensions is considered as tax charges (ibid.). The national savings rate has been in a steady decline since 2009 with 4.2% of GDP to -0.9% in 2017 (see Table 7), this is due to the increase of household debt i.e. consumption has been higher than income.

Since the aftermath of the crisis in 2008 to the sudden rise of crude oil prices in 2014, international and particularly Finnish consumer prices increased. In terms of consumption and production prices, the inflation rates trailed the economic cycle (Bank of Finland 2018). Furthermore, Finnish citizens mainly consume products and services produced nationally. Hence, the increase of domestic production prices was a result of the rise of wages and the weak labor productivity. (ibid.) From 2015 to 2017, the Finnish economy has been slowly but surely improving (see Table 7), this enabled companies to increase their prices to improve their profitability, hence, running surplus accelerated inflation rates.

To conclude on this pillar, Finland's economy has been constrained by slower growth in export revenue; increased expenditure in pension and social security funds (unemployment and ageing population); and the downsizing of the electronics & paper industries. This contributed to a lower productivity, higher cost competitiveness and a

decrease in tax revenues. Hence affecting the Finnish financial position and the overall macroeconomic environment.

4.2.2 Pillar (VI): Goods market efficiency

Goods market efficiency being the 6th pillar of the GCI showed a slight decline during 2007-2017. Although there has been some performance improvement in 2012 and 2016, but the overall trend was sluggish, ranking 17th with a score of 5.2 in 2017 compared to 10th in 2007 and a score of 5.4 (see Table 3).

To name the exact issues that led to this pillar's plunge, the researcher conducted further investigation of the corresponding sub-indexes showed in Table 8. And then constructed the proper questions to which interviewees answered.

Table 8. Finland: Pillars (VI) Goods market efficiency's sub-indexes ranks (Adapted from Schwab & Porter 2007, 2008; Schwab 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017)

	2007 (/131)	2008 (/134)	2009 (/133)	2010 (/139)	2011 (/142)	2012 (/144)	2013 (/148)	2014 (/144)	2015 (/140)	2016 (/138)	2017 (/137)
Intensity of local competition	16	16	31	52	71	68	86	108	89	94	97
Extent of market dominance	7	9	18	27	27	26	22	24	51	47	33
Effectiveness of anti-monopoly policy	2	6	6	4	4	4	1	1	4	3	1
Extent and effect of taxation	115	114	109	114	105	99	48	48	70	52	35
Total tax rate	69	79	83	93	89	73	82	76	81	72	71
No. of procedure required to start a business	4	4	4	6	8	8	10	10	9	11	7
Time required to start a business	20	27	38	52	58	66	68	69	79	81	81
Agricultural policy costs	69	65	71	99	74	56	44	51	45	35	45
Prevalence of trade barriers	5	7	10	8	4	5	6	8	8	6	3
Trade-weighted tariff rate	13	5	5	4	4	6	4	5	5	5	6
Prevalence of foreign ownership	9	8	9	23	39	27	29	44	50	42	28
Business impact rules on FDI	15	14	31	41	37	39	32	27	12	5	3
Burden of customs procedures	6	5	9	6	3	2	2	4	4	3	2
Degree of customer orientation	10	19	27	25	15	20	29	26	26	23	24
Buyer sophistication	8	11	18	17	9	4	4	6	11	14	12

Goods market efficiency is composed of 15 sub-indexes which performances signal the overall trend of the pillar. According to Table 8, Finland has been mainly having problems in 5 sub-indexes -highlighted in red- during 2007-2017. Intensity of local

competition (16th to 97th); Extent of market dominance (7th to 33rd); Time required to start a business (20th to 81st); Prevalence of foreign ownership (9th to 28th); and Degree of customer orientation (10th to 24th). Compared to other sub-indexes those showed the worst decline in terms of their ranks from 2007 to 2017.

However, while conducting this analysis, the researcher found a sub-index which was somewhat constant throughout the studied period yet had a very high ranking amongst all the participants of the GCI Finland's "Total tax rate" ranked 69th in 2007 and slightly worsened to 71st in 2017, which elucidates that Finland's taxes are very high compared to most countries.

During 2007-2017 lots have changed, Finland was hit by many crises, Nokia has seen its end and the paper industry has been on a steady decline, all of which impacted the Finnish micro and macroeconomic environment. Generally, everything was about globalization and it has been fiercely happening in Finland. Finnish companies have always looked at what Germany was doing but weren't able to follow the trends and keep their place at being market makers, hence, ended up being followers.

Finland is a small remote Nordic nation, despite the slump that its ICT cluster took, it is still market leader in telecommunication networks, however, it wasn't able to keep up with the international competition at the turn of the last decade. Furthermore, the paper industry has endured a lot of changes in the market. Formerly, Finland was known to be a leading supplier of quality paper and related machinery products, but not anymore, after the decline of this industry, Finland has shifted to selling wood raw material which is dedicated to packaging production. Respondent Mika Kataikko reported that the competitive edge that Finland used to have for its paper industry was lost, in other words, high-value products were replaced by lower-value raw material. There are big furniture companies e.g. Isku and Alvar Aalto -to say the least- which have been part of the wood industry, however, were not been able to develop enough to be in the portfolio of Finnish exported products.

There have been big changes in public funding, before the Great Recession there were times when public funding was used to support big businesses such as Nokia, however, after its collapse, funding decreased and was then inefficiently allocated. Mika Kataikko thought that public funding should be used differently. From a startup

perspective, the biggest challenge is to get funds which originates either from investors or from government funding. In Finland, getting public funding has become extremely difficult, as businesses needed to show the higher value of their products/services upon which the government calculated the related risks and therefore only invested in secured businesses. Startups shouldn't have problems getting a part of funding -considered as a seed- to start developing their businesses and once done it would be easier for them to get to investors.

A lot of companies were interested in opening new business lines to boost demand for Finnish goods in global markets and stimulate the economy but didn't have the assets, funding nor courage to make the stake, as told by respondent Ari Hiltunen. The paradox is that from a financial point of view Finland has been in a really good shape (see Table 3, refer to Financial development pillar VIII), however it wasn't able to use that advantage to properly finance local businesses and efficiently allocate public funds. Therefore, promoting an unfavorable environment for doing business and restraining Finnish companies' ability to innovate. In line with this, the CEO of the Central Finland Chamber of Commerce, respondent Ari Hiltunen gave the example of Oulu, an area that hosted lots of Nokia-based companies and startups. The concentration of highly specialized engineers who excelled in the IT field and had working experiences at Nokia opened those companies and startups. Because of this, Oulu have had better funding than other areas in Finland. It was about the inefficient governance and the excessive regulations for public funding to be distributed that resulted in time constraints to start a business and lots of foreclosures during 2007-2017, as seen in Table 9.

Table 9. Number of Finnish companies' openings and closures (adapted from Statistics Finland 2017b)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
No. of openings	35 343	34 604	31 279	33 232	32 469	31 186	30 147	28 801	28 358	29 604	30 169
No. of closure	23 229	27 003	25 980	21 446	24 447	25 504	26 852	28 703	24 380	24 142	14 765
Ratio of closure %	65.72	78.03	83.06	64.53	75.29	81.78	89.07	99.66	85.97	81.55	48.94

According to Table 9, during 2007-2017, the average percentage of companies' closure was close to 75%. Hence, the question that Mika Kataikko raised: "how can we have local competition if companies can't sustain their existence and compete due to the high ratio of foreclosure?". Amongst other reasons for the decline of rivalry intensity between Finnish companies were the variation in companies' sizes (lots of startups and big enterprises with 500+ employees, but not enough medium sized companies) and the fact that clear market leaders controlled some industries as reported by Ari Hiltunen. Overall business environment wasn't favorable for Finnish companies to effectively compete.

When it came to international markets and due to its small market size, Finland has been an export-oriented country. The electronics and paper industries related exports had the highest shares amongst the total Finnish exports for quite many decades and the demand for those products and services was high on international markets. However, after the onset of the recession of 2007 Finland started losing its leading grip.

The Global Financial crisis that originated in the USA in 2007 changed the world's economy and tested nations' economic resilience to market fluctuations. In line with this, respondent Ari Hiltunen said: "we thought we were strong enough to withstand the crisis", however the truth was that this welfare nation's economy was far from being resilient. Additionally, the EU sanctions on Russia -one of Finland's main exporters- had profound consequences on the Finnish export sector. Thus, the volumes of exported goods coming from smartphones and high-grade paper products drastically decreased, emphasizing on the decline of the demand for those Finnish products.

The former paper industry's enterprises went fiercely into digitalization with high confidence of their products/services and abilities to keep their international market dominance. Yet, digitalization has been replacing paper good, for instance newspapers, letters, brochures and other traditional paper products are now becoming digital. Therefore, the same edge that gave Finland its leading position was the reason for the loss of its market dominance. Ari Hiltunen said that for this industry alone, in

Central Finland the loss of export shares was around 1 billion dollars during 2007-2017.

On the other hand, Ari Hiltunen said that “Nokia was too big in Finland in terms of its contribution to GDP, its share of R & D expenditure and its forefront position in local and global markets. Everybody thought it would continue forever”. Finnish companies needed to change their customer orientation, not only supplying high-quality products but also thinking about how the customer perceives and values those products. Big companies thought they had all the knowledge needed to understand customers; therefore, they were more product-oriented rather than customer-oriented, hence more vulnerable to international competition. Nokia didn’t question the fact that there will be a day where some competitors will arise and take its market shares. The Introduction of the iPhone in 2007 unexpectedly caught the world’s attention, Steve Job was customer-oriented and had given the people what they didn’t know was needed, hence marking the first hit to Nokia’s global markets. Furthermore, this raise of international competitors highlighted Finland’s cost competitiveness problems, soaring prices due to expensive labor force.

In line with this, respondent Mika Kataikko said: “if you are not yourself cannibalizing your business some else will”, hence, the need to constantly renew the industry to sustain it. The rule of thumb in business according to Mika Kataikko is to be a first mover, the best or to be able to produce big volumes. Since, Finland can never go to volumes because it is a small nation, so options are to be market leader or maker. In terms of market dominance, Finland needed to be on the high-end of those businesses while constantly developing and innovating to retain its position, a process that takes money and time, two things Finland has been lacking. The respondent continued by pointing out government’s financial deficiency and the limited funds dedicated to R&D as main causes for the inability of Finnish firms to innovate. Consequently, leading to the regression of Finnish international market dominance.

Furthermore, another reason that affected the Finnish goods market was the regression of foreign ownership during the studied decade. All participating respondents agreed on the fact that the way to get foreign companies to invest in Finland is about location attractiveness. At the beginning of this millennia, the motivation for foreign

companies and investors to relocate to Finland and own domestic companies was to benefit from the know-how of the Finnish companies and make it an integral part of their own operations. This was obvious because of the emergence of specialized technology-intensive companies in the Finnish ICT cluster, Nokia being its main player.

However, after the decline of Nokia, respondent Sanna-Mari Hynninen said: “Investors didn’t see Finland as an attractive market as it used to be”. Despite that fact that there are still many areas with highly specialized labor force, the problem lies within the Finnish culture, it is hard for Finns to showcase their business ideas and companies to attract foreign investments. Additionally, expensive wages, high tax rate and the ageing population structure -implicating low productivity- were named by all respondents as main causes for the reversion of foreign ownership in Finland during 2007-2017.

In order to compete in international markets, Finnish domestic rivalry needs to be intense, this gives incentives to local companies to innovate and develop their know-how and therefore their products to be able to compete on national level. And by doing so, create a demand for the Finnish products on global markets and attract foreign investments. However, the time required to start a business in Finland, the lack of intense local competition, the decline of global market dominance, the regression of foreign ownership and the lack of attention to customer’s perception of value led to a weakening in Finnish goods market performance from 2007 to 2017. According to all interviewees, the reasons behind such sluggish performance were the inefficient allocation of public funds, ageing population (low productivity), high taxes, inefficient governance, market rigidity (restrictive labor regulations), insufficient capacity to innovate, the Finnish culture and the downsizing of the electronics and paper industries.

4.2.3 Pillar (XI): Business Sophistication

For Finland, business sophistication pillar (XI) -key to innovation-driven countries (stage 3 of GCI)- showed a moderate decline in performance along 2007-2017. Ranking 11th in 2007 and worsening to 14th in 2017 with a score of 5.5 and 5.3, respectively (see Table 3).

The researcher did further analysis of the corresponding sub-indexes to highlight the specific problematic areas that led to the downturn of this pillar, showed in Table 10. Upon identification, the researcher constructed proper questions to which all three respondents answered.

Table 10. Finland: Pillars (XI) Business Sophistication's sub-indexes ranks (Adapted from Schwab & Porter 2007, 2008; Schwab 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017)

	2007 (/131)	2008 (/134)	2009 (/133)	2010 (/139)	2011 (/142)	2012 (/144)	2013 (/148)	2014 (/144)	2015 (/140)	2016 (/138)	2017 (/137)
Local supplier quantity	25	24	42	80	88	87	95	96	96	92	78
Local supplier quality	9	13	13	19	14	7	7	9	13	15	15
State of cluster development	11	6	7	9	4	6	12	13	17	18	17
Nature of competitive advantage	6	6	5	4	6	5	3	4	6	12	14
Value chain breadth	10	7	9	9	7	7	7	16	20	15	19
Control of international distribution	11	14	16	25	16	17	12	12	13	12	11
Production process sophistication	6	6	5	5	5	4	4	3	4	4	6
Extent of marketing	29	34	31	29	26	20	16	26	39	84	87
Willingness to delegate authority	8	7	6	6	7	6	4	5	5	5	4

Business sophistication pillar is composed of 9 sub-indexes which performances signal the overall trend of the pillar. According to Table 10, Finland's problematic sub-indexes -highlighted in red- during 2007-2017 were:

- ✚ Local supplier quantity (25th to 78th)
- ✚ Local supplier quality (9th to 15th)
- ✚ State of cluster development (11th to 17th)
- ✚ Nature of competitiveness advantage (6th to 14th)
- ✚ Value chain breadth (10th to 19th)
- ✚ Extent of marketing (29th to 81st)

Finland is known to be a nation that prioritizes the quality of its products and services over everything else. Due to globalization, the competition on international market has been fierce, competitors raised against Finland and threatened the high-end quality and expensive Finnish products and services. Alongside the decline of Nokia and the paper industry's international market shares which were responsible

and capable of supplying large quantities of related products and services led to a decline in Finland's ability to manufacture large volumes of goods. Respondent Ari Hiltunen highlighted the inefficiency of lots of suppliers which were part of the supply chain of the electronics and forest industries that couldn't change their line of business after the decline. And he added: "If you had a product to be manufactured in bulk quantities, Finland was not the place to go".

Furthermore, respondent Mika Kataikko explained the reasons behind Finnish companies' choice of quality over quantity. To regain and sustain global market position, Finnish companies needed to be able to manufacture higher quality products than competitors, which means that the quantity had to decrease. Finnish companies didn't have enough funds nor assets to produce high-end quality products on large scale, they had to choose one or the other. This was because of the Finnish government's financial deficiency and its inefficiency when distributing public funds. Nevertheless, China was a choice only available for some of the Finnish companies for mass production purposes, yet after standard quality checks in Finland products went to China for manufacturing and came back with defects. Hence, the reason why most Finnish companies do not relocate to other low-cost production countries is the fear of losing their competitive edge. Consequently, to produce higher quality products, the amount should be lessened in a way to have more control and flexibility with production.

During 2007-2017, beside the slump of the two prominent clusters i.e. electronics and paper, Finland's metal cluster also showed a decline in performance. After the 2007 price bubble, the profitability of this metal cluster sharply decreased. The continuous deterioration of those clusters and the restraints for development during the studied period was a result of the inefficient governance and the insufficient capacity to innovate, as told by all three respondents.

Interviewee Sanna-Mari Hynninen emphasized on the importance of innovativeness to balance cluster development. Furthermore, Mika Kataikko said: "a cluster is an area-based collaboration between companies in the same industry, educational institutions (knowledge, talent and support) and the government (regulation and sup-

port)". In other words, clusters need a favorable environment to develop, this includes proper R&D expenditure, innovation and highly productive labor force. Nonetheless, during 2007-2017, Finland was going through sluggish economic growth, slowly rising unemployment rates and the ageing structure of the population-which decreased the total productivity factor- were among the reasons for the financial deficits and the regression of Finnish cluster development. Facing this pension expenditure and to minimize the gap, the Finnish government opted for cut downs on research and development expenditures which limited companies' innovation in different clusters.

Additionally, big companies such as Nokia had most of public funding dedicated to R&D, despite this company's inability to face intensive international competition, it kept all the funding and continued developing as in its prime time. According to Ari Hiltunen, if Nokia realized its inability to cope with market changes and spared those resources to other companies there would be a chance for them to make the international market, hence contributing to cluster development.

As a result of the downturn of Finnish cluster development Mika Kataikko said: "an unfavorable environment for growth and development of clusters was created and we lost the capability to innovate!"

Finland's competitive advantage existed in their phenomenal educational system and their know-how in the technology industry, particularly, the innovativeness in telecommunications and mobile handsets. Finnish companies were the first movers in this business, supplying domestic and international markets with high-quality products and services. The Finnish workforce mainly included engineers who had the knowledge and ability to build and make excellent products.

Nonetheless, respondent Ari Hiltunen said: "We were more focused on the technical side so we need to be sure that the product we are selling is 100% working, however, we were never good at marketing!". From a government perspective, Mika Kataikko said: "it has been a swear word when you ask for funding related to marketing and sales", emphasizing on the business culture of the state of Finland. Finnish businesses were in a phase of seeing the things of yesterday and today and not focusing

on selling the things of tomorrow. With that, even if Finland has the better argumentation (quality), competitors will take the opportunity and beat the Finnish companies in international markets.

Additionally, Mika Kataikko claimed that another competitive advantage of Finland was its membership to the European Union. As a result, Finland has been far more addressable in terms of access to international markets. However, this membership acted as a double-edged sword because Finland lost a free-floating currency that could have been devaluated to fix cost competitiveness problems (low productivity and high wages).

On the other hand, Ari Hiltunen thought of this nation's welfare system as a competitive advantage because it raised the Finnish standard of living and promoted equality, financial security and prosperity. However, "it didn't come cheap" he said, as the crises that hit Finland during 2007-2017 and the ageing population further pressured government's expenditure on pensions which worsened the financial situation. This Nordic country's welfare system was too good; it gave people more than they needed to strive and with high taxes Finns had no incentive to work, hence it decreased total productivity.

Generally, the value chain is a mean to increase business' efficiency to deliver more value to customers with low prices, overall to create a competitive advantage for the company. This is done with the support of various activities. Because of Finnish culture, as Ari Hiltunen said, value chains have been used as a risk management tool for big companies instead of something that brings more value to the business. For instance, Finnish companies have been inefficiently dealing with suppliers, treating them as tools not business partners which can provide additional value. Finland was efficient in terms of infrastructure, experienced labor force and technological development as stated by Mika Kataikko, which helped in setting a favorable environment for Finnish value chain domestically and globally. However, the collapse of Nokia, the decline of the paper industry performance and the marketing inefficiency of Finnish businesses led to a narrower presence of Finland's value chain on global markets.








4.3 Summary of Finland's major competitiveness problems

Upon examination of the GCI, Finland's major competitiveness problems were mostly related to the decline of pillars (III) Macroeconomic environment; (VI) Goods market efficiency; and (XI) Business sophistication which ranked 33rd; 17th and 14th in 2017 compared to 9th; 10th and 11th in 2007, respectively. However, pillar (II) Infrastructure's rank has also worsened during the studied period from 10th in 2007 to 26th in 2017, the reason behind such downturn was the decrease in land line usage and requires no further investigation.

Furthermore, regardless of pillar (VII) Labor market efficiency's improvement during 2007-2017, the researcher highlighted "flexibility of wage determination" -one of this pillar's sub-indexes- which has had the worst performance among all GCI's participating nations. Ranking 123rd in 2007 and further declining to 138th in 2017.

Without a doubt, the Great Recession that started in 2007 shadowed over the world's most developed economies and affected international markets. The Sovereign crisis and the EU sanctions on Russia made things worse for Europe and, particularly Finland. Additionally, the decline in international demand for Finnish paper industry's products and the downturn of the electronics industry highlighted by Nokia's demise resulted in weak export market performance which was linked to the deterioration of production profitability in Finland. Those stood for the most obvious reasons behind Finland's competitiveness issues.

Also, according to the primary and secondary data gathered by the researcher, the following list summarizes the main problematic factors that led to Finland's loss of competitiveness since 2007 to 2017:

-  Government financial deficiency
-  Increasing public debt
-  Inefficient bureaucracy
-  Insufficient funding
-  Finnish culture
-  Market rigidity: restrictive labor regulation
-  Limited ability to innovate

- ✚ High cost-competitiveness
- ✚ High tax rate
- ✚ Ageing population
- ✚ Decreased total productivity factor

5 Discussion

The breakthrough of the Finnish ICT cluster, the prominent forest industry alongside the quality of education and the infamous welfare system gave Finland a forefront position on the global competitiveness leaderboard at the turn of this millennium. However, Finland was not able to sustain its global leading position. After the onset of the Great Recession of 2007, this remote Nordic country showed an inability to withstand international market fluctuations. Finland's economic growth became sluggish and furthermore continued until 2017, this was emphasized by its decreased level of competitiveness i.e. from 6th in 2007 to 10th in 2017.

The main goal of the current study was to determine the factors that led to Finland's loss of competitiveness from 2007 to 2017 and their impact on the Finnish economy. Hence, after reviewing all the relevant literatures on countries' competitiveness, the following research question was formulated:

- ✚ "How did Finland lose its leading competitiveness level in the aftermath of the Great Recession of 2007 and over the last decade?"

To answer to this research question, I opted for a qualitative and longitudinal case study. In other words, I collected relevant secondary data as well as primary data - through semi-structured interviews- to compare Finland's competitiveness through a range of factors over a period of 10 years i.e. 2007-2017. Additionally, to help direct and organize the data analysis and the overall process of this study, WEF's Global Competitiveness Index was the chosen theoretical framework.

5.1 Summary of the main findings

This study has shown that Finland's loss of competitiveness during 2007-2017 was mainly due to its underperformance in 4 pillars of the GCI. Pillars (II) infrastructure;

(III) macroeconomic environment; (VI) goods market efficiency; and (XI) business sophistication were the problematic areas behind the Finnish sluggish economic growth and the competitiveness downturn. Despite the improving performance of pillar (VII) labor market efficiency during 2007-2017 and upon a closer examination, “flexibility of wage determination”- one of this pillar’s sub-indexes- illustrated one of the worst performances among all participating countries in the GCI.

Overall, Finland’s competitiveness downturn was mainly characterized by the decline of its prominent paper industry and the downsize of the once called “miracle” ICT cluster, Nokia being its most salient actor. Finland is an export-oriented country due to its relatively small market size, and the Finnish exports are prone to cyclical fluctuations resulting from global crises because of their focus on intermediate products.

Digitalization decreased the demand for Finnish high-grade paper products. Due to globalization, Finland’s integration in international value chains acted as a two-edged sword. On one hand, Finland’s exports and especially mobile handsets and telecommunication services -mainly supplied by Nokia- dominated international markets up until 2007. On the other hand, this exposure to global markets showed Nokia’s inability to cope with intense international competition, ultimately leading to its demise. This alongside the EU sanctions on Russia -one of Finland’s main exporters- led to a decrease in total exports revenues during 2007-2017.

Additionally, because of the decreased revenues of Finnish exports -among other reasons- Finland showed a government financial deficiency which was met by an increased public debt along the studied period. This was further pressured by the ageing population’s structure which directed the public funding to pension expenditure. Finland’s financial deficiency also restrained public funding to Finnish companies, alongside the inefficient bureaucracy and the Finnish culture creating an unfavorable environment to do business, hence, limiting Finnish companies’ ability to innovate.

Furthermore, the restrictive labor regulation and low employment rate characterized by the Finnish ageing population’s structure led to a decrease in total productivity factor. In addition, Finland illustrated a low profitability in its tradeable sector, which was undermined by the limited access to finance, since expenditure requires investment. Therefore, the decreased total productivity factor, the low profitability in the

tradeable sector and the high labor cost resulted in an increase of Finnish cost competitiveness which in turn restrained the preconditions for export growth during 2007-2017.

5.2 Practical implications

The findings of this research suggest several courses of action to be taken by the Finnish government/policy makers. This information can be used to develop strategies and policies to cope with domestic as well as international markets fluctuations and potentially make the Finnish economic more resilient to global crises.

As showcased in the results chapter, Finland had multiple interconnected problematic areas between 2007 and 2017. The Finnish welfare system is globally known, it aims at providing better standards and quality of life for all people living in Finland. “The Finnish welfare system is really good, even too good!” said the CEO of Central Finland Chamber of Commerce Ari Hiltunen. Although this system provides many benefits it also decreases the incentives of young people to work. A reform in the Finnish welfare system could bring long-term value by increasing the incentive to work, hence, boosting employment rate especially for young-age people and rising productivity. If employment increases there will be more tax revenue for the Finnish government, in return, taxes can somehow be reformed and reduced. On the long-term this will lessen the pressure on the government finance, help decreasing the financial deficit and the public debt.

Another important practical implication is that Finland is in need to reform its research institutions and funding allocation to boost country’s ability to innovate. Moreover, it seems that there is a need to improve Finland’s business environment by lowering administrative burden and providing more financial support for Finnish companies to increase their ability to innovate. Simplifying licensing requirement for businesses and efficiently allocating public funds could give the Finnish companies more incentives, increase productivity and boost the intensity of local competition.

Finland’s labor regulation has been restrictive resulting in labor cost growth, hence, rise of domestic costs. An efficient labor cost reform or regulation will decrease do-





mestic costs which will allow Finnish companies to increase their profitability. Additionally, it has been clear through this study's results that the Finnish domestic competition intensity was deteriorating. Thus, an increase in local competition could lessen production costs, so decreasing Finnish goods' price level.

Therefore, improving productivity factor, regulating labor costs and increasing local competition intensity could potentially result in improving the Finnish cost competitiveness and recreate the international demand for Finnish goods. This will improve the Finnish international value chain breadth and increase exports revenue which will impact Finland's financial situation by reducing debt and public financial deficiency.

5.3 Assessment of the results in the light of literature

Many prior studies (Porter 1990; Coccia 2012; Ristovska et al. 2017; Honglin 2015; Kumar et al. 2013) suggested the importance of macroeconomic and microeconomic determinants/factors such as exports, productivity, innovation, R&D and FDI -to say the least- for any country to be competitive. This is done by a range of policies and effective public investments setting a favourable environment for local companies to do business, hence, achieving prosperity and productivity. Nonetheless, this research is in line with prior studies and its findings confirm that the importance of those factors has not yet disappeared in the case of Finland's competitiveness during 2007-2017.

Similarly to the findings in the present study, Porter (1998, 78) suggested that a nation's competitiveness depends solely on the capacity of a country to create a suitable environment for its different industrial sectors to innovate, develop and promote long-term growth. This was illustrated in Porter's "Diamond model" for country's competitiveness. According to the Diamond model's 4 main attributes of a nation competitiveness, Finland's problems were:

-  High-cost competitiveness
-  Decrease in local competition rivalry
-  Downsize of the paper and telecommunications' industries
-  Companies' limited ability to innovate

- ✚ High tax rate
- ✚ Ageing population
- ✚ Decrease in international demand for Finnish goods
- ✚ Decline of investments both domestically (inefficient allocation of funding) and internationally (decrease of foreign ownership). The findings of the present study suggest the importance of investments (R&D, FDI and foreign ownership) to Finland's competitiveness. This is consistent with Coccia (2012) and Ristovska et al. (2017) findings that investments are very important determinants for a country to gain a competitive edge.

As for the Finnish government, the financial deficiency, inefficient bureaucracy, limited access to funding and the restrictive labor regulation were creating an unfavorable environment to do business. And following the "Chance" factor of the Diamond model, Finland has gone through many crises along 2007-2017 which hindered its economic growth, hence, its competitiveness.

Additionally, the findings of the present study suggest that exports are crucial for Finland's competitiveness because of its small market size. This is consistent with Honglin (2015) findings that exports are the country's ability to compete in foreign markets which is related to cost-competitiveness, innovation capability, investments and the overall favorable environment for local businesses to do business.

Furthermore, another key determinant for a nation's competitiveness: innovation. Prior studies (Kumar et al. 2013; Atkinson & Ezell 2015) suggested that innovation has an impact on a country's economic growth therefore, its productivity and competitive advantage. However, to foster competitiveness through innovation some principles should be implemented e.g. effective policies and proper investments. This is in line with this study's findings which suggest that Finnish companies' limited ability to innovate was because of the insufficient funding and the inefficient bureaucracy.

Following Delgado et al. (2012, 8) definition for "Foundational" competitiveness as "the expected level of output per working-age individual, given the overall quality of

a country as a place to do business". Finland's total factor productivity was low because of the ageing population's structure and the declining employment rate through 2007-2017.

Nevertheless, Ketels (2016) suggested GDP as a core dependent variable to assess the level of a nation's productivity and prosperity, hence, a measure for its competitiveness. The findings of the present study illustrated Finland's sluggish economic growth between 2007 and 2017 represented by the decline of its GDP which was met by an increase in public debt. So, reflecting on Finland's loss of competitiveness.

5.4 Limitation of the research

The limitation related to access to data for the present research was minimal. Regarding the secondary data, the researcher gathered it from well-known and trustworthy resources that were available for the public e.g. GCI; Stats.fi; Bank of Finland; United Nations Conference on Trade and Development (UNCTAD); Finnish ministry of Finance; EU Commission's reports and so on. As for the primary data, the researcher interviewed three Finnish professionals who were prominent in the field of business sophistication and development.

After reviewing the literature on the subject in manner, an empirical question answering to a given problem was formulated and a theoretical framework was chosen to guide the data collection and analysis to ensure the internal validity of results. Additionally, the choice of methodology and its application was carefully thought off and justified for its suitability for this research purpose and objectives, resulting in accurate and valid findings. Consequently, the correct choice of methods and the link between those distinct parts of this research assure the internal validity of the results, which make sense and provide relevant answers to the empirical question.

As for the external validity of the present study -also referred to as generalizability- the researcher doesn't assume by any means that the results can be generalizable to any extent. Simply because it is a matter of national competitiveness which is directly and indirectly affected by factors and determinants respective to the studied country and most probably differ from one nation to another. Additionally, the present research is qualitative and based on the use of a small and unrepresentative sample of

interviewees which also poses concerns for the research generalizability. As such, the researcher considers that this study provides a comprehensive understanding of Finland's loss of competitiveness through 2007-2017.

Furthermore, on the reliability of secondary data, the researcher opted for well-known, trustworthy and proper sources and data collection methods. Hence, my choice for reliable web-based data belonging to infamous world-ranked organizations (e.g. GCI, IMF, World Bank, UNCTAD) as well as national institutions (e.g. Etila, Bank of Finland) and statistical data-bases (stats.fi). The data collection techniques were justified for their appropriateness and used according to proper literatures aligning with the research objectives.

However, there are threats of reliability of primary data collection involving participants' error and bias. To minimize those threats, the researcher was well prepared in advance with a high level of knowledge regarding the topic and the interviewees' organization context, the level of information supplied to the participants allowed them to be prepared and therefore supply correct organizational documentation and information. The researcher also gave the choice and time of location to the interviewees to promote an interactive environment based on trust to gather reliable information.

Additionally, to make sure of the reliability of the collected data, the researcher used the triangulation method as a mean of cross-check verification, involving the use and critical review of multiple sources to confirm the same conclusion. Subsequently, providing accurate knowledge aligned with the research objectives and answers to the empirical question.

Since there is only one researcher conducting this study and the use of relevant data collection methods and analysis procedures were justified for appropriateness, the researcher assumes that there shouldn't be much error or bias from his side. However, the researcher does acknowledge that there will be some bias and subjectivity when conducting this research, because of the recently acquired knowledge regarding the topic of competitiveness, meaning that I may overrate or undervalue some information during the data analysis.

5.5 Recommendations for future research

To sum up, many important questions and issues are yet to be resolved. It would be important to study Finland's loss of competitiveness from 2007 to 2017 from several other viewpoints in addition to the focus of the present study. For example, a recommendation for future research would be to compare Finland's competitive performance to its peers during 2007-2017 to check whether the recession affected all those countries similarly.

Another recommendation would be to conduct a qualitative type of research to assess Finland's competitiveness performance between 2000 and 2007. This will give a holistic understanding of the determinants that gave Finland its competitive edge prior to the crisis and elaborates more on what happened after. Furthermore, it would be useful to conduct a qualitative research to examine the reforms adapted by Finland to reboot its competitiveness after 2017.

Additionally, while conducting the present research, the researcher noticed that pillar (VIII) financial market development has been improving through the studied period from 17th position in 2007 to 4th in 2017. It would be valuable and constructive to conduct a research to find out the reasons behind such improvement since other pillars were underperforming at the same time which eventually led to Finland's loss of competitiveness.

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Appendices

Appendix 1. Interview questionnaire

- How do you see the intensity of competition in Finland, changing from 2007 to 2017?
- How do you explain the extent of the Finnish market dominance over the last decade?
- Does the time required to start a business in Finland hindered or bolstered a favorable environment in the last 10 years and why?
- Why has the foreign ownership regressed over the last decade?
- How has the degree of customer orientation shifted since 2007 to 2017?
- Why do you think Finland has lost its competitiveness leading position over the last decade?
- How do you classify the quality and quantity of Finnish local suppliers since 2007 and why?
- How did the state of cluster development vary since the aftermath of the great recession up until 2017 and why?
- What was the extent of Finnish marketing in 2017? How does it differ to 2007?
- How did the Finnish value chain develop during 2007-2017 and why?
- What is the nature of the Finnish competitive advantage and how did it develop in the onset of 2007 till 2017?
- Why do you think Finland's competitiveness has been on a downturn since the great recession and over the last decade?