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How does diversity impact national competitiveness?

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Abstract

In the modern global economy, the countries-level of competitiveness has emerged as an essential factor. Numerous studies have been done on the impacts of economic and institutions main factors´ of national competitiveness. However, the influence of soft factors has not been considered as a source of national competitiveness. In this regard, the objective of this research was to assess the impact of diversity, a soft factor in the contribution to national competitiveness. The World Economic Forum's (WEF) Global Competitive Index (GCI) was used as a theoretical framework for this study.

A sample of 141 countries was taken from trustworthy and well-known organisations such as WEF's GCI and social progress index. A cross-sectional method was implemented based on the gathered quantitative secondary data. Two models were built to test the formulated hypotheses, and the SPSS software tool was utilized for the descriptive statistics, correlation and multiple linear regression analysis.

The results indicated a positive correlation between diversity, innovation capability and competitiveness, suggesting an impact. Moreover, diversity was shown to influence national competitiveness through additional variables such as R&D and scientific publications, which positively contributed to national competitiveness.

Furthermore, practical implications on achieving competitive advantage and future suggestions were presented.

Keywords/tags (subjects) Competitiveness, Diversity, Multiple linear regression, Global competitive index
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Tiivistelmä

Nykyään globaalitaloudessa eri maiden kilpailukyvyn taso on noussut keskeiseksi tekijäksi. Talouden ja instituutioiden kansallisen kilpailukyvyn tärkeimpien tekijöiden vaikutuksista on tehty lukuisia tutkimuksia. Pehmeiden tekijöiden vaikutusta ei kuitenkaan ole pidetty kansallisen kilpailukyvyn lähteinä. Tässä suhteessa tämän tutkimuksen tavoitteena oli arvioida monimuotoisuuden, pehmeiden tekijöiden vaikutusta kansallisen kilpailukyvyn edistämisessä. Maailman Talous Forumin (WEF) globaalin kilpailukyvyn indeksiä (GCI) käytettiin teoreettisena viitekehyksenä tälle tutkimukselle.

Otos 141 maasta otettiin luotettavilta ja tunnetuilta organisaatioilta, kuten WEF: n GCI ja sosiaalinen edistyksen indeksiltä. Poikkileikkausmenetelmä toteutettiin perustuen kerätyistä kvantitatiivisista toissijaisista tiedoista. Muotoiltua hypoteesia testaamiseksi varten rakennettiin kaksi mallia, ja SPSS-ohjelmistotyökalua hyödynnettiin kuvaavassa tilastossa, korrelaatiossa ja useissa lineaarisissä regressio analyyseissä.

Tulokset osoittivat positiivisen korrelaation monimuotoisuuden, innovaatiokyvyn ja kilpailukyvyn välillä, mikä viittaa vaikutukseen. Lisäksi monimuotoisuuden osoitettiin vaikuttavan kansalliseen kilpailukykyyn lisämuuttujien, kuten R&D ja tieteelliset julkaisut, jotka vaikuttivat myönteisesti kansalliseen kilpailukykyyn.

Lisäksi, käytännön vaikutuksia kilpailuedun saavuttamiseen ja tulevia ehdotuksia esiteltiin.

Avainsanat (asiasanat)
Kilpailukyky, Monimuotoisuus, lineaari regressioanalyysin, Globaalin kilpailukyvn indeksiä

Muut tiedot

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1 Introduction

In the modern global economy, the countries- level of competitiveness has emerged as an essential strategic tool for business managers. Competitiveness is defined as an assemblage of institutions, policies, and factors that define a nation's productivity level. The nation's ability to grow and prosper in the long term is influenced by productivity. Hence, the sustainability of a country economic growth is most likely linked to competitiveness. (Claros 2005.)

1.1 Background

Nowadays, Internationalization has become a thing of ease; it is difficult to find a country or an international firm without finding various cultures and identities of diversification. Through diversification, firms and countries have improved and have become more competitive and continue to rip their advantages.

Regarding competitiveness, it is deemed a critical component for sustainable economic growth. Moreover, other fundamental competitiveness factors have been studied, such as institutions and economic factors. Nevertheless, the aspect that is hardly investigated is diversity and the contribution it has on competitiveness. Mainly, diversity impact innovative capabilities to keep nations and firms on top of the competitive ladder. (Dirienzo, Das & Burbridge, 2007.)

Globalization and increased technological capabilities are the drive to the modern workplace than the previously known. (Meister & Willyerd 2010, 3). Simultaneously, the modern era of the population in the current working life is becoming more diverse (Ruona & Coates 2012, 560). Even as the results look on the positive side, the idea of diversity is still controversial and lacking. Some of the past research results place diversity as having a negative impact, while others positively impact society.

The economic performance of nations, which is normally measured as GDP per capita, is negatively affected with regards to cultural diversity; this component has been assessed with a multitude of results published by many researchers (Easterly and Levine 1997, Alesina 2003; Barro & McCleary 2003;). In comparison, a positive impact has also been revealed (Florida & Tingali 2004), while other researchers observed no

substantial impact (Lian & Oneal 1997). Additionally, mixed findings have also been reported (DiRienzo, Das, and Burbridge 2007; VanAlstine, Cox, and Roden 2013; Alesina and La Ferrara 2005).

For this study, to evaluate how diversity impacts national competitiveness, a cross-sectional analysis of the World Economic Forum (WEF) pillars (see figure 4) shall be studied to formulate hypotheses in order to understand the importance of diversity. Furthermore, quantitative data will be gathered from the nations to understand its impact on competitiveness.

1.2 Motivation for Research

The ability to connect cultures and people to gain prosperity has been around for many decades. According to Jain and Verma (1996), numerous ancient and modern-day issues suggest a diverse workforce rise has been through existing factors. Looking back from the rise of modern civilisation, it includes an indication of individuals migration far back as the development of ancient humans. Furthermore, various political boundaries have added significantly more minorities in many countries all through history.

A diverse workplace's benefits incorporate improved problem solving, better decision-making, significant innovation and creativity, enhance productivity and effective advertising to a broader variety of consumers (Cox 1991). Understanding the impact of diversity can lead to more innovations and counter-strategies to achieve the impossible in society. It has been studied that diversity and the inversion of a diverse group can bring about new ideas and various skills to a nation or firm.

Some research already into the impact of diversity on competitiveness have been explored (Dirienzo, Das & Burbridge et al. 2007) though for this research study; the aim is to dive even more further and provide an analysis on a national level and the impact of which diversity has contributed, in terms of patents, innovations and workforce competitiveness. The study aims to provide a holistic view of firms and nations alike and the benefits of having and accepting diversity in the nation and workforce.

The researcher has been living the past ten years in a different culture to his own; through this, the researcher has recognised the benefits and negatives of being in a

diverse environment. The focus is to understand what type of impact individuals with diverse backgrounds have on a larger scale. Moreover, are there benefits to being part of a diverse culture.

1.3   Research objectives and problem

While it is well-known, competitiveness has many aspects, from the macro and microeconomic aspects. The concept of diversity, being such a broad topic, has not been widely researched on the role it affects to competitive advantage. This research aims to gather data and analyse the findings to understand the "soft" factor that impacts national competitiveness. The main objective will be to discover any correlations between innovation and diversity and hypothesise countries' competitiveness.

The objective is that diversity is a vast notion and finding answers to specific targets of diversity might prove challenging; hence the spectrum will be moved to aspects such as innovations and workforce diversity. The aim is to formulate a reasonable hypothesis to answer the study question.

1.4   Research Question, Approach and structure

After analyzing and reviewing many research and literature works on both competitiveness and diversity, the following question was formulated:

❖ How does diversity impact national competitiveness?

The research topic will centre on a quantitative method to answer the research question. Comparing countries through the World Economic Forums (WEF's) Global Competitive Index, creating hypotheses based on the pillars presented at the GCI.

 As stated, WEF´s Global Competitiveness Index has been considered for this study's theoretical framework formulation. The researcher choice relevance goes on the fact that the Global Competitiveness report uses various data and nations´ level surveys conducted with partner organisations (i.e. World Bank, UN agencies, IMF) to assess nations competitiveness based on the global ranking eventually. (Schwab 2019.)

1.5   The structure of the thesis

The following part represents the structure of the study and is relatively easy to grasp; the first chapter, "Introduction", consists of research background, motivation, approach, research objective, and question regarding the topic. The second chapter reviews "literature" from academics and authors to help solidify and guide the researcher appropriately; hypothesis formulation is included in the second chapter. The third chapter being "Methodology", this dives deeper and explains the research approach and context, collection of the data for the research, how it will be analysed, and result verifications. The fourth chapter, "Results", presents the gathered secondary data and the hypotheses results. Additionally, the chapter will include summaries of the collected data and hypotheses to present answers to the research question. The final chapter, "Discussion", finalising the authors' thoughts, thesis limitations, implications, link the results to earlier literature and recommend further study, which could help future researchers looking into a similar field.
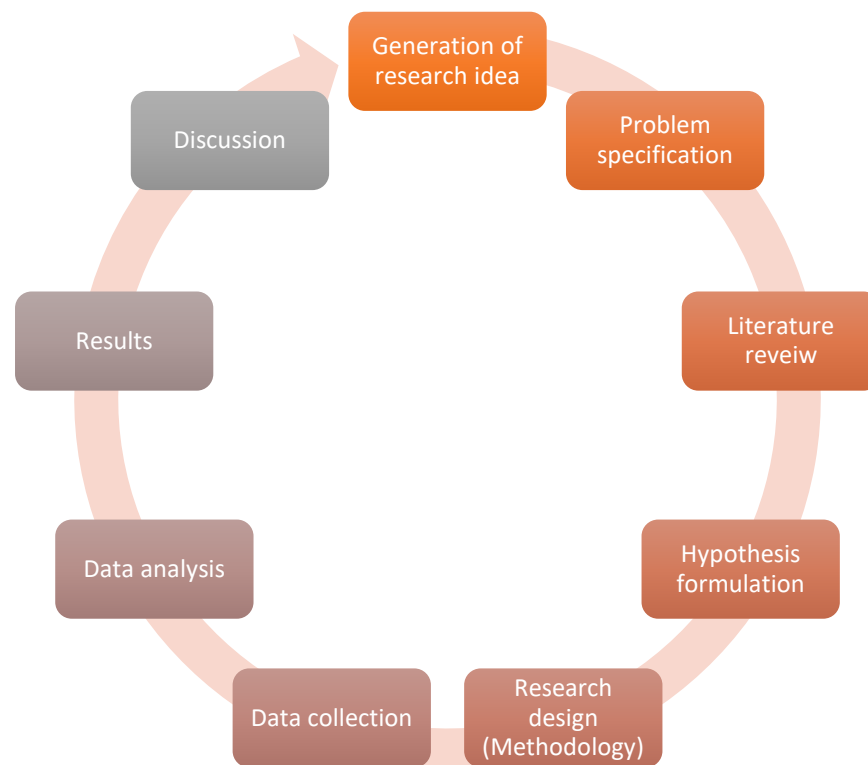

Figure 1. Thesis structure process

2 Literature Review

2.1 The concept of competitiveness

Definitions on competitiveness are broad, and many researchers and authors have tried and labelled the concept in one way or another. In the business dictionary (2019), competitiveness ascribes to an organisation or a nation that can deliver a superior quality of products and services that accommodate domestic and global markets requirements regarding price, productivity, and consumption. The term "competitiveness" originated from the Latin word "competer", which means "involvement in a business rivalry for markets", which in turn translate to "the ability to compete" in the business term. Nowadays, the name of competitiveness is usually considered when dealing with business competence to raise and exploit prospects in markets to endure and achieve profits with the advantages and results they adopt (Porter 1998a).

The Organisation for Economic Co-operation and Development (OECD) proposed competitiveness be inferred as the capability of firms, regions, industries, nations, or supranational regions to produce while being and enduring exposer to global rivalry, comparatively great factor income and influence employment levels on a continuous and maintainable basis. (Hatzichronoglou 1996). The OECD describes competitiveness as the capability of countries to bring out quality goods and services on unrestricted open market environments that can compete on global markets while ensuring the living standards of its individuals in the long term. (Economic Policy Reforms 2010. Going for Growth. 2010)

While economists have ease in measuring firms and industry competitiveness, for a country, they seem to have this general assessment that nations do not compete with one another. The theory is presented by Ricardo (1817) on his analysis of competitive advantage, where he states: different nations which are engaged in typical trade, specialise in various range of products concluding that they are not competing. The results one nation achieves is not necessarily replicated by the other nations' nor is it at the expense of the other. Firms and industries are the ones that compete; nations, on the other hand, are in a mutual arrangement, as they import and export to

through the countries. One nation can specialise in services or goods they present and through this hold an advantageous position comparatively. Porter (1990) analyses competitiveness as a formless concept, indicating that only economic achievement is important when dealing with the national level. Krugman (1994) describes national competitiveness as a "dangerous obsession", indicating productivity matters solely.

Furthermore, Arturo Bris, the director of IMD world competitiveness, quotes national competitiveness such as

"There is no single nation in the world that has succeeded in a sustainable way without preserving the prosperity of its people. Competitiveness refers to such an objective: It determines how countries, regions and companies manage their competencies to achieve long-term growth, generate jobs and increase welfare. Competitiveness is, therefore, a way towards progress that does not result in winners and losers – when two countries compete, both are better off."

Moreover, In line with this, in his book "International Productivity and Competitiveness", Hickman (1992) describes international competitiveness as the means to withstand in a global market, sustain development and standards for the population with reasonable distribution, while still efficiently employing considerably all willing and able to work without minimising the growth potential nor standards of living.

Moreover, it wise to look at competitiveness in the economic and growth aspect and consider the "soft factors" of competitiveness, such as living conditions, technology, skills, diversity, and the environment. The International Institute for Management Development's (IMD) World Competitiveness Yearbook uses two definitions for competitiveness: a brief description and a scholarly classification. The first definition of competitiveness by IMD's is on the way countries and industries handle the entirety of their ability to gain success or wealth. The other description is labelled as the competitiveness of countries being a theory of economic, which assess the facts and policies that affect the aptitude of nations to produce while sustaining an atmosphere that endures and brings creations and fortune for their populace. (Garelli 2015).

Therefore, debates concerning the term competitiveness of countries were refocused because the latter derives from economic performance and wealth creation, which is directly related to productivity (Porter 1990). Following this perspective, more competitive countries have a higher level of productivity and contribute to

higher income levels for their citizens, thus, achieving a better quality of life, reflecting on economic growth (Sargsyan 2017).

Moreover, Porter et al. (1990) argue that nations have a better chance of achieving greatness by solely focusing on an atmosphere that suits their various industrial sectors to develop, innovate and promote long-term growth. Thus, creating the "diamond model", which includes four attributes to illustrate the theory of competitiveness better. (see Figure 2)
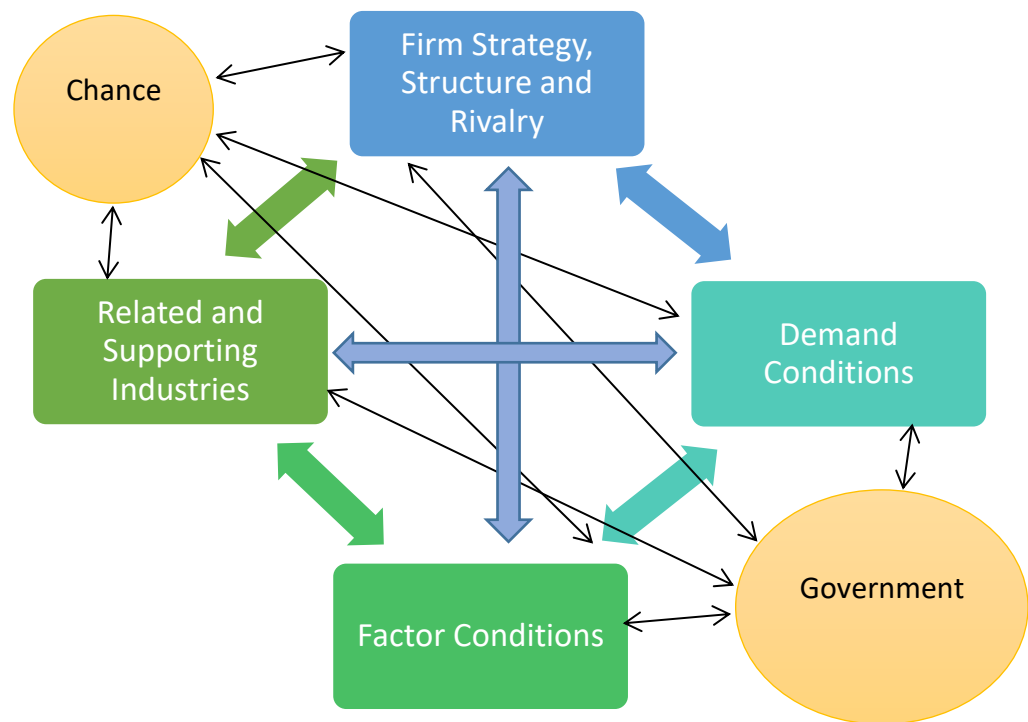
Figure 2.   "Diamond model" adapted from Porter (1990, 78)

1. Factor Conditions: The nation's position in factors of production, supporting access to a more excellent quality of firms inputs, differentiating between human, physical, skills and capital resources as well as infrastructure which are shaped and advanced through investments and innovation to produce a more viable advantage of a country.

2. Demand Conditions: Nature of domestic-market demand for the industries´ services and products, centring on differences instead of resemblances to explain nations competitiveness. The scope and complexity of domestic need

shape the way firms perceive and act in response to buyers. Therefore, necessitating national businesses to regularly innovate and improve their position in competition to bring high product quality and service demands.

3. Related and Supporting Industries: Readiness and the situation of suppliers and other assisting associated industries within a region. Specialisation leads to location desirability, which signifies and exhibits a source of countries competitive advantage. Economies of scales, clusters and resource are the reason specialisation happens and thus, why location is relevant.

4. Firm Strategy, Structure, and Rivalry: Conditions, local regulations and enticements in which a nation creates an advantageous environment for companies to do business and encourages the passion of local rivalry as a cause to innovate and stimulate growth. The primary importance is that firms' strategies and structures hinge on the national competitive atmosphere, which forces domestic firms to be cost-competitive, hence continually advancing and inventing.

Furthermore, government works as a facilitator to support firms and create a suitable business atmosphere, for example, through investments and research establishments, which will promote well-being for its inhabitants. (Coccia 2010)

Chance: referring to casual events that have nothing to do with the situations in a nation and are beyond the influence of any company, for example, wars, foreign countries´ sudden decisions, shifts in exchange rates, et cetera. Chance plays a crucial role in shifting the above four determinants of the Diamond Model. (ibid.)

Another theoretical framework to measure the competitiveness of countries is the "Emerald model" by Sasson and Reve (2012). The model shows that national competitive advantage is achieved through the various aspect of a country to attract:

➢ Highly talented workforce to manage more competitive organisations, this measure was labelled talent attractiveness.
➢ Solid educational institutions and departments for increasing potential expertise of human capital
➢ Cluster attractiveness, by bringing about related and supporting industries to share the knowledge and competence.

- ➢ Innovation and R&D attractiveness. Building institutions and centres to increase competitiveness and minimise the failure probability.
- ➢ Ownership attractiveness; giving support to companies in order for them to innovate and grow.
- ➢ Environmental attractiveness, to advance the implementation of surroundings and create solutions. (ibid.)

Measuring national competitiveness

Scott and lodge give an explanation to national competitiveness as the ability of nations to create, generate, allocate services and products in the global market while continually receiving returns on the resources for future generations. The international reports on competitiveness that play a crucial aspect in the remarkably advancing debate about nations competitiveness and productivity are: The Global Competitiveness Report, issued by WEF and the World Competitiveness Yearbook (IMD). (ibid).

The world competitiveness yearbook (IMD) assesses various factors of economic performance, government efficiency, political rules and regulations and efficient business environments to among others, which are represented in more than 200 criteria. (Garelli 2014).

The most commonly used measure of national competitiveness is the World Economic Forum (WEF's) Global competitive index (GCI). The GCI is arranged to capture the main foundations of national competitiveness through the pillars presented. These pillars have their own categories to determine the microeconomic and macroeconomic aspects. According to GCI reports, " a nation's level of competitiveness reflects the extent to which it can provide rising prosperity to its citizens". The GCI also captures various dimensions through presenting a weighted average of numerous factors. "Each of which reflects one aspect of the complex concept of competitiveness". (Schwab 2019.)

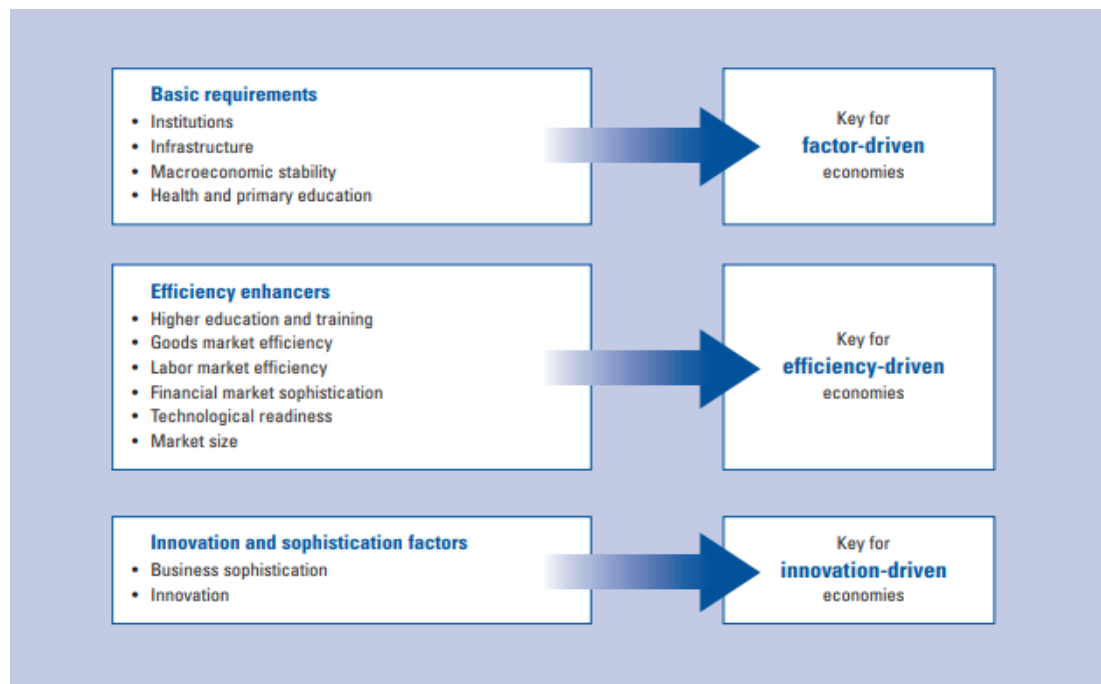Figure 3. WEF's Global Competitiveness framework (Schwab 2018)

The pillars are intertwined, fortifying, impacting, and supporting each other; they are not standing on their own.

Figure 4. The 12 pillars of competitiveness (Schwab 2019)

Comparing the WEF and IMD ways of assessing competitiveness, with consideration of the methodology stance they adopt, WEF seems to be the more potent option for

assessing the crucial components for economic growth. Special consideration is taken for the indicators, which affect GDP per capita. Thus, the WEF's annual prediction is taken with higher reverence than the IMD's. Nevertheless, the IMD's Yearbook is helpful for different communities (academy, business, government). (Schwab 2009)

2.2 Concept of diversity

Any characteristics individuals have to distinguish themselves from the other induvial is the root that results in diversity. (Williams & O'Reilly 1998).

In contrast with this, looking at the many versions of the definition of diversity. The book by Wood (2003) states, the model of diversity takes root from the fact that when individuals of diverse upbringings are gathered, some change will transpire in individual inclination— mainly within the group of the previously neglected members, they will realise the importance that can be gained from the new included cultural backgrounds. Moreover, the word diversity has been used for many functions. In business dictionary (2019), diversity is defined as the visage of a mixed workforce that contributes to a range of experience, skills, abilities, strengths, and knowledge due to variations in background, age, gender, and other characteristics- understanding the fundamental concept of it and how it is adding value to business sphere has been researched by many authors.

A more contemporary take in view of diversity given by van Knippenberg and Schippers (2007) in their assessment of the diversity literature branches a broader view; it states that diversity has the opportunity to be shown as characteristic of a social grouping, for example, society, organisations or groups, that repercuss the extent to which there are subjective or objective variances among individuals within the cluster without assuming that the group affiliates are essentially conscious of the apparent disparities.

The impact of various aspects of diversity in the current world is significant, and being of diverse culture enhances value differently. Pelled (1996) made Sets of suggestion regarding racial diversity and its impact on organisations members based on

work-relatedness and appearance. On the other hand, some researchers have differentiated diversity on the basis of cultural effects (Cox 1991), other on physicality (stranger 1992) and inherited or the one that does not change (Maznevski 1994). Commonly, the trend that is capitalised on to distinguish individuals in terms of group identity is diversity. (Mazur 2010.)

Three levels of dimensions of diversity have been presented, distinguishing the aspects that influence an individual's identity. These dimensions are noticeable and essential and labelled as primary, secondary and tertiary dimension. (Rijamampinina & Carmichael 2005; Mazur 2010). Primarily influenced by race, gender, age among others; secondary influenced by religion, language, education, to name a few, and feelings, beliefs, values influenced by tertiary. (as portrayed in Figure 5). The dimensions are intertwining and interact with each other depending on the context.

Primary Dimension
•Ethnicity
•Gender
•Age
•Race
•Disability

Secondary Dimension
• lifestyle and Religion
•Economic and family status
•Sexual and political orientation
•Language and Nationality
•Education and Work Experience
•Thinking style and Geografic

Tetriary Dimension
•Beliefs
•Assumptions
•Feelings and Attitudes
•Value
•Group norms
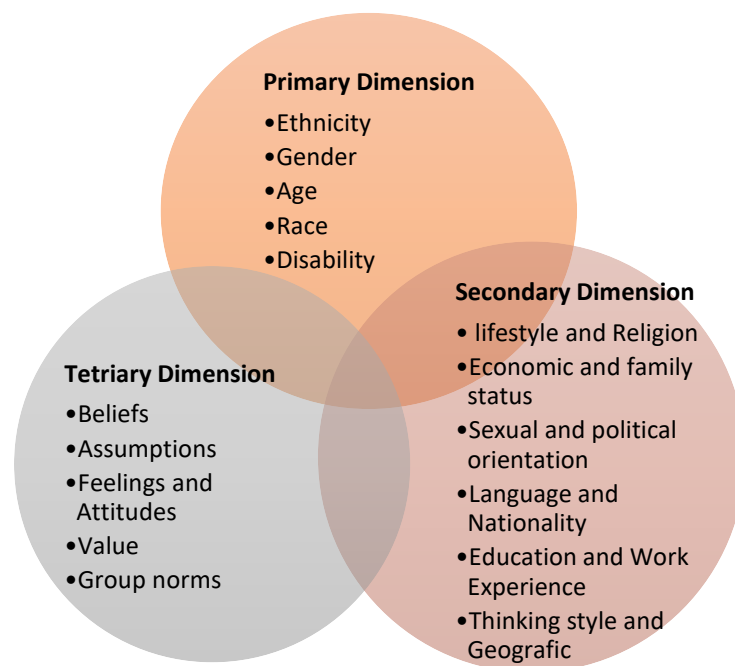
Figure 5. Dimensions of Diversity, modified from Rijamampinina & Carmichael (2005)

On the other hand, diversity is seen as a "double-edged sword" capable of boosting creativity, being the resource to add value in the workplace, adding innovations and new perspectives, skills, and knowledge. (Cox et al. 1991). However, the latter is also true of diversity as it can create a barrier, interpersonal conflicts and communications breakdowns

(Podsiadlowski et al. 2012., Cox et al. 1991, 34). Hence, firms build policies for capitalising on diversity prosperity while also diminishing the fallout. The long term goals of companies depend on how well the policy structure is to possible yield benefits with the inclusion of diversity. (Svyantek & Bott 2004, Hajjar & Hugonet 2015). Various ways and approaches of managing and leading teams of diversity depend on the strategies' benefits. (Svyantek & Bott 2004)

Cost of diversity

When it comes to a public point of view, language, ethnicity, and religious differences can establish social hurdles on an interaction that can reduce efficiency. Moreover, some studies found that language diversity can increase barriers and affect public policies, slowing down economic growth. (Barro 1999). Furthermore, (Grafton 2004) suggested that lack of trust and communication barriers could result in hindering an exchange of ideas. Thus, communities with singular languages can be more effective in creating ideas and development within themselves.

Moreover, Alesina and La Ferrara (2000) studies observed the phenomenon that happens when diversity is increased and concluded that it lowers the ability for good public services. At the same time, other researchers uncovered ethnic diversity as a predictor for possible disputes and instability from within (Easterly and Levine (1997). Shleifer and Vishny (1993) reported that higher concentrations of corruption are more probably to happen with more ethnicity.

Looking into the positive cost of diversity, Ridley (2010) states that It brings out different perspectives, skills, and ideas to promote innovation, ingenuity and resourcefulness. The notion of shared intelligence illustrates how cultures have been able to advance and be more inventive through the exchange of ideas among diverse communities.

Blending a group of diverse individuals creates an environment that balances skills, capabilities and knowledge and has the potential to increase productivity. A study by Lazear (1999) revealed that communities with more diversity have the advantage to innovate better and handle the challenges, thus generating a more significant set of various contributions.

Additionally, competitiveness is increased by a more diverse society by innovativeness and creativities in the workforce. (Florida and Tingali 2004). The inclusion of various cultures engages competition and brings out the best in terms of skills and knowledge, indicating a more diverse culture increases business and more advanced institutions' competence. (Sobel, Dutta, and Roy 2010.)

2.3   Hypothesis Formulation

In the researchers attempt to understand the competitiveness of countries, the Global Competitiveness Index of the World Economic Forum has been taken into account as a hypothesis formulation base for this research. This choice's relevance, as previously mentioned, is that GCI uses various data and nations level surveys conducted with partners organisations (i.e. IMF, World Bank, UN agencies) to assess countries competitiveness based on ranking eventually (Schwab 2019).

WEF´s annually issued Global Competitiveness Reports brings out the competitiveness index's respective computation by merging 114 indicators that obtain long-term prosperity and productivity (Schwab 2019). Moreover, these statistics are organised into 12 pillars (see Figure 4). In turn, these pillars are positioned under three sub-indexes, weighed with the GDP per capita and export shares of the exclusive nation: basic requirements, innovation and sophistication factors and efficiency enhancers, which characterise the stage of a nation´s economic development: factor-driver, efficiency-driven, and innovation-driven correspondingly. (Schwab 2017.)

An assessment of factors building a nation's GDP through the WEF global competitive index pillars and factors regarding diversity are considered to understand diversity impact on national competitiveness:

1st pillar: **Institutions,** the judicial and administrative structures in which firms, individuals, and governments cooperate efficiently determine public institutions' quality. As a result, gaining an impact on economic growth and competitiveness. This structure influences the production, organisations' investment decision and is a key to societies allocating benefits and bear costs. (Porter 1990, 79.)

2nd pillar: **Infrastructure,** an adequate infrastructure such as logistics, electricity and communication sectors are crucial for an efficient and sustainable economy (Schwab

2018). Various studies have assessed the effect of infrastructure on growth, indicating that it is crucial for any nation's effective productivity and competitiveness. (Serebrisky 2014).

3rd pillar: **ICT adoption** Technological readiness Represents a nation's ability to improve its industries productivity by embracing recent technologies and taking advantage of the information and communication technologies (ICT) to increase productivity by more efficient processes and sharing know-how. For instance, FDI is an essential means to access foreign technologies; however, to attract investments, a nation´s technological readiness should be high enough. (Schwab 2014.)

4th pillar: **Macroeconomic stability** and competitiveness are guided by a range of institutions, policies, and suitable public investments that ascertain the context of a nation's entire economy (Delgado. 2012, 9). The macroeconomic ambience is essential to a nation's overall competitiveness; however, solely, it does not increase productivity. If overlooked, it will prompt the economy's collapse with aspects such as high inflation rates and deficient fiscal policies. (Schwab 2017).

5th pillar: **Health** is essential for individuals´ efficient contribution in economic endeavours. If parts of the populace have limited access or no access to basic needs such as safety & health, their ability and capacity to collaborate and contribute to the economy actively are dramatically limited (Ketels 2016). According to WEF´s report, poor health provokes high costs to business productivity and efficiency (Schwab 2012).

6th pillar: **Skills** Higher education and training in this pillar, the condition of superior education and professional teaching is a salient key to getting past the straightforward process and production practices (Schwab 2015). Today´s ever-changing market demands nations to be very wary about dynamic economic fluctuation, nurturing a well-skilled labour force to adapt and be dynamic enough to do their tasks or find fast and innovative solutions to business market demands (Keser 2015).

7th pillar: **Product market** According to the supply and demand conditions, nations with a practical goods market in domestic and foreign trade can produce the demanded products and services internationally and domestically. Consequently, driving business productivity (Schwab 2017). From this perspective, it is essential to have

sustainable competitiveness through the demand condition, with limited government intervention (Porter 1990).

8th pillar: **Labor market** efficiency Countries having an efficient labour market are well-placed when distributing their labour force to their most effective use, towards a healthy, cost-efficient, productive and competitive economy. Inefficient labour implicates higher costs, low participation and low labour productivity (added- value per employee), which ultimately affects markets´ competitiveness. (Schwab 2016.)

9th pillar: **Financial system**, financial market development Investment in businesses is critical to productivity, hence competitiveness. A healthy financial market is efficient when allocating its capital in the form of investment for business with the optimal condition to invest and create more value to the economy as a whole, emphasising sound, transparent and trustworthy banking sector. The importance of financial systems efficiency has been highlighted in earlier world crisis. (Schwab 2017.)

10th pillar: **Market size,** the scope of a nation's market is vital for its economic expansion, large markets allow economy of scale; though, small ones will rely simply on export goods, to which nations will be more susceptible when facing any global market fluctuations. After the deregulation of markets´ frontiers following globalisation, most nations recurred to exports as a substitute/necessity to replace/back up domestic markets. (Schwab 2017.)

11th pillar: **Business dynamism:** The business environment includes the aspects of a nation's overall firms and business networks 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 is enhanced through knowledge share, efficient information flow and overall better environment to do business. (Schwab 2016.)

12th pillar Innovation capability: In today´s world, all developed nations moved from resource-based to knowledge-driven, emphasising knowledge, will be able to generate more value through innovative products and processes (Pope 2013). Those activities are bolstered by high investment in R&D and fair business environment, e.g. (a)

high-quality education institutions providing a specialised workforce; (b) research institutes generating knowledge dedicated to innovative technologies and (c) collaboration and interconnection of the factors above (Schwab 2019).

For economies to sustain their advantage, the unique importance of a nation´s products, essential services and business models are vital, boosted by innovation and entrepreneurship (Ketels 2017). As nations economies develop through various stages, the emphasis on a range of competitiveness factors and the policies that affect them change (ibid.).

Furthermore, to help focus the research and gain reliable data, the hypotheses formulation was divided into two parts: hypothesis 1(H1) and hypothesis 2(H2). See figure 6 to understand the process of the hypothesis better.

> ➢ H1: Diversity positively impacts innovation capability.

This study will assess all the 12 pillars of the GCI to evaluate and analyse each pillar's effects and influence it adds to innovativeness and innovations capabilities through the first hypothesis.

> ➢ H2: Innovation capability has a positive impact on competitiveness.

The second hypothesis argues that certain factors within the GCI 12th pillar play a vast role in achieving innovativeness and competitiveness.

The researcher has followed the process presented in the following figure to illustrate the hypotheses formulated.
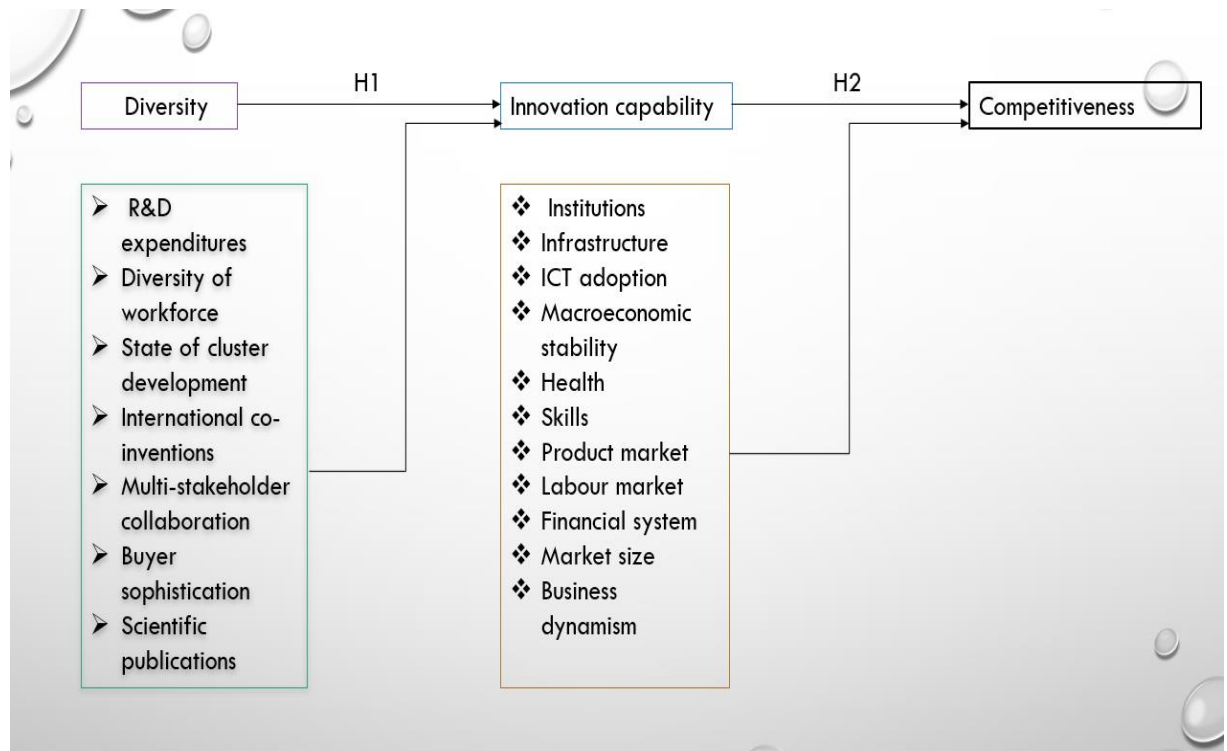
Figure 6. Hypothesis Framework

3 Methodology

An adequate methodology is required to appropriately answer the research question, objectives and guiding the research to be reliable and valid while staying true to answering the research objective. The appropriate methods and approach of collecting and analysing the gathered data are crucial in determining the accuracy of the research.

3.1 Research Approach

Before beginning the research process, a proper approach needs to be chosen; usually, the researcher understands whether the research is quantitative or qualitative, as one approach is contrasted with the other. Silverman (2011) states that the difference in approach does not undermine the other but allows researchers to answer the research question accurately.

Typically, when a researcher is aiming to discover individuals and organisations attributes on a problem, they tend to utilise qualitative research. The method is taken

for this type of research consist of detailed questions, and the data is generally gathered through surveys or interviews. (Creswell 2008, 32). The inductive technique is often utilised when the researcher begins from singular person assumptions and builds from there a more complex perception of the topic in question. Qualitative data is usually unmeasurable or countable, requiring clear and precise definitions and interpretation of words. The reliability of qualitative data falls on previous literature and source that construe said topics and events. (Walliman 2011, 73.)

According to Apuke (2017, 41), Williams (2011) describes quantitative research as universal steps an author engages in commencing a research work. Furthermore, a quantitative approach deals with calculating and analysing variables to get results. Quantitative research focuses on a researcher looking to analyse numeral variables on a larger scale and interpret the data to align with the researcher's study. Using a quantitative approach is also due to strengthening the researcher hypothesis and giving a reasonable and accurate assessment for the research. Mujis (2004,1) states, in simpler words, that quantitative research demonstrates an aspect by numerical data, which is analysed using mathematical methods. The essence of quantitative research is not pliable makes the researcher follow a certain sequence, and it usually used for deductive research. (Eyisi 2016, 94.).

As previously stated, this research aims to understand how national diversity impacts national competitiveness and thus, the use of the quantitative method was selected to accurately answer the thesis objectively. This is due to the deductive nature of the study and the numerical data the research is based on, which data analysed by building hypotheses and models to understand and answer the research's objectives.

Furthermore, this research study will be a cross-sectional study looking at the contributions diversity has on competitiveness through the GCI and accessing the current nations. It is wise to point out a few limitations, which might hinder the full scope and assessment process. As Silverman et al. (2011) mention, one approach is not better. Choy (2014, 101) states that the method approach has both strengths and weaknesses. Few limitations in the quantitative approach are that it requires a large sample to bring reliable results. (ibid). The decision to use the GCI reports and quantitative methods was to increase the research's validity by analysing a larger sample.

3.2   The models

Globalisation is changing the world, and with it comes an emersion of diversification. Ensari (2017, 103) mentions how accelerated globalisation has increased the awareness of diversification benefits. When assessing nations competitiveness, we look into their innovativeness, structure, and continuous upgrading (Porter 1990).

The study's research objective is to answer formulated hypotheses to understand and gain insight into answering the researcher's topic. This was done by gathering relevant literature and framework; thus, the models were formulated to guide the research appropriately. The Models were chosen to test the impacts of variables and their measures on competitiveness and presented as follows:

Model 1

Firstly, for the first model, the data is collected from the WEF's GCI report of 2019, focusing on the 12th pillar and the sub-indexes included in the report. The values are labelled in their perspective pillars (e.i pillar 12.01, 12.02.) from where they have been taken.

As shown below (table 1), the variables are chosen to understand if the explanatory variable, diversity impacts the dependent variable innovation capability; additionally, the model consists of six control variables. All the data is gathered from the 2019 GCI report 12th pillar.

The dependent variable innovation capability is measured by Patent application produced by the countries from the GCI pillar score.

The explanatory variable (Diversity) is measured by the diversity of the workforce from the WEF's GCI pillar score. The control variables are measured by their own unique pillars scores found in the WEF's GCI report.

Table 1. Hypothesis Model 1. (Adapted from GCI)

Variable	Type of variable	Measure
Innovation capability	Dependent, Numerical	GCI pillar (12.06)
Diversity	Explanatory, Numerical	GCI pillar (12.01)
R&D expenditures	control, Numerical	GCI pillar (12.07)
State of cluster development	control, Numerical	GCI pillar (12.02)
International co-inventions	control, Numerical	GCI pillar (12.03)
Multi-stakeholder collaboration	control, Numerical	GCI pillar (12.04)
Buyer sophistication	control, Numerical	GCI pillar (12.09)
scientific publications	control, Numerical	GCI pillar (12.05)

Model 2

For the second model (Table 2), the variables assess whether the explanatory variable innovation capability impacts competitiveness. As stated, taking from the hypothesis framework, the WEF's GCI data is implemented, and eleven control variables are gathered to formulate and add on the explanatory predictor.

The dependent variable (Competitiveness) which is measured by the social progress index GDP per capita of the respective countries. The explanatory variable (Innovation capability) measured by the GCI score of its pillar due to the availability of data and the unique factors the pillar presents. Their unique GCI scores also measure the control variables.

Table 2. Hypothesis model 2. (Adapted from the GCI)

Variable	Type of variable	Measure
Competitiveness	Dependent, numerical	PPP adjusted GDP per capital
Innovation capability	explanatory, numerical	GCI score
Institutions	control, numerical	GCI score
Infrastructure	control, numerical	GCI score
ICT adoption	control, numerical	GCI score
Macroeconomic - stability	control, numerical	GCI score
Health	control, numerical	GCI score
skills	control, numerical	GCI score
Product market	control, numerical	GCI score
labour market	control, numerical	GCI score
Financial system	control, numerical	GCI score
Market size	control, numerical	GCI score
Business dynamism	control, numerical	GCI score

3.3   Data collection

In this chapter, the author clarifies the process of the collected data, the methods and the type of data he will present. For this study, secondary data has been the primary source of collection, empowering the researcher to answer the research objectives and, therefore, the research question.

When contemplating an empirical study answering a specific research question, researchers often acknowledge the possibility of reanalysing relevant but already existing data even though it was intended for a different purpose. This type of information is named secondary data. (Saunders et al. 2009, 256.) In Particular, the research objectives, question and reviewed literature directed the availability and use of secondary data. Saunders et al. (2009, 258-263) explained the diverse types of secondary data, varying from (a) documentary, that consists of written materials such as

newspapers, journals, companies reports, minutes of a meeting or non-written material such as video and audio recordings; (b) surveys, compromising of questionnaires that companies usually gather, censuses, which usually made by the governments, ad hoc survey collected by organisations, governments and independent researchers and (c) multiple-source, this data can be a combination of both documentary or survey data. Moreover, there are many advantages in using secondary data, such as the careful use of resources and its ability to provide cross-sectional comparative, mainly needed for research data (ibid., 268- 269)

For this study, the data collection was focused on multiple sources. The researcher used written documents from the world economic forum organisations databases and the social progress websites to solidify the research and provide quantitative data to test the researcher's hypotheses.

Furthermore, the utilisation of data from secondary sources brings its own advantage and disadvantages. The additional positives to using secondary data are that the researcher saves money and time. It can provide contextual and comparative data and can consequently lead to unanticipated discoveries. Moreover, It is practical for cross-sectional studies. (Saunders et al. 2009, 268- 269.)

Assessing the negatives of secondary data usage is that the information gain ability may result in being costly or complicated to find, and in other cases, the data that has been collected does not benefit the research nor answer the studies questions. (ibid.,269-272.)

The studies data were collected from official sources such as WEF's GCI reports and social progress index website to minimise those problems. Moreover, after rigorous research, the correct data was chosen to establish that the data collected is valid in answering the researcher's hypothesis. Moreover, the researcher ensures that all the pertinent data was placed in their correct columns in the excel sheet, with labels for each numeric data for an easy understanding to ensure the data collected fit the proper category.

3.4   Data analysis

This chapter provides a holistic understanding of the process of data analysis, which is described as: a various set of activities employed to organise, categorise, and hypothesise raw collected data to generate meaning, depending with the collected data and the nature of the study in qualitative or quantitative research. The data collected for this research needs to be analysed to help generate understandable and relevant meanings. (Saunders et al. 2009, 482.). For this research, the researcher will employ quantitative techniques as the data collected is secondary and numerical.

For the research problem, objectives and empirical question, the author chose deductive content analysis. The aim was to test the models and hypotheses formulated for this study and link them to the research question.

The researcher capitalised on the Statistical Package for Social Science (SPSS) to analyse the data and locate a relationship cause and effect using regression analysis. The SPSS has many functions, one of them being a regression analysis; the tool investigates relationship links between variables and ascertains how the variables affect another. According to Field (2009,198), regression analysis aim is to surmise a dependant variable from an explanatory variable or various explanatory variables depending on either simple or multiple regression analysis.

Normally, the usual way of oganising data is through tables, attributes like columns and rows. Moreover, when entering the information, it is crucial to double-check the data as errors and faults could transpire throughout the data collection process. (Gorman & MacIntosh 2015, 174.). The researcher collected the needed data in an excel spreadsheet for Model 1 and Model 2; all the data collected were numerical. The next step is arranging all the data and prepare it for the SPSS program. The researcher adapted the column of competitiveness data through natural logarithm to fit better to the SPSS program.

After the data is put into the SPSS program, Descriptive statistics, correlation matrix and regression analysis are run, and all give out important data to be assessed. The descriptive statistics summarise all the data in a simple manner and show the core facts of the results. (Adams & Khan 2014, 171). While the correlation matrix inspects the relationships between the variables. If the variables are highly correlated with

one another, it means they affect each other significantly. (Baha 2016, 4.). Moreover, Sarstedt (2014, 194) indicates the importance of regression analysis as a tool to predict significant relationships between variables and making predictions effectively.

For this study, multiple linear regression was used as the author deals with more than one explanatory variable. Furthermore, this method adds validity and reliability to the research.

Field et al. (2009) states that regression analysis is most often expressed in the form of an equation, such as:

- o   Outcome(i)= (model) + error(i)

Since the researcher employed a multiple regression for the analysis: the following equation for the models was formulated

- o $y = (\beta_0 + \beta_1 x_1 + \beta_2 x_2 + .. + \beta_k x_k) + \varepsilon$

Y = outcome predictor

X= predictor

β_0= y-intercept

β_1= The first predictor coefficient

β_2 = Coefficient of the second predictor

ε = error

Hence, for the researcher models, the equation will be the following:

- ➢   Model 1

Innovation capability = β_0 + β_1 Diveristy + β_2 R&D + β_3 Scientific publications + ε error

Innovation capability is the dependent or outcome variable, β_0 being the constant, β_1 is the beta coefficient for diversity (explanatory variable), the first predictor explaining the variance in Innovation capability. R&D (control variable) is the second

predictor, and scientific publications (control variable) is the third predictor explaining the variance in innovation capability, and lastly, Ɛ is the standard error of coefficients.

> Model 2

Competitiveness = βo+ β1 Innovation capability +β2 institutions +β3 financial systems + Ɛ error

Competitiveness being the dependent or outcome variable, βo is the constant, β1,2,3 are the beta coefficient for Innovation capability the first predictor of competitiveness, institutions the second predictor and financial systems the third predictor explaining the variance of competitiveness, lastly is Ɛ the standard error of coefficients.

It is wise to mention that due to the nature of this study, the researcher manipulated and excluded various control variable, both for model one and model two for the results section (presented in the next chapter). These variables were excluded due to the disturbance they were affecting the complete model.

The variables excluded from the First model are State of Multistakeholder collaboration, cluster development, Buyer sophistication and International co-inventions.

For Model two, the excluded control variables include; ICT adoption, Macro-Economic, Health, Skills, Labour market, Product market, Infrastructure, Market size and Business dynamism.

3.5   Verifications of findings

Validity

Wainer and Braun (1998) describe the validity in quantitative research as construct validity. The construct is the initial concept, question, notion, or hypothesis that defines the data that needs to be collected and the ways to collect said data. The internal validity of research deals with, whether the results produced are logical and provide accurate answers to the research question. Saunders et al. (2009, 273) mentions that invalid answers will be born from the data that neglects on delivering the researcher with the knowledge and facts to meet the objectives set out. Hence, after

thoroughly reviewing the literature review on the subject matter, an empirical question was formulated (Does diversity influence a nation's competitiveness). Moreover, the researcher constructed a theoretical framework and hypotheses to guide the data collection and analysis on discovering factors affecting national competitiveness, according to variables obtained from the GCI, which guarantees internal validity of results (Yin 2003).

External validity concerns the effects of generalizability, implying the applicability of the findings to other settings; in other words, referring to the extent the results can be generalisable (Saunders et al. 2009,158). The researcher considers that a sample of 141 countries gathered from a trustworthy primary source (WEF) and the fact that the data is available for most nations. Hence the researcher aims to generalise the results to some degree and provide a holistic understanding of the subject considering the adopted theoretical framework.

Reliability

According to Saunders et al. (2009, 156), reliability is defined *as "the extent to which your analysis procedures or data collection techniques will yield consistent findings"*, thus, referring to the quality of results. Zohrabi (2013, 259) recommended that for enhancing the reliability of research, the researcher should explain the processes they used unambiguously.

The primary source used is secondary data from a large and well-known organisation (GCI, for the framework) and a statistical database (Social progress index) to ensure this research's reliability. All the data collection techniques validated the suitability and were used according to appropriate literature, supporting the research's objective.

Moreover, the researcher checked the linear regression assumptions to ensure reliability in the results, and a correlation matrix was run to test for multicollinearity. Durbin-Watson test was run to check for independent errors. All test were within the appropriate margins.

Objectivity

Saunders et al. (2009,157) discussed that the authors' error and bias occur when multiple individuals are conducting the same research because of the difference of data interpretations; thus, the results tend to be unreliable. In this research, only one individual is conducting the research, presuming the bias is minimised.

Nevertheless, the author admits that due to the recently acquired knowledge on the subject regarding national competitiveness and the lack of proper experience in research, being only a bachelor's student at the time the research was being led, some evidence may be overvalued or undervalued throughout the data analysis; thus, some bias and subjectivity may result from in his thesis. Nevertheless, there was extensive and thorough self-preparation on the topic and the help of relevant literature and theoretical framework to guide the investigation and develop hypotheses of the thesis to minimise the effect of any subjectivity and bias.

4 Results

The chapter showcases the results of the study, and the models shown in the previous chapters have been tested to provide an understanding of the impact of diversity. The chapter is divided into two sections – descriptive statistics & correlation analysis and regression analysis of the researchers' models. The first section includes the models' components and the relationships between the model's variables. The second sections present the results of the multiple regression tested on model 1 and model 2.

Descriptive and correlation matrix

A sample of (N) 141 countries data were taken to test the models mentioned in the previous chapters. Table 3 summarises the descriptive statistics and Pearson's correlations of this study first model. Looking at the correlation between the variables, we observe that the dependent variable: Innovation capability, positively correlates with the explanatory variable diversity. Regarding the control variables, research and development(R&D) have the highest correlation, meaning there is a solid link to the dependent predictor.

Table 3. Descriptive and correlation Matrix (Model 1)

	Mean	Std. Deviation	Innovation capability	Diversity	R&D	Scientific publications
Innovation capability	.28	.33	1			
Diversity	.58	.11	.38**	1		
R&D	.26	.28	.89**	.31**	1	
Scientific publications	.76	.13	.77**	.32**	.75**	1

Note: ** Pearson Correlation is significant at the 0.01 level, Sig. (2-tailed). Number of observations = 141

Table 4 details the means, standard deviations, and Pearson's Correlation for the researchers' Second model. The data shows that the relationship between the variables positively correlates to the dependent variable competitiveness. Both the explanatory variable Innovation capability and control variables Institutions and financial systems have significant solid correlations.

Table 4. Descriptive and correlation matrix (Model 2)

	Mean	Std. Deviation	Competitiveness	Innovation capability	Institutions	Financial system
Competitiveness	9.44	1.20	1			
Innovation capability	.43	.17	.75**	1		
Institutions	.55	.12	.76**	.85**	1	
Financial system	.62	.14	.74**	.84**	.85**	1

Notes: ** Pearson correlation is significant at the 0.01 level (2-tailed). Total number of observations = 141

Analysis of the Models

In order to analyse the data and access the hypothesis formulated and the relationship between the variables, multiple linear regression was applied through the SPSS program. All the statistical data presented in this section have a significance level of $p < 0.05$.

Model 1

As a general reminder, The First Model aim was to test the explanatory variable (Diversity) and control variables (R&D and Scientific publications) against the dependent variable (Innovation capability).

Table 5 and 6 presents two separate regressions, with Innovation Capability being the dependent variable. According to Table 5, the analysis of the base model (only control variables), which were tested against the dependent variable innovation capability to assess how much variance they contribute to the explanatory variable. Results showed that the adjusted R square value accounts for 82 % of the variance in Innovation capability. Furthermore, the F (2,138) = 316,951, p<.01, determined that the model is statistically significant.

Looking at the unique individuals' contributions of the predictors, Research and Development(R&D) (β= .72 p<0.01) while scientific publications (β= .24 p<0.05) positively contributes to innovation capability.

Table 5. Model 1. regression analysis

Base Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.40	.10		-4.23	.00
Scientific publications	.60	.14	.24	4.31	.00
R&D	.85	.07	.72	13.15	.00

Notes: Dependent Variable: Innovation capability. **p<.01;*p<.05. F-statistics = 316,951. Adjusted R-square (.82). Number of observations = 141.

In Table 6, the complete model significantly improves when the explanatory variable diversity is run with other independent variables - R&D and scientific publications. The results show that the adjusted R square improves slightly from 0.82 to the value of 0.83; Meaning when we compare diversity, R&D and scientific publications together, they explain 83% of the variance in innovation capability. Additionally, the complete model is statistically a better fit than the base model, as we can access diversity has added 1% of variance to the complete model.

Furthermore, looking at the standardised coefficients of the complete model, the results indicate that R&D has the highest value β= .70 (p<0.01), meaning that research and development independently are increased or decreased by 1 unit, Innovation capability would increase or decrease by 0.70 units. followed by Scientific publication with β= .22 (p<0.01), finally diversity with β = .09 (p<0.05). Hence, we are able to conclude that H1 is accepted.

Table 6. Complete regression analysis

Complete Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error		Beta		
(Constant)	-.53	.11			-4.98	.00
Diversity	.29	.12		.09	2.51	.01
Scientific publications	.55	.14		.22	4.00	.00
R&D	.83	.06		.70	13.02	.00

Notes: Dependent Variable: Innovation capability. **p<.01;*p<.05. Adjusted R-square (.83).

F = 221,491. Number of observations = 141.

Model 2

As a reminder for the reader, the second model aim was to test the Innovation capability(explanatory variable), Institutions and Financial systems(control variables) to find a correlation and the impact they contribute to competitiveness (the dependent variable).

The results of the second base model (control variables) are presented in table 7, the analysis of the dependent variable competitiveness on predictors institutions and financial systems. All the variables were defined to be statistically significant (p<0.05). From the adjusted R-square (.61), we conclude that the value is significant and explains 61 % variance of competitiveness.

Among the control variables, institutions, and financial system measured by the GCI respective scores, institutions (β = .49, p< 0.05) has a significant strong impact, and Financial system (β= .32, p < .05) also has a positive impact.

Table 7. Model 2. Regression Analysis

Base Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	5.04	.30		16.58	.00
Institutions	4.90	.99	.49	4.93	.00
Financial system	2.70	.84	.32	3.26	.00

Notes: Dependent Variable: Competitiveness. **p<.01;*p<.05. Adjusted R-square (.60). F = 109.56. Number of observations = 141

According to the results presented in Table 8, we can see an increase in the adjusted R square from 60 per cent on the base model to 62 per cent on the complete model. Thus, it explains a relatively better fit for the complete model, meaning when we add the control variables (institutions and financial system) and the explanatory variable (innovation capability), we see a statistical improvement to competitiveness.

Among the control variable in the complete model, institutions, measured by the GCI score, significantly affects competitiveness (β = 0.35, p< 0.01) it has the highest effect on the dependent variable, followed by Financial systems (β = 0.22, p <0.01).

The explanatory variable innovation capability, measured by the GCI score, has a statistically significant influence on the constant (β = 0.27, p< 0.01), concluding that innovation capability statistically positively contributes to competitiveness. Thus, H2 is also accepted.

Table 8. Complete model regression analysis

Complete Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	5.57	.37		15.23	.00
Innovation capability	1.92	.77	.27	2.50	.01
Institutions	3.48	1.13	.35	3.09	.00
Financial system	1.81	.90	.22	2.02	.04

Notes: Dependent Variable: Competitiveness. **p<.01;*p<.05. Adjusted R-square (.62). F-statistics: (77,931). Number of observations = 141

5 Discussion

This section goal is to clarify, summarise this study results and answer the research questions and tested hypotheses. Additionally, the chapter explains the limitations on the present research and offers recommendations and proposals for future study. Finally, the chapter also discusses the practical implications of this research study.

The study looked at the impact of a soft factor such as diversity impacts competitiveness in creating a more competitive advantage for nations. Therefore, after a thorough evaluation of the important works of literature on countries diversity and competitiveness, the following questions were constructed:

❖ How does national diversity impact national competitiveness?

The researcher utilised a quantitative approach method to gain answers to the research question. Two hypotheses were formulated, and models were built based on the WEF's global competitiveness index as a theoretical framework: Two relationships were studied: correlation between diversity and innovation capability as well as a correlation between innovation capability and competitiveness. Furthermore, for the analysis, the application of multiple linear regression was utilised.

5.1 Main findings of the results

The following section discusses the findings of Model one.

❖ H1 diversity has a positive impact on Innovation capability

The research results concluded that a positive correlation among diversity and inno-vation capability, indicating that diversity plays a role in influencing and contributing to the innovative capabilities of nations. An increase of diversity inclusion to the workforce and society can bridge new ideas, skills, and knowledge to the environ-ment.

The regression analysis showed that while diversity positively contributes to innova-tion capability, it also influences additional variables, such as the predictor research and development (R&D), which statistically significantly correlates to innovation ca-pability. The R&D variable had the highest impact, indicating that R&D capabilities have a more significant role in nations' ability to be innovative, suggesting that focus-ing on a diverse contribution of R&D could have a significant impact in the long term.

Scientific publications had the second-highest correlation to innovation capability. This is because innovativeness is about creativity and bringing or expanding on some-thing new. Scientific publications of various subjects from diverse contributors add innovativeness and, in turn, can increase nations and organisations innovative capa-bilities.

Looking at the results from the second model and its hypothesis:

❖ H2. Innovation capability positively impact competitiveness

The hypothesis was confirmed when the regression analysis results concluded that the innovation capability variable statistically influences national competitiveness. The findings, in turn, suggest that diversity, which influences innovation capabilities through various factors, increases the role innovation capability has on national com-petitiveness. Furthermore, the regression analysis presented other significant predic-tors to competitiveness: Institutions and Financial systems.

The results showed that institutions had a high correlation to competitiveness. Good institutions affect a nations ability to be competitive. For example, Educational institutions, which encourages diversity inclusion have the possibility to increase the contribution of scientific publications and improve research and development, hence increasing competitive advantage. Additionally, transparent governmental institutions and good security institutions are the cornerstones to achieve national competitiveness.

The analysis showed that financial systems had a statistically positive correlation with competitiveness. Having solid financial systems could help mitigate national debt and bring stability to national banks.

Summarising the study's main findings, both model one and model two interlink to add to the factors that create a nation's competitive advantage. Diversity has been seen to impact many variables that statistically positively contribute to nations competitive advantage. Focusing on the variables and predictors mentioned above is statistically proven to increase competitiveness.

5.2   Practical implications of the results

Initially, the study intended on assessing the link between diversity and competitiveness in regard to nations. It defines the elements that contribute to achieving competitive advantage. Based on the analysis, it is possible to propose particular suggestions for nations and possible organisations to adhere to for potential development.

The results of the study suggest a possible focal point for nations to achieve competitive advantage by having solid institutions and financial systems to foster R&D and scientific publications for increasing innovative capabilities. Additionally, diversity inclusion will benefit the nations as it will also increase the ability of nations to be competitive.

Moreover, organisations and firms looking to increase competitiveness could implement a strong R&D and add diversity to bring new innovative ideas to the workplace.

5.3   Assessment of results in light of the literature

 There have been numerous researches works about nations' competitiveness and similarly about diversity. Few studies have combined the two variables to find a correlation that links them together. Thus, this study plays a fundamental role in understanding an additional factor that influences the capability of nations competitive advantage. The study does not contribute new highlights; nonetheless, it lines the existing theories and confirms the advantages of diversity inclusion.

Similar to the research of Das, Dirienzo and Burbirdge (2007), the result findings suggested that diversity possesses the ability to increase a countries competitive advantage through a range of factors. Moreover, Porter et al.(1998,78) indicated that competitiveness depends on the capacity of nations to create an intense atmosphere for their different sectors to innovate, develop and promote long-term growth. This is illustrated by the results indicating that solid institutions, innovation capabilities, and financial systems are fundamental in achieving a more competitive advantage.

Moreover, innovation is a crucial determinant for a nation's competitiveness. Prior studies (Atkinson & Ezell 2015) suggested that innovation impacts a societies economic growth, therefore, its productivity and competitive advantage. However, to foster competitiveness through innovation, some principles should be applied, for example, efficient policies and sound investments. In line with the study, the results showed that diversity is a crucial linker to the betterment of innovation capabilities and, in turn, brings about solid institutions and financial systems that are essential contributors to competitiveness.

5.4   Limitation of the research

This chapter discusses the limitations of while giving recommendations for future research. A third-year bachelor student did the research; thus, the author acknowledges that the knowledge regarding the subject of the study might be minimal and the development of new theory is beyond the scope, but the researcher did an extensive literature review to ensure the validity and reliability of the study.

Regarding the validity of the generalisation of the study results, the researcher conducted a thorough review of the literature. Based on these empirical questions, hypotheses to the problem were formulated, and a theoretical framework was chosen to guide and ensure the validity of the results. A careful methodology was researched, and models were built to justify the suitability of the objectives, resulting in Valid and accurate findings.

As for the generalisation, the author used a large enough sample of 141 countries to compare and assess the impact of diversity. Hence the findings of the results can be generalised. Nevertheless, the study acknowledges that many other factors influence the success of nations. The study only offers a general perspective on the possible contributions the variables researched have on the development of national competitiveness.

Furthermore, the researcher chose well-known, proper and trustworthy sources for the secondary data collection. The choice of globally ranked organisations such as WEF's GCI and social progress index ensures the collected data is relevant and answers the study questions, and it adds reliability to the research study.

The study was conducted solely by the researcher. Hence, the assumptions of error and bias should be minimal from my point of view; however, due to recently acquired knowledge in the role regarding diversity and competitiveness, the researcher acknowledges possible bias and subjectivity.

5.5   Recommendations for future research

The last section closes with suggestions to advance the research further regarding the impact of diversity on national competitiveness.

First, it should be noted that this research prioritised specific control predictors to achieve the objective of this study. For the continuation of the research, an appealing view would be to see a more specific diversity, such as linguistic or ethnicity, to be analysed with the range of the factors of this study to see the individual contribution to achieving national competitiveness; it would enlighten a more specific variable.

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Appendices

Appendix 1.　　　　　　　Regression Analysis (Base model one)

Model summary

Control variables	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
	.91	.82	.82	.14	1.78

a Predictors: (Constant), R&D, Scientific publications
b Dependent Variable: Innovation capability

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	12.71	2	6.36	316.95	.00
Residual	2.77	138	.02		
Total	15.48	140			

Predictors: (Constant), R&D, Scientific publications
Dependent Variable: Innovation capability

Appendix 2.　　　　　　　Regression Analysis (Complete model one)

Model Summary	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.91	.83	.83	.14	1.75

Predictors: (Constant), R&D, Diversity, Scientific publications

Dependent Variable: Innovation capability

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	12.83	3	4.28	221.49	.00
Residual	2.65	137	.02		
Total	15.48	140			

Predictors: (Constant), R&D, Diversity, Scientific publications

Dependent Variable: Innovation capability

Appendix 3.   Regression analysis (Base model two)

Model Summary	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
	0.78	0.61	0.61	0.75	1.92

Predictors: (Constant), Financial system, Institutions

Dependent Variable: Competitiveness

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	122.86	2	61.43	109.59	.00
Residual	77.36	138	.56		
Total	200.22	140			

Predictors: (Constant), Financial system, Institutions

Dependent Variable: Competitiveness

Appendix 4.   Regression analysis (Complete model two)

Model Summary	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
	.79	.63	.62	.73	1,92

Predictors: (Constant), Innovation capability, Financial system, Institutions
Dependent Variable: Competitiveness

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	126.24	3	42.08	77.93	.00
Residual	73.98	137	.54		
Total	200.22	140			

Predictors: (Constant), Innovation capability, Financial system, Institutions
Dependent Variable: Competitiveness