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# PATHS TOWARDS THE KNOWLEDGE SOCIETY

South Africa and the Republic of Korea

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#### Abstract

Knowledge society narratives are present all over the world, they encompass countries, regions, and even entire continents, regardless of their level of development. Indeed, it is hard to find a country on the map that does not refer to knowledge in their public policies. The concept of the knowledge society can have different linguistic variations, for instance *knowledge economy, information society, learning society, knowledge-driven society/ societies* etc. As a powerful policy narrative, the knowledge society transcends geographic borders, religious beliefs, and climatic conditions. The knowledge society ideas are used as a policy instrument by the governments worldwide, from Mexico to Australia (Välima & Hoffman, 2008).

One of the most common justifications for the implementation of related policies is the widespread belief in a causal relationship between the implementation of the knowledge society policies and economic growth. This was one of the main arguments of 'Brain Korea 21' program by Korean Ministry of Education back in November 1999 (Moon & Kim, 2001). In this case, the concept was also used as a political objective, which aimed at increasing the competitiveness of Korean universities, enhancing opportunities for the youth, and the expectations of economic growth that were anticipated to be the outcome of this investment. Korean example is considered to be 'the role-model' in terms of successful reforms by scholars and international organizations (Moon & Kim, 2001; Word Bank (1999)). However, having the knowledge society policies does not always guarantee the success story of the Republic of Korea. In fact, South Africa is one of the most active African countries in terms of the knowledge society policies and their implementation (Jiyane et al., 2013), but, in comparison with Korea, its developmental potential remains to be much behind. Thus, this paper asks why some country-level policies in the area of the knowledge society have an impact on significant socio-economic outcomes while others do not. By analyzing structural reasons behind those disparities, the paper aims to unpack the black box of causality between the divergent outcomes of two countries, namely South Africa and the Republic of Korea. With the help of qualitative document analysis and literature review, this study looks at both countries in terms of path dependent argument.

The initial presupposition of this paper is that the policies did not work in the South African case due to the wider societal inequalities that prevented most of its population from benefitting from the knowledge society policies. These remained to be accessible only to certain groups. We hypothesize that one of the main causes of the divergent outcomes is a more nominal and superficial commitment to the knowledge society in South Africa, and the real, sustained work to put the knowledge society policies in practice in Korea. In other words, it is not enough to adopt policies, they have to be put in practice. Or, to put this in other terms, the knowledge society ideology is progressive, but it does not work by itself. Moreover, we presume that in order to achieve its initial objectives, the policies have to correspond to the contextual reality, and, therefore, take into account several factors, such as education level of the population, information and communications technology (ICT), research and development (R&D) efficiency, and the levels of investment, etc.

Keywords: knowledge society policies, South Africa, the Republic of Korea, development, higher education, reforms

#### Introduction

The knowledge society narratives are omnipresent all over the world, they encompass countries, regions, and even entire continents. As a powerful policy concept, the knowledge society transcends geographical borders, religious beliefs, and climatic conditions. Indeed, it is hard to find a country on the map that does not refer to knowledge in its policies. References to the concept of the knowledge society can have different linguistic variations, for instance they can be called *knowledge economy, information society, learning society, knowledge-driven society/societies* etc. These concepts frequently appear in various policy documents all over the world, among which are Bologna, World Bank policies in Africa, African Renaissance, Arab Human Development and many others.

In some cases, the knowledge society discourse is used to shape social policy and practice in processes of governance. One of the most common justifications is the widespread belief in a causal relationship between the implementation of the knowledge society policies and economic growth. For instance, this was one of the main arguments of 'Brain Korea 21' program (Moon & Kim, 2001). The knowledge society was also used as a social objective, which aimed at increasing the competitiveness of Korean universities and enhancing opportunities for the youth. Korean example is considered to be 'the role-model' in terms of successful reforms by scholars and international organizations (Moon & Kim, 2001; Word Bank, 1999). However, as we will point in this paper, having the knowledge society policies does not always guarantee the success story of the Republic of Korea.

In fact, South Africa is one of the most active African countries in terms of the knowledge society policies and their implementation (Jiyane et al., 2013), but, in comparison with Korea, its developmental potential remains to be much behind. Once economically more prosperous than Korea and currently 'lagging behind,' the country did not manage to overcome its 'developing status.' Thus, this paper asks *why some country-level policies in the area of the knowledge society have an impact on significant socio-economic outcomes while others do not*. We acknowledge that the process of transformation is by no means simplistic and one-dimensional, and there are numerous country-specific contextual factors that have been in play. Clearly, simple exposure to the knowledge society does not imply its effectiveness. By analyzing structural reasons behind those disparities, the paper aims to unpack the black box of causality between the divergent outcomes in two countries, namely South Africa and the Republic of Korea. With the help of the literature review and qualitative document analysis, this study compares two countries in relation to the policies and circumstances that favored or prevented improvements from happening.

We hypothesize that one of the causes of the divergent outcomes is a more nominal and superficial commitment to the knowledge society in South Africa, and the real, sustained work to put the knowledge society policies in practice in Korea. In other words, it is not even enough to adopt policies, they have to be 'brought into play.' Or, to put this in other terms, the knowledge society ideology is progressive, but it does not work by itself. Moreover, we presume that in order to achieve its initial objectives, the policies have to correspond with the contextual reality, and take into account several factors, such as education level of the population, information and communications technology (ICT), research and development (R&D), investment efficiency etc.

## 1. KNOWLEDGE SOCIETY

With the purpose of cognitive hygiene in mind and conceptual clarification, we aim to explain what we mean when we use the concept of the knowledge society, which also happens to be the core of this discussion. The following section will provide a brief overview of the literature, including history of the concept, its semantic properties, its relevance to higher education policy research, challenges that it brings, and digital divide as an obstacle to its implementation.

Firstly, it is important to mention that knowledge and information are regarded as strategic tools, thereby becoming commodities themselves. These concepts are frequently used as synonyms, but these are divergent in their meaning. According to David & Foray (2003: 25), knowledge "empowers its possessors with the capacity for intellectual or physical action." The scholars note that information "takes the shape of structured and formatted data that remain passive and inert until used by those with the knowledge needed to interpret and process them" (2003: 25). Thus, the concepts are interdependent in, since without information there is no knowledge, and, without knowledge, information is irrelevant. In this paper, we focus on the concept of knowledge, but also refer to information, especially in the context of ICT.

Even though the importance of knowledge has always been an equivocal part of human existence, the history of the term knowledge society only dates back to the sixties. It was Lane (1966), who was first to write about the "age of knowledge." The scholar (1966: 662) envisaged the knowledge society as the next stage of human development, seeing it as a necessary component of change and "a powerful kind of attitudinal disequilibrium." Later, Drucker's book *The Age of Discontinuity* (1969) viewed knowledge as the basis of economy and society. The author highlighted the changing nature of labor market, which needed educated 'knowledge workers.' In the nineties, Stehr continued the discussion about the knowledge society and published a book entitled *Knowledge Societies*. The monograph provided a comprehensive explanation of the shifts in social structures in "post-industrial society" (Böhme & Stehr, 1986). The scholar highlighted the greater relevance of

knowledge, "as labour and property (capital) gradually give way to [this] new constitutive factor" (1994: 8).

The concept knowledge society is a multi-level construct, whose conceptual stretching allows it to be used in various contexts. From the semantic point of view, the phrase knowledge society is multifaceted. Välima & Hoffman (2008: 267) provide a comprehensive explanation on this matter, as they highlight that it may refer to social discourse, "intellectual device," political goal or a policy tool. The authors note that the term is not only possesses numerous meanings but is also omnipresent in our daily lives: "The knowledge society aims to describe a new situation in which knowledge, information and knowledge production are defining features of relationships within and among societies, organisations, industrial production and human lives." Further, the authors highlight that the concept has travelled across various areas of application, as it has been used by politicians, economists, governmental officials, servants of international organizations, etc. At the same time, the knowledge society discourse plays a crucial role in academic scholarship in the area of public policy, sociology and higher education studies.

Even though the knowledge society is not directly about universities, as it is primarily politically and economically-oriented, the emergence of the knowledge society projects is frequently directly related to higher education. Välima & Hoffman (2008) underline causal relations between the increased value of the "research-based knowledge" (269) and higher education. They refer to the Triple Helix, which was developed by Etzkowitz & Leydesdorff (1995) and later influenced academic discussions and policy decisions. Academic-industry-government relations are seen as engines for the knowledge society and a core to innovation in competitive global markets. Instead of treating these actors as separate entities, "the enhanced role of the university in the transition from industrial to knowledge-based society, has become widespread in innovation and entrepreneurship studies" (Cai & Etzkowitz, 2020: 1).

Triple Helix was later challenged by the debates in the literature, which pointed to its substantial drawbacks, such as exclusion of local context and its preliminary focus on Western realities (Shinn, 2002; Williams & Woodson, 2012; Cai, 2014). Carayannis & Campbell (2009) revisited the model by adding media-based and culture-based factors. Moreover, the authors acknowledged "the importance of a pluralism of a diversity of agents, actors and organisations," by highlighting that "universities, small and medium-sized enterprises and major corporations [are] arranged along the matrix of fluid and heterogeneous innovation networks and knowledge clusters" (2009: 207). In our paper, we acknowledge the role of higher education in the establishment of the knowledge society, but we also stress the fluidity of the concept, which is largely context dependent.

It is also important to see the other side of the knowledge society. Indeed, the knowledge society discourse brings economic and social opportunities, but it also includes certain 'challenges.' The book by Grub, & Lazerson (2004) entitled *The Education Gospel. The economic power of Schooling* introduces arguments that see the knowledge society ideas in a critical light. Among the central critique points of the knowledge society discourse, one might name massification of knowledge, namely prioritization of enrollment over quality. Additionally, it is challenged because of its 'too ambitious,' utopia-like statements that potentially see education as the salvation to all societal and economic problems. As the result of blind faith without empirical proof, this 'education gospel' has narrowed the purpose of education to the necessity to diplomas as 'entry-tickets' to job market (Grub, & Lazerson, 2004).

Another pitfall of the knowledge society discourse was mentioned by Välima & Hoffman (2008: 277). The scholars note that the knowledge society "is dominated by the conditions of the relatively young, well-educated working age citizens geographically located in the urban areas of a few rich countries." This partially makes people in remote locations or in the areas with the lower Internet coverage deprived of the recourses that are available to affluent urban residents.

The issue of *digital divide* is one of the further challenges that makes the knowledge society discourse inaccessible in certain areas (Castells & Himanen, 2002). The concept "commonly refers to the gap between those who do and those who do not have access to new forms of information technology" (Van Dijk, 2006: 222). Indeed, immaterial, material, social and educational inequality serve as a background to the concept of digital divide (Van Dijk, 2006: 223). Frequently, disadvantaged communities lack internet access and necessary devices. This means that even if there are the knowledge society policies in place, they remain on the pages of policy papers without making a real-life impact. This has been exemplified during the pandemic. More precisely, the move to online instruction has deprived millions of pupils and students from learning opportunities. According to the data provided by UNESCO, approximately 826 million students worldwide do not possess a computer to follow online instruction and 706 million do not have internet at home (2020). Thus, the knowledge society policies remain on the nominal level, which leaves them utopic and superficial.

# 2. KNOWLEDGE SOCIETY AT THE NATIONAL LEVEL: SOUTH AFRICA VS KOREA

There are variety of actors that are involved in the processes of the knowledge society 'building', but the state still plays a crucial role. Indeed, it is a part of the Triple Helix innovation framework and its extensions (Etzkowitz & Leydesdorff, 1995; Cai & Etzkowitz, 2020; Carayannis &

Campbell, 2009). Even though the processes of de-regulation and the increased importance of market mechanisms 'weakened' the role of the state in education and other areas, the responsibility of the state cannot be discarded (Van der Wende, 2001). Indeed, it is the state that has a formal power to veto or to support the knowledge society related policies. Therefore, our paper is macro-focused. However, we acknowledge that this has its limitations, since there are also micro processes that might be left out from this discussions.

#### What makes South Africa and Korea comparison relevant?

Firstly, from the economic point of view, the countries have changed significantly over the last decades. Initially devastated by the war, Korea managed to overcome the status of the poorest and least developed country in the world. On the contrary, South African economic potential remained to be 'developing.' Figure 1 by the World Bank is a visual representation of two different paths of economic growth.



Figure 1 GDP per capita South Africa and the Republic of Korea 1960 - 2019

(Source: Word Bank, 2020)

As it can be observed, South Africa was slightly more well-off until 1985, and since then Korean performance skyrocketed. The latter managed to transform its economy from an aid receiving low-income country to highly industrialized aid donor.

Korean miraculous success story has been frequently connected to its efficient knowledge society reforms (Moon & Kim, 2001; Suh & Chen, 2007; Asongu, 2017). Indeed, the country heavily invested in education, research and development, focused on infrastructure development and "knowledge-oriented investments" (Asongu, 2017: 5). Korean experience as a "knowledge economy champion" has been frequently contrasted with African countries, but there is no study

up to date that looks exclusively at South Africa and the Republic of Korea (World Bank, 2007; Tran, 2011; Asongu, 2017; Kim, 2013).

Additionally, both counties had similar starting conditions of their journey towards the knowledge society. Both had the knowledge society policies on the nominal level, but their ways parted away for the number of reasons. Table 1 below visualizes the central argument of this paper, namely the differences that caused the divergence of the outcomes. The article does not pretend to make these exclusive, but we strongly agree that these were among the main causes that influenced the outcomes.

# Table 1 South Africa vs the Republic of Korea

Country	The KS polices	Strategic implementation	High tertiary enrollment	Massive access to ICT
South Africa	yes	partially	no	no
The Republic of Korea	yes	yes	yes	yes

(Source: own reasoning, based on the literature review)

The logic of this research is that the different developmental paths of these two countries were determined by the dissimilar strategic implementation of the knowledge society policies, levels of enrollment rates as well as ICT access opportunities.

# 2.1 THE REPUBLIC OF KOREA AND ITS MIRACLE OF KNOWLEDGE

The following section aims to outline the major steps that the Korean government has done on its way to the knowledge society. The discussion is based on the literature review and the data provided by international organizations (OECD, World Bank) as well as the government. Additionally, we provide a brief explanation of socio-political context that is viewed as equally important as the reforms.

# Knowledge society as an economic imperative

Korean example allows us to draw the links between the knowledge society policies and its economic development. Indeed, the country managed to implement a coherent long-term set of policies that combined efficiently human resource development, science and technology, and economic objectives. Suh and Chen (2007) provide a summary of key elements of this transformation, which is depicted in Table 2.

Development god	Major policy Is directions	Macroeconomic policy framework	Human resource development	Science and technology
<ul> <li>Build production</li> <li>for export-orient</li> <li>industrialization</li> </ul>	n base • Expanding export-oriented light industries • Mobilizing domestic and foreign capital	<ul> <li>Preparation of legal and institutional bases to support industrialization</li> </ul>	<ul> <li>Decreasing illiteracy</li> <li>Establishing national infrastructure</li> </ul>	<ul> <li>Building scientific institutions: legal and administrative framework</li> </ul>
1970s • Build self-relia: growth base	<ul> <li>Promoting HCI and upgrading industrial structure</li> <li>Building social overhead capital</li> </ul>	<ul> <li>Maximization of growth: expand policy loans</li> <li>Government inter- vention in the markets</li> </ul>	<ul> <li>Increasing vocational training</li> <li>Improving teaching quality</li> <li>Increasing college graduates in engineering</li> </ul>	<ul> <li>Setting up scientific infra- structure: specialized science and technology institutions, Daeduck Science Town</li> </ul>
1980s • Expand techno intensive indus	logy- Increasing industrial rationalization Decreasing export subsidy and expanding import liberalization	<ul> <li>Stabilization</li> <li>Enhancement of private autonomy and competition</li> </ul>	<ul> <li>Expanding higher education system</li> <li>Developing semi- skilled human resources</li> </ul>	<ul> <li>R&amp;D and private research center promotion</li> <li>Launching national R&amp;D programs (NRDPs)</li> </ul>
1990s • Promote high- technology innovation	<ul> <li>Supporting technology development</li> <li>Building information infrastructure</li> </ul>	<ul> <li>Liberalization</li> <li>Reform and restructuring</li> </ul>	<ul> <li>Building high-skilled human resources in strategic fields: IT, biotechnology, and so on</li> <li>Developing a lifelong learning system</li> </ul>	<ul> <li>Taking a leading role in strategic areas with the goal of technological catch-up</li> </ul>
2000s • Make transition knowledge-bas economy	<ul> <li>Using government as a market supporter</li> <li>Promoting venture businesses and small and medium enterprises</li> </ul>	<ul> <li>Globalization</li> <li>Balanced national development</li> </ul>	<ul> <li>Increasing research productivity</li> <li>Improving quality of university education</li> <li>Focusing on regional development</li> </ul>	<ul> <li>Building national and regional innovation sys- tems</li> </ul>

Table 2 Knowledge economy policies and development stages of the Korean economy

(Source: Suh & Chen, 2007: 25)

The aim of the government was "to establish a self-reliant economy and to make the people's life worth living" (Government of the Republic of Korea, 1962, cited in Suh & Chen, 2007: 24), which was achieved with the help of the consistent knowledge society narrative. Indeed, it was the focal point in every developmental phase of the country. Clear, well-articulated knowledge society aims, coupled with economic performance, prove that the Republic of Korea did not only have the correct plan, but also worked hard on its achievement.

# "Strong developmental mindset"

In democracies, the government alone cannot be the decisive factor in successful reforms if these are not supported by its people. Indeed, Korean success story would have been impossible to achieve without the Koreans, no matter what kind of reforms were on the table. Therefore, we would like to start this discussion from pointing to the contextual factor which Park (2019) called "strong developmental mindset."

In the book chapter entitled "The Essence of the Korean Model of Development," Park explains his concept as a "socio-cultural norm that emphasizes ... maintaining one's dignity, along with the typical 'shame culture', has contributed greatly to the emergence and expansion of a hard- working, self-sacrificing populace" (209). According to Park, social norms, together with the consequences

of the devastating Korean war which left "everybody ... on an equal footing" (209), played a crucial role in establishing meritocratic and egalitarian mindset that values education. In combination with timely economic reforms, "social mobilization for change" (199) constitutes central elements of Korean development model. Influenced by Confucian thought, "which entails self-cultivation and wisdom as means to achieve social prestige," Korea excelled in education reforms (Do Vale, 2016: 597). The downside of this 'shame culture' is the problem of overwork and exhaustion, which is considered to be the norm in some cases.

#### Land reform

After the war, the Korean government's decision about land reform contributed towards equality, since "the vested interest class of landlords was disbanded" (but also compensated) and educational opportunities promoted social mobility, egalitarianism and "developmental mindset" (Park, 2019: 221). The government of Rhee promoted both reforms simultaneously, which lead to the industrialization phase after the 1960s that was supported by the availability of land and human capital (Park, 2019: 222).

## R&D Investment

The knowledge society is not only about knowledge and information. It is also about innovation and the creation of knowledge. As it can be observed from Figure 2, Israel is the only country in the world that spends more on R&D. As it can be observed from Figure 2, there is a stable tendency of spending more on innovation activities apart from slight changes in 2015.





# (Source: OECD Library, 2021)

In fact, R&D funding might not be exclusively coming from the state. Korean tech companies frequently establish partnerships with universities and fund their research activities. For instance,

Korea University of Technology and Education played an important role inside the 'triple helix' system. Founded in 1991 by the Ministry of Employment and Labor, apart from traditional HE tasks, the HEI focuses on industry-university cooperation as well as life-long learning programs and global cooperation programs. Yet, public funds are still decisive. The university is also a recipient of several public grants by Ministry of Education, among which are 'Brain Korea 21'; 'Basic Research in Science and Engineering'; 'University of Innovation in the 4<sup>th</sup> Industrial Revolution' (Korea Tech, 2021).

It is also worth mentioning that Korea mostly invests into science, technology, engineering and mathematics (STEM) subjects, meaning that other disciplines remain 'left behind.' Since the country is mostly exporting high tech products, the strategic areas are seen in the fields of natural sciences. In the times of global economic competitiveness, ICT field is the dominant recipient of the R&D funding which, therefore, leaves very little for the development of other fields in the area of humanities.

#### Enrollment rates

R&D investment needs to be accompanied by human resources with the certain degree of education. In fact, Korea has one of the highest tertiary education attainment rates in the world. According to the data provided by OECD (see Figure 3), 70% of Koreans aged 24-34 are enrolled in tertiary education programs<sup>1</sup>. Further, Korea spends around 5,4% of its GDP on education (OECD, 2019).

#### Figure 3 Educational attainment of 25-34-year-olds



<sup>&</sup>lt;sup>1</sup> It should be noted that tertiary education is not exclusively about universities, since it can also include vocational courses, MOOCs, additional courses etc.

On the contrary, South Africa has the lowest tertiary educational attainment rate, which is around 5%. This disparity causes the difference leads to the separate paths of economic development, since the country does not have enough skilled knowledge workers.

#### ICT in the discourse of the knowledge society and economic development

Korean economic success story is frequently attributed to its investment into ICT. In the age of digitalization, Internet coverage/usage plays a crucial role in the long-term knowledge society policies implementation. In general, Internet access nowadays is one of the pre-requisites of the access to information. Figure 4 exemplifies the differences between Korea and South Africa in terms of Internet access: 56% vs 96% creates a 40% digital gap.



Figure 4 Individuals using the Internet (% of population) - Korea, Rep., South Africa

### (Source: World Bank, 2021)

We acknowledge that Internet is not the only variable in determining the success of the knowledge society policies. We do, however, point out that the knowledge society policies promote information access, which is hard to imagine without Internet nowadays. Thus, the knowledge society policies remain purely normative if they are not supported by the appropriate infrastructure level.

However, we also pose a question whether a one-dimensional, 'technology-based' understanding of development can be envisaged as a 'success.' There is not much that is said about Korean investments into humanities. Most of its economic success is attributed to the export-driven economy that benefitted from industrialization and the rise of modern ICT, thus leaving humanities out of the picture again.

### 2.2 SOUTH AFRICA ON THE WAY TO THE KNOWLEDGE SOCIETY

South Africa is a paradox, it is developed and developing country, it has high level universities and the lack of skilled professionals at the same time. One of the biggest obstacles are the post-apartheid consequences that "failed to lay the foundation for the development of vital human capital required for sustained social and macroeconomic development in the country through inclusive education and training" (Evoh, 2007: 3). Indeed, poor higher education enrollment rates caused shortage of highly skilled professionals and the abundance of young unskilled jobseekers (Evoh, 2007: 6).

In terms of contextual factors, it is worth mentioning that South Africa suffers HIV/AIDS epidemic, whose negative impact does not only apply to health. Arndt and Lewis (2000: 380) note that it has become "a development issue, with social, political, and economic dimensions." In 2019 there were circa 8 million adults and children living with HIV, which means that approximately one out of seven people were affected (UN AIDS, 2019). Tladi (2006) states that there is an empirical link between the epidemic and poverty rates, in which the level of education is considered to be decisive. Similarly, Poulsen (2006: 55) highlights the direct impact of the disease on educational performance: "Illness, death and disruption at home make families poorer, and children more vulnerable to HIV infection themselves, in that they … are more likely to drop out of school."

### South African knowledge society

Britz et al. (2006) note that African countries have potential to be a part of the global knowledge society, even despite current political and economic shortcomings: "It is not only a matter of rediscovering the continent's historical roots and cultural values before colonialism, but also of turning these values and abilities into competitive advantages and ensuring that Africa can take place along the world of nations as a knowledge society" (Britz et al. 2006: 29). Indeed, South Africa is one of these countries that has a potential to become a knowledge society leading country, but it is still on its way to it.

South Africa is one of the most developed African countries, but it is still prevented from enjoying the full benefits of the knowledge society projects due to its "low standard of living and a high rate of poverty" (Jiyane et at, 2013: 6). The Human Development Index (UN Human Development Report, 2020) ranks the country on the 114<sup>th</sup> place in the world. It also is one of the most unequal countries in the world, according to GINI index estimates (The World Bank, 2021). Therefore, even if it has the knowledge society policies, these are hard to make accessible.

Even the diversity of languages might be problematic, since the majority of the knowledge society projects are in English or Afrikaans. The country has 11 official languages, and many more that are marginalized and spoken only in certain areas (Conner, 2004). In 2000 South Africa effected the Promotion of Access to information Act, "but access to state publications [...] may also be restricted because most of the publications are in English" (Jiyane et at, 2013: 8). National Language Policy Framework aimed to solve the problem by promoting local languages. However, it resulted in the outcomes that "have become trapped in a gap between 'intention' and 'performance" (Beukes, 2009: 35). This gap triggers consequences, "resulting in the potential of many learners ... not being realized, and literacy levels remaining unacceptably low" (Beukes, 2009: 37).

One of the recent policies was introduced by the South African Department of Science and Technology (*Ten-Year Innovation Plan, 2007-2017*). Remarkably, this document has the definitions of two words on its cover: *knowledge* and *innovation* (Ten-Year Innovation Plan, 2007). The policy document connected numerous goals with long-term ambitions. Further, the document had very specific and measurable targets, such as meeting the Millennium Development Goals by halving poverty, tripling economic growth that can be attributed to innovation, doubling the number of full-time researchers etc. (Ten-Year Innovation Plan, 2007: 8) Lorentzen (2009: 42) mentions that this 'managerial' way of policymaking was borrowed from abroad, namely 'good practice' countries. Potentially, it could be influenced by the World Bank, which has played a key role in African context back then. Lorentzen (2009: 43) argues that this policy had objectives coming from the top-down approach, which had little connection to the reality 'on the ground.'

National Development Plan: Vision for 2030 aims to embrace the challenges of the current state of the knowledge society. Indeed, knowledge production is envisaged as a central priority, which is seen as an outcome of human recourse development (Human Resource Development Strategy for South Africa (2010 - 2030), 2009). The goal is to achieve the status of the developed economy through "innovation, improved productivity, more intensive pursuit of a knowledge economy" (2009: 157). It is planned to increase the ICT potential of the country, which will be complemented by the ongoing cooperation between the businesses, researchers, within and beyond academia (256). Yet it is hard to speculate about the outcomes, since its implementation is still happening.

#### Investment into research and development

In comparison with Korea, South African R&D investment is much lower, as it has never been more than 1%. It is the highest rate in Africa, but, at the same time, four times lower than Korean

and three times lower the EU average. Similarly to the Republic of Korea, most of this funds are addressing ICT-related research, leaving arts and humanities aside.

### Enrollment rates

Even despite relatively high school enrollment, there are numerous systemic problems that hinder the knowledge society policies from achieving the level of the Republic of Korea. Evoh (2007: 10) notes that education system in South Africa largely emphasizes quantity over quality, thus neglecting skills that are needed for knowledge economy. According to Do Vale (2016: 597), "only 50% of the pupils who start basic education will finish secondary education, and only 12% of these students will become qualified to enter university."

The World University Rankings (2020) state that five out of ten top universities in Africa are in the country. The leading institution is the University of Cape Town, which is considered to be the best in the continent and is placed to the 155<sup>th</sup> rank in the world. Yet it does not say anything about the quality of the other higher education institutions. As it can be seen from Figure 3 the tertiary enrollment rates remain to be low, constituting only 5%.

#### Digital divide

Brown and Brown (2008: 112) note that South Africa missed its opportunity to catch up with the fast-developing economies, such as Korea, because of its lack of timely response to the digital growth. The authors mention that Korea successfully implemented "One Family One Telephone" development policy, which stimulated the initial economic break-through. The paper shows the historic correlation between landline density and the level of economic development (see Figure 5).



#### Figure 5 Telephone density and economic growth

(Source: Brown and Brown, 2008: 112)

The authors stress that also post-apartheid period in South Africa was characterized by the inequal access to telephone, which was one of the first 'missed' opportunities. The authors point out that several problems prevented ICT policies from success, namely little political focus on utility, slow implementation, delays in licensing, inequality in business ownership etc. Currently, there are around 24,5 million smartphone users in South Africa, which is less than 50% of the population (Statista, 2021). We mention smartphones since they have more functions than a mobile phone, and one of which is Internet connectivity. In general, including PC users, the level of connectivity remains to be almost twice lower than in Korea (see Figure 4).

Improvements in ICT policies and their implementation may be a possible opportunity window for the country, but they alone will not solve the problem. Indeed, it is the combination of further factors that are needed, and among these are human capital investment, turning 'brain drain' into 'brain gain,' developing infrastructure, etc. (Britz et al. 2006: 38).

### Conclusion

Through the comparative analysis of two country-level cases, the paper aimed to follow the structural reasons behind the divergent knowledge society outcomes. What seems to be decisive is the thoroughness and articulation of action-rooted, long-term and sustainable policy programs. Indeed, Korea has favorable contextual factors, which are deeply rooted in its 'strong developmental mindset'. On the contrary, South Africa suffers bitter consequences of apartheid, which left the country racially divided. Further, AIDS/HIV epidemic directly hindered performance potential of every seventh person in the country. Even despite high school enrollment rates, South African higher education system did not reach the enrollment rates of Korea. Both countries invested into R&D, but due to the differences in the amounts and the levels of human capital development, Korea managed to become a global economic player, while South Africa did not. Another factor that contributed to the Korean miracle is the efficient usage of ICT. It can be contrasted to the South African digital divide, which has interrupted global flows of information, thus, preventing the country from entering the knowledge society. Overall, it is not enough to introduce the knowledge society policies, since a more specific, established, managerialalike, context-sensitive perspective with appropriate funding is needed for their real impact. In other words, action speaks louder than words.

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