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SUNUŞ

Our Republic, the greatest gift of the Great Leader Gazi Mustafa Kemal Atatürk to the Turkish Nation, is 100 years old.

The hundred years left behind by the Republic of Turkey, which was born from the ashes of an empire that ruled for six centuries and spread over three continents, is full of many success stories. The fact that a nation battered by constant wars, tired of epidemics and famine, establishes a new state on the foundations laid by a great leader and keeps that state alive by developing it despite all kinds of internal and external difficulties is already a success story.

As in every field, our Republic has made important leaps in the field of education. Having only one university when it was founded, Turkey has had more than 200 foundation and state universities in the past 100 years. Having the highest number of higher education students in Europe, Turkish universities have become the world's leading overseas education centers with the number of international students reaching 300 thousand. The research capacities of our universities, which offer education in every field from health to engineering, from social sciences to fine arts, have developed on an extraordinary scale.

As Altınbaş University, Turkey's number one international university1, we wanted to contribute to the events celebrating the 100th anniversary of the foundation of our Republic by publishing 100 books on different subjects. In our "Gift Books Series", prepared by experts in their fields in a language that everyone can understand, we have decided to bring together valuable studies on almost every aspect of life that we offer at our University. This work was written by esteemed academics as a part of the Gift Books Series.

1 According to the Times Higher Education World University Rankings 2022, Altınbaş University ranks 68th in the World and first in Turkey in terms of international student density.

As the stakeholders of Altınbaş University, which owe our existence to the Republic, we will continue to work with all our strength so that our Republic will stand firm forever.

Happy 100 years Republic of Turkey!

Prof. Dr. Çağrı Erhan

Altınbaş University
Rector

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* All authors acknowledge her valuable efforts to prepare this edited book.

CONTENT

INTRODUCTION

Technology has been one of the most powerful sources of power in human history. A stride ahead in technology has always meant a step forward in power, whether it is the invention of stone tools or artificial intelligence. However, thanks to technological advances, power is no longer the same as it once was. In other words, technology, as one of the primary sources of power, has altered the concept of power, which is manifested through digitalization. While possession of assets used to be the most essential indicator of power, today access to resources is far more crucial. From a different perspective, the link between technological advancement and power is also one of the most important drivers of inequality between those who have and those who do not, and it is also the basis upon which the conceptions of developed and underdeveloped have emerged.

We are on the threshold of a technology revolution that will revolutionize the way we live, work, and interact forever, after thousands of years and three industrial revolutions. Many countries have invested heavily following the third industrial revolution, thanks to digitization and computers. As a result, both production methods and development plans have altered for the first time in both industrialized and developing countries, and the gap is widening by the day. The fourth industrial revolution is now underway. Intelligent designs are becoming more prominent as digitalization spreads across the world. In this vein, the question arises as to whether this new technological boost has the potential to reduce inequities between the developed, developing, and underdeveloped worlds, or if it is simply the same old wine in new bottles. The aim of this book is to answer this question by examining the impact of digitalization on developed and developing countries in terms of economics and politics, which are inextricably linked in terms of power.

The book is based on the "Effects of Digital Transformation: Developing vs. Developed Economies" International Economy Conference held at Altınbaş University on April 19, 2019. The conference presentations and discussions were so fruitful that it was inevitable that the notion of converting the conference papers into a book that would reach a larger audience arose. The book has been expanded with the addition of three new articles on the subject.

Aksu and Özer (2021) examine the impact of digitalization of the world economy on the power structures of the world system and focus on geoculture as one of these structures. The chapter is based on Immanuel Wallerstein's World Systems Analysis Approach and accordingly geoculture is defined as the ideology of this system, which is liberalism according to Wallerstein. Following Wallerstein's major works they present the historical development of the use of technology and its impact on the capitalist world economy. By doing so they portray how technology has been an integral part of capitalist development and liberal world order. At the latest stage of this development comes digitalization which has not only made information as a source of power accessible to greater populations but also enabled their wider participation, while on the other hand presenting yet another mechanism for capitalism to overcome its crises according to the authors.

Kütük et al. (2021a) seek the elements that influence the human development index (HDI). Individual living standards, regardless of culture, should be high in order for societies around the world to continue to develop. In this study, they will look at how much humanity, which has endured various changes from the past to the present, has reformed and developed under what conditions, and how these developments have influenced the human development index in this environment. Access to clean fuel is one of the key factors to increase HDI in their model, according to their findings. As expected, the GDP growth rate is a key predictor in their model. The ease of doing business is found a major predictor of HDI. According

to their findings, there should be a lower cost of doing business in order to achieve high levels of human development.

In the digital platform tenet of agency and stakeholder theories, Aldogan-Eklund (2021) aims to measure how CEO compensation is influenced by monetary information (financial performance) and non-monetary information (risk and environment, social, and governance scores) of the organizations reported on annual reports. This paper finds that only by taking all three elements into account at the same time can we arrive at the best and most equitable CEO compensation: Risk, financial, and non-financial (ESG) performance of a company. Only a strong corporate governance framework and strong stakeholder rights can prevent the unfavorable relationship between market performance and CEO compensation. ESG score (non-financial performance) should be linked to CEO compensation to increase shareholder rights, and corporate governance standards addressing executive compensation should also take risk and non-financial variables into account.

Quarenghi's (2021) contribution is in terms of the role of digitalization in international politics. He approaches digitalization as a dynamic of the process of change in the international order as the international actors compete to influence future international governance regimes. According to Quarenghi digitalization influences not only contemporary but also future international politics and order. This is so because he also mentions digitalization being a source of power. Accordingly, he portrays two images of international digital governance: the image of a global multipolar governance and the image of a renewed liberal order. In the first order great powers would occupy the globe through competition, allowing little political space for the values, interests, and goals of small powers, which should thus support the renewal of the liberal order that would empowering multilateral cooperation.

Kütük et al. (2021b) examine the impact of the country's democracy score, unemployment rate, tertiary education rate, and high technology export rate on the government's tax revenue. As

a result, this paper reveals that all variables in the model are significant. The most influential variable on tax revenue is a country's democracy score. When a country's democracy score improves, the government's tax revenue rises as well. By analyzing the most up-to-date data on the countries, this study backs up prior findings. Better tax collections do not automatically imply increased employment or growth. This issue must be approached in rising countries from a historical, evidence-based viewpoint.

Ahmad, Salam and Razzak (2021) wrote the article entitled "Economic Growth in Developing Countries: Measurement through Index of Happiness, Human and Social Developments". They have chosen four major elements of human development in their study, which will ultimately aid in the creation of coexisting communities for overall stability and order; these four major elements are GDP per capita income, social progress index, human resource development criteria and happiness of the people in different countries. Their data and analyses revealed that the idea that people are happier when they have more purchasing power is not accurate in all circumstances. Their study also discovered inadequacies in government policies and state procedures in many countries, resulting in incompatible growth policies for societal growth.

Soussi and Zouari (2021) provides present the Tunisian context aiming to better understand country ranking according to most popular digital competitiveness indexes and to show, in fine, strengths and challenges for ICT sector in Tunisia. **Brain drain** is now a major challenge in Tunisia post-revolution: 3000 engineers from all specialities have left the country in 2018. No less than 10,000 engineers left in less than three years, but also many doctors and 94,000 Tunisians left Tunisia in six years to Europe. Due to this, Tunusia needs efforts to promote trade in electronic products could be complemented by steps to promote standards harmonization, financing startups by appropriates joint venture companies, and encouraging digitalization of product process in companies and administrations.

Noi (2021) also approaches the issue of digitalization in terms of liberalism. After explaining the development of liberal international economic order and the historical challenges it has faced through three industrial revolutions, Noi focuses on the fourth industrial revolution and the challenges and opportunities it has brought. The fourth industrial revolution, which is materialized in digitalization, differ from the previous industrial revolutions in various ways that are thoroughly explained in the chapter. The differences brought about the fourth industrial revolution make it necessary for the governments to adopt themselves to change. Although this process is not free of challenges, it also provides several opportunities that are presented by Noi, who then underlines the opportunities available for Turkey specifically. Yet they also note that global problems need global solutions. The survival of liberalism is crucial in this sense, which can be achieved through radical reinvention according to the author.

Öcal (2021) introduces a recent groundbreaking concept, experience economy indicating the economy that comes after the agrarian, industrial, and most recently service economies. The importance of staging experience, in addition to tangible products and intangible service offerings, has been recognized in tandem with the experience economy. To survive in an increasingly competitive environment, differentiating products and services has provided the opportunity to apply higher prices and increase profits. The significance, development, conceptual framework, and dimensions of the experience economy will be discussed in this section. The structure and differences of products based on experience, which have grown in importance with the rise of the experience economy, as well as the role of marketing communication strategies in creating customer demand, will be investigated. The changing communication strategies with the internet, as well as the effects of experience-based products on marketing strategies, will be revealed while explaining marketing communication strategies.

Digitalization has common ground across different geographies from both a personal and a business standpoint. The first global generation share more similarities than previous generations, such as access to similar hardware and media and use of similar apps and tools. Furthermore, across geographies, digital disruptors and competitive dynamics influencing the economy are very similar.

Millennials have similar digital expectations regardless of country or culture, and the approach to marketing to them should be consistent around the world. However, when it comes to infrastructure, sociodemographic characteristics, user requirements, and business and competitive dynamics, there are significant differences in the needs for digital transformation in Latin American developing economies versus developed nations. The applicability of these digital trends varies by industry and country's digital maturity.

The perspectives on digital penetration in small and medium-sized enterprises (SMEs) are also very different, as developed economies have increased usage and adoption compared to developing economies. In Mexico, for example, only 10% of SMEs have online sales, despite accounting for 72 percent of employment and more than 50% of GDP. This is a low penetration rate when compared to the 20% of EU-28 SMEs that have an online presence.

However, the impact of digitization varies by country and sector. Developed economies benefit from higher economic growth by nearly a quarter, but they lag behind emerging economies in job creation by a similar margin. The economic structures of developed and emerging economies are the primary reason for the disparities in the effects of digitization. Nontradable sectors are important in developed countries because they rely primarily on domestic consumption. Digitization boosts productivity and has a measurable impact on growth in developed economies. However, job losses may occur as lower-skilled, lower-value-added work is sent abroad to emerging markets where labor is cheaper. Emerging markets, on the other hand, are more export-oriented and driven by tradable

sectors. They benefit more from digitization's impact on employment than it does on growth.

Policymakers may harness the various effects of digitization through three main measures that go beyond their current roles of policy and regulation setting. First, they should develop digitization plans for specific industries where they want to maximize the impact of digitization. Second, they should promote the development of the capabilities and enablers required to carry out these digitization plans. Finally, policymakers should collaborate with industry, consumers, and government agencies to create an inclusive information and communication technologies (ICT) ecosystem that promotes greater adoption and utilization of digital services.

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DIGITALIZATION OF THE WORLD SYSTEM: A NEW GEOCULTURE

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Introduction: The Three Structural Positionings of the World-System

This article aims to highlight the impact of digitalization of the world economy on the power structures of the world system. The main question as the starting point in this sense is that "apart from its effects on economy itself, how would the digitalization of economy effect political structures of the world system?" The article attempts to answer this question through the lenses of Immanual Wallerstein's World Systems Analysis Approach with an emphasis on the structural positioning of the political entities which is both reflected and consolidated by the existing geoculture of the world system. In accordance with the approach that is adopted, the geoculture of the existing system is defined as the ideology of this system, which is liberalism according to Wallerstein.

Following Wallerstein's approach to geoculture as the base and leverage of the world system, the main implication is that while the structural positioning as core-(semi) periphery of the world system is vital for the survival of it, the geoculture is one of the main factors that make this survival possible. This is because geoculture functions in a way that justifies the system, including the divisions it possesses. Geoculture has been closely linked to technology in the sense that it is through the advances in technology that it has become possible to spread the ideology of the system to the whole world. In this line of reasoning the main purpose of the article is to reveal the effect of the current trend of digitalization of world economy on the geoculture of the world system in order to find out if a different geoculture reflecting the potential shift of existing power structures of the world system is in process? For this reason, the structure of the world system and its historical development, as

defined by Wallerstein, should be examined first and foremost in relation to the role of technology.

Wallerstein, formulizing its World Systems approach in 1970s to explain the rise of capitalism had later developed it in different areas along with the historical development of the modern world-system; the contemporary crisis of the capitalist world-economy and the structures of knowledge. The uniqueness of the World Systems theory lies mainly in approaching the capitalist world economy as a 'total social system' through a comprehensive sociological understanding. Within this understanding, the world system is defined as "a unit with a single division of labour and multiple cultural systems" (Wallerstein, 1974: 390). The system as a whole has a single culture, which Wallerstein refers to as geoculture. The division of labour on the other hand, refers to the forces and relations of production of the world economy that is settled within a hierarchical categorization of core, semi-periphery, and periphery. This division defines the relative position of a particular region within the world economy and their relations are structural for the world system.

The core is the well-developed region that most benefits from the world economy; the powerful, the wealthy and the exploiter, while the periphery is the underdeveloped; the exploited, weak, and poor. The intermediary category between the two extremes of Wallerstein's power hierarchy is the semi-periphery which is in some sense the exploiter of the periphery while being exploited by the core. The semi-periphery category is significant for Wallerstein's theory since "it is needed to make the capitalist world economy run smoothly" (Wallerstein, 1974: 403) not through its economic, but political merits. The semi-periphery is the provider of political stability of the world-system, preventing the exploited ones from unifying against the core since they are both the agents and subjects of exploitation. The semi-periphery thus has a distinctive role in the politico-cultural legitimization of the world-system, in other words in spreading and consolidating the geoculture of it. The exploitations are therefore justified by referring to geoculture. It is for this reason

that "political legitimacy is an obscure objective within the realities of the capitalist world economy" (Wallerstein, 1992: 175), and it adjusts to time, space, and their conditions in this way.

Capitalism as a whole system comprises and even creates the opposition to itself, which is represented by the core-periphery dichotomy. However, as a historical system it has the ability to adjust and accommodate the opposition both by slow adjustment and crises. As Chase-Dunn suggests "all anti-systemic movements are not only outflanked and incorporated" by the system they are also being transformed to serve the system as new ways for adjustment (Chase-Dunn, 1998: 243). Yet, this point is where the semi-periphery plays its role. On the one hand the semi-periphery is the best place for the anti-systemic movements to emerge since they are freer than the core to create new institutions of power and political legitimacy which is carried out by combining the ones of the core and periphery (Hall & Chase-Dunn, 2006: 49-50). Moreover, while political polarization is casted out by the large middle-class segment in the core, and it is either being suppressed by the core or nationalist class alliances in the periphery the semi-periphery has the room for the growth of anti-systemic movements (Boatcã, 2006: 324). On the other hand, as mentioned, serving as an intermediate layer they reduce the risks and the payoffs that the core has to offer due to its exploitative role. From a more ideational perspective the semi-periphery stands for the periphery as an example showing them that upgrading the position of their country is possible by catching-up, by following the steps of the semi-periphery and thus by remaining within and adjusting to the system. Identified as progress, this is how the system is justified for the majority of the world that is subject to exploitation in one way or another.

Technology is a central factor in the positioning of a region as core or (semi) periphery which began to shape around the 16th century. The core regions of the world system reached this category by using new technologies in production and thus to having the opportunity to invest in more developed technologies which in turn

served for the maintenance of their position. In this sense, as expressed by dependency theorists the control of technology constitutes the foundation of the core/periphery hierarchy and thus for periphery regions to change their positioning within the world system it seemed that they should first end the monopoly of the core on these resources (Chirot & Hall, 1982: 92). The state of the semi-periphery should be noted at this point. The fact that the semi-periphery has access to the most recent technical developments is the primary rationale for their inclusion in the intermediate category (Chase-Dunn & Hall, 1997: 414).

If possessing latest technologies is one of the central factors of being developed, another angle of this issue is being modern. As Wallerstein suggested, in the age of modern capitalism being developed began to signify the notion of being modern which in fact is signified by technology (Wallerstein, 1995: 471). Modernity is a central universalizing theme which gives "priority to newness, change, progress" (Wallerstein, 1992: 175) according to Wallerstein, the link that provides one of the main features of the geoculture of the world system. Geoculture creates the vision that 'even the periphery can develop into the centre', through the discourse of modernity and progress, but what develops instead in fact is underdevelopment which keeps the periphery and the semi-periphery exactly where they are as needed.

The Technology-Geoculture Link in the Age of Capitalism

For the capitalist economy, technology for the most part has been about the enhancement of the production and the minimization of the costs – whether of the labour, of the materials or, of the transportation. The end aim is to keep the accumulation of capital going. The development of the capitalist economy was to a great extent due to the technologies that enable surplus as well as the appearance of a working-class that would create it. With the introduction of new technologies to agriculture, feeding the populations ceased to be a

problem and it became possible to feed a population that did not take place in the agricultural production. New technologies made it easier or in some cases even possible to mine certain materials. As Wallerstein defines, the productive tasks went as follows; "those who breed manpower sustain those who grow food who sustain those who grow other raw materials who sustain those involved in industrial production" (Wallerstein, 2011a: 86) and these were all connected to the technological developments. Furthermore, without the means that carried materials and products from one place to the other, this economic structure could never turn into a world economy as defined by Wallerstein. That is why "the size of a world-economy is a function of the state of technology, and in particular of the possibilities of transport and communication within its bounds" (Wallerstein, 2011a: 349).

The capitalist system needed these technological changes to develop and expand, which makes it a world system. Without the constant change, progress and advancement of technology, the system could not and cannot be sustained. This is because "capitalism as a system requires movement, change […] and, a constant evolution in the organization of production." (Wallerstein, 1992: 164). Therefore, capitalism has always invested in technology, which made its advancement possible. That is why Wallerstein asserts that technological change was a consequence of historical capitalism, less than being the motor of it (Wallerstein, 1996: 37). The knowledge created by capitalism is so vital in the development and expansion that, it heavily invests in continuity of this knowledge. It is through knowledge that states develop and gain advantage among other states. That is why knowledge is regarded as the primary source of power. Initially power within the capitalist system would refer to economic power in the sense that having more capacity to produce and transport with lower costs. It then expands to include other aspects of power. This point is crucial in Wallerstein's theory as "a clue to the realities of power relationships," which is reflected in the dependence of modern science on capitalism (Wallerstein, 1999: 140).

Capitalist states not only support scientific development in order the have the knowledge of it but they also want to have a monopoly over this knowledge. It is possible to say that this may be the reason for "the struggle that concerns the control of key technology through research and development" (Wallerstein, 1992: 43).

But this was not all there was to it. The transformation of the world system would be incomplete without a change in the state system that would match the economic system. That is the reason why capitalist economy, in a way forced a new political order. As Wallerstein notes, "it is the social achievement of the modern world, […] to have invented the technology that makes it possible to increase the flow of the surplus from the lower strata to the upper strata, from the periphery to the centre, from the majority to the minority, by eliminating the 'waste' of too cumbersome a political superstructure" (Wallerstein, 2011a: 15-16). What Wallerstein means is that with the capitalist system, without the need for a unified state structure like large empires, the system was able to expand to include the whole world. Each state acting within the capitalist system and playing according to its rules was contributing its expansion. And at some point, as Wallerstein points out "technological advance and the upsurge of capitalist elements had already progressed too far to make it possible to recreate political empires that would match the economic arenas" (Wallerstein, 2011a: 184). The political structure and the technological developments that supported the economic system were thus becoming compatible. This paved the way for the fall of the empires and the "overall consolidation of the system of nation-states in the sixteenth and seventeenth centuries" which were generated by capitalist development as the system functioned through these units (Wallerstein, 1992: 144). More than anything in history, this was made possible with the transformations triggered by the French Revolution

The eighteenth-century – "the century of multiple revolutions" as Wallerstein calls it – also witnessed another revolution that is considered to have shaped the modern world along with the indus-

trial revolution and "the scientific-technological revolution"; the French Revolution. What the French Revolution essentially did was to resettle the idea of popular sovereignty, which became "the new moral justification for the political system of historical capitalism" (Wallerstein, 1996: 148). The Revolution also marked a new stage in the idea of universality, which helped in the maintenance of geoculture and, through it, the capitalist system. With the French Revolution came the universalist "argument that there exists some sort of natural law that determines a universal ethic, and consequently some social practices which all should accept and follow," defined in terms of human rights thereafter (Wallerstein, 1996: 129).

This scattered structure had also become the key to technological development as well. According to Wallerstein technological development was made possible by the turbulence provided by the "constant realignment of political forces" (Wallerstein, 2011a: 86). He mentions that "in Europe with its multiplicity of sovereignties, there was no hope of limiting the spread of arms" (Wallerstein, 2011a: 61) and thus the politics and art of the new technologies. It was the technology of the modern science and techniques of modern capitalism along with the political structures and military alignments that enabled the expansion of the system to turn into a world system. Although till the seventeenth century the technological developments were quite limited, "technological advance in both land and sea transport at this time," (Wallerstein, 2011a: 265) not only made the transportation of goods easier but also allowed and encouraged several Europeans for overseas expeditions. Since technology is a "constantly changing phenomenon […] the boundaries of a world-economy are ever fluid" (Wallerstein, 2011a: 349). This, however, is not a one-way relationship. As technology promoted the capitalist economy, capitalism increased its investment in technology as it became clear how critical it was. This need was not limited to the growth of production or its distribution. That is why Wallerstein argues that technological development is an internal element of the capitalist system. By "strengthening the military capacity of strong

states of the world-economy compared with the military capacity of parts of the external arena," (Wallerstein, 2011c: xv) technological developments carried those strong states and their economic system to the rest of the world. Along with the improvements in transport, communications, the improvements in armaments made it not only less expensive but also easier to "incorporate regions further and further from the core zones" (Wallerstein, 1996: 38). The capitalist economy needed to be a world economy to exist. Because it did not only need markets for its goods, but it also needed raw materials that it could get for free and cheap or even free labour to cut the costs further and all these could only be acquired from the outside world. For this reason, "the process of development of a world-economy brings about technological advances which make it possible to expand the boundaries of a world-economy" (Wallerstein, 2011a: 3). This was true in the sixteenth century and it still is in the twenty-first.

Starting in the second half of the eighteenth century, the pace of technological progress brought about revolutionary inventions that would later be called the industrial revolution. The effects of these inventions were several including improving the qualities and quantities of production and saving the labour, which would all in return increase the profits of the capitalists who would then invest these profits again to technological developments. Moreover the industrial revolution which cannot be reduced to a single event became a permanent phenomenon. There have been more consequent industrial revolutions, in the late nineteenth, mid-twentieth, and early twenty-first centuries, the last one being the digital revolution.

Advances in technology may have enabled the capitalist states to pursue their imperial ambitions, but this would not be enough in and on itself. This is because a rivalry among states had also been triggered at the same time. As states claimed and even discovered new territories, this rivalry only promoted the expansion of the capitalist system throughout the world. In many cases, this rivalry resulted in wars, making military power even more important for

states, and encouraging them to invest more in military technologies. In certain instances, these investments have become the engine that has propelled a country forward in the international system. Since these investments necessitated financial capital, the state's economy became inextricably connected to military advances. For the largest part of world history military power has been considered as the source of a state's power. But with the capitalist economy this perception was reversed in a way that reveals the true nature of the relation between economic and military power. The expansion of economic power necessitated the use of military force, and military power, like economic power, is based on technological knowledge, which states like to retain to themselves. Depending solely on military strength, regardless of how much it has been bolstered by technology, would be difficult to maintain and had already been proven unsustainable by history. As a result, technology had to sustain the geoculture of this economic system in order for it to become a lasting world system. Indeed Wallerstein states that he agrees with Clausewitz that "war is a continuation of politics by other means" and for this reason believes that the military should not be given "too much analytic autonomy" (Wallerstein, 2011a: xviii). As military technology was not enough to justify and provide the expansion of the system, another element was needed. This was found in the civilization discourse. As Wallerstein mentions "given the state of its civilization and its technology in the nineteenth century, the pan-European world claimed the duty to impose itself, culturally as well as politically, on everyone else—Kipling's "White man's burden," the "manifest destiny" of the United States, France's *mission civilisatrice*" (Wallerstein, 2006: 66). The level of technological development, thus, was used as a justification for imperialist aims. Even in the late nineteenth century the "rest" of the world that was not "part of the dominant pan-European zones" was not considered to be "modern," in the sense that "they did not have the technology and the machinery that was thought to be constitutive of modern "progress" (Wallerstein, 2011d: 265). "Situated in a conceptual framework of the presumed endlessness of technological progress,

and therefore of constant innovation," the term modern signified not only the most advanced technology but the "antinomy" of "narrow-mindedness, dogmatism, and above all the constraints of authority," which were associated with being medieval (Wallerstein, 2000: 454-5). Europeans believed that modernity, in the sense that was defined by them gave them superiority over the others. Knowledge of new technologies was equalized with power, which then in in return provided the perception of superiority. But of course, instead of framing it that way, the Europeans presented it as their generosity and duty to share this knowledge with the rest of the world. This sharing however was never on equal terms and benefited the European states in the expense of the people of the periphery.

The discourse of bringing civilization became one of the most frequent discourses of the imperial powers from the British Empire to the Russian Empire. In this way, "the political economy of the world-system and its discursive rhetoric" was connected and this connection is what Wallerstein calls geoculture (Wallerstein, 2011d: 277). Geoculture functioned to spread the capitalist system to the whole world by justifying this expansion. Defining culture as "the ways in which people clothe their politico-economic interests and drives in order to express them, hide them, extend them in space and time," Wallerstein points that hegemonic powers present their cultures as a model, especially in terms of technology as they "have the material need and material means to be productive scientifically" (Wallerstein, 2011b: 65). This cultural imperialism also marked a "break from the supposedly culturally-narrow religious bases of knowledge in favour of supposedly trans-cultural scientific bases of knowledge" and was "dominated in the name of intellectual liberation' and "imposed in the name of scepticism" (Wallerstein, 1996: 83). This break was especially important as it changed the sources of knowledge, in an age when knowledge was amounting to power, giving a self-declared superiority to the states at the core of the system. "The claims of the scientists that science represented the unique path to locate truth gained wide cultural support, and they

came to be the preeminent constructors of knowledge in the course of the late eighteenth and early nineteenth centuries" (Wallerstein, 2000: 189). It was supposed that "the only way one can really 'know' the real world is via science" and that via science it is possible to manipulate the world, assuming that the world is manipulable (Wallerstein, 1992: 116).

Geoculture also included "Christian proselytization; the imposition of European language; instruction in specific technologies and mores; changes in the legal codes," many of which were made "*manu militari*" while "others were achieved by the persuasion of 'educators', whose authority was ultimately backed by military force" (Wallerstein, 1996: 82). This way the rest of the world would also be incorporated into the capitalist system, through a modernization process that was claimed to be based on universality. It is the idea of universality that turns culture into geoculture, meaning that it covers the whole world. Science and technology were crucial in the formation of this idea by claiming that there are rational and objective truths irrespective of time and space. "One had at the very minimum to accept Western technology, which was said to be based on the universal principles of science" if one wanted to be "modern" (Wallerstein, 1992: 173).

Conclusion: The World of Digitalization, The Digitalization of the World System

The liberal world order was the "great achievement of the capitalist world-economy in the nineteenth and twentieth centuries" (Wallerstein, 2011d: 111). According to Wallerstein, there are three pillars of the liberal world order. All these pillars are associated with technological development to a certain extent. The first of these pillars was a strong market. The relation between strong markets and the level of technological development had been mentioned above. Advanced technology not only expands the market for a country but also secures the production that keeps this market running. Besides, military power would also be used in many cases, furthering the role

of technology. As Wallerstein rightfully points out, even there were exceptions, by and large areas outside of Europe were reluctant to buy European products, not only because they did not "need" them in terms of their own economic system" but also because "they often lacked the relevant wherewithal to purchase them" (Wallerstein, 1996: 38). That is why these areas had to be first conquered and then transformed into markets. The second pillar is a strong state, which could only be built after the French Revolution by the liberals, in the core zones of the world-system, as the "bureaucratic growth was the essential pendant of economic growth," made possible by technology (Wallerstein, 2011d: 112). A strong state would provide the accumulation of capital and control and containment of the dissatisfactions in society. Thus, there was a mutual relation between economic growth and bureaucratic growth, and technology stood at the very heart of this relation. The third pillar Wallerstein defines is a strong interstate system that would provide free trade. As much as states wanted to ensure this with the minimum use of military force, a certain level of force was still used or at least needed, since free trade did not benefit all parties involved. Since the military power is mostly based on technological advances, this pillar is also related to technological advance.

The dependence of all three pillars of capitalist world system as whole on technology has been encouraging its advance. Since the second half of the twentieth century digitalisation has been marking the technological development and its implications on the working of the capitalist world system, which can now be referred as digital capitalism. One outcome of this development was that globalisation became visible for the most part of the world. According to Wallerstein globalisation had started in the sixteenth century along with capitalism. Yet the term became popular at the end of the twentieth century with the end of the Cold War in 1989. As the division of the world into two camps ended, the borders of all sorts also began to lose their meaning, which was for the most part made possible by digitalization. 1989 is also the year Wallerstein points at as the end of liberalism, the geoculture of the capitalist system that legitimizes

it (Wallerstein, 2003: 11). This consequently would also mean the end of the capitalist system as well.

The last three decades has been marked by the rise of the information and computer technologies (ICT) which is widely counted as the "new spirit of capitalism". This new spirit has been supported by a large group of people as it is the new moral foundation of global capitalism like one of the leading figures of such approach Manuel Castells argues (Castells, 2010; Ampuja, 2016). Whether it is referred as the moral foundation or the geoculture of capitalism, the fact that the information age is something new to the capitalist world system, which has the potential to transform it per se is broadly accepted.

Information has become something accessible by people around the globe in a matter of second. This does not mean that everyone has access to the knowledge of everything. But it becomes harder to monopolize knowledge and information each and every day. People are informed about what is happening in anywhere in the world faster and easier than any other time in history. Like capital information travels immediately changing our perceptions steadily. This affects peoples' choices and behaviours radically as can be expected, including the political ones, which has the potential of changing the states and the state system. That is why the control of information becomes the most critical aspect of system development.

Digitalization has also led to an amount of participation that had never been experienced before. The new channels of political participation offered by digital technologies have enabled people come together regardless of time and space through digital platforms. These gathering may not yet be as influential as physical demonstrations but their impact has increased rapidly. States and the international community can no longer easily ignore the voices and actions of thousands and millions of people, whether it is a national issue concerning only one state or an international one concerning a foreign state or the international community. The pressures that come from these digital platforms are taken into consideration one way or another. Along with the impact of

globalization, this kind of digitalization is considered to be one of the factors that threaten the state power. Along with the capital movements that make state economies vulnerable, this threat may weaken the nation states that are the core of the capitalist world system. The speed capital can travel and thus leave a country in a digitalized world, makes the state economies and thus the states more vulnerable.

Yet on the other hand it is possible to say that digitalization could also be capitalism's new coping mechanism with its current crisis as well. The level of vulnerability states face in this process is parallel with the core-semi periphery-periphery structure that was mentioned earlier. As technology is vital in determining this structure, it also is in sustaining it. This role is not limited to the knowledge of technology only. Technology also provides a ground for the justification of this structure, and thus the very essence of the capitalist system. In the new shape of things technology keeps on serving geoculture. With digitalization it has become even easier to reach and infiltrate the peripheral countries. Almost the whole world is covered by the geoculture of the capitalist system. The amount of technology shared with the world is enough for these countries to be influenced by the system, but not for them to transform themselves to be in the core. The semi periphery is determinant in this structure as it functions in a way that strengthens the geoculture, while containing in itself the antithesis of this geoculture in order to balance the tensions and oppositions that occur in the periphery. Therefore even though Wallerstein considers this episode of liberalism and the capitalist system as the one that may bring its end, it may as well be just another way out.

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SOCIAL, POLITICAL, AND ECONOMIC DETERMINANTS OF TAX REVENUES

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Tax revenue is one of the primary incomes for governments. It can be divided into many parts such as individuals' taxes, public enterprise taxes, private sector taxes. The purpose of taxation is to increase government revenue, whether taxes comes from individuals, public enterprises, or private sector taxes. Governments use this tax revenue for public purposes such as social security contributions. This process shows that taxes collected by governments are used again for the benefit of the public. So, we can say that the increase in taxation should cause increases in economic development and social factors. For instance, in the political aspect, efficient tax collection leads to an increase in tax revenue, which can easily be noticed in democratic countries.

However, an increase in governments' tax revenue may negatively affect the economic condition in the country. When the government wants to increase tax revenue, that can be corporate taxes to improve the economy, but it might affect the country's unemployment rate because rising corporate tax may cause companies to lay off workers. This reverse relationship shows that an increase in tax revenue to improve the economy led to an increase in the unemployment rate. The important point is finding a balance between these two factors.

Social factors, as well as economic factors, may be considered very crucial for tax revenue. For instance, the education level of citizens is essential for countries for many years. Countries want to improve their citizen's education level to create successful generations. An important question is when governments spend more money on the education system and improve the citizen's education level to create a generation that has advance awareness and consciousness, will the citizens pay their taxes to the government as moral citizens.

This research examines the determinants of governments' tax revenue dependent on their democracy score, education level of citizens, unemployment rate and high–technology export level.

Previous Studies

This section indicates that previous studies about relationships between tax revenues of GDP, democracy score, tertiary education attainment, and unemployment rate. Social, political, and economic factors that shape the countries potentials and limits. Tax is an important fiscal policy tool for governments. Developing countries or undeveloped countries try to increase the government tax revenue to reach their highest potential and limit that is a feature of an advanced economy. However, some of the factors of social, economic, and political aspects have a reverse relation with the tax revenue.

Taxation is the transfer of income or appeal from the citizens to the state, imposing methods, and collect taxes from tax sources that must be influenced by the political system (Balamatsias, 2018). In the latest works on democracy and tax revenue shows that political mechanism has a huge effect on the taxation system such as vote affairs. Political economy assumes that taxation and democracy interact beneficially when there exists "congruence" or "equivalence" among those who vote on the tax, those who pay the tax, and those who benefit the tax (Schoen, 2018). In democratic countries that citizens can choose their leader or government and politicians should consider citizen's requests. In undemocratic countries, generally, leaders or politicians' behavior depends on their interests. Moon (2014) explains how the Russian Revolution as well as other different uprisings that took part in Tsarist Russia that had a strong relationship with heavy taxation of peasants and laborers and the exemption from it of the upper classes. Similarly, we can observe the same effect in the French Revolution. Heavy taxation and structure of the taxation system that exempting nobility classes led to the French Revolution. In recent years, tax competition has enforced more pressure on democratic discourse and create a different dilemma that is

the exit option for individuals a source of irritation for democratic tax legislation or is it rather a useful device to protect the individual against being overtaxed. (Schoen, 2018). Human history witnessed conflict of taxes and democracy dilemma. Ross (2004) tested the taxation – produces and representation hypothesis to make a statement about the taxation can lead the democracy. He argued that there are 2 potential scenarios in which both of them end with democratization processes. In the first scenario government gradually raises taxes and faces rebellion that causes the transition to democracy. In the second scenario, authoritarian governments immediately try to increase taxes or cut services and face heavy resistance and make democratizing concessions. Previous work of Ross (2004) shows that actually it does not depend on the regime type of the government. If the democractic or undemocratic governments impose the citizen heavy taxation, government eventually will face with the resistance and rebellion. This process cause the government's concessions in taxation or the rebellion for a democratic country.

On the other hand, there is an most important question that has been discussed for many years, can democracy develope the tax morale amongs the citizen. Before the continue on relationship between tax morale and democracy we have to identify democracy. Democracy can be define with 3 crucial elements that are participation, accountability and contestation. Democracy gets legitimacy from directly citizens and this makes participation more crucial. Direct demokcratic rules requires more participation of citizens in political decision process. Torgler (2005) argue that more taxpayers of citizen can participate in political decision making processes by popular rights and the more the tax contract is based on trust, the higher the tax morale is with direct democracy. Citizens' participation in the political decision-making process increases citizens' loyalty to the state because participation in the decision-making process causes increases the citizens internalization of country and the system. This research examines the tax revenue in the six year period with the democracy score of country

and make an statement about which type of country that whether democractic or undemocractic has higher tax revenue and in six time period high democracy score can lead an increase in the tax revenue of government.

There are many studies especially on democracy and tax revenue structure development, but another important aspect is the relationship between the unemployment rate and tax revenue of GDP for countries. Countries want to decrease the unemployment rate and increase the tax revenue of government and this is the most important issue between the business sector and state. According to the business sector, taxes are an important determinant of decision making such as they circumscribe the production process, specify the nature of the business activity, direct its location, and signal failure or success (Sennholz, 1982). Tax structure of states has highly effect on the business sector in the aspect of production amount, budget plan etc. During the last two centuries, the taxation level changed as well as in the structure of taxation and these changes came with the development of economic implementations (Andersson, 2018). In previous studies, we can observe that change in the variables not only the numeric level also there is a structural change and that is why with the change in the structure of taxes, a lot of studies prepared on the relationship between the unemployment rate and tax revenue of GDP. Especially, studies mainly emphasize that corporate tax revenue highly effective on the unemployment rate. International tax competition is affecting unemployment, presumably through its effects on international capital investment (Zirgulis & Šarapovas, 2017). The latest studies show that an increase in the tax revenue of the government cause decrease in investment, especially in private sectors. A decrease in investment does not create new job areas. From a different perspective, Pissarides (1998) made an research on small closed economy and as a result researcher argued that higher tax level are translated into higher wages and higher unemployment rates in markets with a non – competitive labour supply. On the other hand, Doménech and García, (2008) prepared

model about different types of taxes with unemployment. Their research conclued that the correlation between the unemployment rate and labour taxes is affected by the tax and national spending structure, by how workers internalize the financing of the welfare state and by the efficiency of governments to produce public goods and services using different tax resources. In contrast, Feldmann (2011) argued that raising the corporate tax rate that cause decrease in the efficieny of net profits and creating a substitution of labor for capital, will be good for unemployment levels. However, this study examines the how tax revenue of government affect unemployment rate in different countries in different time period and from general perspective.

Third independent variable of this research is education level of the citizens. In this aspect, researcher examine the tertiary education level of citizen in different countries how affect the tax participation of citizen. Can higher education improve citizens' morals and contribute to their taxation is the purpose of this study. With, the education system governments provide job skills, knowledge, and break the barriers to opportunity for citizens. Because of this, governments create a large budget for education systems. In previous works the relationship between tax and education level shown as dependency of moral of citizens. The researches of Orviska and Hudson (2002) examined the British Social Attitudes Survey 1996 and indicated that civic conscience has an impact on individuals' perceptions of whether tax evasion is right or wrong. Most previous works emphasized that the education level and tax revenue of the government strongly related to each other. (Kurniawan, 2020) surveyed 100 students who are university students and have full requirements to be taxpayers. His survey results show that the indirect effect of tax education through tax knowledge also significantly influences tax compliance. When the citizens have higher education levels and a large scale of knowledge about society and economy, citizens do not hesitate to pay taxes and there will not be tax evasion. According to the social learning theory, education will

influence behavior. In contrast, (Sommerfeld, 1996) argues that taxation must be taught, not just practiced, and learned. He argued that there is not directly relationship between these two variables. However, the education system teaches what is proper behavior, laws, and punishments and moral system. On the other hand, Chan et al. (2000) prepare a survey to compare the tax compliance behavior of taxpayers. They found that the United States respondent's decisions related to their age and education, which in turn positively influenced moral development and attitude. In opposition, Hong Kong respondents have shown a negative relationship between education, moral development, and compliance. Hong Kong respondents felt tax laws fair, lower education levels, and moral development create such a positive perception which both contributed indirectly to less positive behavior.

Last independent variable of this research is high technology export of countries. Nowadays, high technology production is the more essential matter for countries with globalization process of world. World Bank defines high-technology exports as products with high research and development intensity, such as in computers, pharmaceuticals, scientific instruments. In 21st century these fields are the play key role for advance economies. Tebaldi (2011) prepared panel data analysis on determinants of high technology exports and conclude that opening the economy to international trade and foreign direct investment will create an environtment that lead an increase in the high – technolgy exports. For instance, after 1980 military coup, Turkish government was imposing export-oriented industrialization policy and open the economy to international trade. The main purpose of export-oriented industrialization policy and producing high-technology products and exporting is that companies and countries want to profit with the globalizing system. Hobday et al. (2001) state that high – technology production efficiency is seen as the powerful force behind economic development and growth for the countries implementing an export – oriented growth policy. However, different tax types

considered as barrier for R&D activity for corporates and reduce production of high technology products. Hines (1995) state that corporates that develop new high – technology product in their countries and use the technologies in foreign country are required to pay royalties from foreign affiliates to local parent companies and governments tax these royalty payments. On the other hand, R&D of companies affected by corporate tax. Wu (2008) state high – technology industries are the first target of research and development tax incentives because they are more research intensive than other fields of the private sector. His research shows that the growth of high – technolgy sector is an curical and necessary for preferable economic prospects, given its contribution to market expansion, and industrial competitiveness. Kizilkaya et al. (2015) searched an relationship between R&D expenditures and high technology product export in BRICS countries and conclude that to increase high technology product export, government must implement stimulus packages. Furthermore their research emphasize that states should provide to domestic and foreign companies tax incentives. That is why around the world states provide large-scale tax breaks to companies that make an investment field of research and development. Important point is the tax breaks or incentives cause a decrease in tax revenue of government. Previous works shows that increase in the tax revenue of government can restrict the expenditure of corparates on the field of R&D. In this aspect, this research will examine the countries that high – technolgy exports, has a higher tax revenue that can prevent R&D research expenditure.

Data and the Methodology

In this paper, the data set include one dependent variable and four independent variables. These five variables belong to the six six-year periods starting from 2012 to 2017, including 37 countries examined. The dependent variable is the Tax Revenue (TR) of GDP for countries. Sources are World Bank and OECD gross domestic

product estimates. The first independent variable is the Democracy Score of Country (DSC). It is collected data from The Economist 2019 Democracy Index-Journal.

The second independent variable is the Unemployment Rate (UR), and the source is the International Labor Organization (ILOSTAT) database. The third independent is Tertiary Education Level % of 25-64-year-olds (TEL), and the source is the OECD database. The last independent variable is High – Technology Exports (HTX), and the source is the World Bank database.

Table 1 : Variable Explanations

Dependent Variable	**Sources**
Tax Revenue (Percentage of GDP)	*World Development Indicators*
Independent Variables	
Democracy Score of Countries	*The Economics Democracy Index*
Tertiary Education Rate (Completed by the 25–64-year-old population)	*OECD Adult education level (Indicator)*
Unemployment Rate	*World Development Indicators*
High Technology Export (Percentage of Manufactured Export)	*World Development Indicators*

Figure 1: Selected Countries

Results

Table 2 shows descriptive statistics. It is clear from Table 1 that all variables are significantly changed from country to country. The high standard deviation explains the large variablity in the population's tertiary education level. Descriptive Statistics shows us in the 37 countries; 56,71% is the maximum level for the country's tertiary education level of population, which means that more than half of the population take tertiary education. On the other hand, the minimum level 5,37 for the tertiary education level shows a big gap between their education level of citizens in the selected countries.

Table 2 : Descriptive Statistics

Statistics	Tax Revenue of % GDP Country	Democracy Score of Country	Unemployment Rate of Country	Tertiary Education Level	High Technology Export
Min	9,2	3,17	2,70	5,57	2.2
1st Quarter	13,5	7,47	5,03	23,34	10,10
Median	19,9	7,96	7,00	35,13	15,40
Mean	19,10	7,94	8,50	32,98	15,60
3rd Quarter	24,10	8,87	9,70	41,76	20,50
Max	37,90	9,93	27,50	56,71	43,40
Standard Deviation	6,23	1,21	5,44	11,91	7,33

Table 3 shows the correlation table for bi-variate relationships. In Table 3, we can say that correlation between governments' tax revenue and the democracy score of a country is 0,3586. It shows us there is a relatively positive relationship between these two variables. Also, we can observe that there are four negative relationships. For instance, the correlation of the high technology export and unemployment rate is – 0.4393. It shows us when the country's high – technology export level increases, then the unemployment rate will decrease.

Table 3: Correlation Coefficients Table for Variables

	Tax Revenue of % GDP	High Technology Export	Democracy Score of Country	Unemployment Rate	Tertiary Education Level
Tax Revenue of % GDP	1	-0.1156	0.3586	0.2093	0.0106
High Technology Export	-0,1156	1	0.3143	-0.4393	0.3759
Democracy Score of Country	0.3586	0.3143	1	-0.1467	0.266
Unemployment Rate	0.2093	-0.4393	-0.1467	1	-0.4017
Tertiary Education Level	0.0106	0.3759	0.266	-0.4017	1

Figure 2: Tax Revenue of Governments and Democracy Score.

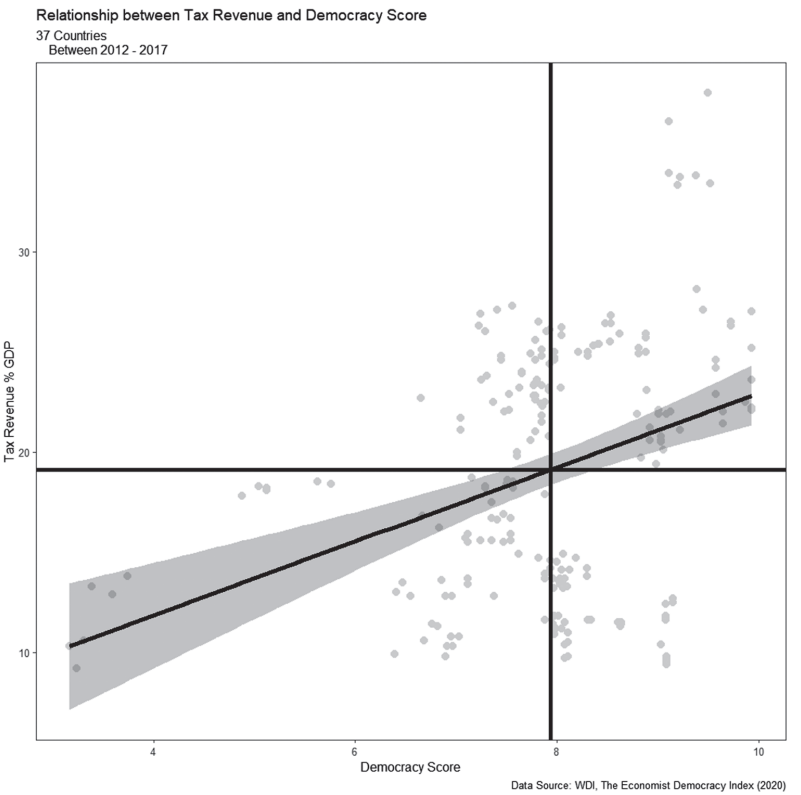
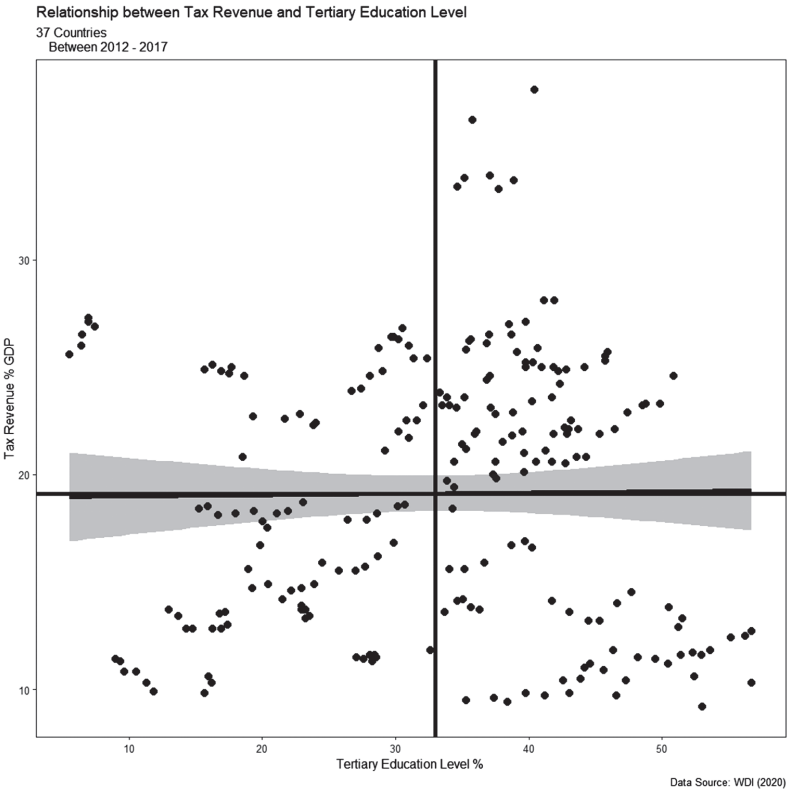


Figure 2 shows the Democracy Score of Countries and Tax Revenue of Governments positive relationships. Also, the magenta line shows the mean of the variables. Interestingly, there is a unique relationship between these two variables. According to Figure 2, we can say that if the country's democracy score is high, it can be assumed that countries are likely to have high tax revenues. Cheibub (1998) states that there is no reason to believe that democracies are less capable of collecting taxes than dictatorships. The democracy score of countries represents the electoral process and pluralism, government functioning, political participation, political culture, and civil liberties. It means that when the country provides suitable conditions for its citizens, the government can get more tax revenue. Again, it can use these tax revenues to improve the country's economics, politics, and social conditions. Garcia and Von (2016) prepared research that examines the relationship between political regime type and taxation. Their study concludes that high democracy levels are related to high tax ratios or high tax revenue because democratic regimes provide more public goods and services to their citizens. Recent studies also emphasize a historical process in which high tax revenue eventually leads to advancing democracy in the country. Cevik (2018) argues that establishing the link between society and government based on rulers' accountability, taxation, and tax structure may help develop democratic governance. In a sense, high tax revenue will create more accountable, responsible rulers, and governance eventually evolves to a democratic regime. Figure 2 shows that there are lots of countries that have high tax revenue and low democracy score. So, we can say that someday these countries will reach their potential democracy score. Previous research also emphasizes the relationship between modern taxation methods and democracies, and general findings conclude that democratic countries create new tax types to raise their revenue from regressive taxes on consumption. New taxation methods such as VAT can be considered further wave democratization for developing countries because contemporary taxation methods have significant potential to motivate citizens to keep government accountable and lead to democratization (Tanaka and Kato, 2018).

Figure 3: Tax Revenue of Governments and Tertiary Education Level



In Figure 3, we can observe that there is a slightly positive regression line. Also, the magenta line shows the mean of the variables. In contrast, previous studies show a significant relationship between tax revenue and the education level of citizens. Especially in countries that most of its citizens completed higher education levels, tax morale emerged naturally. Interestingly, Figure 3 emphasized that the country with the highest tax revenue in 37 countries has an averagely high tertiary education rate. One of the main reasons behind this result is that when the citizens' education level increases, their moral values improve, and they avoid tax evasion. According to Richardson (2006), the higher the level

of education, tax morale, and the lower the level of tax evasion in countries lead to improvements in tax revenue collection by governments.

Figure 4: Tax Revenue of Governments and Unemployment Rate.

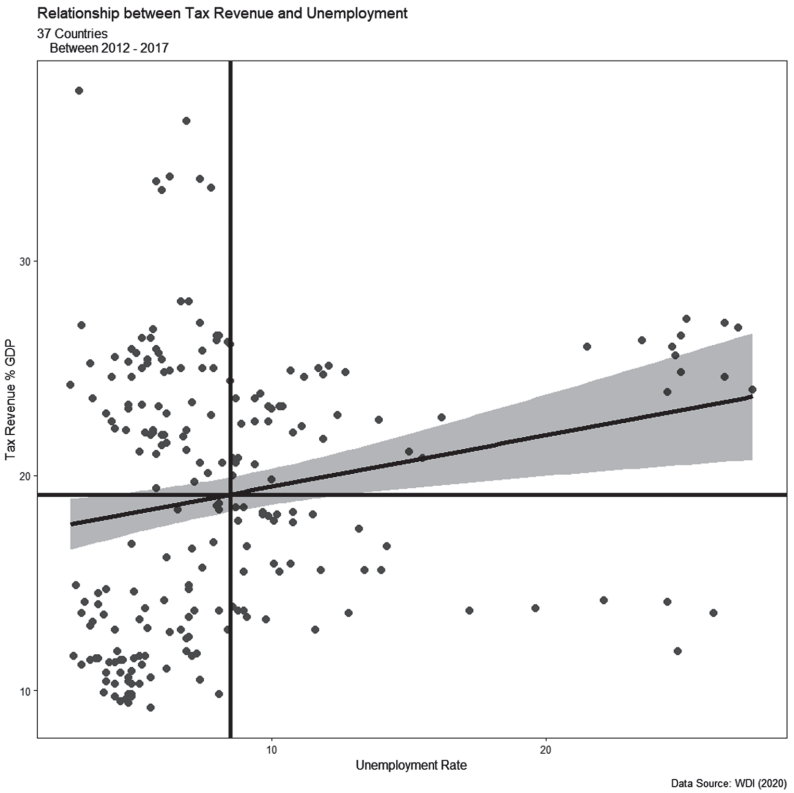


Figure 4 shows the relationship between the unemployment rate and tax revenue of governments. There is a positive relationship between these two variables. The magenta line shows the mean of the variables. We can observe that most of the countries in the study have low unemployment rates regardless of their tax revenues. Interestingly, most of the countries with high unemployment rates have high tax revenues. Generally, previous stud-

ies emphasize that almost all types of taxes cause an increase in the unemployment rate. Zirgulis and Šarapovas (2017) researched the relationship between corporate taxation and the unemployment rate and concluded that a rise in the expected average corporate tax rate could be related to increases in the unemployment rate. Similarly, Zellner and Ngoie (2015) argues that the U.S and some OECD countries impose a heavy tax to finance their costs, but decreasing tax rate or tax reforms will help to reduce unemployment, increase confidence in the economy and in increase consumers' and investors' expenditures.

Fiwgure 5: Tax Revenue of Governments and High Technology Export.

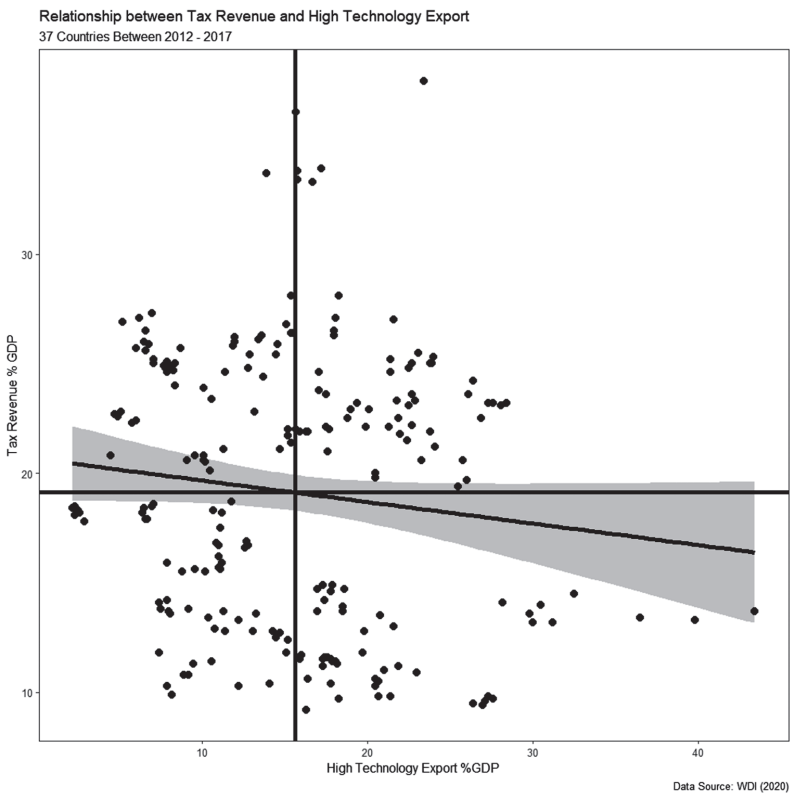
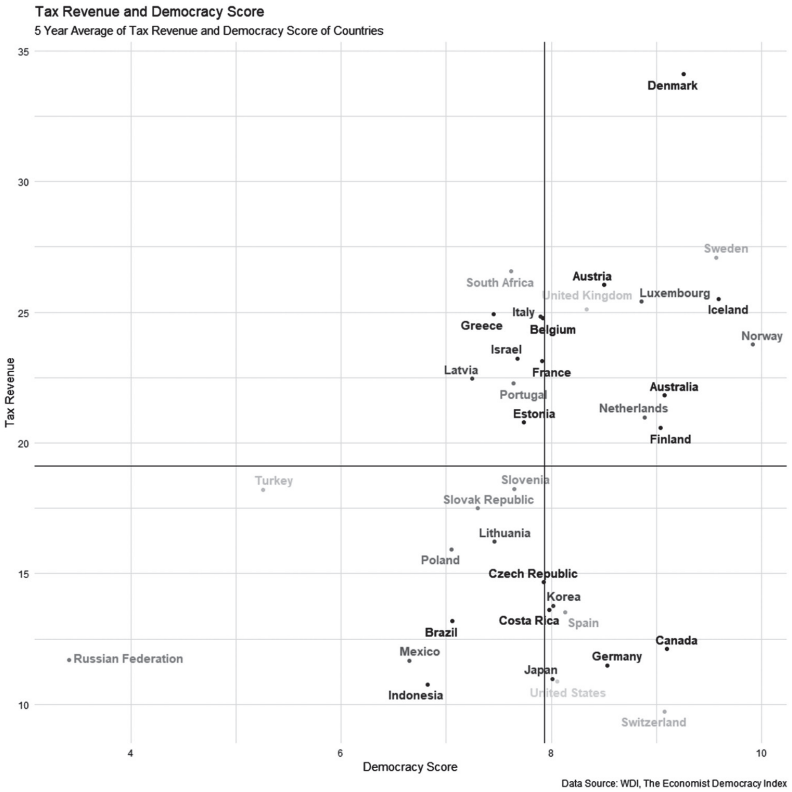


Figure 6: 5 Year Average of Tax Revenue of Governments and Democracy Score of Countries.



When we look at the relationship between high technology export and governments' tax revenue, we can conclude a negative relationship between these two variables. Also, magenta lines show the mean of the variables in the figure. The country that is superior to high technology export has an averagely lower tax revenue of governments. Previous researches have the same conclusion on the negative relationship between these two variables. Braunerhjelm and Thulin (2008) conducted research about creating a comparative advantage in terms of high technology export. Their results show that incentive in producing and exporting high - technology products can be affected by tax pressure and regulations.

Figure 7: 5 Year Average of Tax Revenue of Governments and Tertiary Education Rate of Countries.

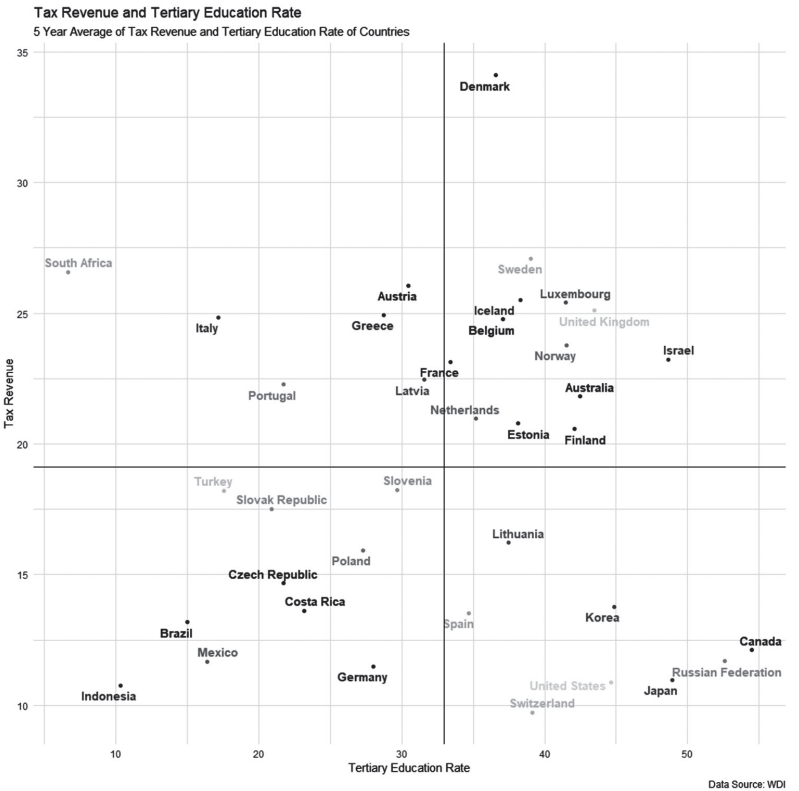


Figure 6 shows the country's 5-year average of tax revenues and democracy scores, and the black line indicates the variables' mean. When we compare the country's 5-year average of Tax Revenues and Democracy Scores, Denmark shows the best performance, which relatively has high tax revenue and democracy score in 37 countries. One reason why Denmark has a better democracy score than the others is the electoral process and pluralism, and media freedom status. According to the World Press Freedom Index, Denmark with 8.13 point, 3 out of 180 countries in the world rankings in 2020.

Figure 7 shows that country's 5-year average of tax revenues and tertiary education rate. Black line shows the mean of the variables. Again, Denmark shows the best performance which relatively has high tax revenue and tertiary education rate in 37 countries. One exception that is South Africa shows that countries that have low education levels of citizens, may have high tax revenue. This possibility contradicts the idea that when the citizens' education level increases their moral values improve and they avoid tax evasion. Also, from figure 6, we observe that South Africa has a relatively high democracy score. Based on the two figures, we can conclude that education level cannot be considered as the only factor.

Figure 8: 5 Year Average of Tax Revenue of Governments and Unemployment Rate of Countries.

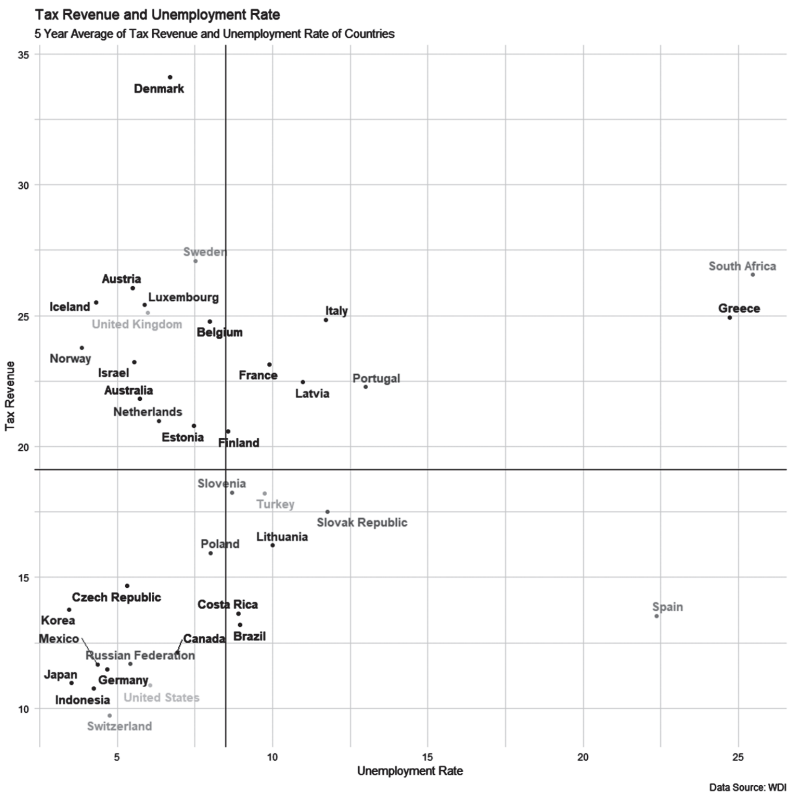


Figure 8 shows the country's 5-year average of tax revenues and unemployment rate, and the black line shows the mean of the variables. The figure shows that this study includes countries that have low unemployment rates except for three countries. Again, Denmark has the best outcomes, and South Africa shows worse performance in terms of its unemployment rate. Unlike the previous studies' claims, Spain has a high unemployment rate but has lower tax revenue from average.

Figure 9: 5 Year Average of Tax Revenue of Governments and High Technology Export

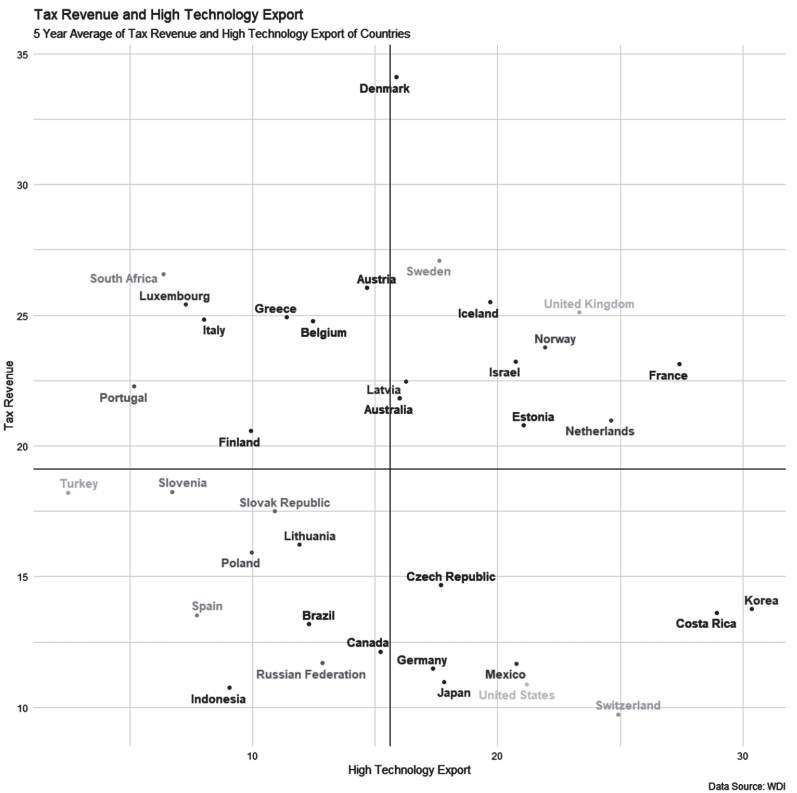


Figure 9 shows the country's 5-year average of tax revenues and high technology export rate. The black line shows the mean of

the variables. Korea can be seen as the ideal country in terms of low tax revenue and superior high technology export. As a result of figures 6 to 9, we can say that Denmark has the best performance.

Methodology

In this study, four independent variables are the democracy score of countries, unemployment rate, tertiary education rate, and high technology export percentage of GDP. The dependent variable is the tax revenue of the government's percentage of GDP. Dataset is cross-sectional and time series. There are 37 countries and variables belong to the 2012 – 2017 period. The researcher applied the Ordinary Least Squares (OLS) regression method to analyze the dataset. Every country in each specific year is considered as a different country. In this way, the researcher expands the sample size up to 222. The main aim here is to examine the link between variables more clearly by ignoring countries' variability over the years.

Regression equation stated as the below:

$$y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \quad \beta_4 X_4 + \varepsilon$$

$$\mathrm{y} = Tax\ Revenue\ \%\ of\ GDP\,,\ X_1 = Democracy\ Score\,,\ X_2 = Unemployment\ Rate\ X_3 = Tertiary\ Education\ Rate, X_4 = High\ Technology\ Export\ \%\ of\ GDP$$

Statistical diagnostic tests to make the result precise. When linear models' necessities are ignored, the efficiency of performing the OLS method declines, and standard errors may show meaningless results (Breusch and Pagan, 1979). Breusch – Pagan and Goldfeld – Quandt test implemented to determine whether homoscedasticity or heteroscedasticity present in the linear model. Different tests have been applied to obtain healthier results, such as Ramsey Reset, Rainbow, Harvey – Collier Test, Durbin – Watson, and Shapiro-Wilk's test. In the final stage, the researcher applied Generalized Least Squares (GLS) depends on the results of Goldfeld Quandt, Breusch Pagan, and Durbin - Watson test. GLS is a generalization of the OLS estimator. GLS technique can be used when there is a violation of Gauss – Markov theorems such as homoskedasticity and no

serial correlation. Each hypothesis of tests and results were given in the empirical result section.

Results

Table 4 shows the regression analysis results of the econometric equation. In Table 4, Multiple R measures the strength of the linear relationship between the predictor variables and the response variable. The multiple R is 0.235, which indicates an averagely linear relationship between the predictor's democracy score of country, unemployment rate, and tertiary education rate the response variable tax revenue of GDP. The adjusted R-squared can be useful for comparing the fit of different regression models. In this example, the Adjusted R-squared is 0.221.

Table 4: Regression Analysis Results.

Residual standard error	0.303			
Degree of Freedom	217			
F - Statistic	16.6			
Adjusted R- squared	0.221			
Multiple R-squared	0.235			
p-value	6.53e-12			
Coefficients				
	Estimate	Std. Error	t value	Pr(>|t|)
Intercept	0.9849	0.2965	3.32	0.001 '**'
Unemployment Rate	0.1889	0.0467	4.04	7.3e-05 '***'
Democracy Score of Country	0.7188	0.1175	6.12	4.4e-09 '***'
High Technology Export	-0.1188	0.0479	-2.48	0.014 '*'
Tertiary Education Rate	0.1076	0.0506	2.12	0.035 '*'

*Significance codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1*

The regression line's standard error is the average distance that the observed values fall from the regression line. In this example, observed that values fall an average of 0.303 units from the regression line. We did the testing of overall model significance.

H0: No independent variables have any significance on the estimated model.

H1: At least one independent variable has significance or the estimated model.

From the given results, F-statistics = 16.6, and the corresponding P-value is 6.53e-12 which is less than 0.05 at %5 level of significance; therefore, we reject the null hypothesis and accept the alternative hypothesis that at least one independent variable has significance on the estimated model.

We interpreted the coefficients of the model parameters. For the democracy score, we can say that the coefficients of the democracy score is 0.72, which means if we increase one unit in the democracy score of the country keeping the other two variables that are the unemployment rate, tertiary education rate, and high technology export rate, the dependent variable will be increased by 0.72.

H0: Democracy Score of Countries has no significant impact on Tax Revenue of Governments.

H1: Democracy Score of Countries has significant impact on Tax Revenue of Governments.

From Table 4, we can see the T–value is 6.12, and the p-value is 4.4e-09, which is less than 0.05 at a 5% level of significance; therefore, the coefficients of the Democracy Score of Country have significance on the model.

The Unemployment Rate coefficient is 0.19, which means if we increase one unit in Unemployment Rate keeping the other two variables that are democracy score, tertiary education rate, and high technology export rate, the dependent variable will be increased by 0.19.

H0: Unemployment Rate has no significant impact on Tax Revenue of Governments.

H1: Unemployment Rate has a significant impact on Tax Revenue of Governments.

From Table 4, we can see that T – value is 4.04 and the p-value is 7.3e-05, which is less than 0.05 at a 5% level of significance; therefore, the coefficients of the Unemployment Rate have significance on the model.

Tertiary Education Rate's coefficient is 0.11, which means if we increase one unit in Tertiary Education Rate by keeping the other two variables that are democracy score, unemployment rate, and high technology export rate, the dependent variable will be increased by 0.11.

H0: Tertiary Education Rate has no significant impact on Tax Revenue of Governments.

H1: Tertiary Education Rate has a significant impact on Tax Revenue of Governments.

From table 4, we can see that T – Value is 2.12 and p-value = 0.035, which is less than 0.05 at a 5% level of significance; therefore, the coefficient of tertiary education rate has significance on the model.

The high technology export rate coefficients are -0.12, which means if we increase one unit in Unemployment Rate keeping the other two variables that are democracy score, tertiary education rate, and unemployment rate, the dependent variable will be decreased by 0.12.

H0: High Technology Export Rate has no significant impact on Tax Revenue of Governments.

H1: High Technology Export Rate has a significant impact on Tax Revenue of Governments.

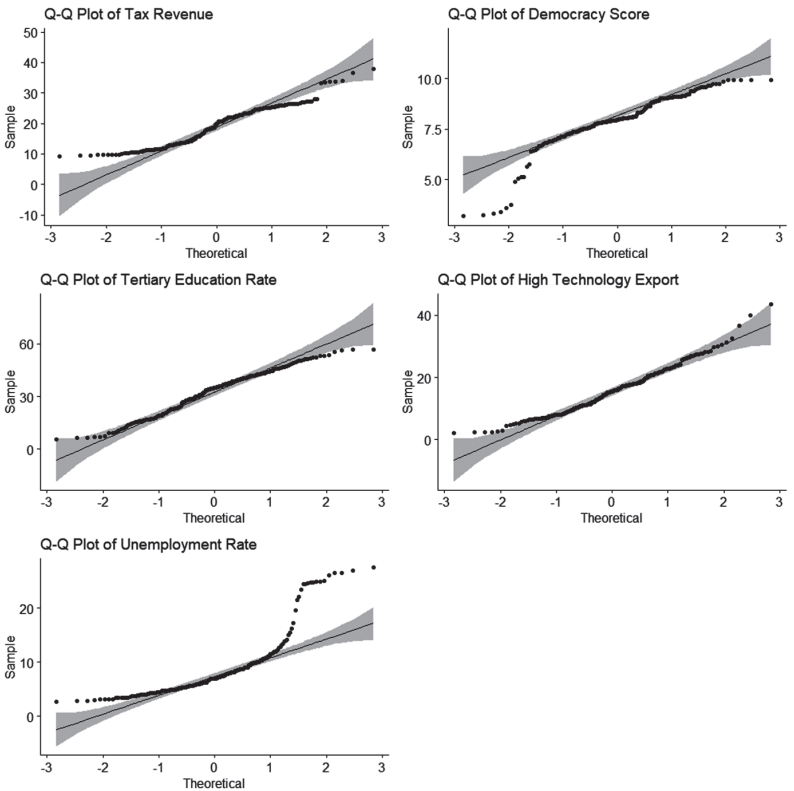
From Table 4, we can see that T – value is -2.48 and the p-value is 0.014, which is less than 0.05 at a 5% level of significance; therefore, the coefficients of the high technology export rate have significance on the model.

Table 5: Hypothesis Results.

Variable	Reject H0	Significance Level
Democracy Score	Yes	0.00
Unemployment Rate	Yes	0.00
Tertiary Education Level	Yes	0.01
High Technology Export	Yes	0.01

Figure 10 shows the Q-Q plot of variables. Quantile-Quantile plot shows the correlation between a given sample and the normal distribution, and a 45-degree reference line is also plotted.

Figure 10: Q-Q Plots of Variables.



The distribution of the unemployment rate and democracy score of countries are significantly different from the normal distribution. In other words, we cannot assume the normality for these two variables. To further investigation, the researcher applied Shapiro-Wilk's method that is recommended for the normality test. It shows the correlation between the data and the corresponding normal scores.

Table 6: Shapiro -Wilk's Test Results.

Shapiro-Wilk's Test		
	W	P-Value
Tax Revenue	0.95	3.00E-07
Unemployment Rate	0.76	2.00E-16
Democracy Score	0.88	5.00E-12
High Technology Export	0.97	3.00E-04
Tertiary Education Rate	0.98	0.001

H0: Data is normally distributed.

H1: Data is not normally distributed.

According to Shapiro-Wilk's test results, we can say that all variables' p – values less than 0.05 at a 5% level of significance; therefore, we reject null hypothesis rejected and none of them are normally distributed.

According to Breusch-Pagan Test:

H0: Constant Variance in Residuals, Errors (Homoscedasticity)

H1: No Constant Variance in Residuals, Errors (Heteroskedasticity)

Table 7 shows the result of the Breusch Pagan Test results.The Breusch–Pagan test is used to test for heteroskedasticity in a linear regression model in statistics.

Table 7: Breusch Pagan Test Results.

Breusch Pagan Test Result	
BP	29
D.F	4
p-value	9.00E-06

P-value is the probability of rejecting a true null hypothesis. If the test statistic has a p-value below an appropriate threshold such as $p < 0.05$, then the null hypothesis of homoscedasticity is rejected, and heteroskedasticity assumed. In this study, the p-value is 9e-06. Since our p-value is 9e-06<0.05, we can conclude that the null hypothesis of homoscedasticity is rejected and states that there is no constant variance in residuals, error, and heteroskedasticity is assumed. If the p-value is greater than our level of significance (say 0.05 or 0.01), the null hypothesis cannot be rejected.

The Goldfeld-Quant test compares the variances of two sub-models divided by a specified breakpoint and rejects if the variances differ, Table 8 shows the result of the Goldfeld-Quandt Test results.

Table 8: Goldfeld-Quandt Test Results.

Goldfeld – Quandt Test Result	
GQ	1.7
D.F 1	106
D.F 2	106
p-value	0.004

According to Goldfeld-Quandt Test:

H0: Homoscedasticity is present

H1: Heteroscedasticity is present.

The P-Value is the probability that the test statistics is as extreme as the observed value, assuming the null hypothesis is true.

When the p-value is below 0.05, we reject the null hypothesis. The results indicate that we have sufficient evidence that Heteroscedasticity is present, GQ (106, 106) = 0.004, p = 0.004 < 0.05. We rejected the null hypothesis and assumed that heteroscedasticity is present.

Table 9 shows the result of Ramsey's Reset Test for omitted variables

Table 9: Ramsey's Reset Test Results.

Reset Test Result	
Reset	19
D.F 1	2
D.F 2	215
P-Value	3.00E-08

According to Ramsey's Reset Test for Omitted Variables:

H0: There is no omitted variable.

H1: There is an omitted variable.

The results indicate sufficient evidence to support the claim that there is an omitted variable. P-value = 3e-08 < 0.05. So, we reject the null hypothesis.

According to Rainbow Test,

H0: There is omitted variable bias.

H1: There is no omitted variable bias.

Table 10 shows the result of Rainbow Test results.

Table 10: Rainbow Test Result.

Rainbow Test Result	
Rain	2.4
D.F1	111
D.F2	106
P-Value	5.00E-06

The results indicate sufficient evidence to support the claim that there is omitted variable bias. Rain (111,106) = 24.4, P-value = 5e-06 < 0.05. We reject the null hypothesis.

According to Harvey – Collier Test:

H_0: There is omitted variable bias.

H_1: There is no omitted variable bias.

Table 11 shows the result of Harvey – Collier Test results.

Table 11: Harvey – Collier Test Result.

Harvey Collier Test Result	
H.C	0.85
DF	216
P-Value	0.4

The result indicates sufficient evidence to support the claim that there is omitted variable bias. HC (216) = 0.85, P-value = 0.41 > 0.05. So, we fail to reject the null hypothesis.

According to Durbin – Watson test.

H_0: There is no correlation among the residuals.

H_1: The residuals are autocorrelated.

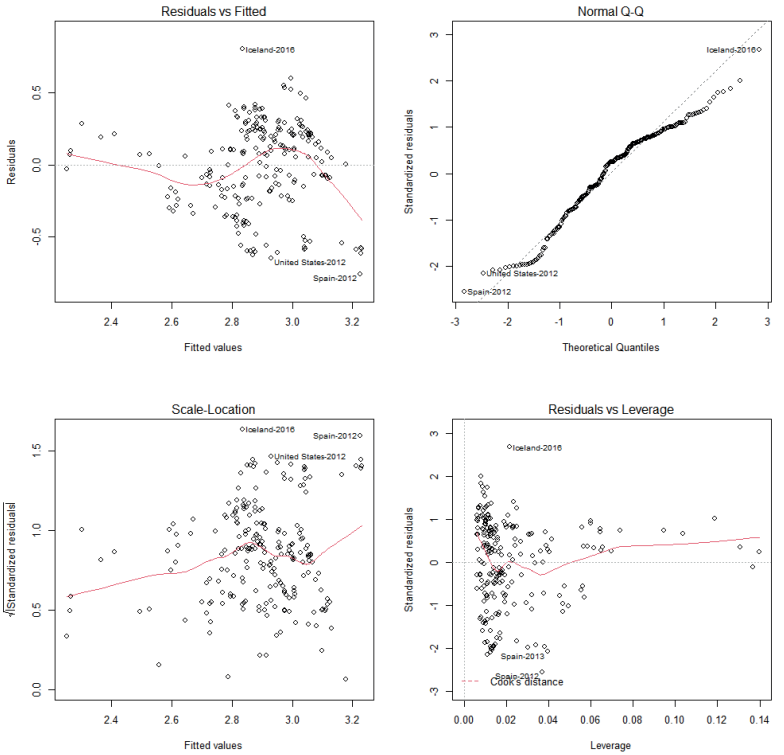
Table 12 shows the result of the Durbin – Watson test results.

Table 12: Durbin – Watson Test Result

Durbin – Watson Test Result	
DW	0.45
P-value	2.00E-16

The result indicates sufficient evidence to support the claim that the residuals are autocorrelated since p-value = 2e-16 < 0.05. So, we can reject the null hypothesis.

Figure 11: Regression diagnostics



The top left plot from Figure 11 shows the heteroscedasticity exists. To eliminate heteroskedasticity, we can perform Generalized Least Squares. Also, the main difference between the OLS and GLS is the assumptions made about the model's error term. This means that t or F statistics can be valid for GLS estimation.

Table 13: Generalized Least Square Test Results.

Generalized Least Squares				
Residual Standard Error	1.93E-06			
	AIC	BIC	LogLik	
	93.92	117.6	-39.96	
Coefficients				
	Value	Std. Error	t value	P-value
Intercept	0.4823	0.15952	3.024	0.0028
Unemployment Rate	0.3466	0.03193	10.856	0.0000
Democracy Score of Country	0.6711	0.08223	8.161	0.0000
High Technology Export	-0.1587	0.02721	-5.832	0.0000
Tertiary Education Rate	0.2253	0.02718	8.288	0.0000
Standardized Residuals				
Min	1Q	Median	3Q	Max
-2.5016	-0.6921	0.2448	0.7583	2.6465

We can see the results of the GLS method in table 12. There is a remarkable decline in the standard errors of variables. While coefficients of the unemployment rate and high technology export increase, coefficients of democracy score and tertiary education rate decrease.

Discussion

As it is explained how governments increased their domestic borrowing rates so as to generate funds for government spending and how, when combined with inflationist growth ambition, this phenomenon led to higher interest rates and further degeneration of markets through all the facilities of capitalism. Discovered by emerging markets with an aspiration to be "developed", the inflationist growth had to be achieved soon but as it was not possible to achieve it though insufficient internal savings, governments resorted to external borrowing first and then to national-currency denominated domestic borrowing, and finally to foreign currency-denominated domestic borrowing. Either with interest rate or not, the

reference point of these debt securities were inflation in national currency terms.

As governments increased the public sector and public spending in order to stay in power, both inflation and growth started to fluctuate more than ever and they needed more and more financing. Excessive government spending stimulated the public sector too; as it was not possible to save money in an inflationist environment, borrowing became the source of all investments, causing old debts to create new debts. Eventually as governments kept increasing the number of financial institutions, creating a "crowding out" effect as a result of blocking the funds, which should have been gone to the private sector, and channelling them into the public sector instead.

As the private sector received the leftovers from government's insatiable appetite, they incurred significantly higher costs when doing that. When insufficient liquidity, high inflation, increasing risks, and constantly fluctuating exchange rates all became a big ball of problems, interest rates continued to remain high as a consequence.

In the meantime, under the influence of inflationist growth, people started to buy goods and services they needed such as a home, a car, white appliances or other products by going into debt since they had no enough savings. And consequently, a majority, either people or firms, had more debt than their income.

As a matter of fact, the reason behind all of these problems was the excessive government spending due to its failure to set its priorities straight; and going into further debt and imposing more taxes to finance these enormous amounts of spending.

From 2002 to 2019, as opposed to former governments, the current government decided to hike taxes instead of borrowing more debts. However, as constant tax increases on all sorts of goods and services caused domestic savings to remain unchanged, even to decrease, while further increasing individual indebtedness rates.

In short, as government kept expanding, inflation, high cost of living, lack of savings, high taxes, exchange rates and interest rates, they all continued to increase further and further.

The private sector will never find room for itself as long as the government keeps growing. In Emerging Economies, companies that are not able to secure government contracts will never grow scale-wise, except for business groups that stay ahead of the competition and the companies that achieved a larger size through borrowing alone are doomed to collapse.

Another mistakes is fighting the unemployment by public hiring new when the private sector failed to create jobs. As the governments cannot create net taxes and insurance premiums, payroll taxes imposed on government employees are transferring funds from one pocket to another. The net revenue can only be generated from the private sector. The government's thoughtless spending habit, its failure to efficiently use resources, taxation, trade and agricultural regimes that create inflationist effects, constantly rising costs due to market deterioration, continuous volatility in exchange rates caused by domestic and foreign political conflicts, and obviously its reflection on the prices.

Conclusions

In this study, we examined the impact of the democracy score of the country, unemployment rate, and tertiary education rate and high technology export rate on the government's tax revenue. As a result, the study in this paper shows that all variables have significance on the model. The most efficient variable on the tax revenue is the democracy score of the countries. When the country's democracy score increases, the tax revenue of the government also increases. This study confirms previous work by using the most recent data about the countries. We can define democracy as a political system in which the rulers or elected officials are accountable to the citizens. Democracy has three types of elements that are accountabili-

ty, participation, and contestation. It is a process that every country experienced in the timeline. The actions of the elected politicians should be subject to regular monitoring. In this study, we observed that a country with a higher democracy score has the government's high tax revenue. This statement leads us to two conclusions. First, democratic regimes have to provide more public goods and services to their citizens because of the fundamental features of democratic regimes. Secondly, if the government wants to increase its welfare or tax revenue, it does not have to be undemocratic. If the government gives trust to its citizens, this directly affects its welfare positively. Also, we can conclude from previous works that when the governments claim more tax revenue, citizens want to involve the political decisions of governments and claim more accountability from rulers. This means that if the government is undemocratic, high tax revenue requests from citizens eventually cause a change in regime type.

Interestingly, we can observe these days; governments think that when they become dominant and behave undemocratically, they can collect more taxes from their citizens. Why non-democratic countries insist on being more anti-democratic to collect more tax is left for future research.

Better tax collections not always refers to growth or increase in employment. In emerging countries this issue has to be taken from a historical evidence-based perspective.

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TRANSPARENCY AND THE INFLUENCING FACTORS OF EXECUTIVE COMPENSATION

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Introduction

This paper has two objectives. First, it aims to conceptually discuss the impact of the transparency of executive compensation publicly available in the digital platforms. Then, it aims to empirically examine the effect of firm performance, risk, and ESG (Environment, Social, and Governance) scores on the CEO's total compensation based on the tenet of agency and stakeholder theories. The secondary data- firm risk and corporate financial and non-financial performance data- were collected from the annual reports transparently disclosed in digital platforms.

In the digitalized world, the transparency of the organizations' monetary and non-monetary data has gained importance for the stakeholders. Transparency and digitalization are a two-edged sword. They should be handled very timely and wisely by the firm's management to create a positive impact on the stakeholders and firm value. Due to the disclosure of the annual reports and corporate governance reports in the digital platforms, all the corporations' financial and non-financial data are available to the general public. By analyzing these data, practitioners and scholars can conclude on the influencing factors of the CEO compensation, and they can even estimate the optimal CEO pay and compare it with the actual pay. In this paper, the impact of three main factors (performance, risk, and ESG scores) on CEO compensation has been scrutinized, and the scholars may examine the other factors and may estimate the optimal executive pay of the firm in future research.

In this manuscript, CEO compensation in Switzerland has been investigated due to its unique nature: First, the CEO compensation in Switzerland is the highest in Europe and the second-highest in

the world, just after the USA (Eklund, 2019; Goergen & Renneboog, 2011; WillisTowersWatson, 2018). Second, Switzerland is the only country in the world where the general public took the initiative by collecting signatures to hold referendums on excessive executive compensation, such as the Minder initiative and 1:12 Initiative. As a result of the Minder Initiative, the government had to promulgate Ordinance Against Excessive Compensation in Listed Stock Companies -OaEC, which requires binding Say-on-Pay, imprisonment up to 3 years, clawback obligations (Eklund, 2015; NZZ, 03.03.2013, 24.11.2013; SwissFederation, 20 November 2013; Wagner, May 2014). Third, the corporate culture in Switzerland is consensus-based, and as of a culture of the country, it is the only country in the world where the rules of the egalitarian system work democratically in a capitalist structure (Sharma, November 2, 2019). For instance, if the general public believes the executive compensation is extreme and it is not internally and externally fair, then they take the initiative and start questioning it democratically, as done in the case of former CEO of Novartis (Daniel Vasella and 72 million Swiss Franc) (Aiolfi, 2013; Eklund, 2015). Fourth, there is a gap in the literature due to the scarce study investigating executive compensation in Switzerland. In short, these four reasons make Switzerland a worthwhile country to be investigated further.

In general, the gap in the literature can be summarized as follows: there are conflicting results in the literature on financial performance, risk, and non-financial performance (CSR, ESG Scores), and there is a lack of research to investigate the current status in Europe, especially in Switzerland. Moreover, these three variables (financial performance, ESG score, total risk) have not been analyzed all together, so it will be the first paper investigating them in the Swiss context.

This paper is structured as follows: in the background and theoretical framework section, first, the findings of the previous research and the thoughts of the practitioners are summarized. Then, the theoretical background is explained, and the theoretical frame-

work of the paper is depicted in Figure 1. In the methodology part of the paper, the data and the method are mentioned. The section of results and conclusion reports the preliminary findings of the paper and provides the implications, limitations, and future research.

Background and Theoretical Framework

EconomieSuisse had also issued the principle on corporate governance ("Swiss Code" of Best Practice for Corporate Governance) in 2002 (EconomieSuisse, 2002), and it was revised in 2007 by adding a particular section, appendix, on compensation (EconomieSuisse, 2007). In the appendix, for the sake of transparency, the guidelines for disclosing the total Board of Directors' (BoD) compensation and the details of the organization's highest compensation were explained for the first time. These guidelines were then revised in 2014 and 2016 for the publicly traded companies (Economiesuisse, 2014, 2016). As of today, the CEO compensation and the compensation of each BOD members have been revealed in detail in the corporate governance or compensation reports. The increased transparency in the wake of compensation disclosure in digital platforms has been appreciated by investors worldwide. Some scholars have shared the same thought that investors appreciate transparency, which positively impacts the firm value. For instance, Eklund (2014), Sheu, Chung, and Liu (2010), and (Lo, 2003) found that compensation disclosure or transparency had a positive impact on firm market value (Tobin Q, Market to Book Value, and stock return). On the other hand, other scholars reported that voluntary disclosure of executive compensation had a negative impact on firm accounting performance (ROE) (Hail, 2002; Stiglbauer, 2010). Moreover, Hermann Stern, one of the respected practitioners of CEO compensation and the owner of Obermatt AG Consulting firm, stated that transparent CEO compensation has unintentionally caused *wage-priming effect* and *ratcheting up executive compensation* because executives can transparently refer to the other executives' remuneration and none of them accepts to be paid lower than their colleagues in the compet-

itors (Eklund, 2019; Stern, 2014, Oct 17, 2014). As noted, transparency and digitalization are a two-edged sword.

After a brief introduction about CEO compensation's transparency and its disclosure in the digital platforms, it is time to focus on the research on the influencing factors of CEO pay. In other words, the previous literature investigating the link among firm risk, corporate financial performance, and non-financial performance (ESG scores), and executive compensation are summarized in the following paragraphs.

CEO compensation is a prominent topic for business and academy, and optimal, and risk aligned compensation is beneficial for a healthy economy, firm strategy, strategic leadership, and firm's reward system. As seen in the media, extreme and imprudent CEO compensations were in the headlines in recent years. Unfortunately, there is still a lack of consensus on how to calculate fair and optimal CEO compensation. In addition to firm financial performance, other important factors for the optimal and fair compensation are the firm risk and ESG Scores (non-financial performances). Due to the riskier economies, public distress over and stakeholder's pressure on the companies having environmentally and socially malignant posture, the concepts of risk and ESG performance should be crucial elements in the compensation design.

Prior research on CEO compensation and firm financial performance can be grouped into three categories: positive, negative, and no significant relationships.

According to Berrone and Gomez-Mejia (2009), Brick et. al. (2006), Canyon and Schwalbach (2000), Carpenter and Sanders (2002), Doucouliagos et. al. (2007), Engelmann-Zach (2013), Firth et. al. (1999), Fong et. al. (2010), Gunasekaragea and Wilkinson (2002), Michael C. Jensen and Murphy (1990), Kato and Kubo (2006), Randoy and Nielsen (2002), PWC (2014), Ozkan (2011), and Sun and Cahan (2009), firm financial performance is positively related to CEO pay. In other words, the higher firm financial performance is, the higher CEO compensation is paid, which is in line with the tenet of agency theory.

Because of managerialism, agency problems, cronyism, and weak corporate governance structures, the positive association between pay and performance are tainted. Basu et. al. (2007), Boyd (1994), Brick et al. (2006), Brunello et. al. (2001), Capezio et. al. (2011), Gigliotti (2013), Gomez-Mejia et. al. (1987), Izan et. al. (1998), Shaw and Zhang (2010), Tosi et. al. (2000), Drobetz et. al. (2007), Wanzenried et. al. (2005), and Young and Buchholtz (2002) demonstrated that firm financial performance is not significantly associated with CEO pay.

The last group of scholars highlighting the agency problem's existence in the determination of an optimal CEO compensation contract reported a negative relationship. The negative association between firm performance and CEO compensation was reported by Buchholtz, et. al. (1998), Buck et. al. (2003), Core et. al. (1999), Duffhues and Kabir (2008), and Rost and Osterloh (April 2009). Basu et al. (2007) and Core et al. (1999) explained this negative relationship by agency problem, managerial power (entrenchment), and weaker governance structures. Their results reveal that firms with weaker governance structures have greater agency problems.

For the literature review on CEO compensation and ESG scores, Callan and Thomas (2011) reported a significant positive relationship between CEO compensation and Corporate Social Responsibility (CSR) scores in S&P 1500 firms between 2003 and 2005. Dardour and Husser (2016) analyzed a sample of French companies listed on the SBF 120 index from 2007 to 2011. They found that short-term incentive compensation and total incentive compensation are not related to the ESG disclosure score (comprising environmental, social, and governance factors).

In addition, Nollet et. al. (2016) found a U-shape relationship between CSR and firm financial performance (ROA and ROE) in S&P 500 firms. Sassen et. al. (2016) showed that social performance (CSR Score) has a significantly negative effect on firm risk measures in the European panel data between 2002 and 2014.

After mentioning the findings of the previous research on the influencing factors of CEO compensation, and the practitioners' thoughts on the transparency of CEO compensation, the paper's theoretical background can be discussed. As shown in Figure 1, the article's model is derived from the tenets of agency theory and stakeholder theory.

Agency theory postulates that there is a conflict of interest between managers and shareholders (agency cost), and executive compensation is a means of reducing the agency cost (Gray & Cannella, 1997; M. C. Jensen & Meckling, 1976). Furthermore, agency theory deals with the relationship between risk and executive compensation. In simpler terms, agency theory's risk premium proposition states that 'to keep the agent in high-risk firms, the principal is forced to share the cost of risky employment by paying a premium to the agent. The principal has to increase the agent's total compensation to protect the agent from risk' (Eisenhardt, 1989; Stroh, Brett et. al. (1996). Based on the risk premium proposition of Agency theory, the hypothesis is constructed that (H1):

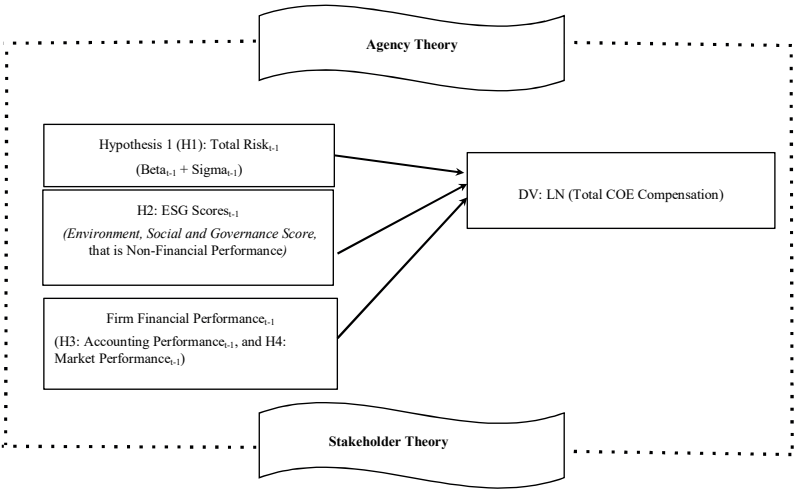
> H1: There is a significant association between total firm risk and total CEO compensation, all else equal (Agency theory-Risk premium prediction).

Stakeholder theory postulates that firms must demonstrate the commitment to socially responsible behavior in order to achieve legitimacy. Moreover, they must be responsive to a wide array of stakeholders, which also includes shareholders. Therefore, the CEO should be paid according to both financial and non-financial firm performances (Callan & Thomas, 2011, 2014). Hence, H2, H3, and H4 are stated as follows:

H2: Ceteris paribus, there is a relationship between ESG scores (non-financial performance) and total CEO compensation (Stakeholder Theory).

H3 and H4: There is a relationship between firm financial performance (market and accounting performance) and total CEO Compensation, all else equal (Stakeholder theory).

Fig 1: Theoretical Framework of the study, proposed by the author



Methodology

This paper includes a panel dataset, which consists of 1492 firm-year data from 2009 to 2017. All publicly listed companies at the SIX Swiss Stock exchange was investigated. Overall, 409 number of firms are observed. Thus, the method of this empirical paper is panel data regression. Because it includes multiple observations for each firm, Ordinary Least Squares (OLS) regression is not appropriate for panel data. The cross-sectional method of OLS regression has some shortcomings for the panel data or longitudinal studies, and to correct the shortcomings of OLS, panel data regression should be considered, as suggested by Gray and Cannella (1997). Consistent with the previous literature on CEO compensation (Chhaochharia & Grinstein, 2009; Wade, O'Reilly, & Pollock, 2006; Wade, Porac, Pollock, & Graffin, 2006), Firm and Year Fixed Effect Regression with robust standard errors, are utilized in this paper.

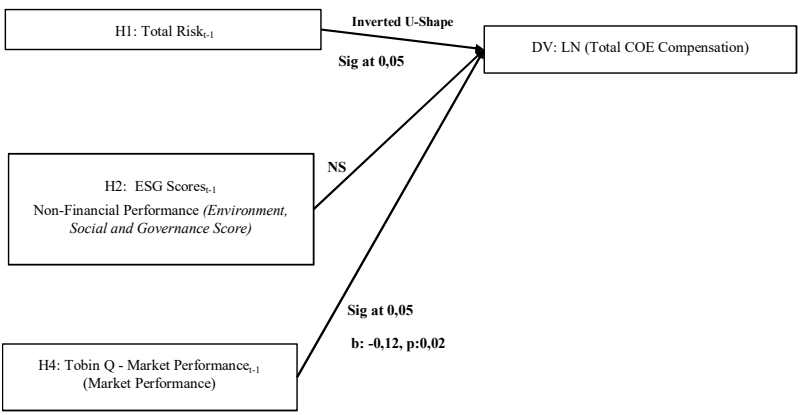
Moreover, the robustness checks for normality, linearity, collinearity, homoscedasticity, autocorrelation, linktest/ovtest, U-test (Sasabuchi U-test), endogeneity, and reverse causality are performed. Consequently, it can be evidently stated that this paper is a rigorous and robust empirical research.

Result and Conclusion

The preliminary finding of the paper is shown in Figure 2. It is found that there is an inverted U-shape relationship between total risk and total CEO compensation (H1: p: 0.00, b: 0.91 for total $risk_{t-1}$ and p: 0.01, b:- 0.24 for the square of the total $risk_{t-1}$). From the theoretical background, it supports agency theory and the curvilinearity can be explained by the achievement prediction of McClelland's theory of needs. For hypothesis 4, the association between firm market performance (Tobin Q_{t-1}[1]) and total CEO compensation is significantly supported at a 5% significance level (p:0.02, b: -0.12).

On the other hand, the hypothesis (H2) testing the relationship between ESG scores (non-financial performance) and total CEO compensation is not supported (p:0.89, b:0.00). Hypothesis 3 is not supported at a 5% significance level, as well. That's, it is found that there is no significant relationship between accounting firm performance (ROA_{t-1} and ROE_{t-1}) and total CEO compensation.

Fig 2: The preliminary result of the study, reported by the author



1 Tobin Q (Stiglbauer, 2010): Tobin Q= Year-end Market Cap/ (Liability Book Value + Equity Book Value) Year-end Market Cap= Market Price Year End * Common Shares Outstanding

To conclude, as an initial point, the optimal and fair CEO compensation can only be reached by considering these three factors at the same time: firm risk, firm financial and firm non-financial (ESG) performances. The negative link between market performance and CEO compensation can only be prevented by a strong corporate governance system and strong stakeholder rights, as previously mentioned by Hays (2011). To be strengthen the stakeholder's right, ESG score (non-financial performance) should be linked to CEO compensation, and corporate governance principles regarding executive compensation should also take the risk and non-financial factors into consideration.

As a limitation of the study, in this study, only total compensation was analyzed. It is suggested that the percentage of variable compensation may be individually investigated in future studies. As a second future research agenda, the impact of Minder initiative (the binding regulations on CEO compensation, effective as of January 2014) on executive compensation can be measured with a dataset before Minder Initiative (before 2014-Law) and after Minder initiative (after 2014). Then, the result can be compared to investigate the impact of the new legislation in Switzerland.

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THE RESHAPING OF THE INTERNATIONAL ORDER, DIGITALISATION, AND THE EMERGENCE OF NEW GOVERNANCE REGIMES

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In the current process of the international transition of power, and almost certainly in the connected process of change in the international order, digitalisation is increasingly emerging as a central issue, one of the most charged arenas where international actors compete to influence future international governance regimes.

This contribution understands digitalisation as being positioned at the very heart of both contemporary and future international politics and order; because of that, it is a key area in the current transition of power (and order). In fact, assessing the current international governance structure of digitalisation appears to give us insights not only into the current stage of the international transition of power but also into what kind of international order will emerge at the end of this transitional phase. When digitalisation governance is at stake, states and non-state actors appear – though they do not always demonstrate a full awareness of doing so – to be aligning themselves with two broad and arguably heterogeneous groups, each characterised by a broadly shared vision of their most desired future international order. Digital governance is mostly an issue of power: Southern states would be better off if they increased their efforts to find common ground and build a united front if they want to make the most of the developmental opportunities digitalisation offers.

This contribution will first outline two basic images of a future international order, before briefly assessing, from an international relations perspective, what are currently the most politically charged issues in contemporary international digital governance. Finally, it will outline the ideas and political visions of the two broad groups currently battling for their respective preferred idea of digital gov-

ernance, and point out how the two visions are consistent with the previously outlined images of a future international order. It will then conclude with some final remarks, which will urge Southern actors to develop strategies to prevent digitalisation from locking in current hegemonic structures instead to enable development.

The background of digital governance: two images of a future international order

The current phase in international politics is regarded, by most politicians, commentators, and scholars, as one of those historical moments when change accelerates and becomes more evident. In general terms, international power, at the end of the Second World War, was concentrated in the USA and, to a lesser extent, in what was then Soviet Russia. Since then it has been dispersing (after a few years of re-concentration in the USA) towards the rest of the world. If we trace long-term change by focusing on the centre of international power, it is clear that since the middle of the last century it has been following a South-Eastern trajectory, from Europe (or rather, perhaps, the Atlantic) towards the East, with expectations of a relatively stable future positioning in the Pacific.

Most international scholars would agree that change in the distribution of international power is likely to bring about changes in international norms, rules, and institutions – in other words, the international order. Among the many proposals that have been put forward, two images of a future international order appear to be particularly sound: a 'global' multipolar balance of power, and a renewed liberal order[1].

The first image, that of a 'global' multipolar balance of power, is built upon an understanding of the post-Cold War period as an

1 The literature on the emerging global order is extensive and beyond the scope of this contribution. The two images outlined here, therefore, do not aspire to include all future orders, and their working mechanisms, that have been suggested so far. For two summaries, see Grieco, Ikenberry and Mastanduno (2015: 418-440) and Flockhart (2016: 6-11).

asymmetrical balance of power, which is a multipolar balance of power but one characterised by a great imbalance in terms of capabilities, with the USA enjoying a preponderance of international power and reducing other great powers to, basically, regional great powers. Simply put, the current dispersion of international power is decreasing the United States' power while increasing that of other powers, making it, in the end, comparable to that of other powers. It can be argued that some powers may enjoy more power in some domains (norms, economic, military, etc.) than in others, but overall such an international order will exhibit rather familiar working mechanisms and behaviours: States will prioritise the national interest, defined in terms of security (which is likely to be defined in a broad sense, including not only military issues but also environmental, economic, social and other issues); the most powerful States will, as great powers, carve out their own spheres of influence, and alliances will be mostly temporary because of and resulting from a balancing mechanism; cooperation will not disappear, but will express itself through bilateralism and regionalism, while multilateralism and multilateral institutions will suffer, becoming weak and inefficient. In a nutshell, such an international order would be reminiscent of classic (European) multipolarity. However, because of the technological innovations of the last couple of centuries, resulting in the contemporary international and world structure, there would be at least two major differences. Firstly, nuclear weapons might make military competition between nuclear great powers less likely. As a result, great power politics will be mostly geo-political, geo-economical, and geo-social, with little use of military means and an avoidance of direct confrontation but the persistence of proxy wars. Secondly, it would be a global multipolarity. Contrary to 'classical' European multipolarity, which coexisted with colonialism, there would be no external release of intra-system tension. From a systemic perspective, colonialism is external-system great power competition; in other words, it allowed European great powers to compete overseas, avoiding direct survival competition.

The second image is also built upon a specific understanding of the post-Second World War order. In this case, on that of a liberal order, which is an "open and rule-based international order", "enshrined in institutions such as the United Nations and norms such as multilateralism". In a nutshell, the contemporary order is the outcome of a balance between two principles of order: the westphalian and the liberal principles, with the latter steering, weakening, or empowering the values, norms, and institutions resulting from the former (Ikenberry, 2011). The current transition of power, according to this model, will result in a new balance between the two principles: the United States' capabilities are decreasing, which means the future order will be characterised by a lower hegemon's role; competition between all actors will increase; multilateralism will survive, but it will be more obviously multipolar, allowing for greater differentiation in terms of values. In other words, according to this understanding of the current structure of the international system, the contemporary order is strong enough to survive a change in the distribution of systemic capabilities.

Digitalisation and the current transition of international order: a brief assessment of contemporary international governance

Digitalisation, as distinct from the more limited digitisation – the transformation of data into digital data – can be understood as a multidimensional and multidirectional process that integrates digital technologies into everyday life, hence shaping everyday life. As such, in the current stage of the process of the international transition of power it has emerged as a profound influence on four issues of competition and cooperation between States.

Firstly, digitalisation creates digital data, which are instantly moved. However, in order to move data, networks are required, which are organised around nodes. A security issue has therefore emerged: who has the power to control the nodes, both in territorial (access, reliability, and rules) and functional (i.e. managements

of flows) terms? Overall, the traditional, central role of the US has increasingly come under scrutiny and been challenged. To give one example: the central body for managing the internet, the Corporation for Assigned Names and Numbers, ICANN, which is legally a non-profit public benefit corporation, has recently, in 2016, modified its governance structure in order to enable a multi-stakeholder and global governance through broader participation and transparency following criticism from governments and non-State organisations; in particular, it has moved away from the supervision on the Internet Assigned Numbers Authority (IANA) of the US's National Telecommunications and Information Administration (NTIA), an agency of the United States Department of Commerce. However, it remains located in the State of California, therefore subject to the jurisdiction of the United States. At the same time, governments are realising that the localisation of servers is a loaded political issue, and are increasingly attempting to control the information gathered. The People's Republic of China, to give a well known example, requires in its 2016 Cyber Security Law that data gathered in China be stored in China in order to allow the Chinese authorities to control it.

Secondly, digitalisation allows for the creation and therefore knowledge of an increased amount of data, which could be used to tailor commercial and political messages to specific audiences. The outcome appears to be an increase in the ability of domestic and international political actors to shape public discourse. The success of the Leave movement and, more recently, the Brexit Party in the United Kingdom, the Movimento 5 Stelle (Five Stars Movement) and Lega (the League) in Italy, and of Donald Trump in the US, for just a few examples, have all been helped by the application of business and military techniques regarding the use of data to the social and political domain. In reality, the issue is not very new: cybersecurity was added a relatively long time ago to the traditional four domains of competition and/or warfare between States (land, sea, air, and space). However, over the last few years, the amount of data avail-

able and the scale of the phenomenon seem to have increased, offering domestic groups and governments tools to increase their influence: the United States' National Endowment for Democracy (NED) has attempted to describe the phenomenon, if somewhat curiously, by narrowly defining it as the ability of authoritarian governments to reinforce their domestic power and "pierce, penetrate, or perforate the information environments in the targeted countries", in other words to increase their State's influence by shaping domestic and other countries' public discourses, by qualifying Joseph's Nye 'Soft Power' to develop the concept of 'Sharp Power' (National Endowment for Democracy, 2017: 13). China's Golden Shield Project, most commonly known as the 'Great Firewall', is arguably the best example of a digital system enabling governmental control over domestic public discourse, while the United States' targeting of Huawei in the last few years, with intensification in 2018, is one of the most glaring examples of the contemporary struggle between States to control access to data and its collection.

Thirdly, digitalisation has enabled the rise of digital companies, most of which are multinational. The success of digital enterprises is based on a business model that commodifies personal behaviour, which enables exploitation while potentially offering very efficient governance tools. Briefly, data are generated though the use of digital tools, in particular social media and search engines. Online activity, in other words, creates data that is appropriated and owned. Therefore, data are transformed into goods, and commercialised like any other goods: their value is privatised and exploited by digital businesses. In addition, data gathered through social media offer increasing returns, incentivising the creation of monopolistic 'digital eco-systems'. At the moment, most less developed States appear more interested in the social and economic development that social media offers and less in the power-shaping process entailed in using them. From a global, and in particular from a North-South, perspective, Southern countries appear to be focusing mostly on the developmental promises offered by digitalisation – in a nutshell, the op-

portunity to achieve post-industrialisation/a knowledge economy without industrialisation, or to lift their status and role in the global economy – without deep consideration of power-related processes, in terms of identity creation and personal and social values. In fact, the global digital value chain very much favours digital multinational enterprises, which means US-based digital enterprises: of the top 10 digital Multinational Enterprises listed in the 2017 United Nations Committee on Trade and Development (UNCTAD)'s list, based on 2015 data (2017: 8), nine are US-based companies, the only exception being the South Korean Naver corporation (in eighth place). That does not mean that global digital enterprises are US' foreign policy tools. However, global digitalisation, as it occurs in the current order, it has indeed been criticised as 'digital colonisation', i.e. as a process that facilitates the structural exploitation of southern (or located in the periphery) localised value by northern (or localised in the core) enterprises (Singh, 2017).

Fourthly, norms and rules pertaining to the management of data must be agreed upon: the intellectual property regime, for instance, which in a nutshell is an issue of who owns and is accountable for digital data, requires international agreements. Digitalisation, by its very nature, requires State cooperation (channels and nodes must be created and reliable): IT protocols, standards, and technologies must be shared to be effective. However, states' cooperation is always connected to issues of power, according to how states frame the issue: states may be satisfied with absolute gains cooperation, or may focus on relative gains. In other words, digitalisation is a process with a structural side: it is related to a more general, world and systemic issue of governance, which means it creates an issue of both state and international order. The current increase in international competition between great powers is already demonstrated by a different understanding of the nature of the internet: according to O'Hara and Hall (2018), there are already four (plus one) competing conceptions of it: the original Silicon Valley open vision, the US government's commercial conception, a bourgeois idea (EU), and an

authoritarian vision (China), plus a Russian role in the internet as a spoiler. In other words, the internet is understood as valuable when it embodies specific values and interests; if the process continues, we may risk the internet breaking down (the so-called 'splinternet').

International digital governance: A clash of two visions

The four issues discussed above (control of flows and nodes, the shaping of public discourse, the global digital value chain, and the intellectual property regime) are sector-specific declinations of majorly contested contemporary international political issues: the relationships between international (state sovereignty) and world governance, the redistribution of systemic capabilities (in particular, between authoritarian and democratic political groups and governments), the North-South economic and political divide, and the relationship between politics and economics. Digitalisation is indeed ultimately a process that regards power. It is a deeply political process, because it makes it possible to undermine/underline/empower values. In doing so, it is an arena that could shape the future international order. It is not surprising, then, that where digital governance is concerned, States and non-State organisations seem to fall into two broad groups, each united by a common discourse and vision of what their desired digital governance would look like.

The first group of political actors are united by a conceptualisation of intellectual rights and personal rights (data) as private property. Based on this, they share a liberal economic approach to the issue of digital governance (Kalantzis-Cope, 2016). Once created and owned, data can be exchanged for services and economic gains. It other words, data can be traded according to rules agreed by States bilaterally, regionally, or multilaterally. Internationally, that means that they can be subject to sectoral governance, but generally speaking they are part of the wide trade regime based on the 1990, effective from 1995, Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) administered by the World Trade Organi-

zation (WTO), in relationship to a few UN agencies – most notably, the United Nations Conference on Trade and Development (UNCTAD) and the World Intellectual Property Organization (WIPO). Values and normative and discursive nexuses of this vision are the expression of a larger capitalist and liberal discourse, in which the appropriation of personal data, when agreed to by a supposedly free individual, is legitimised. The composition of this group is indicative: generally speaking, these include China (even if it does not agree on all issues), and countries that belong to the Organisation for Economic Co-operation and Development (OECD). While some Southern countries are members of the OECD, the mostly Northern composition (Baker, Jayadev and Stiglitz, 2017: 6) suggests that all of the members accept the application of the contemporary liberal capitalist discourse to digital governance. Arguably, as is the case with China, this is because they believe they will be able to gain the most or to maintain their prominence as expressed in the current values and norms of the international system. In fact, this group of countries rates contemporary international digital governance favourably, and cooperates fully and relatively consistently with specific bodies (particularly the OECD's Council on Digital Government Strategies) in order to improve digital governance around the world. To sum it up: the first group is made up of the most economically and technologically powerful states; they have a conservative, or at best reformist attitude to contemporary digital governance; one might suspect that this is because that allows these actors to maintain or improve their status in the contemporary international system.

The second group is more heterogeneous and includes non-state actors, is less organised in terms of having shared cooperative fora or institutional bodies, and exhibits a broader range of values and goals than the previous group. As far as states are concerned, it is made up by regional or hopeful great powers, such as Brazil, Russia, India (so the countries once referred to as BRIC countries, minus, on most issues, China) and a majority of Southern countries. Generally

speaking, the group shares an unease with contemporary hegemonic structures and, with some exceptions (Russia, for example), an understanding of digitalisation as an opportunity to increase people's wellbeing. Digitalisation must serve the people, avoiding any form of discrimination (a goal expressed with the concept of 'Net neutrality'); it is an opportunity, for instance, for developing countries to close the gap with developed countries. The vision here is not liberal, but communitarian, with a critical constructivist nuance, in terms of critique and challenge to contemporary hegemonic structures: digital rights are communitarian, societal and human rights. Based on this, it is hardly surprising that they share a negative view of contemporary international digital governance. In fact, from this perspective, digital governance must be radically re-conceptualised: specifically, because it influences people's lives so much that it must involve them, also involving non-state organisations and bodies to a much greater degree, and it should be agreed upon collectively, placing it outside of states' control.

Conclusion

The first vision of international digital governance is conceptually linked to the global multipolar image of the future international order. Such an image legitimates competition between powers, is more sensitive to power distribution, and is likely to be characterised by relatively weak multilateralism. In such an order, the most powerful states would be allowed to create and maintain a kind of digital governance that locks in their current superior power. The second vision of international digital governance, on the other hand, is conceptually linked to the second image, that of a renewed liberal order. In spite of its labelling, in fact, this type of order allows multilateral agreements, and legitimises the use of relative superior power, less than a global multipolarity. In such an order, international capabilities matters. But, relatively speaking, inclusion and acceptance of the order by weaker powers becomes more important: in other words, relative power matters less.

In a nutshell, then, in order to make digitalisation an opportunity for developing countries, contemporary weaker powers should develop strategies to prevent global multipolarity from fully coming into being. It is likely than in such an order, future great powers will 'occupy' the globe through competition, allowing little political space for the values, interests, and goals of small powers. On the contrary, they should do all they can to renew the liberal order. Generally speaking, that means empowering multilateral cooperation. In terms of digital governance, three policies appear to be particularly urgent: firstly, small powers, above all Southern countries, should move away from trade and sectoral governance for all digital issues, while pushing to bring about a new UN-based mechanism or agency for internet-related policies; secondly, but connected to that, they should keep pushing to place ICANN under international jurisdiction under the US's International Organisations Immunities Act or, better, to move it into the UN system or envision a separate, special global status altogether. Thirdly, developing countries should increase their awareness of digitalisation as a security and strategically central power-embodied process, in order to create common strategies that are therefore more likely to be successful, to deal with digitalisation: South-South cooperative bodies, fora, and research and public policy centres are needed (Singh, 2017).

The emergence of a new digital governance regime will increase alongside the process of international change. From a Southern perspective, avoiding a strengthening of the current regime appears to be paramount. At the moment, however, there is no reason to be optimistic: unless Southern states develop a common strategy that arises from an understanding of digitalisation primarily as a process of power, which means moving away from accepting its current framing as a developmental process, digitalisation, far from resulting in an opportunity to create change, is more likely to lock in current hegemonic structures.

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WHAT ARE THE FACTORS THAT AFFECT THE HUMAN DEVELOPMENT INDEX?

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This research will focus on the factors affecting the human development index. For societies in the world to continue their lives in prosperity, individuals' living standards should be high regardless of their culture. The measurement that determines the welfare level of societies is generally calculated by the Human Development Index (HDI hereafter). In this study, we will examine how much humanity, which has undergone many changes from the past to the present, has reformed and developed under what conditions, and in this context, how much these developments affect the human development index. The point where this study will examine the difference at this point is to look at the development level of the countries. The development level of the countries shows us which countries have adapted to this development in the developing and digitizing world or which has lagged behind this development. Best distinctions to measure their level of development are the women business and law score, GDP growth rate, ease of doing business score, total natural resources rents and access to clean fuel rates of countries.

It is observed that the development level and welfare level of the countries are always parallel. One of the indicators that shows that economic development is GDP growth rate which eventually affects human development. Encouraging women in the business sector and protecting their opportunities in 21st century obligation for the world. Women which play a crucial role in society are ignored by society although women make up half of the world's population. How can we ignore the loss of such great potential? Unfortunately, the only way to ensure economic and human development is not simply protect women's opportunities. To increase entrepreneurship to support economic development in the country barriers in front of doing business should be removed. From a

different perspective, humankind also faces a resource curse which natural resources are abundant, they cannot reach higher economic and human development levels. Under all these conditions, it might be impossible to access cleaning and electricity in societies where technology and digitalization are insufficient. For this reason, countries cannot cover themselves from poverty.

All these problems that this study has listed convince us that countries' development levels should increase for a better quality of life. These indicators were collected from the World Development Indicators. In this study, our target audience is general. Readers can examine the stages of the problem that is the subject of our review, titled. These headings, respectively, have a collated article search section in the light of the information obtained as a result of research on the subject. Then, we will be able to examine how the indicators affect the HDI as a result of our analysis with ordinary least squares regression (OLS) model method through tests and tables respectively. After, in the conclusion part, you will be able to see the summary of our achievements about all our research and results.

Literature Review

Considering the research we have done, the first and most important thing to say about this subject is that a distinction must be made between the means and objectives that affect the human development index. (Anand, S., & Sen, A., 1994) Humanity consists of all activities in the world, and our achievements breed prosperity in the world. This welfare is divided into low, medium, and high standards across countries based on the human development index. This study includes five different variables and investigates their effects on the human development index. According to World Bank, women business and law score of countries show women's economic opportunities. In the 21st century, women are a crucial part of the economic development process, but most countries still do not give attention to this reality. In many societies taking education seen as a duty of only men; therefore, although women make up half the world's popula-

tion, two–thirds of the world's illiterate are women (Sharma, 1997). Increasing women's rights, education level and create equal opportunity with men directly affect women's behaviour. According to Duflo (2012), women feel that they do not need to be strong, healthy, and educated when they do not work outside the home. Generally, bear and raising children are seen as the primary duties of women. Still, they are workers, leaders, and key players in social change and development with their vast potential, which society needs (Gill, Pande, & Malhotra, 2007). These days, there is enormous international pressure on advanced countries about increasing women's representation in the state organs. Lemmnon and Robinson (2005) researched women's participation in politics in Latin American governments. They argued that when HDI is higher in that country, a more significant percentage of women members are in their cabinets. If we consider half of the world's population belongs to women, increasing women's economic development opportunities cause economic development. According to Tambunan (2009), there are several answers for a low representation of women entrepreneurs in the economy. He argues that low-level education, fewer training opportunities, lack of regulation, and traditional beliefs can be the main answer. We believe that these factors can directly affect dimensions of the human development index. Increasing women's opportunities will directly affect the economic development, education level of the population, and life expectancy will increase at the end of this process.

When we look at the world in general, we see that not all underdeveloped or developing countries experience significant developments. At this point, the goal for everyone should primarily be access to healthy conditions. For this, it is necessary to protect ecosystems while providing access to electricity. Then, basic living equipment (access to clean water, etc.) must be sustainable. Conducting these studies while increasing the capacity can help society reach the highest rank. But if we get an education in a devastated ecosystem, we will not see any results in the long term. (Sagar and Najam, 1998). According to the 2019 World Water Report prepared by the United Nations, UNESCO, two billion people do not have

regular access to clean water resources. Limited water resources and increasing environmental pollution. This number is expected to increase until 2050. However, healthy and clean drinking water is considered a fundamental human right. Accordingly, groups exposed to discrimination due to their gender, age, socio-economic status, ethnic origin, religion and language, clean water, and sanitation are more disadvantageous compared to other groups in terms of access to water resources the report—more than half of the people with limited access to live in African countries. People living in slums get water 10 to 20 times more expensive than people living in cleaner parts of the city. However, the quality of the water they receive is substantially lower. Numerous illnesses and deaths also occur in places without access to clean water. As a result of the examinations, cancer diseases resulting in death in low HDI areas have exceeded 49%. (Bray, F., Jemal, A., Gray, N., Ferlay, J., & Forman, D. (2012). There are two ways to alleviate the water scarcity problem: desalination of seawater and wastewater recycling. Using solar energy, he has developed a method that can provide clean, potable water to thousands of communities. Technology can remove up to 100% salt from saltwater, which means that people in the community will have access to clean water, thanks to this technological innovation.

Babies who grow up in a healthy environment will be able to lead a healthy life and complete their education. This will contribute to the economy. Economic growth itself will not continue unless developments in HD take place. (Ranis, G., Stewart, F., & Ramirez, A. (2000)). Previous works claim that HDI and economic growth have a two-way relationship. Suri et al. (2011) argue that improvement in education level and quality of human life will eventually affect economic development. Economic growth will provide better conditions and opportunities for citizens to improve their lives. In this study, we search for a relationship between GDP growth rate and human development index.

Most of the studies about economic development and human development include GDP per capita as a factor. In general concept, GDP per capita does not represent significance on human development be-

cause the human development index has been available for a much shorter period (Grubaugh, 2015). From a different perspective, Deb (2015) argues that while GDP can measure economic performance, HDI can measure human and social progress; that is why comparing GDP per capita may not be the right way. We may not observe that rising GDP per capita leads to a country better human development score because of income inequality. One of the push elements in GDP growth is the population in the country. A high population can be considered a positive effect on GDP growth rate, but providing sufficient conditions for the whole population can always be a problem. That is why the main reason, including the GDP growth rate in this research, is to find the effect on human development regardless of population level. Unlike the previous studies, countries may have high GDP growth rates because of their high population, but there is still a chance to have a high human development index.

Another factor that we investigated in this study is the ease of doing business index. According to World Bank, the ease of doing business scores shows the country's regulatory performance in doing business. This index scales the countries' procedures, time, cost, and minimum capital requirement for operating or establishing a business. As we mentioned before, increasing education level, providing good conditions, and accessing clean fuel expected to contribute to human development. Human development questions can treat or create a better business environment or two-way relationships between these two variables. Providing a less bureaucratic procedure for doing business will increase firm creation and productivity because efficient regulations for enterprises will encourage new firms' higher entry rates to the market (Ani, 2015). When the firms need a minor procedure to enter the market with less cost, it will directly affect labour markets—decreasing the unemployment rate, increasing productivity lead to economic development. Also, digitalizing doing business process will help reduce costs and create easy procedures for enterprises. The technological revolution, which is also included in the United Nations' development

plan under the millennium development goals project; Access to electricity, clean water, and energy, is the most qualified indicator of this. A society that adapts to digitalization and technology will have a high level of welfare. This will also reduce poverty. From a different perspective, starting business financial cost rather than administrative or time cost is the biggest problem at the beginning of the firm creation process (Tristan, 2018). So, removing barriers to doing business leads to economic development and indirectly contributes to human development. According to Asongu and Odhiambo (2018), better-doing business conditions will cause an increase in the number of enterprises, and it eventually affects the human development process because primary concerns of society such as education level, health, and environmental sustainability are the social responsibility projects of the business sector. Also, an increasing number of enterprises will create more job branches with specific skill requirements, and in the end, the country needs more specialized and educated workers.

Lastly, this study investigates total natural resources rents over the human development index. The entire natural resources of countries may change by location of the country. It includes a sum of oil rents, natural gas rents, coal rents, mineral rents, and forest rents. The resource curse hypothesis explains that there are countries in which natural resources are abundant, but still, they cannot establish sustainable economic and human development. Nikzadian et al. (2019) convoyed research about natural resource rents and health expenditure relationships in petroleum exporting countries. Their study claims that there is a negative relationship between these two variables. One of the reasons behind this result is the government's effectiveness, according to them. There are countries that rich in natural resources, cursed and lucky. The most important reason behind this distinction is different institutions that react differently to high-level resource income (Mehlum, Moene, & Ragnar, 2006). According to Neumayer (2001), who approaches from a different perspective, natural resources should be used directly to create and

maintain capital. If used for various purposes, sustainable economic development cannot be achieved when resources are depleted. Costantini and Monni (2008) argue that the negative effect of natural resources on human development is less than the positive effect of health and education expenditure.

This research paper consists of the first section introduction and literature review, the second section data and methodology, the third section's empirical results, and the empirical findings' discussions. The last section includes the conclusion part.

2. Data & Methodology

2.1 Data

In this study, factors affecting the Human Development Index are tried to be determined. The research is based on the randomly selected 96 countries shown as included in human development reports. The data are collected in consideration of the 2018 year. Access to clean rate, women business and law index score, oil rents (% of GDP), GDP growth rate, military expenditure (% of GDP), and ease of doing the business score, independent variables, are obtained from World Bank data. While the Human Development Index rates were being investigated, UN Data includes Human Development Reports. The descriptive statistics in Table 1 show us the minimum and maximum points, mean, median, first, and third quartile of our analysis.

Table 1: *Descriptive Statistics Table*

	HDI	Access to Clean	Women Business and Law Score	GDP Growth Rate	Ease of Doing Business Score	Total Resources Rents
Min.	0.4	10.7	31.9	-2.6	36.7	0
1st Qu.	0.64	86.28	70	1.96	58.35	0.68
Median	0.76	99.7	79.1	3.4	67.85	1.6
Mean	0.74	85.71	77.27	3.44	65.9	5.65
3rd Qu.	0.85	100	91.3	4.8	75.08	6.3
Max.	0.95	100	100	8.2	87	45.7

2.2 Methodology

When analyzing the determinants of the Human Development Index rates of countries, it has been agreed that the regression model was the adequate method. In this research, the empirical models estimated on Ordinary Least Square Regression. This model explains that regression models with more than one number of independent variables are called multiple regression models. In the multiple regression analysis in our study, there is one dependent variable, namely the human development index and more than one independent variable that is thought to affect this dependent variable, namely access to clean fuel, ease of doing business, GDP growth rate, total natural resources rents and women business and law score.

This multiple regression relationship of which we are talking is usually expressed as follows:

$$y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e$$

In this equation, as written, variable y is the dependent variable in our multiple regression model; variables $X_{1,}$ $X_{2,}$ $X_{3,}$ X_4, X_5 are the independent variables which are access to clean fuel, ease of doing business, GDP growth rate, total natural resources rents and women business and law score respectively, and e denotes residuals. To verify Gauss Markov Theorem and regression assumptions, we applied Breusch – Pagan test, Ramsey Reset test, Normality Test, Rainbow Test, Harvey-Collier Test, Goldfeld - Quandt test and Durbin-Watson Test.

Empirical Results

Table 2 shows the regression analysis result. According to results, multiple R is 82%, indicating a robust linear relationship between all variables' predictors. We did the testing of overall model significance. Our hypothesis as below:

H_0: No independent variables have any significance on the estimated model.

H_1: At least one independent variable has significance or the estimated model.

Table 2: Regression Analysis Results

Residual standard error	0.06583
Degree of Freedom	90
F - Statistic	72.82
Adjusted R- squared	0.7908
Multiple R-squared	0.8018
p-value	2.2e-16

Deviance Residuals

Min	1Q	Median	3Q	Max
-0.1574	-0.0369	0.0064	0.0404	0.1785

Coefficients

	Estimate	Std. Error	t value	Pr(>|t|)
Intercept	0.0641945	0.0498045	1.289	0.2007
Access to Clean Fuel	0.0018228	0.0003175	5.740	1.26e-07 "***"
Women Business and Law Score	0.0008814	0.0005206	1.693	0.0939
GDP Growth Rate	-0.0135892	0.0032915	-4.129	8.14e-05 "***"
Ease of Doing Business	0.0075281	0.0007488	10.054	2e-16 "***"
Total Natural Resources Rent	0.0004114	0.0008858	0.464	0.6435

Significance codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

The corresponding p-value is 2.2e-16, which is less than 0.05 at %5 level of significance; therefore, we reject the null hypothesis. We can say that at least one independent variable has significance on the estimated model.

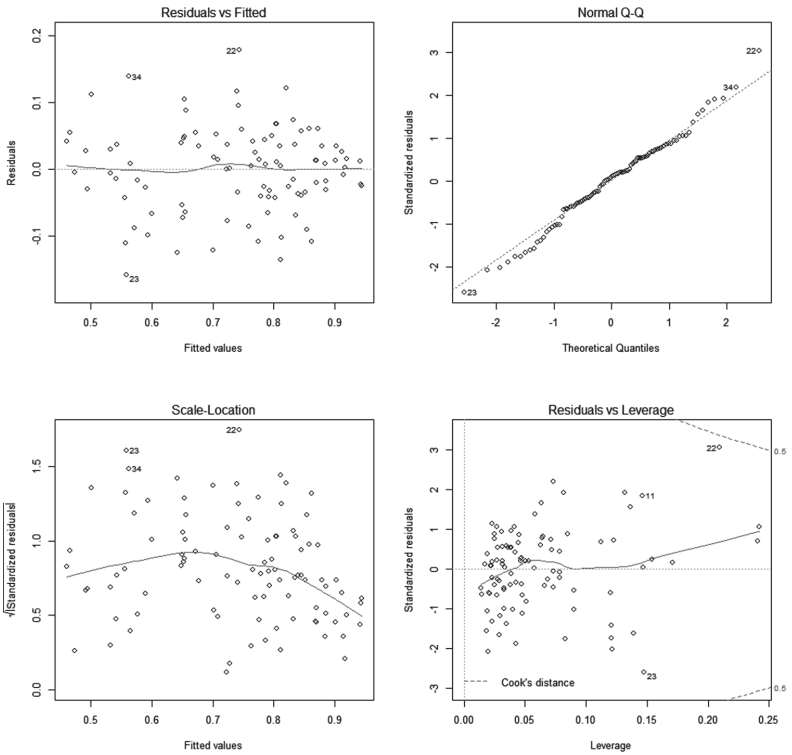
We interpreted the coefficients of the model parameters. Firstly, the coefficient of the access to clean fuel is 0.0018228, which means if we increase one unit in access to clean fuel keeping the other variables at the same level, the dependent variable will be increased by 0.0018228. t- value of access to clean fuel is 5.740, and the p-value is 1.26e-07 which is less than 0.05 at a 5% level of significance; therefore, the coefficients of the access to clean fuel have significance on the model.

Secondly, the coefficients of the GDP Growth Rate are -0.0135892, which means if we increase one unit in GDP Growth Rate keeping the other variables at the same level, the dependent variable will be decreased by 0.0135892. T-value of GDP Growth Rate is -4.129, and the p-value is 8.14e-05 which is less than 0.05 at a 5% level of significance; therefore, the coefficients of the GDP Growth Rate have significance on the model.

Lastly, the Ease of Doing Business Score's coefficients is 0.0075281. If we increase one unit in the Ease of Doing Business Score, keeping the other variables simultaneously, the dependent variable will be increased by 0.0075281. The T-value of the Ease of Doing Business Score is 10.054. The p-value is 2e-16 which is less than 0.05 at a 5% level of significance; therefore, the Ease of Doing Business Score's coefficients have significance on the model.

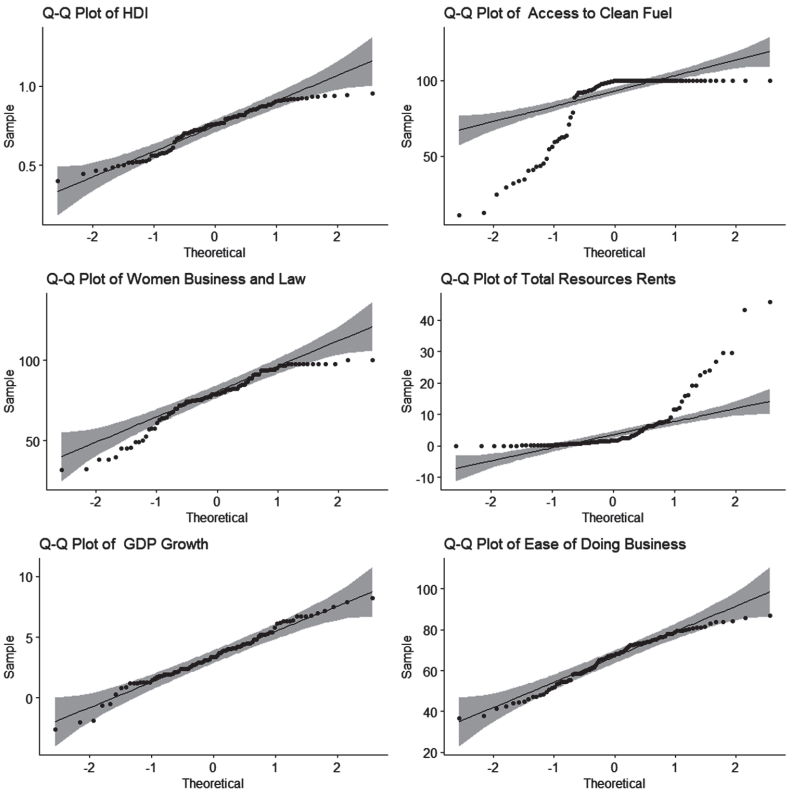
Secondly, the GDP Growth Rate coefficients are -0.0135892, which means if we increase one unit in GDP Growth Rate keeping the other variables at the same level, the dependent variable will be decreased by 0.0135892. T-value of GDP Growth Rate is -4.129, and the p-value is 8.14e-05 which is less than 0.05 at a 5% level of significance; therefore, the coefficients of the GDP Growth Rate have significance on the model.

Figure 1: Diagnostic Plots



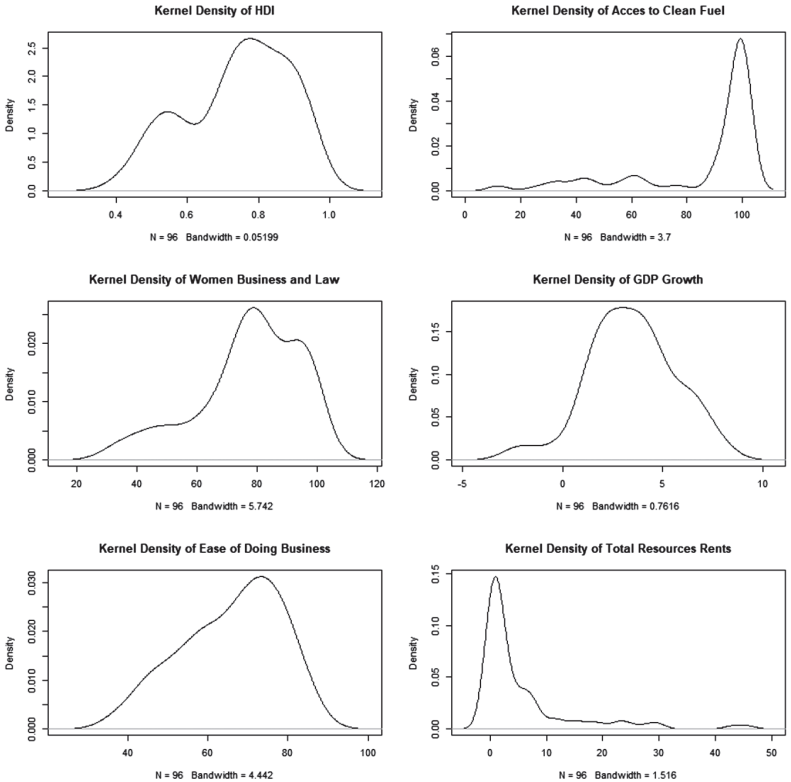
Lastly, the Ease of Doing Business Score's coefficients is 0.0075281. If we increase one unit in the Ease of Doing Business Score, keeping the other variables simultaneously will increase the dependent variable by 0.0075281. The T-value of the Ease of Doing Business Score is 10.054. The p-value is 2e-16 which is less than 0.05 at a 5% level of significance; therefore, the Ease of Doing Business Score's coefficients have significance on the model. To further investigation,

Figure 2: Q-Q Plots for Each Variable.



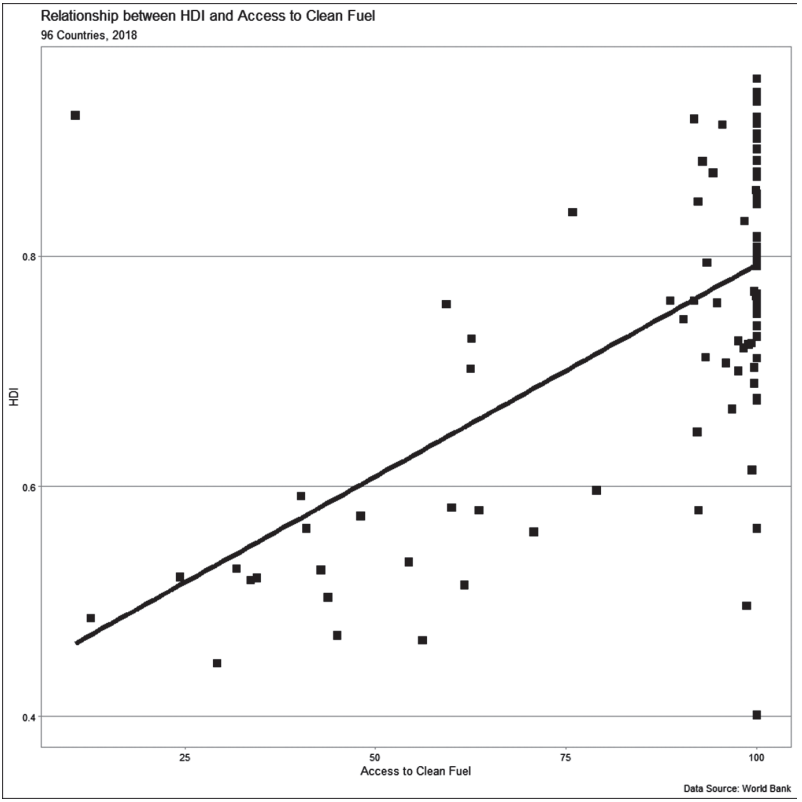
We can examine Figure 2; Q-Q plots for each variable can prove that the variables are normal or exponential distribution. As we can see from Figure 2, except for total resources rents and access to clean fuel, there is no apparent deviation from the line. So, except for these two variables, all of them are normally distributed. The distribution of variables also can be examined in histograms, but determining the distribution of variables can be easily obtained with density plots.

Figure 3: Kernel Density Plots for Each Variable.



Kernel Density plots are the more smoothed and continuous format of histograms. So, we can easily observe the distribution of variables. According to Figure 3, Kernel density plots of HDI and GDP Growth show that they are normally distributed. Ease of doing business, women business, and law and access to clean fuel show a negatively skewed distribution. Lastly, there is a positively skewed distribution according to Kernel density plots of total resources rents. Also, we can confirm these results from Table 1, which shows the descriptive statistics of each variable.

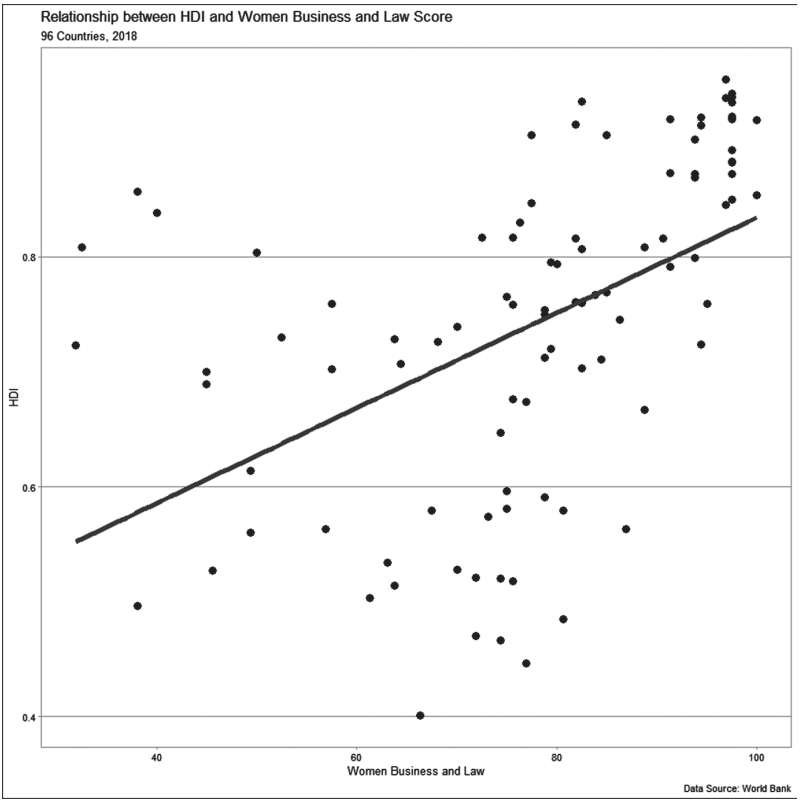
Figure 4: Relationship Between HDI and Access to Clean Fuel.



21st century shows that one of the main problems in front of humankind is air pollution. Cary (2019) researched the relationship between access to clean fuels and economic growth. The study concludes that around the world, using clean fuel or energy eventually will spread around the globe because economic growth is one of the main goals of every country. Most advanced and developing countries took measurements against pollution because almost every year, millions of people die because of household air pollution from inefficient cooking practices. That is why in this research, we investigated access to clean fuels and technologies for the cooking effect over the human development index. According to regression

analysis results, access to clean fuels is one of our model's most significant variables. As we can see from Figure 4, there is a positive relationship between these two variables. We can also conclude that in 2018 there are lost countries that solved this issue and can reach clean fuel to use.

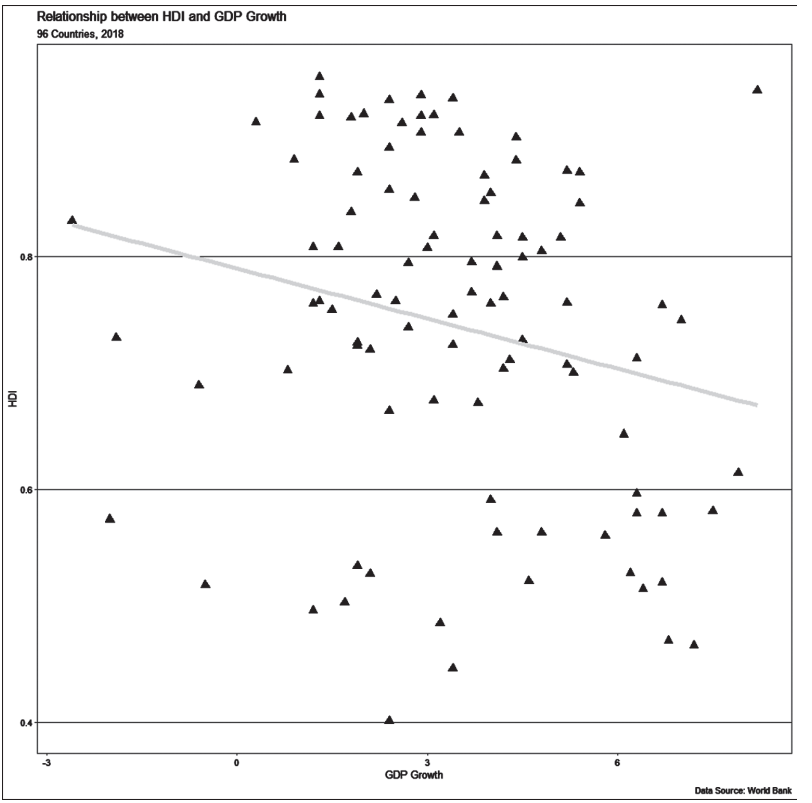
Figure 5: Relationship Between HDI and Women Business and Law Score



According to the World Bank, the women business and law score index measure how laws and regulations affect women's economic opportunity as shown in Figure 5. We know that improvements in citizens' education level, literacy rate, and GDP per capita lead to better HDI scores. As we expected, there is a positive re-

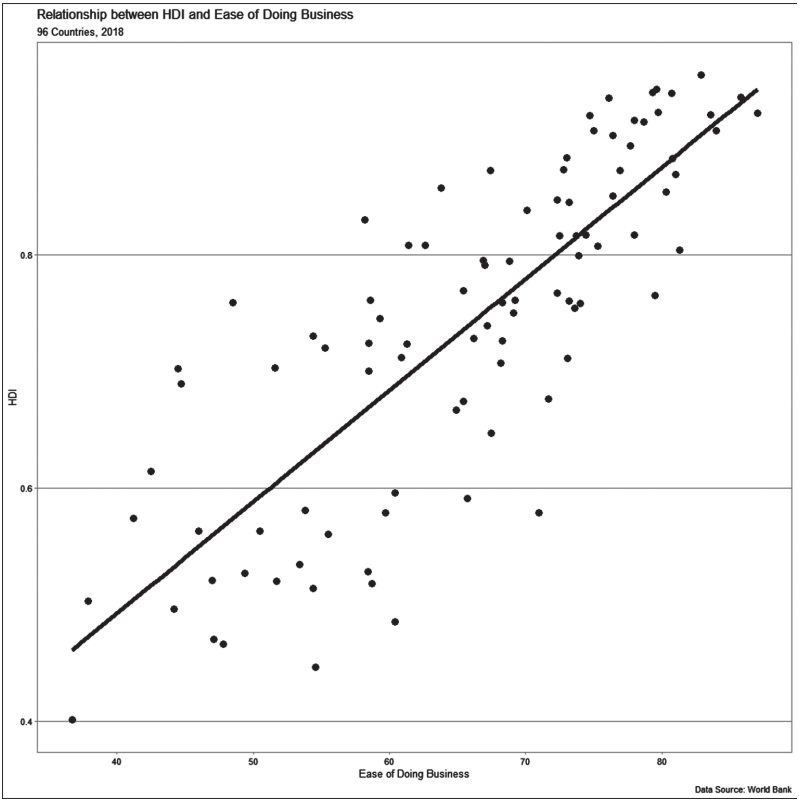
lationship between women business and law score and HDI. We can conclude that countries that want to reach high human development scores should consider protecting women's opportunities with increasing education levels and proper regulations.

Figure 6: Relationship Between HDI and GDP Growth Rate.



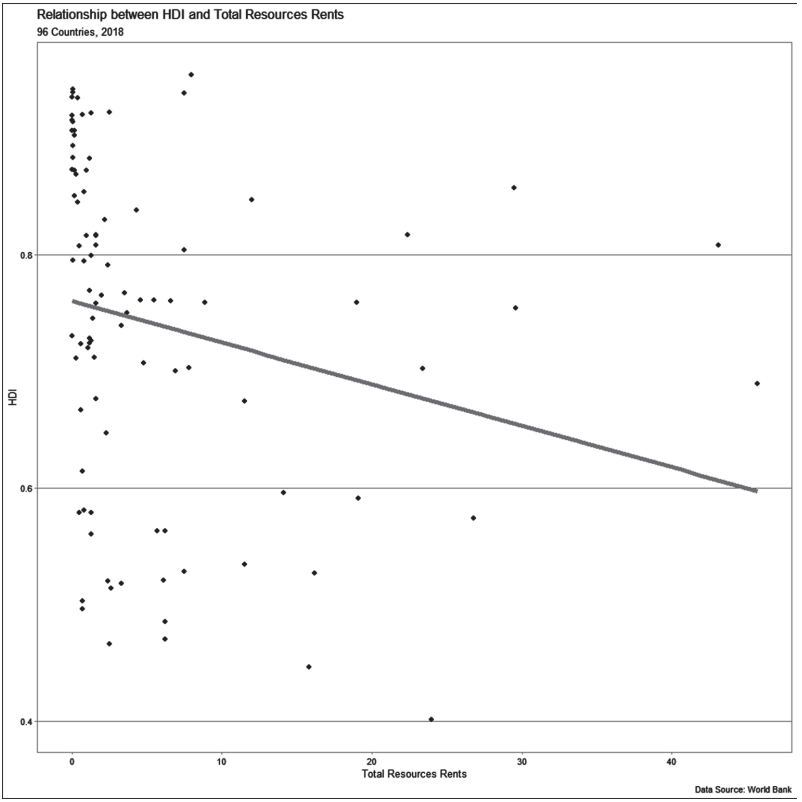
According to regression analysis, ease of doing business scores is a significant variable that affects the human development index. Figure 7 shows that there is a positive relationship between these two variables.

Figure 7: Relationship Between HDI and Ease of Doing Business Score.



Regression analysis results show that the GDP growth rate is one of the significant variables in our model. Interestingly, there is a negative relationship between these two variables. As we mentioned in the literature review section, previous works claim a positive relationship between GDP and HDI. Unlike many studies, Roshaniza and Selvaratnam (2015) also find a negative relationship between these two variables. They explain this situation with the poverty indicator, which was not included in the study.

Figure 8: Relationship Between HDI and Total Resources Rents.

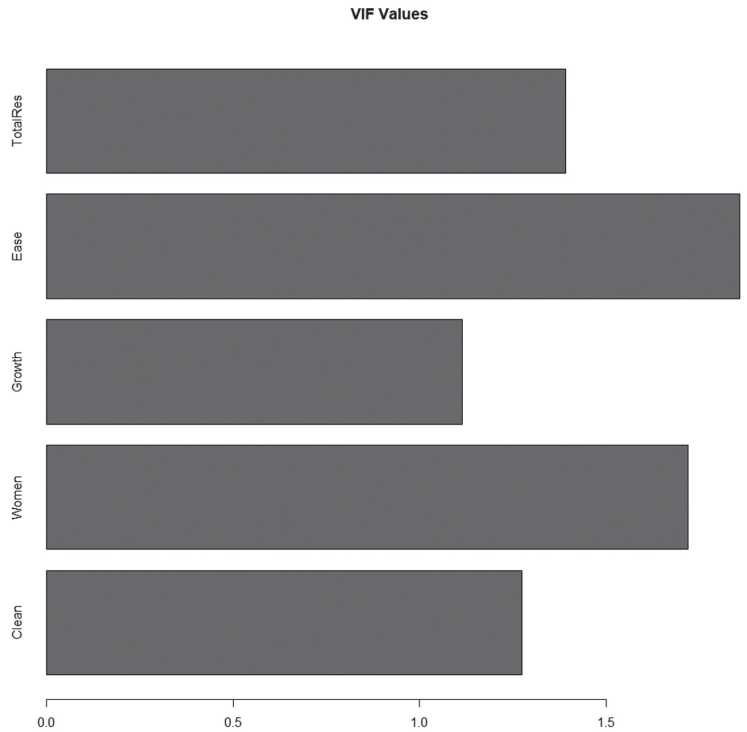


The resource curse is a famous phenomenon in social sciences, and it claims that countries with high natural resources like fuels cannot reach sustainable economic growth and democracy. This research adds countries' total natural resources to examine resource curse in terms of effect over human development index. Interestingly, we could not reach any particular conclusion from regression analysis because total natural resources rents do not significantly affect HDI. Still, figure 3 shows a negative correlation between these two variables.

To find multicollinearity in the regression analysis, we can perform a variance inflation factor (VIF). Multicollinearity emerged

when there is a correlation between predictors in the model. Variance inflation factor can estimate how much variance of a regression coefficient is inflated because of multicollinearity in the model. Between 1 to 5 are considered as moderately correlated.

Figure 9: Variance Inflation Factor Values.



It is tested whether the error margins in the regression are heteroscedastic. As we mentioned in the previous part, various diagnostics tests are performed when testing Heteroscedasticity. One of them, the Breusch Pagan test, is used to test Heteroscedasticity in the linear regression model. According to Breusch – Pagan Test, we can determine whether the model has constant variance or no constant variance in residuals.

Table 3: Breush – Pagan Test Result

Breusch – Pagan Test Result	
Reset	8.6281
D.F	5
p-value	0.1248

H_0: *Constant Variance in Residuals, Errors (Homoscedasticity)*

H_1: *No Constant Variance in Residuals, Errors (Heteroskedasticity)*

Under this condition, the p-value is greater than 0.05, so we fail to reject H0. This means that our model has constant variance in residuals, errors (Homoscedasticity).

For the correctness of the functional form, we can use the Ramsey Reset test. According to the Ramsey Reset test, our hypothesis is as follows:

H_0: *There is no omitted variable*

H_1: *There is an omitted variable*

Table 4: Ramsey Reset Test Result

Ramsey Reset Test Result	
Reset	0.73541
D.F 1	2
D.F 2	88
p-value	0.4822

Under this condition, the p-value is greater than 0.05, so we fail to reject H0. This means that there is no omitted variable.

According to Harvey – Collier Test:

H0: There is omitted variable bias.

H1: There is no omitted variable bias.

Table 5 shows the result of Harvey – Collier Test results.

Table 5: Harvey – Collier Test Result

Harvey – Collier Test Result	
HC	2.3096
D.F 1	88
p-value	0.02325

The result indicates sufficient evidence to support the claim that there is no omitted variable bias. We reject the null hypothesis.

According to Rainbow Test,

H0: There is omitted variable bias.

H1: There is no omitted variable bias.

Table 6 shows the result of Rainbow Test results.

Table 6: Rainbow Test Result

Rainbow Test Result	
Rain	0.94788
D.F 1	48
D.F 2	41
p-value	0.5734

The results indicate sufficient evidence to support the claim that there is omitted variable bias. We fail to reject the null hypothesis.

According to Goldfeld-Quandt Test:

H0: Homoscedasticity is present

H1: Heteroscedasticity is present.

Table 7 shows the result of the Goldfeld-Quandt Test results.

Table 7: Goldfeld – Quandt Test Result

Goldfeld – Quandt Test Result	
GQ	0.64521
D.F 1	42
D.F 2	42
p-value	0.9201

Goldfeld-Quandt test helps us to identify heteroskedastic errors in the multivariate regression model. Our p-value is not below 0.05, so we fail to reject the null hypothesis, and our null hypothesis will be homoscedastic in our case.

According to Durbin – Watson test.

H0: There is no correlation among the residuals.

H1: The residuals are autocorrelated.

Table 10 shows the result of the Durbin – Watson test results.

Table 8: Durbin – Watson Test Result

Durbin – Watson Test Result	
DW	2.016
p-value	0.5288

The result indicates sufficient evidence to support the claim that the residuals are not autocorrelated since p-value = 0.5288 > 0.05. So, we fail to reject the null hypothesis.

Table 9: *Generalized Least Square Test Result*

Generalized Least Square Test Result				
Coefficients				
	Value	Std. Error	t value	P-value
Intercept	0.06419454	0.04980451	1.288930	0.2007
Access to Clean	0.00182278	0.00031754	5.740338	0.0000
Women Business and Law Score	0.00088145	0.00052062	1.693061	0.0939
GDP Growth	-0.01358916	0.00329149	-4.128573	0.0001
Ease of Doing Business	0.00752807	0.00074876	10.054048	0.0000
Total Resources Rents	0.00041137	0.00088582	0.464399	0.6435
Standardized Residuals				
Min	1Q	Median	3Q	Max
-2.3917907	-0.5612820	0.0979179	0.6151037	2.7118865

We can use the GLS model when there are autocorrelation and homoscedasticity to reduce standard errors of variables and to reach more precise results from the analysis. Although there is no homoscedasticity and autocorrelation, a significant reduction in standard errors can be observed in Table 10.

Conclusion

This study investigates total natural resources rents over the human development index. The entire natural resources of countries may change by location of the country. It includes a sum of oil rents, natural gas rents, coal rents, mineral rents, and forest rents. In line with our studies, we have identified the dependent and independent variables, respectively, and explained them by supporting the researchers' arguments and research. While making predictions in regression analysis, we made predictions about the dependent variable by using independent variable values. Then, with the regression model that emerged as a result of our data, we found that all independent variables were related to the dependent variable. While doing all this, we applied the Generalized Least Square method and used different tests. In conclusion, this study's results provide information about the accuracy of the variables we estimate as to the determinants of the human development index. We observe that access to clean fuel is one of the significant predictors in our model. There is a positive relationship between these two variables. Also, previous works confirm our results. Secondly, the GDP growth rate is a significant predictor in our model, as we expected.

Interestingly, we found that there is a negative relationship between these two variables, unlike previous researches. As we mentioned before, we have to consider the poverty index when examining the relationship between GDP growth rate and HDI. Lastly, ease of doing business our a significant predictor in our model. Our research suggests that there should be less cost for doing business to reach high-level human development scores. Also, the 21st century doing business process should become more digital to reduce procedures.

This study's mixed results suggest that we have much more to learn about the human development index. In order to study this research question further, future studies may consider to enlarge both the dataset and its coverage to reach a generalizable results than what this study examined.

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ECONOMIC GROWTH IN DEVELOPING COUNTRIES: MEASUREMENT THROUGH INDEX OF HAPPINESS, HUMAN AND SOCIAL DEVELOPMENTS

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Economic growth of a country has direct link with the developments in other walks of life. Financial means in fact make the things to move in the right direction for progress and developments. There is an interrelated and corresponding impact of economic growth of a country with purchasing power of individuals and governments for creating public facilities. In this paper, we have selected four main dimensions of human developments which ultimately facilitate in creating coexisting communities for comprehensive stability and order. These dimensions (variables) include GDP per capita income, social progress index, human resource development criteria and happiness of the people in different countries, the world over.

Analysis of the comparative statements of the four variables reflected non-coherent empirical behaviors in different countries. A country with better economic growth is envisaged to be spending correspondingly on social progress and human resource development. The people in these countries would have better GDP per capita income which means more purchasing power to support essentials of life. With more purchasing power, the people should principally be happy.

The comparative data indicated that the notion of people being happy in better purchasing power scenario was not true in all the cases. The varying details have been reflected in the paper in an attached Annex. It includes all countries of the world, the data has been taken from authentic sources as available on their websites. The analysis also inferred flaws in government policies / state mechanisms of different countries for having non-compatible growth policies for corresponding growth of the societies.

1. Introduction

Under varying economic terminologies, growth in economy of a country is basically the measurement of change in production of goods and services being produced from one to another time period. In different ways, it is measured in terms of Gross Domestic Product (DGP) or Gross National Product (GNP). Annual enhancement in GDP or GNP reflects advancement of a country in fulfilling individual and societal needs. 5 to 7% increase in national income of a country is considered sufficient enough to sustain rise in expenditures of individual and state mechanism (Costantini and Salvatore, 2008).

However, there is another dimension to economic growth measurement which is related to social well-being, societal harmony and happiness. Societal integration, satisfaction and peace at mind is wholly dependent upon total wealth and fulfillment of material means. Therefore economic development needs to be considered through a multidimensional process like reduction in inequality, eradication of poverty and measuring happiness index of the people at majority. For this purpose, the core values include sustaining basic physiological needs, self-esteem and freedom. The process or phenomenon of improving living standards of people so as to enable them employ their full potentials for their contribution in the society is called social development.

It is basically investing in people for their pay back to the social structure of the state. Happiness on the other hand means contentment, pleasure, contentedness, satisfaction, cheerfulness, cheeriness, joyfulness, joviality, blitheness, carefreeness, gladness, delight, good spirits, high spirits, light-heartedness, good cheer, well-being, enjoyment and felicity. What actually it is? That depends upon attitude and inner-self of the individual and it has many debatable dimensions.

The paper takes into account economic growth, social progress, human resource development and happiness as interdependent variables. They converge and diverge on certain grounds of rationale specific to the outlook of different societies.

2. Objectives of Study

- To comprehend empirical dimensions of Economic Growth, Social Progress, Human Resource Development and Index of Happiness.
- To find out appropriate correlations among Economic Growth, Social Development and Index of Happiness in Global Perspective.
- To establish a relationship of Happiness with Economic Growth, Social Progress and Human Resource Development.
- To draw similarities and dissimilarities among countries of different regions on varying criteria.

3. Research Questions

- What economics is and what kind of relationship it has with our social structure, social lives and societal outlook?
- How economic growth is related to social progress, societal development and happiness?
- How can we measure happiness with respect to social progress index, GDP per capita income and human resource development?

4. Literature Review

The existing literature amply covers the relationship between economic growth and human resource development. As a matter

of principle, economic growth of a country should make its people happy, mentally at peace and peace loving because off obvious reasons. Better economic conditions provide leverage to a country to spare necessary infrastructures for human resource developments and social progress. On the other hand skilled human resource substantially enhance the economic growth; so in a way, they become complementary to each other (Ranis, 2004). The institutional governance system plays a dominant role in establishing the relationship between economic growth and social development including human resource.

The institutions provide the environments of integrated knowledge, research focus and market driven programs. GDP per capita has relationship with human resource development, social progress index and stability. What is human progress and well-being, economists tend to measure it in GDP; that is the simple way of reaching to certain conclusions on objective planes. What happens is that some times, despite improvements in social and civic aspects, societies fail to achieve stability and condition of coexistence. For years, the academics debated that GDP and income based measures do not offer a complete view of human flourishing. Although objective measures like income, buying capacities, employments and wealth provide valuable information about human behaviors; nonetheless subjective aspects have their own place in the minds of the people in different circumstances (OECD, 2011).

There have been discussion on relationship between happiness and real GDP per capita as referred earlier in different countries; it has varying outcomes (Diener et al. 2010). In a study by Deaton (2008), it was inferred that each doubling of GDP is associated with constant increase in life satisfaction. The standard measure of economic growth in that way became Deaton, real gross domestic product (GDP) per capita. Accordingly, the rate of growth is calculated as percentage change in GDP per capita.

5. Discussion Preliminaries

5.1 Economics

Branch of knowledge dealing with production, distribution and consumption of goods and services is called economics (investopedia, 2019). Economics as branch human knowledge has become essential due to Maslow's Need Factors which includes Physiological Needs, Safety Needs, Social Needs, Self Esteem and Self Actualization. In one or the other way, economics comes in to influence the five factors as laid down by Maslow.

5.2 Economic Growth

- A certain degree of increase in the market value of goods and services produced by an economy.
- It is measured in GDP, which is the market value of total goods and services produced in a country per fiscal year.

5.3 Disposal of GDP and GDP Per Capita

- At individual levels, GDP per capita income is spent for food, security, safety, health and Education.
- On the other hand, at the level of state, country or society, the national income is utilized for human resource development, compatible growth of infrastructure and future safeguards.

5.4 Purchasing Power

- Value of currency expressed in terms of amount of goods or services that one unit of money can buy is called purchasing power.
- Understanding purchasing power is important because, all else being equal, inflation decreases the amount of goods or services you would be able to purchase.

5.5 Purchasing Power Per Capita

- Value of all final goods and services produced within a country in a given year, divided by the population for the same year; that becomes purchasing power per capita of the citizens of respective countries.
- In other words, we can say that purchasing power per capita is basically what is available to the individual for his individual needs.

5.6 Components of Economic Growth

- Natural Resources: it includes both i.e. Land Based and Water Based.
- Infrastructure: Transportation, Energy, Water, Safety, Financial, Health, Education, Public Space, Culture, Technology, Environments, Rules.
- Population: Male, Female, Working Age, Elderly, Children.
- Human Capital Development: Overall, Male, Female.
- Technology: Agriculture, Industrial and Services Sectors.
- Law: Financial Security, Merit Based Resource Utilization.

5.7 Terminologies of Social and Development

- Something pertaining to society, organization, community, group of people and individuals.
- Fundamentally, being social means how you create space of coexistence for yourself which is acceptable to the people around and provide you self-sufficiency as well as supportive role for collective well-being.
- The process in which something grows or changes and becomes more advanced**.**

5.8 Social Development

- The process or phenomenon of improving living standards of people so as to enable them employ their full potentials for their contribution in the society is called social development.
- Social development is investing in people for their pay back to the social structure of the state. Fundamentally, it is enabling them for self-sufficiency.
- The process by which society increases its economic capacity, cultural integration and institutional effectiveness.

5.9 **Components of Social Development**

- Environments.
- Water and Food.
- Healthcare and Hygiene.
- Education and Training.
- Work life Balance.
- Safety and Security.
- Life Supporting Means.

5.10 Happiness

- Happiness means contentment, pleasure, contentedness, satisfaction, cheerfulness, cheeriness, joyfulness, joviality, blitheness, carefreeness, gladness, delight, good spirits, high spirits, light-heartedness, good cheer, well-being, enjoyment and felicity.
- What actually it is? That depends upon attitude and inner-self of the individual and it has many debatable dimensions.
- When one is happy; it is a matter of time, space, company and fulfillment of needs.

6. Discussion, Analysis and Conclusions

6.1 Dimensions of Social Development

Social development fundamentally has two dimensions i.e. objective dimension which deals in material means and subjective one which essentially is related to cognitive aspects. According to economic theory, money makes you happier or it should make you happy. It means that those with better income are happier than those with less money at their disposals. Similarly public policy parameters are focused at increasing the societal wellbeing; it will have corresponding relationships. In the light of preceding discussion, the analysis of some developed, developing and underdeveloped countries depict positive association between happiness and income. However, this association is of permanent nature, it varies with time. Contrary, the data as shown at Annex A indicates that the said association is not correct. Societal issues of marriage, divorce, disease, health and so on have great impact on the happiness of individuals and societies as a whole. Therefore it has different meanings for individuals of varying backgrounds. Some studies call such criteria as subjective well-being (Deaton, 2008).

6.2 Global Ranking of Countries:

Covering Four Dimensions of Human Developments: GDP per Capita, Social Progress, Human Resource Development and Happiness

Tabl 1: Comparative Data of 4 Contested Variables Respecting 19 Selected Countries for Focused Analysis and Study

Country	GDP Per Capita in Int$	Rank GDP Per Capita	Happiness Score	Rank Happiness	SPI Score	Rank SPI	HDI Score	Rank HDI
Qatar	128,378	1	6.374	32	70.69	114	63.97	55
Singapore	93,905	3	6.343	34	84.69	121	73.28	11
United States	59,532	11	6.886	18	85.27	142	74.84	4
Saudi Arabia	53,845	12	6.371	33	64.84	118	58.52	82
Sweden	50,070	18	7.314	9	89.14	130	73.95	8
Poland	29,291	44	6.123	42	81.73	111	69.61	31
Turkey	27,916	47	5.483	74	66.46	138	60.33	75
Russia	25,533	53	5.810	59	69.70	116	72.16	16
Iran	20,950	61	4.707	106			60.34	74
Thailand	17,871	71	6.072	46	66.82	134	66.15	40
Iraq	17,197	74	4.456	117		154		
China	16,807	76	5.246	86			67.72	34
Brazil	15,484	79	6.419	28			59.73	77
South Africa	13,498	90	4.724	105	66.47	145	58.09	87
Indonesia	12,284	95	5.093	96			62.19	65
Pakistan	5,527	132	5.472	75			46.34	125
Sudan	4,904	135	4.139	137	38.50	119	55.77	101
Bangladesh	3,869	144	4.500	115			51.75	111
Afghanistan	1,981	163	3.632	145				

Sources: John F. Helliwell, Richard Layard, and Jeffrey D. Sachs, World Happiness Report, World Economic Forum, The Global Human Capital Report 2017, OECD Economic Surveys 2018, (US Department of State, Bureau of European and Eurasian Affairs, 2011, economic survey of Pakistan, 2017.

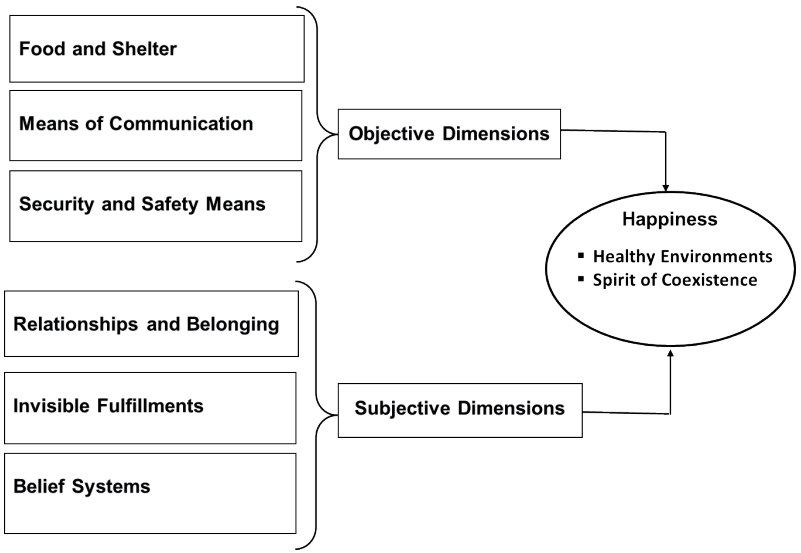
Looking at Table-1, one finds lopsided relationships among the four variables as mentioned under respective columns in the cases of most of the countries. For example in the case of Qatar, it is number 1 in GDP per capita income; its happiness score is 34. Similarly in the social progress index, Qatar is 114 and in human resource development index, it is 55. The point is that despite having highest personal disposable, the people not happy because, the government is not corresponding spending on social and human renouncement developments. There can be many inferences drawn from the data of the same country; for example the state does not have the capacity to manage financial means for the creation of social amenities, infrastructure for the development of human resource, health facilities, educational set ups and communication means. Similarly, in the given data in the table above, one can find a very interesting relationships of these variables in the case of Pakistan and Turkey and so on for other countries. It speaks of relevant importance of subjective dimensions of human happiness and comfortableness.

The model shown below provides a solution for even development of human dimensions of satisfaction for the sustainable growth of societies. It means the countries would be developing a notion of coexistence based on values and mutual respects. Different components of the model are self-explanatory. Basically, these revolve around two main dimensions of human satisfaction and happiness i.e. objective and subjective dimensions. Maslow's theory of human needs covers both the dimensions i.e. physiological needs and those of belongingness.

The model covers objective dimensions like food and shelter, means of communications and those falling in the purview of safety and security. At the same time, the model highlights the relevance of subjective dimensions in very broad categories like relationship and belonging, invisible fulfillments and belief system. Whereas rest of the components become easy to comprehend, the one mentioned under subjective dimensions 'invisible fulfillments' needs deep understanding of human beings' sociological, psychological,

meta-physical, cultural and political aspects. These aspects encompass the umbrella of inner-self-management of human activities. Mavelana Jalal-Ud-Din Rumi has amply covered these aspects of human inner conflicts and their way forward. His ideology of happiness fundamentally hinges on serving the humanity and giving is basically satisfying inner-self which is contrary to the common understanding under the economic theory of management of material means.

Diagram 1: Proposed Model for Attaining Happiness



Note: Here belief system is not restricted to any particular religion. It is taken as universal to all kinds of belief systems where a mechanism is accepted beyond human capacities; some entity supreme to human potentials in managing the system of life and death.

Annex A

Global Ranking Covering Four Dimensions of Human Developments: GDP per

Capita, Social Progress, Human Resource Development and Happiness

Table-2: Comparative Data of the World in 4 Selected Domains

Country	GDP Per Capita in Int$	Rank GDP Per Capita	Happiness Score	Rank Happiness	SPI Score	Rank SPI	HDI Score	Rank HDI
Qatar	128,378	1	6.374	32	70.69	114	63.97	55
Macau	115,123	—				204		
Luxembourg	103,662	2	6.910	17			69.61	30
Singapore	93,905	3	6.343	34	84.69	121	73.28	11
Brunei	78,836	4				180	62.82	58
Ireland	76,305	5	6.977	14			71.67	19
United Arab Emirates	73,879	6	6.774	20			65.48	45
Kuwait	71,943	7	6.083	45		156	56.08	96
Switzerland	65,006	8	7.487	5			76.48	3
San Marino	62,425	9				222		
Hong Kong	61,540	—	5.430	76		197		
Norway	60,978	10	7.594	2			77.12	1
United States	59,532	11	6.886	18	85.27	142	74.84	4
Saudi Arabia	53,845	12	6.371	33	64.84	118	58.52	82
Iceland	53,518	13	7.495	4			71.44	21
Netherlands	52,941	14	7.441	6			73.07	13
Austria	52,558	15	7.139	12			73.29	10
Germany	50,715	16	6.965	15			74.30	6
Denmark	50,541	17	7.555	3			74.40	5
Sweden	50,070	18	7.314	9	89.14	130	73.95	8
Belgium	47,561	19	6.927	16			72.46	15
Bahrain	47,527	20	6.105	43		148	64.98	47
Australia	47,047	21	7.272	10			71.56	20
Canada	46,378	22	7.328	7			73.06	14
Finland	45,192	23	7.632	1			77.07	2

United Kingdom	43,877	24	6.814	19			71.31	23
Japan	43,876	25	5.915	54			72.05	17
France	42,779	26	6.489	23			69.94	26
Oman	41,675	27						
European Union	41,091	—						
New Zealand	40,917	28	7.324	8			74.14	7
Italy	39,817	29	6.000	47			67.23	35
Malta	39,534	30	6.627	22			66.13	
Israel	38,413	31	7.190	11		159	71.75	41
Korea, South	38,260	32	5.875	57		161	69.88	27
Spain	38,091	33	6.310	36			65.60	44
Czech Republic	36,916	34	6.711	21			71.41	22
Slovenia	34,802	35	5.948	51	85.86	129	73.33	9
Cyprus	34,504	36	5.835	58		213	66.43	38
Portugal	32,199	37	5.410	77	85.36	112	65.70	43
Slovakia	32,111	38	6.173	39	80.05	128	67.14	36
Lithuania	32,093	39	5.952	50			70.81	25
Estonia	31,638	40	5.739	63			73.13	12
Trinidad and Tobago	31,578	41	6.192	38		166	62.54	59
Bahamas, The	30,430	42				177		
Malaysia	29,432	43	6.322	35			68.29	33
Poland	29,291	44	6.123	42	81.73	111	69.61	31
Seychelles	28,964	45				164		
Hungary	28,375	46	5.620	69			66.40	39
Turkey	27,916	47	5.483	74	66.46	138	60.33	75
Greece	27,809	48	5.358	79			64.68	48
Latvia	27,598	49	5.933	53			69.85	28
Saint Kitts and Nevis	27,067	50				200		
Kazakhstan	26,410	51	5.790	60			69.78	29

Romania	25,841	52	5.945	52	74.68	115	66.12	42
Russia	25,533	53	5.810	59	69.70	116	72.16	16
Croatia	25,264	54	5.321	82			66.81	37
Equatorial Guinea	24,817	55	3.964	140		152		
Panama	24,446	56	6.430	27			63.85	56
Chile	24,085	57	6.476	25			64.22	53
Antigua and Barbuda	23,594	58				176		
Uruguay	22,563	59	6.379	31	79.61	141	62.26	63
Mauritius	22,279	60	5.891	55			41.19	129
Iran	20,950	61	4.707	106			60.34	74
Argentina	20,787	62	6.388	29			64.34	52
Bulgaria	20,329	63	4.933	100			68.49	32b
Libya	19,631	64	5.566	70		157		
Belarus	18,848	65	5.483	73				
Montenegro	18,765	66	5.347	81				
Barbados	18,640	67					59.21	79
Gabon	18,183	68	4.758	103		150	53.37	107
Mexico	18,149	69	6.488	24			61.25	69
Turkmenistan	17,993	70	5.636	68		165		
Thailand	17,871	71	6.072	46	66.82	134	66.15	40
Azerbaijan	17,398	72	5.201	87		147		
Botswana	17,354	73	3.590	146			57.56	91
Iraq	17,197	74	4.456	117		154		
Costa Rica	17,044	75	7.072	13			62.38	61
World	16,961	—						
China	16,807	76	5.246	86			67.72	34
Maldives	16,669	77				158		
Dominican Republic	16,030	78	5.302	83				
Brazil	15,484	79	6.419	28			59.73	77

Algeria	15,275	80	5.295	84			51.51	112
North Macedonia	15,231	81	5.185	89			61.82	67
Suriname	15,114	82			67.18	127		
Serbia	15,090	83	5.398	78	73.06	125	62.50	60
Grenada	14,924	84				193		
Lebanon	14,676	85	5.199	88				
Colombia	14,552	86	6.260	37				
Palau	14,536	87				216		
Saint Lucia	14,219	88				202		
Nauru	14,158	89				215		
South Africa	13,498	90	4.724	105	66.47	145	58.09	87
Peru	13,434	91	5.663	65	69.89	108	62.17	66
Mongolia	13,000	92	5.125	94			64.35	51
Bosnia and Herzegovina	12,876	93	5.129	93		149		
Sri Lanka	12,811	94	4.471	116			61.19	70
Indonesia	12,284	95	5.093	96			62.19	65
Albania	12,021	96	4.586	112			58.22	85
Tunisia	11,911	97	4.592	111	72.96	137	50.76	115
Saint Vincent and the Grenadines	11,777	98				229		
Ecuador	11,617	99	5.973	48			59.87	76
Egypt	11,583	100	4.419	122			55.99	97
Kosovo	10,754	—	5.662	66		201		
Georgia	10,699	101	4.340	128				
Dominica	10,620	102	5.302	83		185	57.12	93
Namibia	10,476	103	4.441	119		160	55.86	99
Paraguay	9,691	104	5.681	64	64.82	113	57.65	90
Armenia	9,648	105	4.321	129			64.46	49

Bhutan	9,561	106	5.082	97				
Fiji	9,555	107						
Jordan	9,153	108	5.161	90			58.15	86
Jamaica	8,995	109	5.890	56		155	58.39	83
Ukraine	8,667	110	4.103	138	68.98	140	71.27	24
Belize	8,590	111	5.956	49		178		
Eswatini	8,496	112						
Philippines	8,342	113	5.524	71	63.07	109	64.36	50
Morocco	8,218	114	5.254	85			49.47	118
Guyana	8,163	115					58.02	88
Guatemala	8,150	116	6.382	30			55.83	100
El Salvador	8,006	117	6.167	40	64.94	124	56.36	95
Bolivia	7,560	118	5.752	62			64.06	54
Timor-Leste	7,213	119			54.81	136		
India	7,056	120	4.190	133			55.29	103
Laos	7,023	121	4.623	110				
Uzbekistan	6,865	122	6.096	44	57.90	143		
Cape Verde	6,832	123						
Vietnam	6,775	124	5.103	95		169	62.19	64
Samoa	6,611	125				234		
Angola	6,389	126	3.795	142				
Myanmar	6,139	127	4.308	130			57.67	86
Tonga	5,957	128				226		
Nigeria	5,861	129	4.166	134			51.06	114
Nicaragua	5,842	130	6.141	41			53.11	108
Moldova	5,698	131	5.640	67			62.29	62
Pakistan	5,527	132	5.472	75			46.34	125
Congo, Republic of the	5,359	133						
Honduras	4,986	134	5.504	72				

Sudan	4,904	135	4.139	137	38.50	119	55.77	101
West Bank and Gaza	4,885	—				232		
Ghana	4,641	136	4.657	108			61.01	72
Papua New Guinea	4,197	137			37.83	110		
Marshall Islands	4,192	138				207		
Zambia	4,050	139	4.377	125		171	59.08	80
Cambodia	4,002	140	4.433	120			67.72	68
Côte d'Ivoire	3,953	141					51.12	113
Mauritania	3,950	142	4.356	126			41.19	129
Tuvalu	3,925	143				227		
Bangladesh	3,869	144	4.500	115			51.75	111
Kyrgyzstan	3,726	145	5.131	92			65.14	46
Cameroon	3,694	146	4.975	99			60.76	73
Micronesia	3,622	147				189		
São Tomé and Príncipe	3,351	148						
Kenya	3,286	149	4.410	124			59.48	78
Vanuatu	3,208	150				170		
Tajikistan	3,180	151	5.358	80	53.13	135	63.79	57
Lesotho	3,130	152	3.808	141			46.88	124
Tanzania	2,946	153	3.303	153	51.05	139	53.58	106
Senegal	2,712	154	4.631	109	55.21	120	43.33	128
Nepal	2,682	155	4.880	101			55.92	98
Solomon Islands	2,422	156			48.06	122		
Guinea	2,285	157	3.964	140			48.01	121guy
Benin	2,266	158	4.141	136			54.58	105
Mali	2,211	159	4.447	118			46.02	126
Kiribati	2,175	160				199		
Zimbabwe	2,086	161	3.692	144	43.76	146		
Rwanda	2,036	162	3.408	151	52.81	117	61.06	71

Afghanistan	1,981	163	3.632	145				
Chad	1,941	164	4.301	131	27.80	132	47.53	122
Ethiopia	1,899	165	4.350	127			44.44	127
Burkina Faso	1,870	166	4.424	121				
Uganda	1,864	167	4.161	135		168	58.73	81
Haiti	1,815	168	3.582	148		153		
Gambia, The	1,715	169					48.94	119
Guinea-Bissau	1,700	170				151		
Togo	1,570	171	3.999	139	47.45	133		
Madagascar	1,555	172	3.774	143			51.96	110
Comoros	1,552	173						
Sierra Leone	1,526	174	4.571	113	43.91	123	49.49	117
Mozambique	1,247	175	4.417	123			50.18	116
Malawi	1,202	176	3.587	147			52.32	109
Niger	1,017	177	4.166	134				
Congo	887	178						
Liberia	827	179	3.495	149			48.86	120
Burundi	771	180	2.905	156			55.45	102
Central African Republic	726	181	3.083	155				

Sources: John F. Helliwell, Richard Layard, and Jeffrey D. Sachs, World Happiness Report, World Economic Forum, The Global Human Capital Report 2017, OECD Economic Surveys 2018, (US Department of State, Bureau of European and Eurasian Affairs, 2011, economic survey of Pakistan, 2017.

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IT AND OPPORTUNITIES IN DEVELOPING COUNTRIES: THE CASE OF TUNISIA

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1. Introduction

One of the priorities for Tunisian economy is to provide favorable conditions for the development of digital economy, which could boost economic growth and promote digital inclusion. For developing and emerging countries, to build capacities in the Information and Communication Technology (ICT) sector pass through supporting entrepreneurship and promoting digital transformation. In this chapter, we first briefly discuss the emergence of new paradigm of ICT and its impacts on producing and managing processes. We demonstrate second how ICTs affects growth and investment. Third, we present the Tunisian context aiming to better understand country ranking according to most popular digital competitiveness indexes and to show, in fine, strengths and challenges for ICT sector in Tunisia.

2. ICTs towards new paradigm

ICT, as a term, is generally accepted to mean infrastructure, all networking components, applications and systems that combined allow businesses, agencies, governments and ordinarily people to interact in the digital world. ICTs are then a collection of resources needed to manipulate information, especially computers and programs needed to: convert, store, manage, transmit and retrieve it. Originally called Information and Communication Technologies (ICTs), we can now also use new names given by the World Bank in its World Development Report 2016 which are Numerical Technologies and Digital Technologies. These latest includes the Internet, mobile phones and all other tools for storing, analyzing and sharing information in digital form. The change of term certainly appeared

when the interfaces became tactile, and when individuals by their actions of manipulation, are placed in the heart of the process. The declination of technological media such as tablets, smart watches, online platforms, but also "uberization" are the perfect embodiment of the evolution of technologies around digital.

The role and place of information and digital technologies in all sectors of the economy have been the subject of a number of analyzes and reflections. The digital revolution concerns all of firm's processes which is not only related to the emergence of new activities such as e-trade but also raises a problem linked to the massive data that must be managed. ICT's importance to business growth has been so monumental, what in fact many labeled the Fourth Industrial Revolution. This boom is bringing new challenges to our societies with certainly Artificial intelligence, Big data and Blockchains issues.

So, rather than acquisition of these technologies by various agents, ***the main question in this chapter remains the pass-through and ICT integration by producers, government and consumers*** in the case of Tunisia.

a. Main characteristics of ICTs

ICT continues to revolutionize all parts of the human experience: first with computers, now with robots that can answer more quickly and efficiently handle all services needed by humans. However, the ICT concept has had too often general and non-exhaustive definitions that do not necessarily take into account the remarkable evolution in the fields of technology and computer science. For this reason and to better delineate contours of the concept, it is more useful to show the characteristics that specify ICTs compared to previous technologies.

The literature identifies several characteristics of which we list the most important:

- ICTs are ***integrative*** technologies: it does not replace the previous technologies, it can totally integrate them into new and

more efficient systems (DUVAL et JACOT (2000) ; DE ROSNAY (2000)); internet is the perfect case for this proposition.

- ICTs bring us new ways to communicate, express, create, work, learn; and this phenomenon is perpetuated at an accelerated speed. ICTs ***revolutionize our daily life***.
- ***Devices are smaller***: miniaturization is an important feature of ICTs; this is evident both in terms of devices and information media. In fact, technological progress in the field of ICT, especially miniaturization, has allowed the development of areas of science up till now ignored: micro robots and nanotechnologies are particularly mentioned.
- ICTs are ***more affordable*** (cost, usability and flexibility): costs are constantly falling for a given level of use, which makes them accessible to an increasing part of population (democratization of the media). ICTs present, through their user-friendly interfaces, a great ease in their use with a minimum of knowledge. In contrast to previous technologies, ICTs are characterized by their great ***flexibility of use*** and have a wide potential for use that can served in different fields and for various activities.
- ICT are ***more powerful*** and ***bigger***: the possibilities of ICT tools (devices and software) are constantly increasing, allowing maximum effect, output. The development and capabilities of several digital devices are related to Moore's law that the power of microprocessors multiplies at phenomenal rates.
- Multichannel: ICT uses three channels namely the textual channel, the image channel and the sound channel (video).

b. ITCs affect growth and investment

As mentioned above, technology is changing very fast and affects not only the way companies operate but also how countries are doing today and evolve in the future. Today, governments and

corporations are jostled by 3D printing, robotics and neuro-technologies, but also digital currencies and e-democracy. Policymakers in the private and public sectors of an economy need to know how to quantify and account for the degree of rapid transformation generated by ITCs. Currently, international centers and institutions are conducting rankings measuring the competitiveness and development of ITC.

The impact of information and communication technology (ICT) on economic development has been conducted in several empirical studies which reveal mostly a positive link between ICTs investment and economic growth for developed and high income countries but a mitigate relationship for less developed ones.

Shiu & Lam (2008) shows through a dynamic panel data model for 105 countries: a bidirectional relationship between telecommunication development and economic growth for European countries, and those belonging with high income. However, for lower income group, the relationship is generally unidirectional driven from real GDP to telecommunications development and for less developed ones, the study pointed out that the causal link is not so significant. Pradhan & al. (2015) article confirm Granger-causality among ICT infrastructure, financial development, and economic growth. Elena Toader & Al. (2018) investigate economic implications of ICTs, notably their contribution on productivity, economic growth, and in reducing poverty. The paper examine the effect of using ICT infrastructure on economic growth in EU28 countries, for a period of 18 years (2000–2017): it shows that "*an increase of 1% in the use of ICT infrastructure would contribute to a GDP per capita growth between 0.0767% (fixed-broadband subscriptions) and 0.396% (mobile cell subscriptions)*" (p16). Study's results reflect then a positive effect of the use of ICT infrastructure on economic growth, so they are considered important drivers of economic growth in the EU countries. Other studies found that economic growth in many countries and regions of the world is negatively affected by ICT diffusion: Yousefi (2011) findings suggest that that the level of investment in ICT is not

the cause of slow growth in lower-middle developing countries as beforehand thought.

Many studies noted above clearly show that ICT and the Digital revolution contribute to positive results, both on a micro and macro level. Economists distinguish five types of channels through which ICTs can affect growth:

- The "**multiplier effect**" of investment in ICTs, "*due to the transition from an industrial to an information society at a macroeconomic level, production and consumption of ICT goods and services is significantly increasing, which in turn exerts a positive influence on economic growth and development*" (Damira Keček & Al., 2016, p130). Di Carlo and Santarelli by analysing production and demand multipliers for the Italian national economy (years 1995, 2000, 2005 demonstrate ICTs as a key sector for economic growth. Their results have shown that ICT sector has a greater multiplicative effect on the productive system than the non- ICT sectors.
- The "**deflator effect**" which reflects the fall in prices in the ICTs sector. In the ICT sector, the environment is highly competitive, which tends to push private operators (such as those in the telecommunications sector) to pass on lower costs in prices. The increase in "performance by cost ratio" concerns all components of the NICTs, including electronics, IT and audiovisual.
- The "**capital deepening effect**" which concerns capital intensity ratio that increases following investments in ICTs. In fact, one of the positive effect of ICT investment on productivity is due to an increasing of the amount of capital deployed per worker.
- "The **overall factor productivity effect**": ICT is generally considered a *purpose technology* (Rhiel, 2018) that can improve productivity by several other ways (not only deepening effect) : "*by speeding up the aggregated productivity of an*

economy due to technological improvements in the ICT producing sector" (Rhiel, 2018, p3).

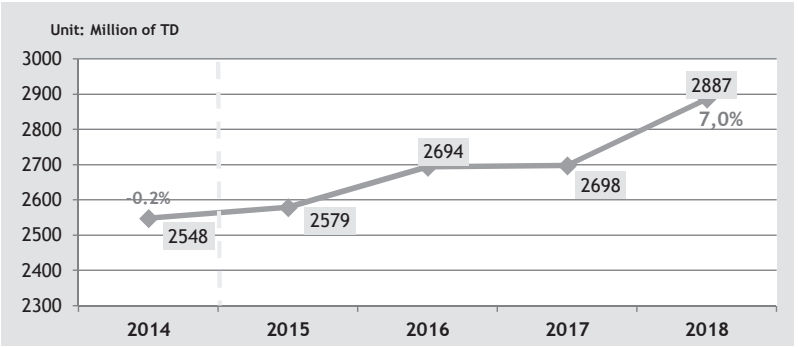
- and the "**quality effect**" which reflects the improvement of the quality and variety of products.

3. Tunisian Context: benchmarking versus developed and developing countries

On the economic front, the sector of the New Technologies of the Information and the Communication (NTIC) is among the dynamic economic sectors. According the National Statistics, the sector "Post & telecommunications" grew by 8,1% in 2014 and 19,4% in 2017, larger then what experienced by the others market services sectors. The average annual growth rate of New Communications and Technologies sector is of 11% between 2009 and 2014 and of 13.5% in 2018 compared to the value added recorded in 2017. The total gross operating surplus (GOS) of the various market players increased by 11.2% in 2018, what represents an increase of 94.6 M TND per year (Financial Report, NIT, 2019). In addition, the digital sector represents 20% of exports in the services sector in 2014 and about 3% of total exports of the country (GD Treasury, French Embassy, 2018). The economic dynamic within the sector is more evident in telecommunications infrastructures: the turnover of the telecommunications industry is experiencing strong growth due mainly to investments in infrastructure with the participation of private companies (Mondher Kanfir, 2018). According to the National Instance of Telecommunications Annual Reports, the sector's revenues reached 2.548 billion in 2014 and 2.887 billion dinars in 2018, recording an increase of 13,3% between these two dates (Figure 1). This result is largely due to an increase in the turnover[1] of the fixed data and mobile data markets (of 61.5 million dinars and 55.5 million dinars respectively between 2016 and 2017, for example, NIT statistics).

1 "*Amount excluding taxes and royalties communication development background of all transactions carried out by the company with third parties*" (Financial Report, 2018, p2).

Figure 1[2]: Annual evolution of total turnover of the telecommunications market 2014-2018



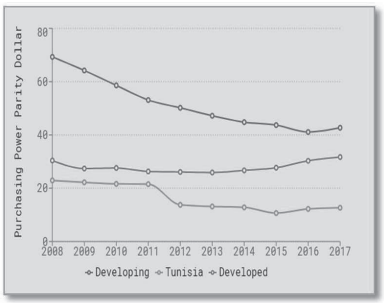
Aiming at making Tunisia an international digital reference, Tunisian have developed several national strategic plans, the most recent of which is the national plan "Tunisia Digital 2020" with an overall budget of 5.5 billion dinars for the period 2014-2020: with public –private participation (1/3 public, 2/3 private).

The most recent of the national strategic plans is "Tunisia Digital 2020" with an overall budget of 5.5 billion dinars for the period 2014-2020. It aims to make Tunisia an international digital reference and includes three priority areas including the knowledge and innovation industry supported by the Smart Tunisia program. Thanks to this national digital strategy, Tunisia is a net exporter of software and IT services. However, when we discuss about the case of Tunisia during the last years we note despite efforts that it's not well positioned according to International Development Index (IDI). This latest is an index published by the United Nations International Telecommunication Union generally used as a valuable tool for benchmarking the most important indicators for measuring the information society and the digital divide. According to the ICT Development Index (IDI), Tunisia is occupying 100th position

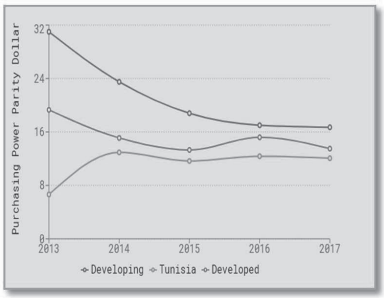
2 Financial Report for 2018, Observatoire de l'INT, juin 2019.

in a set of 180 countries and ranks 99th in the list of countries considered by the report in 2016: Tunisia remains weak relative to the penetration rates of fixed telephony and fixed broadband internet (Figure2) which are considered low by compared to international averages.

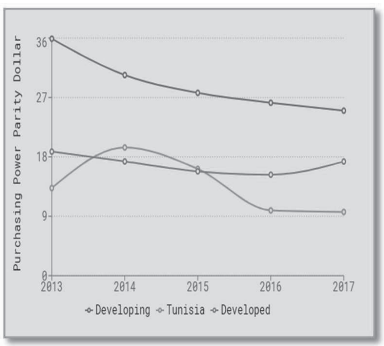
Figure 2: Benchmarking for Fixed and Mobile Broadbands

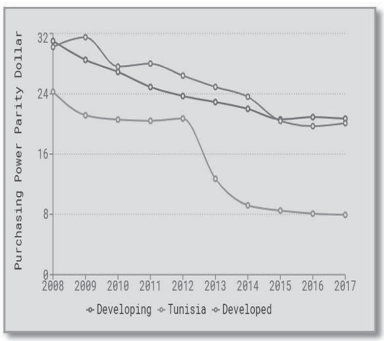


Mobile Broadband 1GB



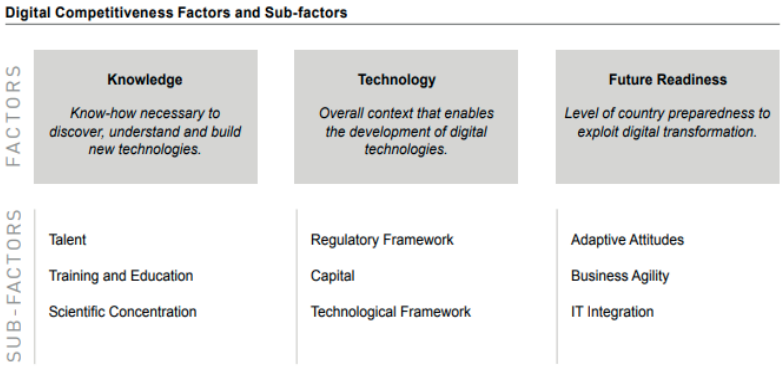
Mobile cellular basket





To better understand country ranking according to other popular digital competitiveness indexes, we report in the Figure 3 the three pillars of digital competitiveness captures by the IMD Digital Competiveness approach which are: knowledge, technology and future readiness.

Figure 3: IMD World Digital Competitiveness Ranking



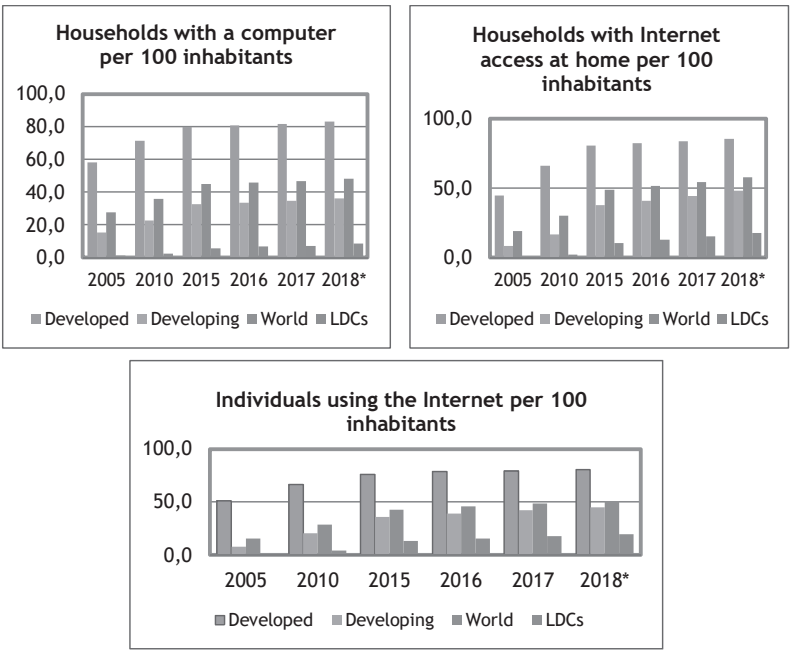
Like the ITU, the IMD annually calculates a composite indicator that respects the factors listed in the figure above, to better assess the state of digital affairs and more considerate of competitiveness. The IMD Digital World Competitiveness Ranking presents the 2018 overall ranking for the 63 economies: we note that Tunisia is not in the survey.

According to the **Global Innovation Index** (GII)[3], According to GII, Tunisia occupies for the year 2016 the 74th rank world. This improvement over previous years is similar to the composite sub-indicators for infrastructure and market sophistication (NIT, Annual Report for year 2017). Like other countries from developing group (Figure 3), Tunisia has moderate value indicators for ICT sector with regards to those of developed ones.

In 2016, Tunisia had 14.282 million subscribers to telephone services in all categories and in the three main operators namely Tunisie Telecom, Ooredoo, Orange: the number of subscribers in prepaid, residential or private subscriber is 13.2 million, representing nearly 93% of total subscribers. The penetration rate reached 125.6%. In general, some services seem to attract a lot more people than others.

3 A consortium of organizations and institutions annually calculate this indicator (NIT, Annual Report 2017).

Figure 4[4]: ITCs Indicators in the world 2005-2018



4. IT in Tunisia strengths and opportunities

a. IT Tunisia strengths

Compared to other sectors in Tunisia, the ICT sector is a lever sector for economic recovery, a competitive sector capable of facing international competition and taking advantage of greater openness to the foreign market. It is also a quintessential export sector with great potential confirmed by expertise and know-how. This is a key element in the comparative advantages of the sector: a low-cost human capital compared to the European Union. A large number of available and highly qualified professionals exist in the ICT sector with salaries mostly lower than many other countries in the world. .

4 *Source : International Telecommunication Union (ITU).*

The ICT sector has other advantages that are its strengths:

- the existence of computer technology parks and business incubators useful for the software industry;
- A favorable legislation and development policy for international investments: Tunisia, through its legislation, allows foreign investors to invest up to 100% in non-resident companies in many sectors of industry and services including ICT sector. In addition, the regulatory framework allows foreign investors 'concession', as is the case of licenses for the Global System of Mobile Communications (GSM);
- Comparative advantage in Business Process Outsourcing (BPO), ie the outsourcing of the business process representing the low value added activity of *off shoring*, including mainly call centers. The Smart Tunisia program officially launched in November 2015 and funded through a public-private partnership, aims to revitalize the offshoring sector and create up to 50,000 new IT jobs by 2020. As of July 2016 the program had secured the support of international IT firms such as Ericsson, Ardia, and Vermeg (The Report, Tunisia 2017);
- In addition, compared to the major developed and developing comparison countries, access costs to ICT are relatively low. A competitive price is available for the Tunisian case. Incentive taxation to fixed Internet services in homes through the application of a reduced value-added tax (7% from 2019 instead of 19%).

b. Public policy active in data collection

To keep up with developments in the ICT sector, the Ministry of Communication Technologies and Digital Economy is making efforts to produce key statistics by considering the following aspects:

- Basic ICT Infrastructure and Access Indicators
- Indicators on ICT access and use by households and individuals

- Indicators on the use of ICT by firms
- Indicators on the use of ICT by public administrations (e-gov)
- Indicators on ICT in Education
- Indicators on Digital Trust
- Macroeconomic indicators of the ICT sector

c. Threats against IT in Tunisia

We note below the most threats faced by Tunisian policy makers with regards to ICT sector:

- **Brain drain** is now a major challenge in Tunisia post-revolution: 3000 engineers from all specialities have left the country in 2018. No less than 10,000 engineers left in less than three years, but also many doctors and 94,000 Tunisians left Tunisia in six years to Europe. Brain drain has two sides, some positive effects and a lot of disadvantages. For a nation a cost-benefit analysis is then important. In one side, the human capital migration, as a phenomena observed in many other Arab countries, could be percept as a gain for these developing countries, in the sense that could bring to nation much money from what immigrants send home. Moreover, in the other side, the migration of highly educated person is not priceless. The cost driven by national education expenses to get a high level of human capital is more expensive than the flow of money return back from immigrants.
- Big obstacles to **strut-up funding**: A recent study, "*Tunisian Startups Index: a new data source in the Tunisian economy*" (The Tunisian Startup Association, and the Agency for the Promotion of Industry and Innovation and Friedrich-Neumann Foundation, 2018) to which almost 500 startups responded, revealed that: less than 50% of Tunisian startups manage to cover their expenses. These are in the growth phase. Those who have not been able to cover their expenses are for the majority in phase of launching (prototype, creation, etc).

These results indicate a difficulty for young entrepreneurs to finance their activities. To support the entrepreneurial potential of young graduates, a *StartAct* law was passed in Tunisia in April 2018. Since 2016 and under the supervision of the Ministry of Communication Technologies and Digital Economy, a participatory approach including young *startuppers* themselves and all stakeholders of the entrepreneurial ecosystem in Tunisia, aimed to create a framework unpublished legal document dedicated to Startups and supported by the Tunisian Government. This new law allows a set of benefits for the development of startups from Tunisia and incentives for investors in this area, such as eight years of tax exemption, along with the ease of stock distribution and liquidation, and special customs procedures[5]**.** According to this Act and in the aim of supporting burden financial obstacles, the state will also provide subsidies in the form of wages to startup founders in the first year, which could reduce instability of new endeavor.

- **Venture capital companies** in Tunisia are **not dynamic** enough to finance IT projects that are profitably but highly risky. Based on 14 pillars to measure the 'health of the ecosystem', the Global Entrepreneurship Index (GEI)[6] ranks Tunisia 1st in Africa, 6th in MENA, and 40th worldwide in 2018. This could be demonstrating a quality and dynamics of entrepreneurship ecosystems at a national and regional level and be mirrored strength in Product Innovation and Risk Capital. We noted that after revolution, many co-working spaces and incubators have settled to offer support programs early stage startups, may be most notably, B@Labs, Flat6Labs Tunis and the Founder Institute Tunisia. Moreover, Start-up is an innovative business category that develops a new business with a higher potential risk than the so-called conven-

5 For more details on this Act, refer to https://www.startupact.tn/accueil.html.
6 Global Entrepreneurship and Development Institute- GEDI publication.

tional business. It also obeys the financial-law of risk-which dictates that the higher the level of risk, the more the potential gain should be too. Although venture capitalists (such as IntilaQ, leading investor in Tunisian startups with a portfolio of over 11 Million dinars and AfricInvest) are interested in the Tunisian startup market, the financial volume remains severely limited.

- In line with the above ideas, one of the obstacles therefore remains **financial exclusion** of young graduates and *start-uppers* in the field of high technology that must be resolved. Start-ups often find it difficult to obtain access to capital and finance the development of their activity. In addition to providing capital, these companies need financial support in the areas of risk management, talent recruitment and strategy development. According to the "*National Strategy for Financial Inclusion-Tunisia 2018-2022*"[7], it is quoted that the national financial inclusion index (called IFIN) was measured for Tunisia at 0.284, which translates for the country a low inclusion level.

5. Concluding Remarks

Encouraging ICT in LDC should, to our point of view, respect certain conditions:

- Efforts to promote trade in electronic products could be complemented by steps to promote standards harmonization. This might include : (i) re-starting negotiations to extend the Information Technology agreement to non-tariff measures and commitments to harmonize national standards in electronic products; (ii) implementing a system of national accounting by UN measuring the share of ICT in GDP, total investment, total employment and in international exchanges;

7 Online: http://www.cae.gov.tn/wp-content/uploads/2019/01/180213_SNIF%20Tunisie.pdf.

- Financing startups by appropriates joint venture companies. A diversified refinancing system should adapted to the needs of these "early stage" entrepreneurs and allowing access to a larger population at lower cost and aiming at the sustainability of their activities.
- Encouraging digitalization of product process in companies and administrations. We note, in this line of ideas that, the big challenge of the Tunisian administration is the digitization. Several programs launched over the years (including among other postal services, hospitals and financial receipts) have begun to bear fruit. The state could engage a public-private partnership where to make of these startups a big laboratory which brings together the best national competences the efforts are directed towards the digitalization. Another potential positive spinoff: these startups would be able to shake up a rigid organization.
- We should also support well-functioning capital market for innovative enterprises which include strengthening security, certification and trust. These latest are fundamental for the digital market to work properly.

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DIGITALIZATION, LIBERAL INTERNATIONAL ECONOMIC ORDER AND TURKEY

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In recent years, developments have indicated that liberalism needs to deal with new challenges and adapt itself into new realities to survive. In this chapter, the historical assessment of Liberal international economic order and challenges it faced and helped its evolution as a result of its interactions with three industrial revolutions is given in order to enable the readers to understand the possible effects of the Fourth Industrial Revolution (Digital Age) on Liberal international economic order focusing on both opportunities and challenges it presents. Liberalism traditionally relied upon economic growth to solve difficult social and political problems. However, economic growth will not solve technological disruption alone in the age of digitalization. That is why, there is urgent need to create jobs and a workforce for the digital age. In this context, this chapter also tries to find an answer to the following questions: What kind of jobs could digitalization create? What would be its impact on sectors like commerce and logistics? What would be the possible opportunities for Turkey in the age of digitalization?

A Brief Look At Three Industrial Revolutions

The First Industrial Revolution (1760-1840), which used water and steam to mechanize production, started in Britain's textile industry. Technologies of First Industrial Revolution created a new systems of value production, exchange and distribution, and upended sectors from agriculture to manufacturing, from communications to transport. First industrialism, which gave birth to machine tools, steel manufacturing, steam engine, and railways, contributed to the spread of colonialism. The need for enlarged markets and raw materials supplies contributed to imperial expansion between 1750 and 1850. The First Industrial Revolution led to environmental deg-

radation. But succeeded in making the world wealthier. By 1850, annual growth rates in industrialized countries had risen to 2-3% (Schwab and Davis 2018, p. 9).

Second Industrial Revolution (1870-1914) used electric energy to create mass production and new products such as radio, telephone, television, electric lighting. The internal combustion engine enabled the automobile, airplane and highway infrastructure and manufacturing job. As a result of breakthroughs in chemistry, new materials such as thermoset plastics, synthesizing ammonia developed (Schwab and Davis 2018, p. 9). Industrialization between 1870-1914 led to urbanization, decline in infant mortality, increased life expectancy at birth. People also enjoyed higher income, better food, better heated, owned better clothes, had access to medical care and running water (Mokyr 1999, p. 11, 12).

Third Industrial Revolution (1969-2000) used electronics and information technology to automate production. As Schwab (2017, p. 7) stated that "it is also called as computer or digital revolution because it was catalyzed by the computing (1960s), personal computing (1970s and 1980s) and the internet (1990s)". The ability to store, process and transmit information in digital form not only reformatted almost every industry but also changed the working and social lives of billions of people (Shwab and Davis 2018, p. 10).

Positive impact of these three industrial revolutions was to increase overall productivity by allowing producers to produce wastly more goods with the same number of people. Also, they increased wealth and opportunity in advanced economies. For instance, "Since the first industrial revolution the avarge real income per person in OECD economies has increased around 2900%" (Shwab and Davis 2018, p. 11).

However, these industrial revolutions put too little effort to protect vulnerable populations and to protect the natural environment. Inequalities emerged even in the advanced economies. Median wages are either stagnating or falling. They were not translating

economic growth into sustainable progress in living standards in developing economies. Although three industrial revolutions decreased the poverty, they failed to eradicate the poverty. Nearly 10 percent of people around the world still lives in extreme poverty (Worldbank 2018).

To sum up, three industrial revolutions changed the world. Without the industrial revolution, there would be no rising middle class and no pressure for freedoms and democracy. Without the industrial revolution, there would be no capitalist revolution since agrarian states did not need one. Without the industrial revolution, there would be no colonization beacuse there was no need for raw materials and markets. Without the industrial revolution, there would be no total war due to absence of cheap steel, manufacturing and technological advances. Without the industrial revolution, there would be no end of slavery and no need for feminism in an economy based on traditional subsistence agriculture (Drum 2018, p. 43). Without industrial revolution, there would be no reduction of inequality between races and genders (Harari 2018, p. 74). Without the industrial revolution there would be no urbanization and environmental degradation/ climate change. Briefly, the impact of industrial revolutions did not only economic one but also political, social and environmental.

Industrial Revolutions and Evolution of Liberalism

Britain was not only the birthplace of the industrial revolution, it was also the home of liberalism. First, in Britain, then in America and Western Europe, the industrial revolution transformed the life of man. The industrial revolution gave light to principles of Classical Liberalism –individualism, rule of law, individual rights and freedoms, private property, economic freedom, self interest, protection of civil liberties and competition. Constitutions with guaranties of basic rights were adopted, legal systems anchoring the rule of law and property rights were put in place and free trade spread.

The trend toward democracy and liberalism increased sharply after the First World War (WWI). However, democracy's most dramatic setback came in the 1930s when fascism spread over much of Europe. This was partially driven by economic decline started with the Great Depression of 1929 (Inglehart May/June 2018, p. 22). The Great Depression ended an earlier age of globalization that began in the late 19th century (Kotkin 2018, p. 10).

After WWI, Liberalizm survived and emerged stronger than before promising to create a new world order based on the principles of freedom and peace. Liberalism won over imperialism after WWI. The US president Wilson who thought commercial interactions would gradually bind the world together in peace and prosperity reinforced institutionalized democratic peace with an open international trading order (Rose Jan/Feb 2019, p. 12). Dominant economic system was changed from merchantalism to laissez faire capitalism. Actually, as the 18th century some people began to reject the principles of mercantilism. During the Industrial Revolution, ideas of laissez-faire capitalism free market capitalism or market capitalism came into play. The economic growth that took place during the Industrial Revolution made it possible for the society to rely on competitive forces and laissez faire rather than promoting and regulating monopolies. Towards the end of 19th century laissez faire capitalism declined slowly (Lokanathan 2018, p. 38).

Humiliation of treaties of WWI, overproduction and the integration of broad markets brought about the Great Depression of 1929, and the spread of economic crisis to Europe fueled Nazism/fascism which blame the minorties/immigrants in their countries and democratic governments for economic crisis. Then came Fascism and national socialism with Hitler in 1930s and 1940s. It seemed for a while irresistable. However, Liberalizm again survived (Harari 2018, p. 9, 10).

After almost total breakdown of international trade during the Second World War (WWII), world set out to build a new, stronger trade system that made the US dominant power in the world econ-

omy. The Bretton Woods agreement of 1944 that created the World Bank and International Monetary Fund (IMF) established a new monetary system replacing the gold standard with the US Dolar as the global currency (Posen 2018, p. 28, 29).

From the late 1940s to the late 1980s the world became a battleground between communism and liberalism (Harari 2018, p. 3). Classical liberalism evolved into modern liberalism because classical liberal values such as laissez-faire capitalism brought negative impacts to the society. Many political and social movements developed and it brought a change from individualism to collectivism, where rights and freedoms of all individuals became the focus.

Hence, United States-led liberal international economic order was built upon the liberal values of free trade and the rule of law. In this liberal order, "democracies used aid and trade to strengthen ties and fostered respect for the rule of law both within and between countries. Free trade would be an engine of economic growth and bind countries together so that war would be deemed too costly to wage" (Haas 2019, p. 26). This post-war order was also known as the rule-based liberal order and led to free and open trading system through the General Agreement on Tariffs and Trade (GATT-1948) (which was later superseded by the World Trade Organization, WTO-1994) and regional trade agreements (Ünver Noi 2017).

In 1950s and 1960s, in Latin America there was a new challenge this time from Communism. In this context, the liberalism learned from Communism to value equality alongside liberty that trigerred the New Deal and social democracy leading to more stable form of capitalism (Deudney and Ikenberry 2018, p. 18). In this new system, Liberalism recognized the importance of communist-style welfare programmes and an understanding that liberty requires welfare services such as state-sponsored education and healthcare (Harari 2018, p. 11).

Keynesian economics, which advocates a mixed economy led predominantly by the private sector, but with a role for government

intervention during recessions, served as the standard economic model from 1945 to 1973. Embedded liberalism, a phrase coined by John Ruggie to describe protection gained for workers through the embedded liberal compromise, dominated from WWII up until the 1970s, and brought with it a combination of free trade and freedom for states to provide welfare programs and intervene to reduce unemployment (Ünver Noi 2017). In the period called as "Glories Thirty" contrary to Marxist thought under Keynesianism efficiency, equality and full employment at the same time was achieved. The greatest challenge to Marx's view came from the creation of and expansion of welfare state (Varghese 2018, p. 41).

In 1971, the Bretton Woods system came to an end when President of the US, Nixon announced that the US would no longer exchange gold for US currency. Moreover, following 1973 Yom Kippur War OPEC countries' oil embargo led to the first oil crisis. In response to the challenges of the 1970s such as rising middle class consumption that led to oil shortages, economic stagnation and environmental decay, the advanced industrial and liberal countries established oil coordination agreements to prevent or eliminate negative impacts of future oil crisis, invested in clean and alternative energy aimed at reducing pollutions (Deudney and Ikenberry 2018, p. 20).

Postwar boom came to an end with the stagflationary crisis of the 1970s. Keynesian state management of demand seemed incapable of restoring full employment and profitability without provoking high inflation (Varghese 2018, p. 36). Starting in the 1980s, the prevailing system was replaced by neoliberal economic policies that demanded fiscal discipline, trade liberalization, openness to foreign direct investment, privatization, financial liberalization, deregulation, secure intellectual property rights, and a reduced role for the state (Ünver Noi 2018, p. 73). Leaders of the West enacted policies to restore profitability by curbing inflation, weakening organized labor, accommodating unemployment and paring back the welfare states (Vorghese 2018, p. 36). Hence, the Washington Consensus, a

set of broadly free market economic ideas supported by IMF, World Bank, European Union (EU) and the United States (U.S.), marked the end of "embedded liberalism" and reduced the role of government in economic policies. The falling costs of transportation and communication as a result of third industrial revolution on information technology along with new multilateral free trade agreements caused international commerce to grow. This led to an economically interdependent and more globalized world while at the same time paving the way for regionalism and increasing the number of regional groupings from the 1990s onwards (Ünver Noi 2017).

Positive benefit of globalization had been the unprecedented rapid economic growth in the trade of goods and services (Friedman 1999). Economic growth lasted three decades. Free enterprise had overcome economic restrictions in 1991 when the other challenge of Liberalism - Communism collapsed with the disintegration of the Soviet Union.

By the early 1990s, the collapse of Communism and victory of Liberalism led to the arguments that this is the 'End of History'. But contrary to expectation the history has not ended and Liberalism find itself to face with new challenges- illiberal democracies and populist movements with anti-immigration and anti-globalization agenda, neo-merchantalism, illiberal capitalism, plus Fourth Industrial Revolution-digital transformation particularly since 2008 financial and economic crisis.

Every aspect of globalized economy; free trade, unrestricted cross-border movements of capital and people, free flow of information all are under assult due to rise of populism with anti-globalization, anti-immigration and neo-merchantalist agenda and growing calls for privacy rights, the protection of intellectual property and increased cybersecurity (Hu and Spence 2017, p. 54).

This new environment emerged when the benefits of globalization have rarely been redistributed, communities and workers harmed by globalization. While liberalism and market economy has

survived and evolved in one form or another for more than six decades, it has been challenged by a phase of neo-mercantilism since the 2008-9 crisis (Hamilton, Ünver Noi & Altay 2018, p. xvii). In order to keep the system alive, the emergency measures implemented to save it including bailouts for banks. However, emergency measures were not implemented to prevent negative impacts of the system on ordinary people that lead to anti-establishment movements such as "Occupy Wall Street" (Kotkin 2018, p. 10).

According to Pew Research Center Study of 2015, the size of the US middle class and its share of the country's income and wealth are shrinking (Birdsall March/April 2016, p. 28). Since the link between globalization and shared prosperity is no longer clear, there is a need for new set of rules in international economic system to advance the interests of middle classes around the world (Sullivan March/April 2018, p. 15). The fear of slow growth and worries about automation that are feeding the resistance to immigration and trade agreements is already started to be the main agenda of populist parties. In today's globalized economy, however, it is questionable whether protectionism can improve the plight of the U.S. middle class since manufacturing employment has suffered mainly because of automation rather than free trade or immigration (Kupchan 2018, p.145).

Briefly, focus of many countries shifted from the free trade's economic benefits they enjoyed past three decades to job losses, inequality, barriers to trade, and zero-sum thinking in trade that emerged and increased considerably after 2008 financial crisis. There is a prevalent trend towards protectionism and neo-mercantalist approaches in trade that made implementation of 6600 protectionist measures possible for the G20 countries since November 2008. These new mindset emerged as the outcome of developed countries failure to mitigate the negative effects of both trade and technological disruption of Digital Age (Lund and Tyson May/June 2018, p. 130). Although economists see technological improvements and freer trade as similar in their effects on job loss, most people and

their representatives in the government see no contradiction in supporting technological advances while opposing free trade (Blinder 2019, p. 125, 126).

Bail-out programs save sinking industries. The governments apply new forms of trade protection to save domestic producers from the impacts of the economic downturn and international competition within the policy leeway provided by the WTO. Almost all G-20 governments utilized one form of local content rules/requirements (LCRs) usually served the purpose of localizing production, jobs, skills, and technologies, and were implemented as part of 'buy national,' 'hire national' programs (Hamilton, Ünver Noi and Altay 2018, p. xviii).

Although the US is not party to some of regional trade initiatives when the WTO has stalled, it has helped promote them with technical and diplomatic support (Sullivan March/April 2018, p. 13). However, this changed when the US government decided to withdrew the US from regional groupings and started to implement protectionist measures.

In such emerging environment there is no need for protectionism that will lead to decline in trade and cooperation possibly causing trade wars in the long run. Instead there is an urgent need of a new version of free trade which does not only contribute to economic growth but also to job growth - necessary more than ever as the artificial intelligence will claim 2 billion people's jobs worldwide by 2030 (Frey 2012).

The support for authoritarian parties increased over the last three decades parallel to the rise in inequality over the same period. This economic environment which has been combined with the reverse wave of democratization led to the emergence of illiberal democracies or illiberal capitalism in many parts of the world that also led to argument that this is the end of liberal international order. Income inequality has risen since 1980 due to neo-liberal policies that sharply cut back state regulation and weakened labor unions. As

long as everyone was getting richer due to economic growth, rising inequality did not seem to matter much (Inglehart May/June 2018, p. 25-26). However, today in the US, the top ten percent takes home almost half of the national income and everyone is not getting richer. In addition to concerns over rising gap between rich and poor due to flaws of neo-liberal policies, there is an increase in concerns over the effects of Digital Revolution that might exacerbate this gap.

Globalization has already entered a new phase with Digital Revolution in which certain sectors fade away, certain jobs disappear and new winners will emerge. The mindset that is based on maximizing the benefits, minimizing the costs and distribute the gains inclusively might help to minimize the negative effects of coming disruption (Lund and Tyson May/June 2018, p. 131).

Liberalism has no obvious answers to the biggest and the newest problems we face today; technological disruption and ecological collapse (Harari 2018, p. 16). Liberalism should find remedies not only the consequences of older form of globalization but also its new digital form which is gaining momentum in order to survive (Shwab 2019).

Each period of democratic and economic decline brought a wide spread belief that democracy's spread and liberalism has ended and other systems – fascism, communism, bureaucratic authoritarianism would be the future system (Inglehart May/June 2018, p. 22). In the past, Liberalism found a way to survive and flourish in the face of challenges such as the Great Depression, the Axis Powers, international Communist movements (Deudney & Ikenberry 2018, p. 24).

Liberalism proved itself as the most resilient system than any of its opponents since it won over imperialism, over fascism and over communism by evolving-updating itself into new realities of the time (Heller 2019). Liberalism traditionally relied on economic growth to solve difficult social and political conflicts since it reconciled opposite sides by promising them a larger slice of the pie.

However, economic growth will not solve technological disruption. Liberalism needed to reinvent itself again as it did in the past- 1930s and 1960s (Harari 2018, p. 16).

The Fourth Industial Revolution and Liberalism

Liberalism based on democratic governments, market based economic system and international institutions argues that a world with more liberal democratic capitalist states will be more peaceful, prosperious and respectful for human rights (Deudney and Ikenberry 2018, p. 17). Today, for the realization of this aim, Liberalism has to deal not only with rising inequality, social tension and political fragmentation but also threat of natural disasters and technological disruption (Schwab and Davis 2018, p. 13).

Innovations of Fourth Industrial revolution -The internet, smartphone, thousands of applications are making our lives easier, more productive and more profitable. For instance, digitisation of products and services can add 110 billion euro of annual revenue to the European economy in the next five years (ec.europa.eu). However, the great beneficiaries of the Fourth Industrial Revolution are the providers of intellectual or physical capital- the innovators, the investors, the shareholders which explains the rising gap between those who depend on their labor and those who own capital. The Fourth Industrial Revolution is adding problems to the existing ones and creating new challenges and concerns (Schwab 2017, p. 12).

Three industrial revolutions changed the world replacing human muscle with the machines. Human brains were stil needed to build, operate, and maintain these machines. This change produced plenty of well-paying jobs for everyone (Drum 2018, p. 46). A farmer could find a new job in a factory producing tractors in the 1920s. An unemployed factory worker could start working as a cashier in a supermarket in the 1980s. But the digital revolution will replace the human brain. Hence, anything can human do, AI will also be able to do, even better than human (Drum 2018, p. 46).

But in 2050 a cashier or textile worker losing their job to a robot will hardly be able to start working at new jobs that will emerge by digital transformation (cancer reseacher, as a drone operator, as part of a human artificial intelligence banking team) due to lack of working skills needed (Harari 2018, p. 29). Certain jobs (clerks, administrative staff or truck drivers) will lost the race against the machine and disappear. Certain jobs (doctors and surgeons) will work in collaboration with machines / algorithms (run with the machine). Certain jobs running faster than the machine or running a different race will remain largely untouched (weforum).

AI has already started to replace human labour. Over 85% of the US manufacturing jobs were eliminated by technological advances whereas only 13% were lost to trade (Inglehart May/June 2018, p. 27).

The Fourth Industrial Revolution is different from previous revolutions since its fusion of various technologies ranging from gene sequencing to nanotechnology, from renewables to quantum computing and their interaction across the physical, digital and biological domains (Schwab 2017, p. 8).

The Fourth Industrial Revolution is also different from the previous industrial revolutions in terms of speed of innovation. In the age of digitalization, the speed of innovation is faster than ever. Some companies of today such as Amazon, Alibaba, Google, Uber etc. were unknown a few years ago. IPhone was first launched in 2007. By the end of 2015 the number of smartphones is about 2 billion (Schwab 2017, p. 9).

The Fourth Industrial Revolution is also different from previous industrial revolutions in terms of its impact on number of employees. The impact of digitalization on the number of employees is bigger than previous industrial revolutions. “In 1990, the three biggest companies in Detroit had a combined market capitalization of 36 billion USD, revenues of 250 billion USD, and 1.2 million employees. In 2014, the three biggest companies in Silicon Valley had

a higher market capitalization of 1.09 trillion USD, revenues of 247 billion USD with 10 times fewer employees, 137,000" (Schwab 2017, p. 10). "38% of all jobs in the US are at high risk of automation by the early 2030s. Current estimates of global job losses due to digitalization range from 2 million to 2 billion by 2030" (weforum). "OECD estimates that 14% of jobs in Member States approximately 60 million in total are highly automatable. McKinsey estimates that 30% of the hours worked globally could be automated by 2030" (Varghese 2018, p. 39).

To sum up, the effects of the Fourth Industrial Revolution is faster, bigger and more comprehensive than previous ones that might further menace the social solidarity on which the legitimacy of economic and political system rests (Schwab and Davis 2018, p. 52). That is why, there is urgent need to adapt governments' policies and existing international institutions into new realities focusing both challenges and opportunities the Fourth Industrial Revolution presents.

Opportunities of the Fourth Industrial Revolution

The Fourth industrial revolution causes the loss of many traditional jobs in eveything from art to health care. Yet, Artificial Intelligence might help to create new human jobs and market opportunities. Humans have already started to focus on servicing and leveraging AI. For instance, the replacement of human pilots by drones has eliminated some jobs but at the same time created new opportunities in maintanance, remote control, data analysis and cybersecurity (Harari 2018, p. 29).

Digitalization did not and will not only disappear some sectors or jobs but also changes the working habits and behaviour paralel to changes in customers expectations. To reach as much as markets faster than their rivals is getting more important in the age of digitalization than ever. Digitalization makes people less patient and less willingness to wait for response to their demands. It also changes the working habits that we used to.

Third industrial revolution led to the emergence of purely digital platforms whereas fourth industrial revolution led to the emergence of global platforms connected to the physical world. Platform strategies combined with the need to be more customer-centric and to enhance products with data, are shifting many industries from a focus on selling products to delivering services (Schwab 2017, p. 58).

Digitalization could create up to 6 million jobs worldwide between 2016 and 2025 in the logistics and electricity industries (weforum). Half of all trade in global services depends on digital technology. Goods can reach consumers around the world without going through retail shops. By 2020, cross-border e-commerce will reach one billion consumers and total 1 trillion USD in annual sales. Not only giant companies such as Amazon and Alibaba will dominate the trade in goods and services, but also small businesses will have opportunity in these digital platforms and marketplaces. Although digital flows today mostly link developed countries, emerging economies are catching up quickly (Lund & Tyson May/June 2018, p. 133).

Online shopping continuous to gain popularity and also creating new opportunities for both established online retailers and brand new startups. In this emerging environment, Geographic location still matters for e-commerce. Growth in e-commerce makes trade routes that will make delivery of goods faster more important. In other words, the role of transport and logistics in promoting e-commerce is getting more important. Because E-commerce increases frequency of freight movements and smaller sized shipments. E-commerce paved the way for logistics sector by making them hidden strength behind its operation, to ensure timely, accurate, and flawless delivery of ordered products to the correct person.

The rise of e-commerce has led to an impressive increase in the parcel segment volumes which push postal networks to take some measures to cope with increasing levels of parcel traffic. Transport and infrastructure are also getting important in both domestic and cross-border e-commerce since well-functioning road transport, ports, postal delivery services and customs help ensuring effective

order fulfilment. Inefficiencies in the logistics system which includes freight transportation, warehousing, border clearance and domestic postal delivery increase the costs of firms in e-commerce business. While the internet can help firms to export more, poor logistics is a barrier to e-commerce growth of cross-border e-commerce of goods in many developing countries (Rodriguez 2018).

Infrastructure development and transport services are important elements in the path to develop transport systems that are conducive to promote e-commerce. Improving multi-modal links and transit regimes not only helps to reduce transport costs but also speed up delivery. E-commerce logistics systems seek cost reduction, improvement in efficiency and on-time delivery (Rodriguez 2018)).

Possible Opportunities for Turkey

Digital technologies are affecting companies' decisions about where to locate their factories since for most manufactured products, digitally driven automation is making labor costs less relevant, reducing the appeal of global supply chains premised on low-cost foreign workers. Today, when multinational companies choose where to build their plants, they more heavily weigh on factors such as the quality of the infrastructure, the distance to consumers, the costs of energy and transportation, the skill level of the labor force, and the regulatory and legal environment (Lund & Tyson May/June 2018, p. 137).

Although many sectors face challenges from industrial revolution 4.0., new way of doing trade is contributing to the development of some sectors such as logistics. For instance, the revolutionary advent of e-commerce increases need for global logistics. For instance, Deutsche Post's DHL Group had 30% growth in 2017 (Ünver Noi 2018, p. 98).

As a result of the rapid growth of e-commerce, express logistics and delivery services companies have decided to make investments to double the capacity of their hubs and add new ones to meet these increasing demand and satisfy their customers' needs. DHL Express, the sister company of Deutsche Post DHL Group, which

has chosen Turkey as one of the eleven priority markets, signed a memorandum of understanding in 2015 with IGA, the operator of Istanbul's third airport, in a bid to make Turkey a regional logistics hub (Ünver Noi 2018, p. 98).

With the emerging trans-Eurasian rail network as its vanguard, the BRI promises the predictability and stability that DHL needs to provide its customers with faster transit times and fixed departure times. What DHL has found is that they have many customers who want to ship their cargo between China and Europe faster than sea freight but do no want to pay the expensive costs associated with air cargo (Ünver Noi 2018, p. 98).

Turkey is at the crossroads of important transport corridors that make it not only a bridge between the West and the East but also an intersection point between continents and between regions. Besides being bridge between continents and regions, and supporting transport and logistics sectors in these regions, transport sector of Turkey has clearly become one of the major sectors in parallel with Turkey's economic and population growth (Ünver Noi 2018, 98). After tourism, the logistics and transport sector are the second largest business and have the greatest growth potential in Turkey's services sector with a share of 15% of GDP (EP Briefing 2015).

In the advance of e-commerce and the need for global logistics, the transport sector, which plays a key role in defining the competitiveness of the Turkish economy in its role as the backbone of logistics, is critical for facilitating regional integration and trade (Ünver Noi 2018, 98).

Turkey already has the largest fleet of articulated lorries in Europe, modern highways, active ports, one of the most important air travel hubs in Europe, and a fast-developing railway network (Koru & Kaymaz 2016). As a natural bridge between West and East its distance to consumers, the costs of transportation, the quality of infrastructures, the skill level of its labor force can provide opportunity for Turkey needed for e-commerce to create needed jobs. However,

this must be facilitated by improving the regulatory and legal environment and investment into it including training drone operators.

Issue with the delivery process constitute a major source of dissatisfaction with on line purchases. Customers are dissatisfied extensive shipping cost. This indicates us that geography still matters in the age of digitalization to satisfy the needs of customers' expectations and provide the countries like Turkey an opportunity to be a logistic hub.

Turkey has also caught the eye of global e-commerce players, who like the size and growth potential of its market. Alibaba will spend about $1 billion to buy a roughly 75% interest in Trendyol from the European Bank for Reconstruction and Development and several U.S. investment funds. The purchase is thought to be the largest foreign investment in a Turkish startup, surpassing German food delivery service company Delivery Hero's $589 million buyout of Turkish peer Yemeksepeti in 2015 (Nikkei Asian Review 2018). E-commerce revenues for Turkey reached 50 billion TL in 2018. Online sales through social media platforms has grown by 93% (The Turkish Perspective 2019, p. 18). Turkey was expected to have an annual growth rate of 12% between 2018 and 2022 according to statistic data, which would put Turkey in the top 5 along with India, Indonesia, South Africa and Mexico where e-commerce growth will be the fastest. In 2019, e-commerce growth is expected to grow by 35% (The Turkish Perspectives 2019, p. 19).

To sum up, not only geographic location of Turkey due to the quality of infrastructure, distance to customers and reasonable cost of transportation but also potential of Turkey's growing e-commerce market makes it attractive for multinational companies.

Conclusion

There are rising inequalities in the world not only in terms of economic opportunities but also in terms of fully experienced the opportunities of even previous industrial revolutions. Approximately

600 million people who does not have any access to mechanization lives remaining untouched by the first Industrial Revolution. 17% of world has not fully experienced even the Second Industrial Revolution due to lack of clean drinking water, safe sanitation and electricity (Schwab and Davis 2018, p. 51). Nearly 1.3 billion people still lack access to electricity. The same situation is valid for the Third Industrial Revolution since 4 billion people living in developing world lacking internet access (Schwab 2017, p. 8).

Moreover, the liberal order is deteriorating as a result of rise of authoritarianism and illiberal democracies and illiberal capitalism, failure of its institutions such as WTO to deal with today's most pressing challenges including nontariff barriers and the theft of intellectual property, exploitation of USD (global currency) to impose sanctions (Haas 2019, p. 27). The previous industrial revolutions showed us that technologies are not only a set of machinery, tools and systems linked to production and consumption but also actors that shape values building economies, societies and world views (Schwab and Davis 2018, p. 238). The technologies of the Fourth Industrial Revolution present us with an opportunity to manage the externalities of the previous industrial revolutions and challenges liberal order face today (Schwab and Davis 2018, p. 59).

The survival of democracy and liberalism in their present form is less likely. Either liberalism needs to reinvent itself in a radically new form and adapt into new challenges of today and future, or humans will likely to live in "digital dictatorships" (Harari 2018, p. 66). If the trend toward inequality is reversed, the benefits of automation are widely shared and governments enable international institutions to adapt reforms to deal with new challenges, democracy can be put on track and moreover liberalism can survive. Economic growth driven by industrialization does not only make societies wealthier but also to enable them to focus more on intangible values such as freedom of expression and democracy (Inglehart May/June 2018, p. 20-21).

Global problems need global answers. We need more cooperation and more institutions that have control mechanism and binding

force to prevent the previous Industrial Revolutions and the Fourth Industrial Revolution negative effects on climate and environment and also create new jobs and fair distribution of wealth gained as a result of Fourth Industrial Revolution. Addressing the growing inequality of recent decades and managing the transition to the automated economy are needed to prevent economic uncertainty and create equitable and inclusive future for the survival of liberalism.

Liberalism might still matter, but only if it figures out how to deal with mass unemployment that will be caused by technological disruption better than any other systems of government. If Liberalism can find an answer to the problems of today it will have one more chance to show how resilient itself. This is more likely if Liberalism can find champions who can play leadership role to help its evolution again by fixing its flaws and adapting it to new realities as happened in the past.

In this emerging environment, governments must intervene and reallocate some of the new resources to create a meaningful jobs that require a human touch in various areas. We are moving towards a world where most purchases are made online. Shoppers want their goods quickly. Major source of dissatisfaction with online purchase is related to delivery process including shipping costs, late arrival, inability track the order (The Turkish Perspective 2019, p. 19). Developments in e-commerce creates new opportunities in business which need new skills to respond changing behaviours of customers and the new way of doing business. Digitalization creates opportunities for countries like Turkey which has needed central geographic location, infrastructure, and market.

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EXPERIENCE ECONOMY AND NEW ORIENTATIONS OF EXPERIENCE MARKETING STRATEGIES: MOVIE THEATRE

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The importance of the experience economy has increased as a result of the need for differentiation in the increasingly competitive environment, the necessity of ensuring economic continuity, the increase in the rate of change, and technological developments. In addition to the products and services offered in the experience economy, the need to provide experience by appealing to the emotions and senses of the people makes the marketing strategies of experience-based products different from other product and service marketing. Along with the experience economy, the importance of staging experience in addition to tangible products and intangible service offerings has been realized. Experience-based products and marketing strategies that emerge as a result of changing customer demands and needs and economic requirements are important for companies to ensure sustainability. Differentiating products and services to survive in an increasingly competitive environment has provided the opportunity to apply higher prices and increase profits. In this section, the importance, development, conceptual framework, and dimensions of the experience economy will be explained. The structure and differences of products based on experience, which gained importance with the emergence of the experience economy, and the role of marketing communication strategies in creating customer demand will be examined. While explaining the marketing communication strategies, the changing communication strategies with the internet, and the effects of experience-based products on marketing strategies will be revealed.

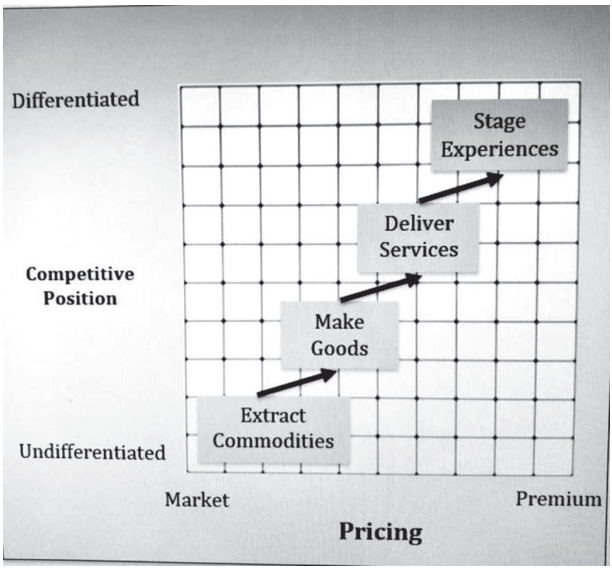
Development and Conceptual Definition of Experience Economy

In order to understand how and from which need the experience economy emerged, it is necessary to look at the development and change processes of societies from past to present. In

general terms, social developments are evaluated as agricultural society, industrial society and information society, respectively. In the age of agricultural society, while products are commodities that are indistinguishable from each other and almost no processing is done on them, in the industrial society, mass production started and businesses tried to differentiate with the quality of the products. In the following period, businesses searched for ways to differentiate by adding additional service offers to their products. The emergence of the concept of service has revealed the definition of the intangible product (Pine & Gilmore 1998). At the stage called the experience economy, the concept of service was taken one step further and evolved into a way of providing an experience to consumers. Among the main factors affecting the emergence of the experience economy, the need for differentiation in the increasingly competitive environment, the necessity of ensuring economic sustainability, the speed of change, and technological developments can be counted (Pine & Gilmore, 1998; Deligöz & Ünal, 2017).

Although Holbrook and Hirschman (1982) were the first to mention the subject of experience, At the beginning of the 21st century, researchers such as Pine and Gilmore (1998), Schmitt (1999) noticed the change and introduced the concept of experience economy for the first time. Pine and Gilmore (1998) define the experience economy as "a world of consumers who want to have integrated products that cause mental, emotional and aesthetic senses". They emphasized that, as seen in Figure 1.1 it provides businesses with more differentiation from commodities, products, and services and the opportunity to apply higher prices. In addition to goods and services, Businesses may become different in the rate of experience they offer to their customers. Creating differentiation brings with it the opportunity to charge higher prices and increase profits.

Figure 1.1: The Progression of Economic Value



Source: Pine & Gilmore (1998)

Pine and Gilmore (1998) study show the economic differences of commodities, goods, services, and experiences offered to the market by businesses during the development of economic values in Table 1.1. The table shows the differences of the changing economic values in terms of economy, economic function, nature of the offering, key attribute, method of supply, seller, buyer, and factors of demand. While the unprocessed commodities obtained from nature were presented to the market by the traders in the age of agricultural society, they became standard products by being processed in the mass production process with the industrial period. In the next stage, in order to differentiate the standardized products and to generate more income, manufacturers have started to offer services in addition to their products. For example, the after-sales maintenance services of the products as they sell can be undertaken by the manufacturer. Along with the experience economy, the importance of staging experience in addition to tangible products and intangible service offerings has been realized.

Table 1.1: Economic Distinctions

Economic Distinctions				
Economic Offering	**Commodities**	**Goods**	**Services**	**Experiences**
Economy	Agrarian	Industrial	Service	Experience
Economic Function	Extract	Make	Deliver	Stage
Nature of Offering	Fungible	Tangible	Intangible	Memorable
Key Attribute	Natural	Standardized	Customized	Personal
Method of Supply	Stored in bulk	Inventoried after production	Delivered on demand	Revaled over a duration
Seller	Trader	Manufacturer	Provider	Stager
Buyer	Market	User	Client	Guest
Factors of Demand	Characteristics	Features	Benefits	Sensations

Source: Pine & Gilmore (1998)

With the experience economy, for the customer have started to come to the fore the memories and emotions created by the experience. As an examples of differantation, respectively the materials purchased for cooking, the food itself, eating at a restaurant and finaly for an experience, at a with ambience and scenery restaurant eating can be shown.

The concept of experience has attracted the attention of many academics, and although there is no consensus on a single definition, they have made different definitions of experience (Kotler, 2002; Pine & Gilmore, 1998; Cooper-Martin, 1992; Mossberg, 2007; Holbrook & Hirschman, 1982; Oh, Fiore & Jeoung, 2007; Aho, 2001; Boswijk, Thijssen & Peelen, 2007; Schmitt, 1999; Jourdan, 1999; Berry, Carbone, & Haeckel, 2002).

The characteristic features that distinguish the service from the goods are stated by Kotler (2002) as intangibility, inviolability, inseparability, variability, and perishability. Just as service is different from goods, experience-based products are different from service as well. Commodities are tradable, goods are tangible, service is intangible, and experience is defined by its memorable features (Pine &

Gilmore, 1998). The impact of the experience that businesses offer on the minds of customers is so important that the success criterion of the presented experience can be shown as the ability to create unforgettable memories in the mind of the customer.

Cooper-Martin (1992) also defines products based on experience as that the customer uses to gain experience and enjoy. For example, the living gained as a result of the use of tourism products are called experiences, the main benefit of such products is stated as the enjoyment and the emergence of hedonistic value during consumption. Experience-based products can be defined as products that contain products and services (dinner in a restaurant), as well as products that can only appeal to the mind of the customer (concert events, painting exhibitions, etc.). The other author Mossberg (2007) which is emphasizing the emotional dimension of experience, defined experience as a concept that affects the consumer emotionally, physically, intellectually, and spiritually.

Holbrook and Hirschman (1982) defined experience as a personal state that occurs depending on the consumption of a product or service. According to Holbrook and Hirschman (1982), consumers are focused on symbolism, pleasure (hedonic), and aesthetics in products based on experience. So far as to this view, the importance that consumers give to fantasy, pleasure, and entertainment elements should be taken into account in promotional activities for experiential consumption.

There are also writers who draw attention to the fact that the product based on experience is a value that emerges during the meeting with the consumer (Oh et al., 2007; Aho, 2001; Boswijk et al., 2007). Experiences are fun, interesting and unforgettable memories created during consumption (Oh et al., 2007). Experience is the logical, emotional and other knowledge that a person acquires from the activities in which he participates (Aho, 2001). In order for the experience-based product to gain meaning, it must meet with the consumer directly, and even the consumer must start using it (Boswijk et al., 2007). Experience-based products gain meaning

when they meet with the consumer, and the development of experience-based products can only be realized with the direct participation of the (potential) customer.

According to Schmitt (1999), experiences do not occur spontaneously, on the contrary, they are special events that occur due to certain effects.

Jourdan (1999) defined a product based on experience as a product that can only be properly evaluated after purchase or relatively soon after use compared to normal products. Berry et al., (2002) also defines experience as the consumers' evaluation of all the information gathered during the purchasing process.

In the experience economy, the approach to the concepts of price and quality is inherently different from other products. While the customer knows the price precisely before purchasing products other than the experience-based product, the quality of the experience-based product can only be evaluated after the purchase.

At the business level, experience is the product that the business consciously uses of its services as props and its goods as decor and accessories when to attract customers (Pine & Gilmore, 1999).

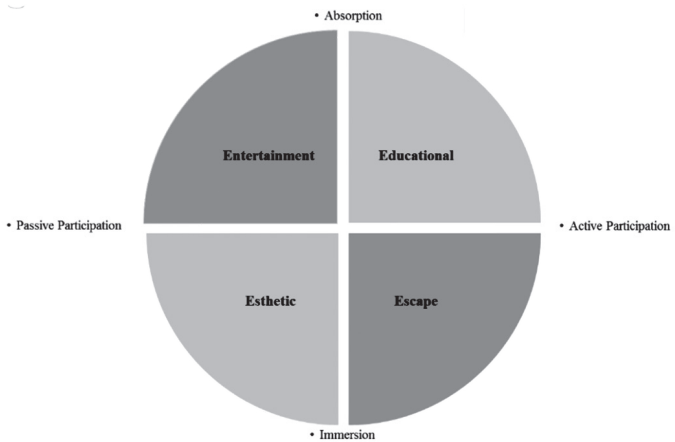
Researchers working on the experience economy define the experience economy in terms of two dimensions as customer participation and environmental relationship (Pine & Gilmore, 1998; Seo, 2013; Schmitt, 1999). Customer participation is meaning to the active or passive participation of customers in the experiences that businesses offer to their customers. Delivering an experience is not only about entertaining customers, but also engaging them in the experience. on the other hand, the environmental relationship means that the experience offered with the customer form a whole. In the studies, four categories of experience called "4 E" are revealed within the two-dimensional structure of the experience economy. As follows;

- Educational
- Escapist

- Esthetic
- Entertainment

it has been named. In Figure 1.2, two-dimensional four experience categories of the Experience economy, customer participation on the horizontal axis as active and passive participation, and connection with the event on the vertical axis as absorption and immersion has been shown. The Educational experience is manifested by active customer participation and absorption engagement. For example, student is taking swimming lessons for the experience. The escape experience emerges as a result of active customer participation and immersion relationship. A tourist diving into the escape experience can be given as an example. Esthetic experience emerges as a result of passive customer participation and immersion relationship. A museum visit can be an example of an aesthetic experience. The entertainment experience emerges as a result of passive customer participation and absorption relationship. For the entertainment experience, watching a movie in the cinema with widescreen and stereo surround setup could be a good example. Their connection with the event is more likely one of absorption than of immersion

Figure 1.2: The Four Realms of Experience



Source: Pine & Gilmore (1999)

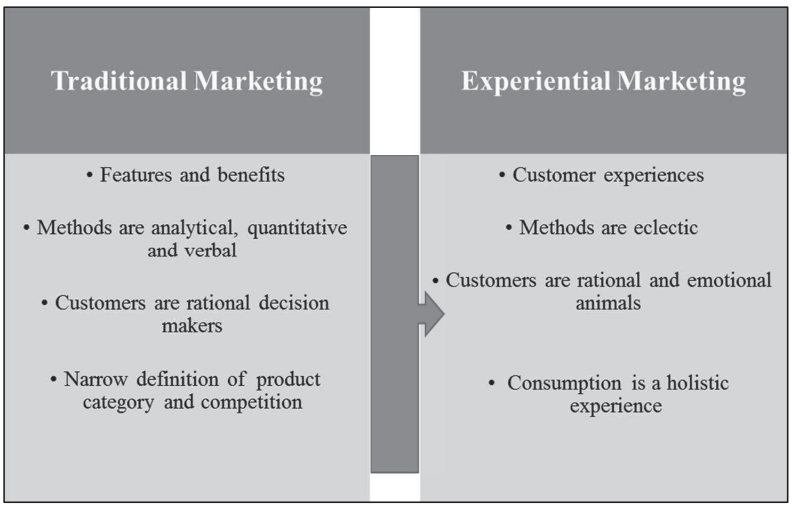
The change in the field of information and technology has led to the emergence of new approaches in marketing. Along with these developments, the strategies of the marketing world have changed to provide also consumer experience, not only selling products and services. Experiential marketing is growing in importance around the world, as is obvious in many sectors of the global economy. In addition to the value and benefits offered by traditional marketing, customer experience has begun to come to the spotlight in marketing strategies. Just as experience-based products are different from service and product, marketing communication strategies of experience-based products also vary from services and products. The fact that the experience-based product creates a unique and important structure exposes, the necessity of developing special marketing strategies for the experience-based product.

Experiential Marketing Concept and Strategies

When businesses create marketing strategies for products based on experience, they need to consider the new concepts and approaches offered by marketing in order to evaluate the new opportunities and new approaches offered by experiential marketing in the interests of the organization (Schmitt, 1999). Experience marketing, which has emerged with new approaches, has included important differences when compared to traditional marketing. Schmitt (1999), who brought a new approach as experience marketing in addition to traditional marketing in his studies, draws a strategic framework for experience marketing. In Figure 1.3, the characteristics of both marketing approaches are compared in order to highlight the differences between traditional marketing and experiential marketing. According to the traditional marketing approach, which is the consumers in the market environment where the product category and competition are limited that the ones who make rational decisions as a considering the features and benefits of the products. In experience marketing, consumers have come to be seen as rational and emotional people who want to gain experiences

that they will enjoy. In experiential marketing, the emotional, sensory, cognitive, physical, and social values that the customer procures as a result of their experiences come to the fore. While mass solutions methods are analytical, quantitative, and verbal approaches in traditional marketing, on the other side experiential marketing is preferred to more individualized and eclectic methods. While competition in traditional marketing is based on a brand or product, the focus of experiential marketing is the holistic experiences offered to customers.

Figure 1.3: Traditional Marketing and Experiential Marketing Characteristics



Source: It was created according to study of Schmitt (1999).

Experience marketing is classified according to five different experiences or strategic experiential models they offer to consumers (Schmitt, 1999; Nagasawa, 2008). Strategic experiential models :

- Sensory experiences (SENSE), appeals to the senses with the objective of creating sensory experiences, through sight, sound, touch, taste, and smell. For example, in the museum of dialogue in the dark is the experience of the sense of sight

- Affective experiences (FEEL), appeals to customers' inner feelings for example emotions as to go concert or watch the movie at the cinema
- Cognitive experiences (THINK), appeals to the intellect with the objective of creating cognitive, for example as to visit a science or technology museum
- Physical experiences, behaviours, and lifestyles (ACT), physical experiences, showing customers alternative ways of doing things, for example as to go to tourist places
- Experiences that result from relating to a Reference group or culture (RELATE); contain aspects of SENSE, FEEL, THINK and ACT marketing is the appeal to the individual's desire for self-improvement, allows to establish relate to experience with social or cultural groups

is expressed in the way. These experiences can be offered through experience providers such as by way of various communication channels as sound, sight, verbal, the product itself and social media, etc. The ultimate goal of experiential marketing is to transform individual experiences into a holistic one (Schmitt, 1999). Another author who draws attention to the learning and holistic side of experiential marketing Gruca (2000), who has revealed the experiential learning style with a holistic approach in marketing and the methods of predicting success in new products. In his article, the author mentions experiential learning in marketing as an exciting new form.

Since consumers do not have the opportunity to test the product concretely before purchasing the experience-based product, more increase the importance of marketing strategies in the process of persuading the customer before purchasing. With the increasing importance of the experience economy, The authors (Ackerberg, 2003; Boswijk, at al., 2007; Pine & Gilmore 1998; Chung & Rao, 2012; Bei, Chen & Widdows, 2004), who have examined the marketing communication strategies in experience-based products, have carried out studies that deal with the subject from different aspects.

Another factor that increases the importance of marketing strategies is the fast consumable feature of experience-based product. Ackerberg (2003) investigated the effect of advertising on experience based-products in short-lived. Advertisements provide consumers with information about the product's experience before purchasing the product (Ackerberg, 2003). In his research, the author reveals that the advertisements made especially for the quality of the product inform the consumer and have a high effect on convincing the consumer. The information is given to the consumer about the product before purchasing that can be convincing for the consumer to buy the product.

when creating the marketing strategies of experience-based products what needs to be done is to attract the attention of consumers and to convince the consumer about the quality of the product before purchasing the product. It is important for the effectiveness of marketing activities that marketing strategies are primarily aimed at emphasizing the quality of the product. Experience-based products, because of their features, one's quality can be understood when only meet the consumer. The experience should create value in the first time when the meets customer it or during the next few visits. Otherwise the concept of the offered experience may end in the first stage of market launch (Boswijk, at al., 2007).

While creating the marketing strategies of experience-based products, being able to experience the product even partially before the purchase plays an important role in influencing customer preference. Pine and Gilmore (1998) guide companies in preparing marketing experiences with the following five experience-design principles; In his work, for companies lists the guiding principles as:

- Consistent theme experience
- Harmonize impressions with positive cues
- Eliminate negative cues
- Mix in memorabilia as a reminder of an experience
- Engage all five senses to be more effective and memorable

Here the aim is to provide as much information as possible about the product with the customer will experience. Because for experience-based products, it is critically important for customers to obtain pre-sales knowledge and experience to provide customer demand generation.

Experience-based products' connection with online interactions was investigated In studies conducted after the spread of the Internet. The subject of the study of Chung and Rao (2012) is that consumers do research on the internet for experience-based products before purchasing them. The study was analyzed the role of obtaining information on the Internet in consumers' preference for experience-based products. Another study that emphasizes the importance of getting information over the internet in experience-based products was carried out by Bei et al., (2004). In their study, the authors found that customers are more inclined to seek online information about experience based products.

In order to compete and be sustainable in the market, businesses by using the experience economy to differentiate their products and apply special marketing strategies for experience based products. In addition, it is critically important for businesses to follow trends and update their experience marketing strategies in order to meet changing customer demands and needs.

New Orientations in Marketing Communications

With the spread of personal computers in the 1980s, the development of the internet in the 1990s, and the emergence of social media and smartphones in our lives since the 2000s, digital technologies have had an accelerating effect on the social change of communities (Scolari, 2018). With the Internet, communication systems have grown exponentially, and multiple and direct communication has eliminated the concepts of time and place. It is remarkable that the internet and social media have developed rapidly in the world. According to We Are Social (2021) reports, the number of global internet users, which was only 400 million in 2000, has reached 4.8 bil-

lion today, covering 60.9% of the total world population. The report is also important which shows that more than half of the internet traffic is carried out via mobile phones, and draw attention to the increased rate of mobile internet usage. With the introduction of the Internet into our lives, technology development and information sharing have accelerated, right alongside customer demands and needs have also changed.

In the world, the number of active social media users has reached 4.4 billion, which constitutes 56.8% of the world's population (Wearesocial, 2021). According to We Are Social (2021) reports, In the last year, the number of social media users increased by 520 million people which growth rate reached 13.1%. With the increasing use of social media, communication activities are also changing rapidly. The advantages of social media communication activities continue to increase both on the business and consumer side, also the share of social media networks in marketing communication activities is increasing. Social media networks offer a great opportunity for companies to communicate directly with their customers.

As social communication networks, allowing people to communicate with each other, allowing various sharing such as information, photos, videos which is Facebook, Twitter, Youtube, Instagram, Pinterest, etc. popular social networking sites are indicated. Social media applications starting with Youtube in2005, gained momentum with Facebook and Twitter since 2006. The use of social media continues with Instagram applications, which are mostly used on mobile phones since 2010. Global monthly average user numbers of social media networks, respectively:

- Facebook 2.8 Billion,
- Youtube 2.2 Billion,
- Instagram 1.3 Billion,
- Twitter 397 Million,

took place as a person (Wearesocial, 2021). Facebook is the most widespread and largest social media network in the world with

the number of users approaching 3 billion worldwide. According to Wearesocial (2021) data, 4.4 billion people, who make up 56.8% of the world's population, use social media via mobile phones. Alongside Facebook, Instagram and Twitter, YouTube is the world's largest video social networking site that allows users to upload and share, view, comment and like videos (Wearesocial, 2021).

According to We Are Social (2021) Turkey report is the figures of the use of internet and social media in Turkey are as follows: 65.8 million people in Turkey have an internet connection that figures constitute 77.7% of 84.6 million Turkey's population. The number of people using social media is 60 million, which corresponds to 70.8% of the total population. Internet usage and social media usage in Turkey are above the world averages. In the same report, the number of mobile phone users in Turkey is stated as 76.8 million. While the population growth rate in Turkey has been 1% in the last year, the number of people using the internet 6% and the number of social media users has reached a growth rate of 11.1% (Wearesocial, 2021). It is remarkable that the number of internet users and social media users have grown at a higher rate than the population growth rate. Considering the distribution of use of social media platforms in Turkey in the We Are Social (2021) report:

- Youtube % 94,5
- Instagram % 89,5
- Facebook % 79
- Twitter % 72,5

It is noteworthy that in the second place Instagram surpasses Facebook. Instagram was launched in October 2010 and was acquired by Facebook for $1 Billion in April 2012. Instagram, which constantly adds new features to itself after the purchase so has brought a new breath to social media activities (Salomon, 2013).

While communication activities with traditional media tools are one-sided, marketing communication over the internet is two-sided, more individual, personal, subjective, instant, and open to interac-

tion. With the internet, businesses have had the opportunity to promote and present their products and services to wider audiences, and they can be able to do these at low costs. The changes created by the Internet in marketing strategies have also attracted the attention of many researchers (Walker, Boyd, Jamieson & Mullins, 2012; Jothi, Neelamalar & Prasad, 2011; Zhang & Yang, 2016; Fletcher & Nielsen, 2018).

With the economic development stages and the development of technology, businesses have focused on marketing strategies with which they can establish more solid and long-term relationships with their customers (Walker et al., 2012). The computer revolution and related technological developments have changed the nature of marketing management in two important ways. First, businesses have gained the opportunity to collect more detailed information about the wishes, needs and purchasing habits of potential customers, thanks to new technologies. As a result, businesses had the opportunity more small target customer segments, can be created and product features, price, and communication activities can be defined specifically for smaller segments. Secondly, the development of information technologies has created new communication channels and led to the opportunity mutual communication between businesses and customers (Walker et al., 2012). With the widespread use of the Internet and social networking sites, the new communication network formed among its users has attracted the attention of marketing strategists and has led to the opening of new communication channels in reaching customers (Jothi, et al., 2011). For example, advertising spending has shifted from traditional media sources to online sources, social media advertising expenditures. Advertising broadcasts have shifted from newspapers and television to the Internet. The advertising rate of Facebook and Google in social and mobile media reached 80% in 2017 (Wearesocial, 2018).

Zhang and Yang (2016) state that the internet is not only a one-sided communication from companies to consumers but also an environment where consumers can express their opinions to com-

panies and enable mutual information sharing. As a result of the development of mutual communication, new technology products such as the internet, social media platforms, blog, wiki, microblogs, google, web, video games, mobile phones, computers, laptops, and tablets have emerged as new marketing channels. In marketing activities, not only companies' own web pages but also social media accounts have started to be carried out over the internet. businesses aim to communicate directly and more closely with active social media users on the internet. The transition from mass media channels such as television to the internet environment is defined as the transition from a low-choice media environment to a high-selection media environment (Fletcher & Nielsen, 2018).

When the developments are evaluated from an economic point of view, online promotion and advertising activities over the internet can be realized at lower costs than traditional marketing activities. A decrease in promotion costs has provided an opportunity for small-scale businesses, which could not advertise on TV and newspapers before, to plan marketing activities on the internet. Emerging new technologies have created new opportunities for experience-based products where marketing strategies are critical.

Experience-Based Product: Movie Theater

When the literature is examined, the authors evaluate the movies from various perspectives and define them as experience-based products (Levin, Levin & Heath, 1997; Zhang & Yang, 2016; Cooper-Martin, 1992; Haw, Ho, Lim & Wong, 2013; Lofman, 1991).

Films are experience-based product category due to the sector, product and structure characteristics (Levin et al. 1997). That quality only can be evaluated after purchase, which isgenerally intended for the service or entertainment sector products such as concerts, movies, etc. are experience-based products (Zhang & Yang, 2016). Other researchers who define movies as an experience-based product are Cooper-Martin (1992) and Levin et al. (1997). In addition, motion pictures are also defined as the process of experiencing events with

a sensory, imaginary and emotional combination (Haw et al., 2013). According to Lofman (1991), motion pictures are hedonic market products that are valuable by their nature, and he defines them as services that offer delight/pleasure (hedonic) and have intrinsic value by the market.

Table 2.3 shows why the communication activities for motion pictures are so important, the motion picture is an experience-based product, the difficulty of attracting an audience, the high competition and uncertain environment in the sector, the short product life cycle, the important number of spectators for the first weekend and the total their effects on box office revenue.

Table 2.1: The Importance of Movies Industry Marketing and Communication Activities

Importance	Authors
Marketing communication activities of motion pictures, which are experience-based product, are critically important for informing and persuading the customer.	Marich, 2009;Levin, at al., 1997; Zhang & Yang, 2016; Cooper-Martin, 1992; Haw at al., 2013; Lofman, 1991; Berry, at al., 2002; Holbrook & Hirschman, 1982
It is difficult to attract an audience to movies.	De Vany & Walls, 1999; Marich, 2009; Meiseberg, Ehrmann & Dormann, 2008; Lubbers & Adams, 2001
Competition and uncertainty are high in the movie industry.	Eastman & Billings, 2000; Levin, at al., 1997;Krider & Weinberg 1998
The product life cycle of movies is short.	Lubbers & Adams, 2001; Marich, 2009; Calantone, Yeniyurt, Townsend & Schmidt, 2010
Communication activities for movies are aimed at influencing the number of spectators for the first weekend.	Kirmani & Rao, 2000; Marich, 2009
Movies total box office revenue is affected by first weekend performance.	De Vany & Walls, 1999; Simonoff & Sparrow, 2000; Karniouchina, 2011; Cabral & Natividad, 2016; Krider & Weinberg 1998

Source: This table was created as a according to from literature research.

Since movies are intangible and experience-based, especially during their first week of release, it is difficult to persuade the audience to go to the movie. After a poor opening weekend, very few

films have regained attention. Before the audience sees the movie, they need information so that they can decide to go to the movie. The fact that the high budget productions investment needs to be returned within short vision periods also shows how critical marketing strategies are. Every movie, as a short-lived and sensitive new product in its opening week, needs explanation, positioning, and marketing efforts (Marich, 2009).

Cooper-Martin (1992) concluded in his research that for consumers who choose movies, experimental sources are more beneficial than non-experimental sources. The trailer offers an opportunity for the audience to experience the movie before it is released. Today, broadcasting the trailer on Youtube allows it to reach large audiences more easily and quickly. As digital media activities and internet usage intensity increase, it is possible to reach more viewers through social media platforms.

Digitalization in the Movie Industry and Changing for watching Experience

Since cinema first appearance in 1895, it has been seen as a social activity, especially for urban people. It can be said that especially movie theaters were the center of attraction in the first fifty years of the emergence of the cinema. in this period, going to the movies not only being a social activity but also watching a movie is an experience where one is alone with one's own experiences and emotions. Although the rise of televisions since the 1950s caused people to bring their movie-watching experience from cinema to home, movie theaters' attraction continued to rise. In both cases, the watching hours of the movie in movie theaters and televisions were not possible determined by the audience. With the video cassettes that emerged since the 1970s, the audience had a possibility to watch a movie whenever and wherever they want (Tuğran & Tuğran, 2016).

Since the 1990s, with the development of the internet and CD technology, everyone with a computer has experienced personal

cinema watching. Another development that emerged in the 2000s is 3D (3D film) technology. The cinema audience faced a different experience and showed great interest in the special 3D movies that they watched with 3D glasses. As another new technology product developed in parallel with 3D movies, 4D movies have been released. 4D movies appear as a new cinema experience that can make you feel the wind, the rain, and even the hot and cold, with special glasses, sensitive, detailed and vibrating seat movements in specially prepared 4DX halls. With the cinema shown in 4DX halls, virtual environments have been transformed into real experiences as much as possible for the audience. Since 2009, 4DX has attracted 76 million moviegoers to date, with over 640 Hollywood blockbusters and local films (4DX, 2021). ın the other hand, In Turkey, it is possible to experience 4DX technology in Cinemaximum's five different halls.

Especially after 2010, as the required technological infrastructure has reached a sufficient level, platforms where digital streaming (Youtube, Netflix, BluTV, Amazon Prime, PuhuTV, HBO Max etc.) are made popular (Sunal & Kalkan, 2020). As a result, the distribution chain of the movie industry, respectively, while in the form of movie theaters, pay-TV channels (Digitürk, etc.), normal TV channels, and video cassette, has changed first place as digital channels. Directors who cannot find enough screens or producers who want to reach more audiences (Netflix 207 Million members) have started to prefer digital platforms before movie theaters. With the differentiation of distribution channels in the cinema sector, marketing strategies have also changed. Despite the digital platforms, it is important for the sustainability of the sector that the audience continues to prefer the movie-watching experience that is reflected on the big screen in the movie theater and supported by the cinema sound system. At this stage, it can be thought that emerging technologies such as 3D and 4D will add a new dimension to the cinema experience and digital platforms can be an alternative to the possible loss of income.

Conclusion

This paper aims to explain the importance of the experience economy, the structure of the experience-based products, differences, and changing marketing strategies. In this context, it was mentioned changing with the internet of experience based products marketing strategies. The Internet has caused changes in marketing strategies in general, as well as profoundly affected the marketing communication strategies of experience-based products. Experience-based products are whose quality can be understood when they meet with the consumer, that is enjoyed, appeals to emotions and senses, and customization at the forefront. Parallel to the same features, the fact that the marketing activities carried out over the internet, personalized, interactive, open to two-side communication and spreading fast and instant information provide convenience in the marketing of experience-based products.

The widespread use of the Internet is considered to be the most important factor that reveals new trends in marketing communication. The ability of new communication activities to be possible faster, without time and place constraints has changed marketing communication strategies and practices. In the experience economy, the emergence of an experience-based product is only possible with the participation of the customer and the experience. in the same way, internet marketing strategies which enables customer participation and interactive communication, it is meet the changing customer demands and needs in the market. For this reason, it can be said that marketing communication activities over the Internet play an active role in the development of experience-based products marketing. when considering all these advantages of communication activities over the Internet, It is foreseen that the importance of social networking sites will increase in the coming days and will be the main area of marketing communication strategies. The effects of new marketing orientations in the movie sector, which subject of this study within the scope of the experience economy is examined have begun to be seen clearly. It is expected that the marketing com-

munication activities of experience-based products will continue to be carried out intensively through social media that has developed with the internet.

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