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SÜRDÜRÜLEBİLİRLİK AÇISINDAN YENİLİKÇİ EKONOMİLER PARADİGMASI'NDA AKIL ÜZERİNE TEORİK ve KAVRAMSAL BİR ANALİZ

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Özet

Literatürdeki ampirik çalışmalar, inovasyonun çevresel kaliteyi ve sürdürülebilirliği azaltmaya yardımcı olduğunu göstermiştir. Yenilik temelli kurumsal kalitenin sürdürülebilirliği sağlamadaki rolü, özellikle gelişmekte olan ülkelerde sürdürülebilir kalkınma konusundaki güncel tartışmalarda öne çıkmaktadır. Sürdürülebilir bir geleceğe yönelik yapısal değişimde inovasyon, bir ekonomideki kurumsal kalite süreçlerinin ve girişimcilik mekanizmalarının kritik rollerinin anlaşılmasını iyileştirebilir. Kalitenin sadece maddi yönleri değil, aynı zamanda ahlaki ve manevi unsurları da içerdiği varsayımıyla, yenilikçi ekonomiler ile sürdürülebilir kalkınma arasındaki ilişkinin kurumsal, ahlaki ve kültürel yollarla yüksek kalite seviyelerinin varlığında daha güçlü bir şekilde pozitif olabileceği tartışılmaktadır. Çalışma, Türkiye ekosistemi üzerinden kritik sorular ve analizler tanımlayarak inovasyon kavramını sürdürülebilirlik ve manevi değerler çerçevesinde incelemektedir. Bu çalışma, doğal ortamdaki israfsız yöntemlerin ve tüm canlılar için çok yönlü faydalar sağlayan yaratılış hikmetinin, üretim ve tüketim için en iyi ve nihai biçimler olarak görülmesi gerektiğini savunmaktadır. Söz konusu iki kavram arasındaki ayrılmaz ilişkilerin makro ölçekte ve mikro ölçekte ortaya çıkarılması esas olduğundan, gücün en önemli belirleyicisi olarak inovasyon yeteneğinin derecesi, ülkelerin ekonomik ve sosyal refahının da belirleyicisi olarak kabul edilmektedir. Bu nedenle, yenilikçi bir yaklaşım benimseyen araştırmamız, sürdürülebilir ekonomilere doğru ilerlemesini sağlayan koşulları açıklamanın daha kolay olacağını savunarak literatürdeki araştırmalara katkıda bulunmaktadır.

Anahtar Kelimeler: Bilgelik, Yenilikçi Ekonomiler, Sürdürülebilir Kalkınma, Paradigma Değişimleri, Kaynak Verimliliği.

A THEORETICAL AND CONCEPTUAL ANALYSIS ON WISDOM IN THE INNOVATIVE ECONOMIES PARADIGM IN TERMS OF SUSTAINABILITY

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Abstract

The empirical studies in the literature have shown that innovation helps reduce environmental quality and sustainability. The role of innovation-based institutional quality to ensure sustainability is prominent in current discussions on sustainable development, especially in developing countries. In structural change towards a sustainable future, innovation can improve understanding of the critical roles of enterprise quality processes and entrepreneurship mechanisms in an economy. With the assumption that quality comprises not only the material aspects but also moral and spiritual elements, it is argued that the relationship between innovative economies and sustainable development may become more strongly positive in the presence of high levels of quality via institutional, religious, moral, and cultural elements. The study examines the concept of innovation within sustainability and spiritual values by defining critical questions and analysis over the Turkish ecosystem. This study argues that wasteless methods in the natural environment and the wisdom in creation, which considers versatile benefits for all beings, should be regarded as the best and ultimate forms for production and consumption procedures. Since revealing inseparable relationships between the two concepts under consideration is essential at the macro scale and at the micro-scale, the degree of innovation ability as the most significant determinant of power is also considered the determinant of the economic and social welfare. Thus, taking an innovative approach, our research adds to the series of research in the literature by arguing that it would be easier to explain the conditions that allowed it to progress towards sustainable economies.

Keywords: Wisdom, Innovative Economies, Sustainable Development, Resource Efficiency.

Introduction

From the 1930-the 1950s to the 1980s and 2000s, the primary industries were in the heavy production infrastructure which was composed of process facilities, highways, airports, and organized airline companies in the heavy industry. The Fordist production approach included the automotive, aircraft, mass production, line manufacturing, motorized war weapons, and the durable consumer goods industries. Moreover, the existence and utilization of tremendous and inexpensive energy had developed and perfected the continuous production line techniques and the flexibility provided by the automobile and airways. As a result, new industrial areas and more effective forms of urban development had been introduced. The colonial era has provided supremacy to the nations accumulating capital by brutally exploiting both natural an human resources of developing and emerging countries. This time the underdeveloped world became a significant market for the west, making them more dependent. After the 1980s, a definite shift of capital and heavy industries to Asian countries occurred due to low wages and regulative costs. After the 2000s, we see clustering networks and flexible production models rather than economies of scale and mass production in the current capital accumulation period. Moreover, with the advent of industry 4.0, complete automation infrastructure attracts all industries back to original western countries due to replacing robots with human workers.

Innovation in an economy directly affects economic competitiveness. Continuous innovation and new products are also identified with capitalist consumption. While constant innovation is necessary, not wasting resources, not buying unnecessary products, and staying on the necessity scale is vital for sustainability requirements and meeting both religious and ethical obligations. The success of innovation ecosystems is based on their ability to imitate natural innovation within creation. The questions that stir our minds in this chapter are:

- *Is the innovation a new invention on the ways of thinking or production?*
- *Can we take sustainability, competitiveness, and human and technological development as different parts of innovative economies?*
- *How can we affiliate the innovation in the cosmos with the one in the business culture processes?*

Each production process is dependent on a particular technology and paradigms on energy usage. Technological development increased energy resources, and diversification has led to rapid production capacity and living standards throughout history. Since the world is temporary and not paradise as a resting place, every technological paradigm has birth, development, maturity, and stagnation of phases. Everything has a connection with the law of diminishing returns to scale. Therefore, a new technological paradigm means a new production function and the emergence of new production classes. Disruptive innovation can change the behavior and culture of societies over time. In this respect, technological change increases output and leads to a quantitative and qualitative change in socio-economic and political structure.

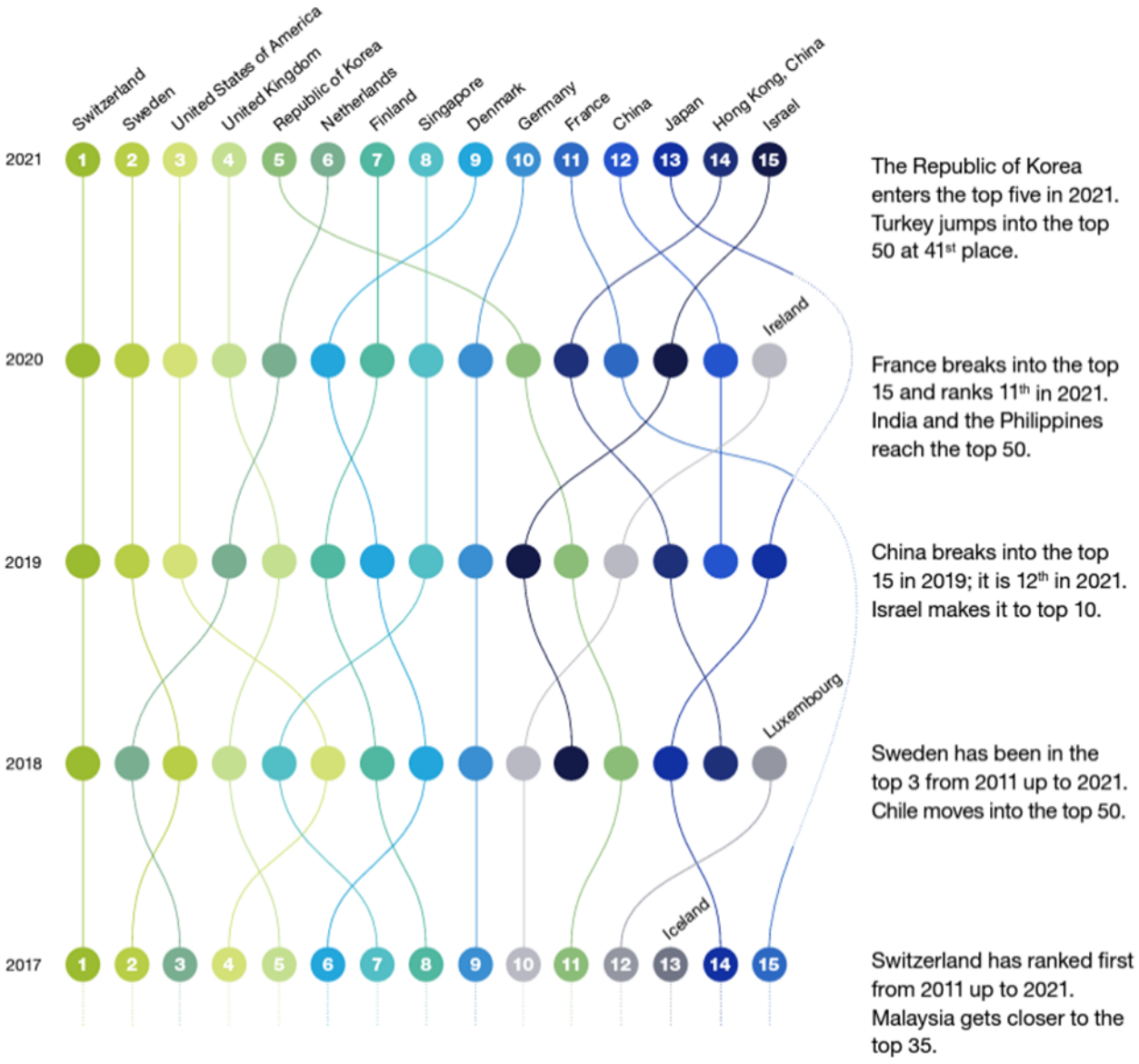
The techno-economic paradigm, which determines innovation in developed and developing countries, is radically transformed. Before this change, innovation was shaped around mass production, economies of scale, and corporate R&D predominantly. In the last twenty years of the 21st century, this situation is primarily replaced by the economies of scale, the benefits of being connected, the flexible production systems, and the centralization of R&D. Flexibility, connectivity, and business collaboration is all based on IoT, which facilitates research diversity and interdisciplinary approaches. Due to rapidly changing market conditions, national science-technology policies, and national innovation systems. Some developing countries like Turkey try to replace their production infrastructure and whatever has strategic importance in production supremacy with national and local ones due to foreign trade wars. All government plans, programs, and strategies are designed to mobilize this opportunity. All systems need to be revised quarterly.

The establishment of fast, flexible, and easily scalable informal central systems designed at the micro-level with university-business-state cooperation and local dynamics prioritized sectors. Developing the relations between innovation and competitiveness within the cluster and management model's framework at the micro-level and integrating into the global hub network shows a new systemic mechanism emerging in innovative production. For example, open innovation structures that incorporate the ever-strengthening '*open source*' trend in a way that creates a sharing economy between developers, in particular, come to the forefront. The sharing of production and information services between the companies and especially the online communities involving consumers can affect innovation.

Another significant trend is the globalization of innovation. The rapidly evolving integration between these research centers, which are becoming a focus of technology development for local, regional, and increasingly global markets, is witnessing global

innovation networks. For example, China was among the first 20 countries in the 2018 Global Innovation Index report of WIPO for the first time. China, which ranks 22nd in last year's ranking, climbed to 17th place in 2019, rising five. Sweden, England, and Singapore followed Switzerland which ranked first with 80 indicators of research and development spending, patent numbers, and information-intensive industries. The United States was ranked sixth by two places and Turkey was located in the list took 51st place.

Figure 1. WIPO Ranking



Source: https://www.wipo.int/

Developing countries have a significant relationship between global financial games and capital movements and their exposure to external and internal impacts that some

global/regional political-economic actors will resist. In general, the current knowledge on how the modern world system is established and operated by the existing international order is based on two separate realities: those who benefit from this system and the oppressed and tortured under the high cost of this system. It seems that still, the power is taking the rights of the weak unlawfully. Global capitalism is experiencing a significant crisis, and it is necessary to overcome these large-scale crises that are repeated every 9-10 years, and the system should be relieved. When the regions or countries that lost their profitability are disregarded, instead of the more untouched areas, capital mobility starts to shift towards such regions or countries where rent/land-return rate is high with such a cycle. Then, when the regions or countries that lost their profitability are disregarded, instead of the more untouched areas, capital mobility starts to shift towards such regions or countries where rent/land-return is high with such a cycle. It is not overlooked that sometimes a military coup, sometimes a terrorist event, sometimes a war, occasionally a riot, rarely a projected pandemic like the Coronavirus, and political instability are staged by the hidden hands to put back or neutralize the countries.

In this process, the countries that are opened to the global market but whose economic structure is resistant are less affected by the speculations of international finance capital and the capital movements based on hit-and-run and proxy wars. In particular, countries with high added value, high technology, and export-based growth model are preferred. These countries can stand high thanks to the high yields of the products they offer to the global market. Moreover, countries that can establish a robust production system based on innovation and R&D are more fortunate than developing, fragile governments, no matter how much oil they pump.

With the assumption that quality comprises not only the material aspects but also moral and spiritual elements, it is argued that the relationship between innovative economies and sustainable development may become more strongly positive in the presence of high levels of quality via institutional, moral, and cultural elements. The study examines the concept of innovation within sustainability and spiritual values by defining critical questions and analysis over the Turkish ecosystem. This study argues that wasteless methods in the natural environment and the wisdom in creation, which considers versatile benefits for all beings, should be regarded as the best and ultimate forms for production and consumption procedures. Since revealing inseparable relationships between the two concepts under consideration is essential at the macro scale and at the micro-scale, the degree of innovation ability as the most significant determinant of power is also considered the determinant of the economic and social welfare. Thus, taking an innovative approach, our research adds to the series of research in the

literature by arguing that it would be easier to explain the conditions that allowed it to progress towards sustainable economies. Therefore, we star with definition of research problems and literature; discussing the key reasons for failures of innovation; importance of innovation and technology policy; understanding the relationship with sustainability and moral and spiritual perspectives to sustainability with conclusion.

Research Problem and Literature

When searched with the keywords of this research in the Scholar database, it is found 83.300 articles but none of them have used the words *allintitle*. However, there are many research items in general regarding innovation and sustainability beginning a few decades ago. Charles Alexander (1983) drew attention to the transition from a heavy industry economy to a new technology-based economy. Stephen B. Shepherd (1997) wrote about the New Economy. In addition, in a public opinion survey conducted in March 2000, 57% of the consumers of the United States of America (USA) stated their belief that the American economy has transitioned to a new economy that is very different from the industrial economy (Kallio & Mallat, 2004). Jalava and Pohjola (2002) find that, on average, two-thirds of the improvement in labor productivity for the USA is due to ICT. (Koski et al., 2002). Ketteni et al. (2011) show the non-linear relationship between ICT and productivity for several OECD countries and a non-linear relationship between human capital and productivity. Kallio and Mallat (2004) emphasize that ICT expenditures strongly correlate with income level. However, there are still considerable differences between countries with the same income, based on the study of Pohjola (2002). They write that the reason for this is that governments are at different stages in the transition process. Sánchez et al. (2009) confirm the impact of ICT on per capita income using data from 102 countries. Shao and Shu (2004) measure productivity growth using the Malmquist total factor productivity (TFP) Index and find that each country's ICT industry exhibits a unique behavior. Jorgenson et al. (2011) identify 40% of the total productivity increase of TFP originating from the ICT-production sector. Visco (2000), Daveri and Mascotto (2006) are other studies supporting this idea. However, terms such as Internet Economic or E-Economy are insufficient to explain the whole transformation process and only describe a part of this economy (Tapscott, 1997). Within this study's scope, the New Economic can be briefly defined as follows: It is the adaptation of globalization and ICT to the production and trade processes of the old economy (Kiracı, 2016).

The exile of morality is a conscious operation to marginalize traditional morality in the first step, put into effect by flexible capitalism. What is aimed at the marginalization of conventional morality is creating a new moral understanding. According to Furedi (2001), the marginalization of traditional morality does not mean society has no value system. The vacuum left by the marginalization of conventional morality has been filled by a system of values and behaviors associated with risk awareness. It is challenging to formulate ideals and models that appeal to all segments of society today. Many common values are now regarded as unfavorable, and primary conventional institutions such as the family are seen as instruments of patriarchal oppression. As factories close, people lose their jobs, and giant malls throw small shops out of business, talking about "community" becomes meaningless. For many people, the community is more an imaginary vision than a fact of life. Traditional morality has lost its ground and can only survive among the most ineffective sections of society. Actual figures in politics, media, and academia avoid traditional morality altogether, while younger generations see it as a past ideal. According to Ross Poole (1993), morality is not just a method of social control and coordination; it also coherence individual existence. Moral values provide meaning and direction to our lives beyond our desires and goals. The obligation to adapt to rapid and continuous change with flexibility places the individual's commitments in a changing and diversifying context. The institutions, lifestyles, and values system to which the individual is committed are in a state of constant change. Agnes Heller (2006) states that the person who is a member of different institutions, communities, lifestyles, and whose commitments are therefore divided will have to choose between alternative directions of action that conflict with various obligations. He says that it will be essential whether there is value or virtue. Today, the fact that the established meanings of society come under the influence of transience and the binding power of general morality has weakened significantly deprives the person of the guidance of such a higher norm. Established meanings are falling apart; morality is increasingly individualized. However, it should be emphasized that capitalism has also found a way to make the established values that it takes from valuable life for itself. It does this by changing the functions of corresponding values with a new design. It is considered necessary if it serves capitalist purposes in all respects.

Businesses cannot work without trust between employer-employee, firm-customer, manager-managed. The consumer society is a similar formation of anti-production. It creates new needs and desires to increase the differing relevance of the flows of kinship capital. Likewise, recessions are beneficial to the capitalist economy; because employment instability can keep wages low and improve profit rates. Capitalism can gain strength from almost

anything that happens (Goodchild, 2005). Innovation needs to be studied at the root level at the beginning of the education process. Preschool education and formal education system, which allows for developing analytical thinking, inquisition, and problem-solving skills where innovative culture is at the forefront, is essential in raising people who will develop original ideas. However, the education system has been introduced into the last 20 years with numerous unplanned policies in Turkey. Therefore, the structure that triggers innovation is not simple but has political, geographical, economic, cultural, and historical determinants. It is so complex that we need some of the pertinent questions to be asked:

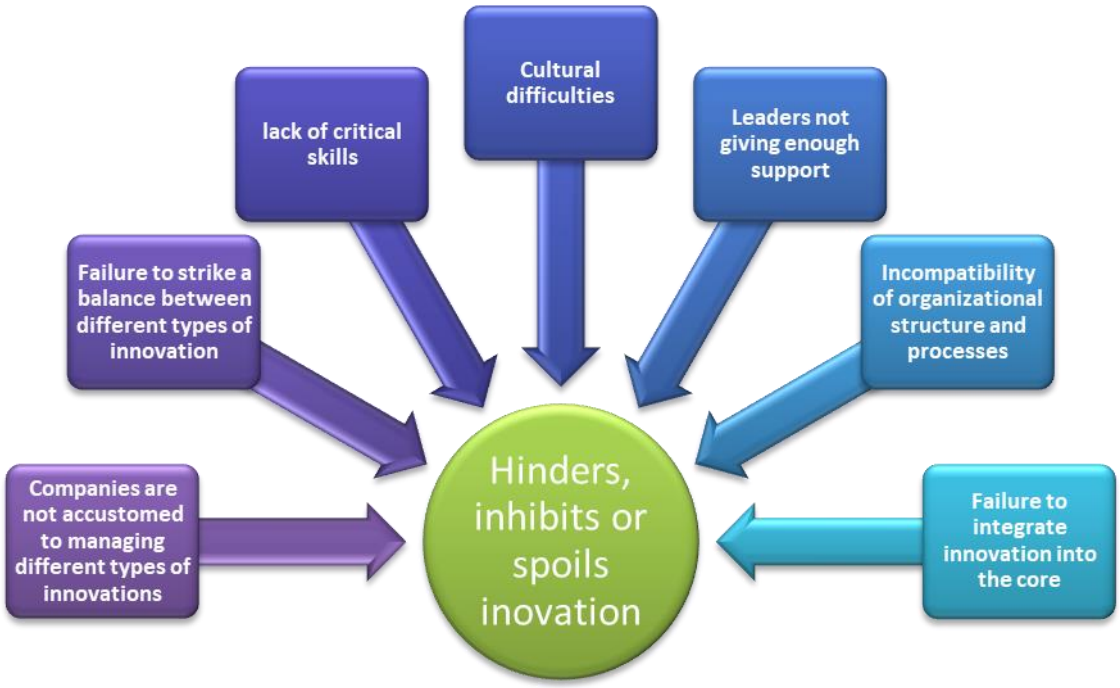
- *Which dirty games are played in open economies of developed countries?*
- *What kind of measures should be taken since this, and similar movements can be repeated today?*
- *Can innovation change the current global order?*

It is not possible to stay out of the global world, keep out of the system, or take the necessary measures to eliminate the destructive and adverse effects of globalization and prevent capitalism's development. Still, the most vital point of resistance is production. In chaos and storm where virtual coins are printed, non-counterclaimed assets are bought, and market actors buy expectations and demands. The developing world will either produce or drown in the raging waves of speculation. That is why it is essential to become a strong, fair, share-based innovative economy for high added value.

Key Reasons for Failures of Innovation

Innovation literature reports high innovation failure rates, ranging from 50% to 90%. Hence, most new products fail as they are rejected by consumers due to their resistance to innovation, indicating that innovations remain a critical challenge for managers (Hiedenrich and Spieth, 2013). While most companies describe the innovation process as complex, only 6% are satisfied with their innovation performance. Barriers to successful business model innovation are related to barriers of awareness, search, system, logic, and culture. Overcoming those barriers involves openness, opening, networking, affirmation (and mastering) of complexity and thinking, and acting (Friedrich *et al.,* 2015).

Figure 2. Key Problems for Innovation Faillury



While companies fail to innovate, it is crucial to know the common ground, and there are many different reasons. Identifying and thinking about these reasons helps to succeed in the innovation work to be done. This article provides information on why companies fail in their innovation efforts, common obstacles encountered, and what needs to be done.

Companies Are Not Accustomed to Managing Different Types of Innovations

Many companies that market only goods or only services are under increasing pressure to offer hybrid innovations—new offerings that combine good(s) and service(s)---to sustain and grow their businesses (Shankar *et al.*, 2007). In general, innovation is a different process than usual. Many companies focus on improving other parts of the business rather than looking for new business and product models. Most organizations often invest in scaling the existing business because of less risk and more predictable results. Moreover, on the whole, this approach makes sense because organizations that can continually improve have a better chance of success. The challenge is that when it comes to disruptive innovation, it almost always cannot be managed in the same way as routine business projects because it involves higher risk compared to incremental change.

Failure To Strike a Balance Between Different Types of Innovation

Striking a balance between different kinds of innovation is a much more sustainable way to remain in business and develop in the long run.

- *Current products*: Core businesses should be expanded and optimized for profit.
- *New generation products*: Emerging businesses and new generation products should be created and optimized for growth.
- *Evolving products:* Options for future opportunities and growth must be created and optimized for learning.

Lack of Critical Skills

New ideas and initiatives depend on the employees of the organization. Because without critical elements of proper skills and talents, it is much more challenging to achieve the desired results. These fundamental elements are (Cobo, 2013):

- The fluctuating relationship between digital technologies and contents.
- The mismatch between formal education and the challenges of an innovative society.
- The shift from what we learn to how we learn.
- The development of soft skills and
- The changing conceptions of space-time and the emphasis on lifelong learning.

Therefore, the team must consist of talented people with the necessary skills to do this precisely; these abilities depend on the job. Also, to better serve customers now and in the future, it is necessary to understand the customer's purpose, the business, and the market in which it operates. However, this is only half of the talent and skill equation. The other half is providing the necessary resources and opportunities. Organizations can be filled with people who can think creatively and solve problems effectively but cannot execute their ideas because they may not have been given enough resources and freedom. This hurdle can arise if the company's structure is too rigid or leaders fail to balance freedom and control.

Cultural Difficulties

Innovation is one of the significant forces for socio-economic development. It is the crucial element to spur the growth of a nation's economy. Several studies have shown that culture is vital for innovations (Bankole and Bankole 2016). Culture is often seen as an obstacle to innovation, as it requires abandoning profoundly ingrained and habitual elements. For example, detecting and eliminating inefficiencies in processes is much easier than transforming corporate culture. When looking at why culture can be a barrier to innovation, there are many other reasons as this barrier may be in the organization's structure. It is necessary to consider who to hire carefully and fire, reward, and on what grounds. However, the issue here is that innovation is rarely considered when making such decisions (Kylliäinen, 2019):

- Lack of systematic plan for dealing with objections
- Not enough repetition opportunities
- Minimal acceptance of change and risk
- Impatience.

Leaders Not Giving Enough Support

The main issue that complicates innovation is that it is often not prioritized. It becomes significant if this change is on the manager's schedule. A culture of innovation is challenging to develop unless time is taken to remove barriers to innovation. Transformational leadership is not the only style to lead innovations, but different leadership styles fit differently well with varying types of innovation and stages. However, the specification of this fit is still very incomplete, and the question of how to lead innovations remains sketchy (Kesting *et al.*, 2015).

Incompatibility of Organizational Structure and Processes

A diffusing innovation compatible with a firm's values and beliefs is adopted earlier if perceived as delivering good gains. In contrast, the innovation is rejected if it is not perceived as doing so, and that a diffusing innovation that is incompatible with a firm's values and beliefs is adopted late if it is perceived as reducing the likelihood of incurring losses, while the innovation is rejected if it is perceived as not doing so (Ax and Grev, 2017). Each innovation effort addressed at least one challenge related to the company's structure. Structures can be

developed in many ways, and many techniques and tools can be used to drive innovation, but not organizing them can present several different challenges. Few ideas will see the light of day without the proper infrastructure to implement ideas, the right processes to make decisions, and the appropriate communication channels. Innovation often benefits from flexibility and adaptability, although some tasks, such as production, certainly need more robustness and control. Often the issue is that innovation is not managed very well. Teams working on innovation need to act quickly and adapt to their environment while also making independent decisions in traditional ways. However, some structures and the right processes are still required to scale. Therefore, it can be challenging to strike the right balance.

Failure to Integrate Innovation into The Core

While cross-industry innovation offers entrepreneurial opportunities, organizations should consider the constraints imposed by the scale of investment required to build supportive infrastructure before emulating serviced business models (Naor *et al.,* 2018). Successful innovation work requires a disciplined and holistic approach. This means that it is not enough to be good in one area to succeed in innovation. Innovation requires the right strategy, structures, capabilities, and culture. These four main aspects of innovation management form the basis of successful and sustainable performance. Strategic alignment is essential as it allows employees to focus on what innovation is all about and work to advance the overall business strategy. Regardless of the employee's role, all business units and employees must work towards a common goal. The entire system must be integrated into fundamental working methods to take full advantage of innovation.

Importance of Innovation and Technology Policy

The development of assessment in this sphere has mirrored policy evolution, focusing on large-scale collaborative technology programs and gradually examining measures to enhance the environment for innovation (Georghiou, 1998). Innovation is an economic and social issue as it concerns the whole society. While economists need to increase or support the growth rate, it is also an essential issue for those who want to change the quality of goods, the direction of economic progress, or improve the quality of life. Economics is closely related to applying business and other social sciences to industry and firms. Innovation is limited to making several inventions and improvements in the use of the product, the production method,

and process and new developments in management, information networks, organizational structure, and financing methods.

Technological innovation involves several scientific, technical, financial, and commercial activities. As is known, technological innovations are becoming more concrete as new products and services. The economy of creation is a discipline focused on change, transformation, and re-engineering processes. Especially developing countries should follow more active policies, procedures, and human capital.

Today, scientific and technological innovative activity is not seen as an external factor in economic growth. The incentives made by financial institutions are effective in creating innovation but also may be distortive in fair competition and liberal economies. The invention provides a competitive advantage and enhances national and international competition. Thus, it is the driving force behind the scientific and economic policies for economic growth and development. Those who invest in innovation want to profit or gain an advantage due to their innovative efforts. However, the cost of technology in the first implementation stage is relatively high. Therefore, the sudden increase in productivity after an innovation may initially be lower. Moreover, organizations should support investments that provide a shared capital for research institutions and new high-tech enterprises.

In practice, R&D expenditures are generally used to evaluate the impact of innovation on economic growth. For example, in OECD countries, R&D expenditures within the gross national domestic product have increased over time. Therefore, it is observed that R&D activities substantially positively affect the growth process. However, in some studies, it is observed that the R&D investments made by the public inhibit the increase in output due to the exclusion effect in cases where the private sector replaces R&D investments.

Economic development depends on the quantity and quality of the factors used in production. Therefore, in addition to the amount of labor, capital, and natural resources, factors that increase productivity, such as technological advances, innovative procedures, institutional maturity, and human capital accumulation, should also be considered. Furthermore, demographic structure and population growth, democratic and cultural environment, economic and political stability, conjectural cycles, international relations, climate, and geographic conditions, directly and indirectly affect economic development. Instead of considering all economic factors when analyzing economic growth, it can be considered a correct approach to include other elements by exploring the issue from a broader perspective.

In information societies considered the most advanced social stage, land and capital have been replaced by human capital and innovative technological know-how, defined as qualified human capital. Therefore, while the quantity of production factors comes into prominence in the economic development of industrial societies, the quality of the production factors in the information societies has strategic importance, which is being greatly affected by innovation capability. As a result, the role of the knowledge economy and the economy of innovation as an essential factor in the economic development of countries is an undeniable fact. As a result, developing countries have begun to step back to the competition, requiring them to implement more active policies. Moreover, the performance of a single nation alone does not seem very meaningful due to the relative evaluation of the developments in this area.

Turkey is in a new technological transformation stage with a weak national innovation system between solid value chains and financial support. This policy fiction, which aims to increase absolute numbers, can be considered as a correct move for the beginning. Such a fiction and technology development policy would produce high value-added products and processes over time.

Turkey applied science and technology policies based on monetary support to development projects. This process, which started with the establishment of technoparks in the 2000s, continued with establishing Regional Development Agencies in 2006 and Technology Transfer Offices (TTO) after 2011, with accelerators, entrepreneurship centers, and financial support programs speeding the initiatives. As a result, the number of techno-parks, development agencies, TTOs, hatchers and accelerators, and the number of firms and entrepreneurs benefiting from these interfaces increased exponentially. This is only the scale, whereas the main problem is how we did with this scale, i.e., the quality and capability of the innovation ecosystem. Quantitative or qualitative analysis of the impact of policies implemented in Turkey is minimal. However, the only way to know if policy tools increase their R&D and innovation activities and expenditures are to conduct an impact analysis of the programs and projects. As a result, an economic structure has emerged in which fixed capital investments in the construction sector are three times more than fixed capital investments.

Technology policy is shifting to a mission-oriented approach, where the effectiveness of the state is increasing, more than a regulatory role for the state. Government-backed organizations such as Havelsan, Aselsan, Roketsan, TUBITAK, and TAI are examples of institutions and agencies forcing and pulling the industries to produce national and local innovative products. In addition, science, technology, industry, and innovation policy are experiencing a cycle in every technological paradigm. For example, Turkey is currently

designing innovation policies that apply microprocessor technology to virtually any field. However, the competitiveness and quality are still far behind the developing markets. Therefore, we will see the increasing importance of science and industrial policies at the new technological paradigm threshold.

It is thought that national targets for sustainable development should be determined in line with society's cultural and moral values to increase Turkey's sustainable development level. In order for sustainable development, which can be considered the most critical development understanding of today, to be fully implemented at the national and local level, action plans that are compatible with moral and cultural values and material values should be put forward. Only then can all parties make an effort. The central and local government, NGOs, and especially the people living in the city need to be sensitive to the development and take more initiative in this (Kocaoğlu, 2017). Target values should be determined for the indicators in international indices, and solutions should be sought according to the distances to the determined values. Thus, it will be possible to follow the developments related to the targets in a more rational way. Achieving the targets set by taking into account national policies, strategies, legislation, and EU standards will, of course, cause high costs. For this reason, it is crucial to determine the cost for all strategies and actions to be determined and to plan appropriate financing models (Ay, 2017).

Relationship with Sustainability

The 193 member countries of the United Nations have reached a consensus on 17 goals to be achieved in the next 20 years after lengthy negotiations. Within the scope of the 2030 Agenda for Sustainable Development, UN members agreed on 17 general topics. These are such; to eliminate hunger and extreme poverty in the world by 2030; to reduce inequality between people, regions, and countries; to fight against climate change; to protect the environment; to promote gender equality; to increase economic growth, providing quality education and accessible energy to all. The new marks are the continuation of the "Millennium Development Goals" (MDG) adopted in 2000. With the participation of the heads of state and government before the annual general meeting of the United Nations General Assembly, these targets are adopted by unanimous voting at the UN Summit in New York. Here are the questions that stir our minds as such:

- *Why is sustainability so critically important for all projects?*
- *How can sustainably be achieved through innovation?*
- *Does it related to using an environmentally friendly approach or implementing long-term strategies?*
- *What would be missing if we do not invent for sustainability?*
- *Are moral values and religious obligations complying with the sustainability agenda?*

Sustainable innovation is a process of transformation integrated with social, environmental, and economic concerns. Companies that focus on sustainability create a vision of sustainable innovation to maximize company gains in the long term. Companies aiming at the sustainability of innovation are market players with their environment; employees, investors, suppliers, government authorities, non-governmental organizations, etc. They are also aware of making sustainable innovation for the community a part of their names, images, and brand values.

Sustainability is defined as; "*meeting the needs of today's generation, without compromising the needs of future generations*." Today, environmental balance and economic growth together as part of sustainability, both to ensure the effective use of natural resources and environmental quality and to meet the needs of today's generation without endangering the needs of future generations.

Eco-innovation has become an essential strategic tool in ensuring sustainable development in the manufacturing industry. Hall & Wagner (2012) mention that innovation can provide companies with valuable, rare, and hard-to-imitate resources for sustainable development. Eco-innovation is a macro-sustainable development goal; It also contributes to a company's economic plans in micro terms (Büyükkeklik et al., 2010). Some authors working on this subject have also stated that innovation is a solution for companies to increase their sustainability performance (Hart & Sharma, 2004; Porter & Linde, 1995). Similarly, Sirmon et al. (2007) underlined that innovation capability is essential for sustainable development. Thanks to innovation, companies will be able to develop proactive strategies for the environment and reduce the environmental impacts of their products (Sharma et al., 2007). Shrivastava (2007) stated that production costs could be diminished, and product quality improved through development and process innovation. In addition, many studies are showing that innovation increases firm performance (Atalay et al., 2013; Han et al., 1998; Calantone et

al., 2002), it would not be wrong to think that eco-innovation practices will lead to positive performance outcomes. In particular, studies investigating the contribution of eco-innovation on firm performance have found a positive relationship between firm performance and eco-innovation, including ROI, market share, profitability, and sales dimensions (Christmann, 2000; Klassen & Whybark, 1999). Christmann (2000), in his research on chemical companies, stated that companies with environmental innovation ability could reduce their total costs. Hastings (1999), in his research on oil companies in Latin America, said that businesses that have gained environmental innovation ability could both reduce the environmental impacts they cause and improve their competitive advantages thanks to these capabilities. Chen et al. (2006) examined the relationship between eco-innovation and competitive advantage in their research in the electronics industry in Taiwan. Sustainability practices, which will profoundly impact companies and their business practices, vary according to companies and sectors. Therefore, a clear understanding of the current situation is crucial for accurately identifying risks and opportunities:

The Role and Responsibilities of Companies in the Society

In the recent past of the old-world order, the primary purpose of the companies was to make a profit and meet the essential responsibilities only against the company partners. The new order defines a win-win relationship where profit-making objectives can be parallel to social interests as they do not need conflict. In other words, the business has a responsibility to the company partners and their social partners.

Risk and Opportunities

Naturally, in this new era, sustainability brings many risks and opportunities for business. However, by identifying these risks and opportunities well, the company that reorganizes its operations, products, and services accordingly can create a competitive advantage over its competitors in the future (Mazzucato, 2018). On the other hand, there must be specific difficulties in cost minimization in a competitive sector for the SME and startups in undeveloped or developing countries. Therefore, for a business to assess the risks and opportunities that arise for sustainability, they first need to know their social stakeholders well and measure social, regulatory, and environmental issues and economic issues on the business and its stakeholders (Çalıyurt, 2021).

Main Forces

For the driving force of sustainability today, it is possible to say that four fundamental forces stir companies to work on a sustainability basis. The most important one is the legal compliance factor. In recent years, local or global laws have governed the companies to be responsible. However, there is a need to draw attention to here that the legal requirements are not limited to the country of production.

Figure 3. Driving Sustainability Forces

The second factor (which perhaps we should emphasize legal compliance) is Public Trust. Here, companies must obtain written approval or confidence from communities in the vicinity of which they conduct their operations to continue their activities. If this is not the case, it is inevitable for the business to react to the public. Customer Demand is also an essential guiding element. With the rise of social awareness in today's information era, consumers' changing needs, such as the more environmentally friendly vehicle or less fatty foods, force companies to produce responsible products and services. The last factor driving sustainability is Demand for Investors. At this point, the companies that act responsibly make access to

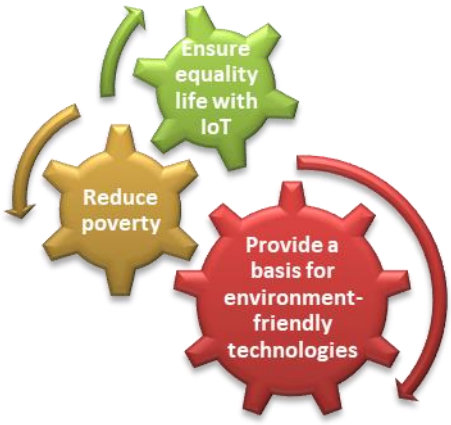
finance more easily. For example, companies in the global sustainability index are attracting more investment.

The Need for Sustainability

Although the sustainability concept is the most widely used, this perspective can be used in all world areas. The history of the idea of sustainability is not very deep. The aim is to prepare the environment for the future and avoid possible situations that threaten nature. Another aim is a hidden agenda that developed countries and their enormous size companies are taking advantage of the competitive production cost of the developing world. We, therefore, argue for the need for standards in analyzing and measuring sustainability and outline a complete model which recognizes distributional implications and is developed into a model of operationalisability (Aras and Crowther, 2008)

This concept, which emerged as sustainable development, was first mentioned in the report prepared by the World Environment and Development Commission in 1987. In 1972, it was accepted and signed at the United Nations Conference on the Human Environment as the first global assessment of the socio-economic environment (Sabuncu, 2020). As a result, for the first time, sanctions on environmental protection have been signed and implemented.

Figure 4. Goals of Sustainability in Terms of Environment



The concept of sustainability in the name of the environment aims to reduce poverty in nature, ensure equal life in the world while benefiting from natural resources, and, most importantly, provide a basis for environment-friendly technologies and population control. Therefore, ensuring sustainability in the name of the environment is seen as very important.

The primary purpose of the UN Declaration is to contribute to the development of humanity. It is imperative to make them happen in the new products without harming nature. Among the sustainable projects, the relations between nature and people and many different projects are carried out. These studies have contributed a lot.

Sustainability Indicators

The sustainability strategy is based on three leading indicators of economic, environmental, and social aspects. Under these headings, sub-indicators such as business ethics rules, corruption, wastes, natural resource utilization, HR management, social contribution, and human rights should be determined by the organizations in consultancy with their stakeholders (Sabuncu, 2020). Nevertheless, sustainability per definition is a composite and thus ambitious policy target. It comprises environmental, economic, and social criteria with equal importance - neither environmental degradation nor violating human dignity by poverty or other threats, nor public or private bankruptcy can be acceptable elements of a sustainable society (Spanberg and Bonniot, 1998).

Figure 5. Sustainability Indicators

Efforts to adopt a sustainable future and implement the necessary measures in this direction should continue increasingly. For this reason, sustainable production projects of large industrial enterprises can be extended to SMEs, but trade unions and business organizations will not accept it quickly due to cost considerations.

Sustainability Goals

The systems approach depicts sustainable development as the intersection of the goals attributed to three interlinked systems: environmental (or ecological), economic, and social (Barbier and Burgess, 2017). The Sustainable Development Goals (SDG), in other words, are for universal action to eradicate poverty, protect our planet, and ensure that all people live in peace and prosperity. These 17 Objectives are built on the achievements of the Millennium Development Goals. On the other hand, it includes new areas such as climate change, sustainable consumption, economic inequality, peace and justice, innovation, and other priorities. Thus, targets are interlinked with each other. The key to success at a target is to address all common problems.

Figure 6. UN Sustainable Development Goals

The SDGs are in the spirit of partnership and pragmatism, making the right choices today and sustaining life for future generations. The Sustainable Development Goals are an inclusive agenda (Ayazika, 2017).

Green Growth

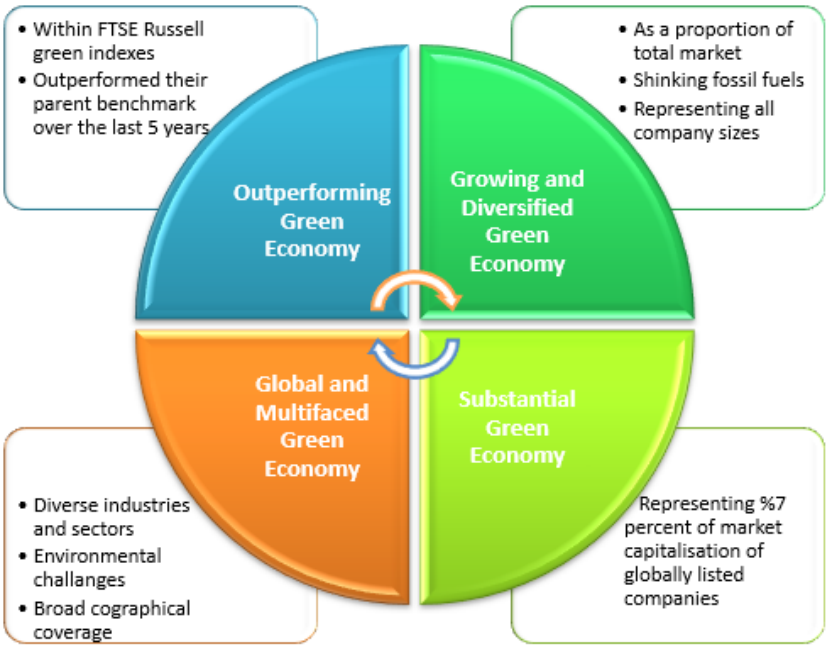
Green growth theory asserts that continued economic expansion is compatible with our planet's ecology, as technological change and substitution will allow us to decouple GDP growth from resource use and carbon emissions. This claim is now assumed in national and international policy, including the Sustainable Development Goals (Hickel and Kallis, 2019). Green growth under sustainable development is related to the green economy, low carbon

economy, and sustainable production and consumption. With this perspective, international organizations such as the OECD UNEP believe that it will contribute to environmental sustainability while contributing to economic growth, income growth, employment, and poverty reduction. It is also aimed to eliminate the reluctance which may occur after the financial crisis, with a more explicit demonstration of the benefits to be achieved through environmental investments.

On the other hand, the European Union argues that the green economy is closely related to increasing human well-being through sustainable production, energy efficiency, and renewable energy and creating new jobs. However, in general terms, the concept of the green economy is not clearly defined, and there is no agreed definition. For this reason, countries reveal their specific meanings within the framework of their original conditions.

When we say development, many people think that we can continue on our way by irresponsibly consuming resources and intensely polluting the environment, as the developed world has done for the last years. In addition, it is believed that by joining a piece of sustainability into the businesses, the harmful results of the material development can be somehow eliminated. This concept is about how a business, a city, a region, or a country can be structured to continue to work perfectly even when faced with significant shocks. With the implementation of policies that can recover quickly, the system becomes increasingly sustainable.

Figure 7. Different Faces of the Green Economy



There may be interruptions that put us in crisis mode at any time in the foreseeable future. The most important thing to prepare ourselves against this situation is expanding our horizons and developing innovative technologies. Technology is a fundamental solution, but one should not forget that it is only a means to achieve the goals. Hunger, energy end, climate change, conflicts, inequality, and lowering groundwater levels are derived from moral and behavioral attitudes and customary practices. The critical issue here is to rethink our behaviors with the targets.

Moral and Spiritual Perspectives to Sustainability

Sustainability and spirituality can be examined philosophically, with ethics as the balancing force (Dhiman and Marques, 2016). Any sustainability paradigm or strategy that misses the key elements of human life by supjugating its existence to the transient worldy lifespan will not be complete and valid. As Bediuzzaman said; "*Life is the most important purpose of this universe... both its greatest result... its brightest light... its most delicate fruit... its well-filtered extract... its most perfect fruit... its most beautiful beauty..and the most beautiful. The ornament... It is the most wonderful adornment both in terms of art and nature... A miraculous truth that transforms the smallest creature into a universe... It is a miracle of power that brings every living thing to the rule of a small universe...*" That is, the purpose and result of life is eternal and it is life, it is eternal life. It is the life in the land of bliss that has life with its stone, soil and tree. Otherwise, sustainability and innovation in the material framework will not provide him any real benefit, since it will be necessary to be fruitless, useless and untruthful about the tree of life, conscious people, and especially people, equipped with these endlessly important devices.

Although the emotions and devices given to man are very high compared to other beings, man cannot keep up with a sparrow in terms of earthly life. Because all animals like a sparrow does not have the pain of the past and the worry of the future, when he finds his instant food, it completes the purpose of life. However, even the mind, which is the greatest blessing in human beings, becomes the most disastrous scourge because it constantly hurts the human heart and mixes nine pains with a taste by thinking about the sorrows of the past and the fears of the future with eyes of an unbeliever. Since their life has become unsustainable in despair of nihilism, people in developed countries may commit suicide because they find their lives meaningless despite their existence. This is one hundred degrees superstitious. So this worldly

life proves the hereafter life. I wonder if our almighty Lord, who is omnipotent and saves every moment of life, should meet even the smallest need of man, and neglect the desire for eternal life, which is man's greatest goal, of course, such a thing is not possible.

If we want quality life in the future of the world we live in, we should pay attention to environmental cleanliness, produce less waste and become a universally conscious consumer. We learn from the stories in the Qur'an and other celestial revelations that earthly disasters destroy many corrupt, rebellious, and borderless tribes due to their nonconformity and fulsome behaviors. Fast communication, available technology, unregulated urbanization, uncontrollable energy, biological modifications, and over-consumption are among the most important causes of environmental pollution and harm to other creatures that have their right over human beings as servants. Despite all negative trends, the religions such as Islam do not leave people desperate by presenting their divine messages and saying, "You have to be the remedy." instead, people must be committed to providing better quality and sustainable ecological conditions for the living world. Otherwise, the earth will informally sound the alarms with natural indicators to a doomsday. Thus, the heavy part of the burden is on humans' shoulders. The trust and trail of the heavens, the earth, and the mountains cannot be loaded, but the human beings shoulder it. We should try the recycling and reuse of waste. Every abandoned waste is not garbage. We should not forget that every waste recycled will contribute to the national economy and protect our natural resources, bounties of God. We should also encourage the proper disposal and regular garbage storage since there is no waste in the natural recreation. Otherwise, global warming and climate changes will make our planet uninhabitable, and we may be responsible for both this world and the Hereafter.

Partial prevention of extravagance and waste means reducing pollution and ecological problems. We see that garbage, which is regarded as a moral weakness, is banned by celestial verses. "*Eat and drink, but never waste*" (Quran 7/31.) Wasteful and extravagant is the one who prefers to live without rules and behaves in excess. Having a conviction is the most influential moral virtue in preventing waste. "*Those who spend and use economically will never be poor*" (Al-Camiussagir, 7939.) Verses describe the extravaganzas that cause severe destruction in the social structure as brothers of the devil. (Isra, 17/27.)

Humans must protect and watch for the existence of every bead that sanctifies the God Allah. The four essential elements, water, air, earth, and fire (energy) are the indispensable main substances of planet Earth. Therefore, maintaining harmonious proportions of crucial elements is compulsory. The quality of water, air, soil, and energy means the quality of human life. Solid, liquid, and gas wastes are also reduced by reducing consumption in each area. As

the factors causing environmental pollution decrease, our limited natural resources suffer less, and sustainability becomes easy. This is the way to leave a good legacy to future generations.

A healthy environment is inevitable by pervasive afforestation activities against erosion and desertification. Forests produce clean air, fertile soil, and high-quality water for the ecosystem. Prevention of floods is also ensured by afforestation. The Prophet Mohammed said, "*Whoever plants a tree, the God Allah will reward the person with the amount of product and benefit that will come from the tree*" (Ahmet b. Hanbal, Musnad, 5/415.). It is not possible to see Islam's importance to the environment, trees, cleanliness, and animal rights in other religions. Some rules do not allow people who have been violated plants during the pilgrimage to tear green grass and crush a tiny insect.

Islam encourages environmental protection and requires Muslim individuals to be the protectors, guardians, and followers of the environment. This also binds upon businesspeople who run factories. We regard the duty of protecting and protecting the countless blessings offered by the Lord as the necessity of moral values. The Holy Quran discusses the material aspects of pollution, while the spiritual and spiritual part of human pollution is no exception. The God Allah certainly does not allow interference with nature, disruption of the natural balance, and the emergence of mischief environments: "*the filthy and the clean are not equal; Fear the God Allah about the ugly forbidden, so that you may be saved*." (Maide, 5/100.)

The religious environment is the most natural and moral. If we continue our lives by prioritizing moral values, no material and moral, environmental problems will remain unresolved. Of course, the main subject in maintaining balance is humans. If the person gets dirty, the universe will be unclean because a colossal universe has been dropped and embedded within it. Finally, all things must exist for man and God, and pray as follows; "*O our Lord! Give us goodness both in the world and in the Hereafter.*" (Bakara, 2/201.)

Conclusion

Economics has influenced essential variables that have formed a new understanding of the economy, especially in the last twenty years. The new economy has created the supply-demand conditions in the fundamental dynamics of the self-imprisoned economic literature, competition, and the ever-developing innovative structure of business science by reorganizing it with an interdisciplinary approach based on a new thought. Our primary purpose is to reveal the interaction of economics, religion, and business disciplines as a multidisciplinary in the increasingly global competitive environment in recent years and new techniques against the

worldwide competition by using innovation. The international system triggers the demand conditions and the production system for a social structure that consumes more to its basic argument. As the world population increases, oligopolistic and cartel business structures are created instead of reverse symmetrical competition hampering sustainable innovation. At this point, the critical role is to provide a business approach that can stand in global competition, innovation culture, and faiths integrated into the system in international markets which offer more consumption and more profit maximization by determining demand conditions in all world markets and an economic output that will grow the national economies by sustainable innovation. Innovation is one of the most important actors in this crucial role. Increasing technology, e-commerce, and disappearing commercial borders are now the leading indicators of the inevitability of innovation in global competition. All the top international businesses and national economies are dedicating the critical role of economic development to specialization and R&D, supporting their product development programs with continuous innovation.

The capitalist system is never content with following the limited demand conditions of the masses, environmental, religious, and cultural concerns. Still, it establishes the understanding of more production and sales for maximum profit. There are two main factors in the realization of this understanding. The first is standing in global competition, brand power, reputation, and control of market networks. The second is to use cutting-edge innovation technology know-how, a production approach that can change the demand, increase consumption, and even activate people's impulse to buy again. These two worldly elements are the most critical parameters closely related to each other, have middle aspects that unite in parallel with cause-effect and causality, and constitute the source of life in today's economic system. The countries' economies maintain their economic structures in two main areas today. The first is the actual production area, and the second is the fictitious monetary area.

If we want quality life in the future of the world we live in, we should pay attention to environmental cleanliness, produce less waste and become a universally conscious consumer. We learn from the stories in the Qur'an and other celestial revelations that earthly disasters destroy many corrupt, rebellious, and borderless tribes due to their nonconformity and fulsome behaviors. Fast communication, available technology, unregulated urbanization, uncontrollable energy, biological modifications, and over-consumption are among the most important causes of environmental pollution and harm to other creatures that have their right over human beings as servants. Despite all negative trends, the religions such as Islam do not leave people desperate by presenting their divine messages and saying, "You have to be the remedy." instead, people must be committed to providing better quality and sustainable

ecological conditions for the living world. Otherwise, the earth will informally sound the alarms with natural indicators to a doomsday. Thus, the heavy part of the burden is on humans' shoulders. The trust and trail of the heavens, the earth, and the mountains cannot be loaded, but the human beings shoulder it. We should try the recycling and reuse of waste. Every abandoned waste is not garbage. We should not forget that every waste recycled will contribute to the national economy and protect our natural resources, bounties of God. We should also encourage the proper disposal and regular garbage storage since there is no waste in the natural recreation in compliance with paradigms of green economy, circular economy sustainability and industrial symbiosis. Otherwise, global warming and climate changes will make our planet uninhabitable, and we may be responsible for both this world and the Hereafter.

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