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## Comprehensive Development of Human Capital as an Aspect of Innovative Economies of Future

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**Abstract:** Rapid technological advances in Management Information Sciences (MIS) and smart mechanization of social and economic development depend on the intellectual capacity of the human capital, which has become the most influential factor in the development of innovative products in this last economic structure based on knowledge. The Global Innovation Index (GII) provides a tool for performance evaluation, assessing innovation capacity, and refining innovation policies necessary for the optimum growth of the economy. The most critical problem of economies with a large young population has turned into a young and educated unemployed population. In this framework, the relationship between education and employment has transformed into different forms, and the key source of wealth has been the qualitative aspect of human capital as an economic factor. We assume that human life is on the services provided by all creatures in orchestration and that the ephemeral lifespan is the ultimate human capital. This study argues that the structure of education and training must align with the community's futuristic needs considering both cultural and religious orientations in line with the competencies and professional expertise required for innovation that could be used for both the worldly life and the hereafter. This can require a change in the techniques and methods used in education that can train versatile, responsible, capable of reasoning, learning, forward-leaning, and facilitating understanding of the requirements.

**Key Words:** Innovation, Human Capital, Human Development, Global Innovation Index, HDI.

### Introduction

Human capital plays a strategic role in developing organizational capabilities as a measure of the competencies and qualifications of the workforce in the organization—accordingly, competition for highly qualified human resources increases globally (World Economic Forum, 2018). The increase in the welfare of society will occur with economic development and is directly related to the rise in technology and innovation. For this, it is necessary to increase the quality of human resources in quantity. Talents play an essential role in improving companies'

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productivity, realizing their strategic goals in the globalized world, and being pioneers in rapidly changing technological developments. In addition, the need for a qualified workforce is more than ever to continue the digitalization journey healthily and maintain a competitive advantage (Pricewaterhouse Coopers, 2019).

The success of innovation ecosystems is based on their ability to imitate natural innovation within creation. 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 are vital for sustainability and religious obligations. Since the world is temporary and not paradise, every technological paradigm has birth, development, maturity, and stagnation phases proven by the fact that every day around 160.000 people die on average. Everything has a connection with the law of diminishing returns to scale, and so do renewed cells versus the dead ones in a life cycle of a living body.

### **Method**

We used a literature review supported by an analysis of industrial and sectoral reports. A multidisciplinary approach is used for logical and relational analysis. 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, the technological change increases output and leads to a quantitative and qualitative change in the entire socio-economic and political structure.

### **Assumptions**

1. Human life is on the services provided by all creatures, and the ephemeral lifespan is the ultimate human capital.
2. Innovation and technological change increase output and lead to quantitative and qualitative change in the entire socio-economic and political structure.
3. Social capital, which determines the quality and quality of social relations, causes the development of communities and economic success with the elements of cooperation and trust it creates.
4. Psychological capital, which includes positive psychological factors, can achieve competitive advantage and positively affects job satisfaction, organizational commitment, job performance, and leadership.

5. Innovation in an economy directly affects economic competitiveness, and the cost of technology in the first implementation stage is relatively high, but it provides a competitive advantage and enhances national and international competition.
6. Technological innovation involves several scientific, technical, financial, and commercial activities, and economic development depends on the quantity and quality of the factors used in production, including human capital accumulation.

### **Research Problem and Hypothesis**

The problem of human capital development in industrial societies is critical for economic growth and innovation, but the current education system needs to align with the community's futuristic needs, considering cultural and religious orientations, to create a versatile, responsible, and capable workforce. However, the structure that triggers innovation is complex and has political, geographical, economic, cultural, and historical determinants. Furthermore, corruption and nepotism negatively affect the development of human capital, threatening national security and causing inefficiency in the public and private sectors.

Innovative policies that align with the community's futuristic needs, considering cultural and religious orientations, can create a versatile, responsible, and capable workforce that can drive economic growth and innovation in industrial societies. Moreover, effective policies that combat corruption and nepotism can improve the development of human capital, leading to greater competitiveness and economic growth. The multidisciplinary research question that stirs our minds in this study is:

- *How can we affiliate the innovation in the cosmos with the one in the business culture processes?*

### **Literature**

In Scholar Database there are around 4 million research items on "human development and innovation" of which only 220 are using the words in the headline. When searched with the keywords of this research, it is found to be 44.300 articles in the Scholar. Apart from physical capital, another critical factor for development is human capital. As it is known, human capital is an essential factor in endogenous growth models, as it is an essential input in the field of research and development, which forms the basis for technological development, such as producing new products (Demirtaş *et al.*, 2021). Industrial and technological developments are based on social capital. The concept of social capital, which was previously associated with human capital in both sociological and economic literature, is now accepted as an essential

economic concept that includes more comprehensive issues, the effects of which are indisputable today (Koç and Oğuztürk, 2019).

Social capital is a concept that deals with how social relations affect economic activities. While the concept of “social” expresses that the sources of social capital cannot be found in individuals alone; The concept of “capital” shows that social capital has efficiency such as financial capital and human capital and that there is a mutual interaction with other types of capital (Evelyne & Steven, 2014). Social capital, which determines the quality and quality of social relations, causes the development of communities and economic success with the elements of cooperation and trust it creates. In other words, the income of the individual who is included in a certain social network in economic life depends on the performance of the social network and the synergy it creates, as well as the quantity and quality of the relations he has acquired (Hollenbeck & Jamieson, 2015; Baykal & Gürbüz, 2016). Concerning human and social capital, there is also another definition of psychological capital which can be defined as one of the criteria of positive organizational behavior, which generally includes positive psychological factors at its center, and goes beyond social capital (whom do you know?) and human capital (what do you know?) to achieve competitive advantage (Luthans & Youssef, 2004; Çetin & Varoğlu, 2015). It is reflected in the studies in the literature that there are various components of psychological capital. For example, a relationship has been found between emotional labor, job satisfaction, organizational commitment, job performance, organizational support, leader-member interaction, social support, and transformational leadership (Seçer & Kambur, 2021).

Akdere (2009) explores the relationship between knowledge management and quality management and discusses its applicability in HRD for enhancing organizational capacity and capability to achieve performance excellence. Dirani (2013) suggests integrating learning organizations’ best practices into local organizations, both individual and organizational levels. McLean and Akdere (2015) found that there has been little research to determine what such organizations anticipate contributing to professionals’ education. Ardichvili et al. (2016) assert a need for periodic updates and reviews of current and emerging trends and models in leadership development theory and practice. Dirani et al. (2018) asserted that once we understand the different policies, activities, and challenges, practitioners and leaders can use talent management and development as a source of power or a strategy that can lead people and organizations to success. On the other hand, culture; has a feature that distinguishes businesses from each other and creates positive behaviors by sharing specific values, beliefs, and behaviors among employees (Şekerli & Gerede, 2011). At this point, top management needs to first make

its organizational culture innovative (Eren and Kılıç, 2013). The innovative corporate culture that has been created should be transferred to the new employees, and both the development and internalization of the innovative culture should be tried (Gümüş, 1995).

Still, the most vital point of resistance is production. In the chaotic and stormy environment 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. Human capital development is deficient due to corruption and nepotism. Nepotism, which is one of the biggest obstacles to the development of human capital, negatively affects the development and economic growth of the country, threatens national security, causes inefficiency in the public and private sectors, negatively affects the country's economy in macro terms and causes loss of competitiveness of the private sector (Dilek *et al.*, 2019).

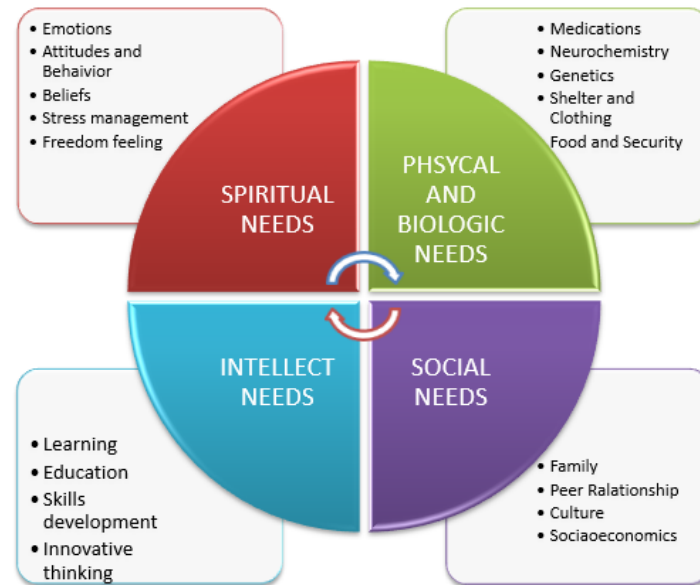
In practice, R&D expenditures are generally used to evaluate the impact of innovation on economic growth. In OECD countries, R&D expenditures within the gross national domestic product have increased. It is observed that R&D activities substantially positively affect the growth process. Economic development 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.

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 institutions and agencies forcing and pulling industries to produce national and local innovative products. In addition, science, technology, industry, and innovation policy are experiencing a cycle in every technological paradigm. Turkey is currently designing innovation policies that apply microprocessor technology to virtually any field. However, 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.

### **Human development**

In Scholar Database, there are around 6.5 Million research items on human development. The importance of human capital increases day by day. Human capital is the sum of knowledge, skills, capabilities, beliefs, and competencies used in productive activities to benefit individuals, institutions, and society that individuals gain throughout their lives. Alongside physical, economic, and social needs, it is essential to stress human capital's psychological, spiritual, and intellectual needs. Suppose human capital is considered just for its contribution to materialistic development. We can say that human capital is wasted since proper resource usage is not allocated efficiently and effectively.

The economic development of developing countries such as Turkey primarily depends on developing their human capital. The production of technology and its use in the production process are possible with human capital. Unless the quality of human capital in Turkey can be increased, it will not make sense to allocate resources to R&D activities. Therefore, the primary area to be allocated resources should be educated to improve the quality of human capital. On the other hand, education should be given to a broader audience with better quality. Extending university education to a broader scale, increasing capacities, establishing new universities; matching the qualifications of the unemployed with the country's required workforce qualifications; improving the capabilities of working people through continuing education programs and in-service training activities; should be aimed to ensure women's participation in the workforce through vocational training courses (Keskin, 2011). The essential wealth is the qualified workforce. A capable population is a determining factor in the most efficient use of the country's resources and in ensuring economic development. At the same time, the young and dynamic population provides advantages in many respects and increases the effectiveness of human capital investments. Therefore, it is necessary to consider the country's human capital level and potential in selecting education and health policies to be implemented to increase the population's quality (Yumuşak, 2010).



*Figure 1. Needs of human capital*

With the overflow-spill effect, human capital investments increase both human and physical capital investments, thus positively influencing economic growth. In addition, human capital helps to produce new products and new ideas in the technological process by providing technical and scientific knowledge. Education is a critical factor that plays a primary role in forming human capital. For the continuity of economic development, the individual needs to be equipped with information, i.e., to be well trained. Another critical element of human capital, of course, is health. Here are the questions that stir our minds:

- Is human capital more important than material capital itself?
- How do developed countries attract the best talents of the undeveloped world?
- Is it sustainable without developing the spiritual aspect of human capital?
- What is perfect for human development?

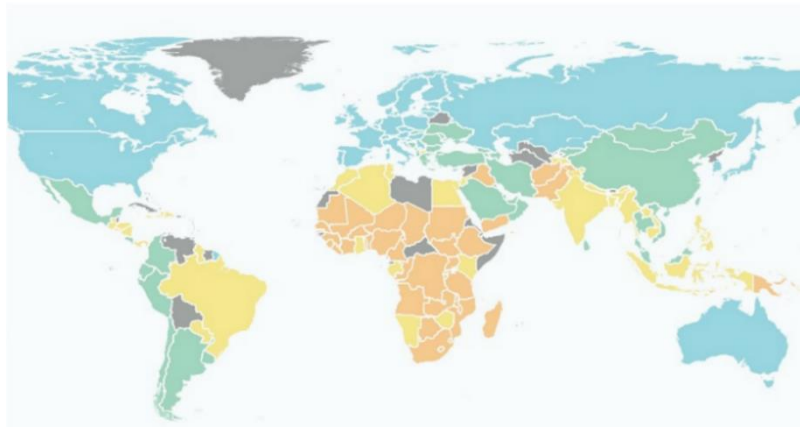
The World Bank Human Capital Index (HCI) is announced each year. In the report, a child born in Turkey was included in the estimate of 63 percent of the productivity if they reach the whole level of education and health. Turkey ranks 53 in the list of 157 countries assessed in these rates, 88 percent lower than the first row of Singapore.

#### **Components of the Human Capital Index**

The Human Capital Index (HCI) measures the level of human capital expected to be accumulated by 18 ages in terms of the health and educational conditions of a child born in the

country. The HCI is measured in units of productivity relative to a benchmark of complete education and total health and ranges from 0 to 1. A value of  $x$  on the HCI indicates that a child born today can expect to be only  $x \times 100$  percent as productive as future workers as she would be if she enjoyed complete education and total health (Kraay, 2019).

The Human Capital Index value obtained from the education and health indicators components is calculated between 0 and 1, the best possible value of 1. Thus, the Index demonstrates how productive a child will be if they benefit from total health and educational services. For example, in a country where the Human Capital Index is calculated as 0.5, individuals will be 50 percent productive in the future, meaning they will not realize half of their economic potential. This is interpreted as a significant financial loss for both the individual and the country.



*Figure 2. HCI World Map*

According to the World Bank's Human Capital Report, when 56 percent of all children born today grow, half will be half as productive as their potential. However, when they grow up to 92 percent, they will be as effective as 75 percent of their potential. Turkey's Human Capital has a low average compared to countries in the region in the Index, but if compared with other countries in the same income group, showed to be above the norm. 3.2 years of the students are in Turkey, wasted! The indication of the evaluation results of the international tests as an educational period reveals the quality of education of the children in the school period. Turkey, while this value for 8.9 years, 12.9 in Singapore, was 12 years in Finland.

#### **The essential capital factor**

Raising labor productivity is recognized as a critical factor for increasing economic growth and reducing poverty levels (Duryea and Pages, 2011). The development aims to raise the welfare of society, raise the standard of living of citizens, and establish a fair, safe, and peaceful living



environment based on fundamental rights and freedoms. In this framework, our main priority is implementing the development approach with human beings and spreading prosperity to society. Therefore, there should be a human capital strategy based on competency, learning, performance, process, system, and organization integration elements for successful human capital achievement.



**Figure 3. Stages of Human Capital Development Strategy**

When we look at the advanced economies in the world, it is seen that a well-trained workforce has a significant share in the development and economic growth processes of these countries. Educated people are considered the most crucial form of capital in productivity and efficiency. It is known that the countries that invested continuously in human resources used this resource more rapidly. Especially from the 1970s onwards, there has been a structural change toward the knowledge-based economy due to globalization and technological change. Investment in human beings provides essential social benefits besides economic outputs. The main benefits can be monitored on the following elements:

- Democratization,
- Social cohesion and peace,
- Cultural and societal values to future generations,
- Inquisitive and entrepreneurial individuals

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- Participation in civil society activities,
  - Decreasing crime rates,
  - Improving public health,
  - Reducing poverty, inequality, and
  - Increasing environmental awareness.

In this new structure, the competitiveness of countries began to be measured not by the level of physical capital they possess but by the quality of the human capital. Because a qualified workforce has become a precious resource, education has increased with the quality of human capital. Moreover, because the knowledge of individuals who form the human capital is not congenital, it is composed of quality education.

### **Qualified People as A Strong Society Approach**

International experience shows that critical role in the modernization process is human resources. Human capital, as a combination of knowledge, skills, and competencies of the employee, becomes the main driver of economic growth and the primary value of society (Leonidova *et al.*, 2016). The Tenth Development Plan of Turkey was designed to encompass elements such as the following elements:

- High, stable, and inclusive economic growth
- The rule of law,
- The information society,
- International competitiveness,
- Human capital development,
- Environmental protection and
- Sustainable use of resources.

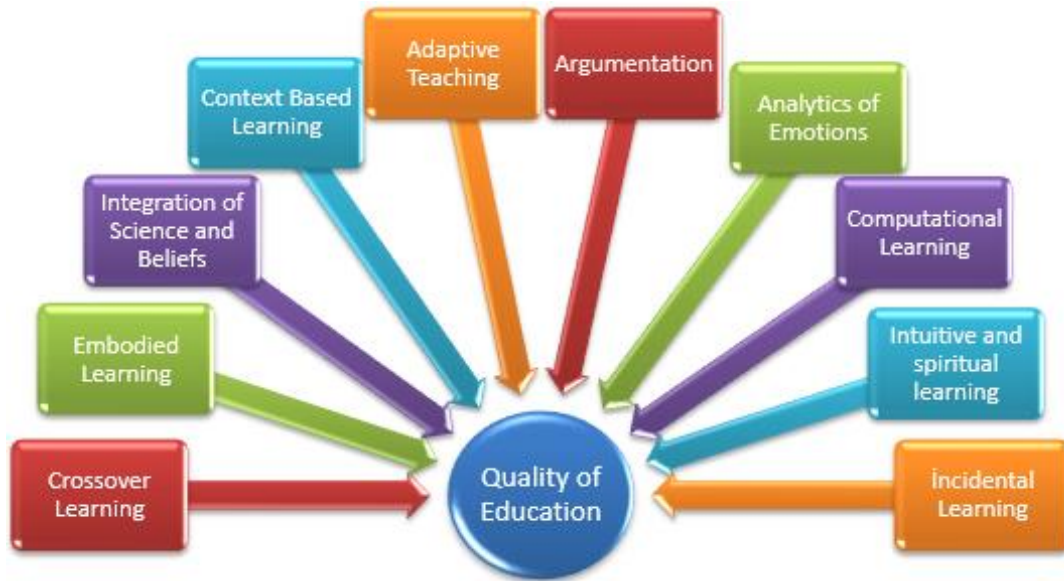
In the National Development Plan, a people-oriented development approach was adopted. In this context, the Development Plan was built on four main pillars. The first is the Qualified People, a strong society axis, which we consider a requirement of our people-oriented policies. Education expenditures have increased due to the policies implemented over the last 17 years, and significant progress has been made in providing more qualified, more widespread, and easily accessible education services. In this context, education expenditures have increased

dramatically in Turkey. The education budget, which was 2.84 percent of GDP and 10.15 percent of the consolidated budget in 2002, rose to 4.4 percent of GDP and 17.97 percent of the central government budget in 2014. These expenditures were reflected in the training indicators.

### *Quality in Education*

The most important agenda of education policy need to be ‘Quality in Education, which is the main factor in human development (Borahan and Ziarati, 2010). Nations are aware that the quality of education offered to future generations depends on the teachers’ quality to facilitate learning in a world characterized by change. (Şimşek and Yıldırım, 2001). At all levels of education, infrastructure, and quality need to be improved, and further progress will be made in equal opportunities. Quality Mobilization in Education needs to be initiated, and the human capital, the basic dynamic of sustainable development, might be made more qualified. The number of students per classroom and teacher in primary and secondary education needs to be further reduced for quality. Artificial intelligence, online learning environments, cloud technology, mobile technologies, virtual reality, simulations, and augmented reality are prominent and offered new opportunities in recent years in developed countries. Artificial intelligence is used in language teaching effectively in dozens of disciplines such as chemistry, biology, physics, and engineering. Virtual reality, simulations, and augmented reality offer the opportunity to use the five senses economically. In this case, simulations, virtual reality, and de augmented reality applications are used primarily in the applications where the application is costly. For example, airplane simulations are used to avoid the cost and time of implementation in pilot training. Again, in engineering, a machine can be transported to the learning environment much more economically with virtual and augmented reality. Alternatively, the anatomy course in medicine can be much more effective with augmented reality without cadavers.

Due to the mental habits of individuals who have experienced change, the future becomes uncertain and unpredictable. For example, for a teacher who has become accustomed to didactic lectures and cluster studies, students buzz in the classroom when they do group work or ask questions in an entrepreneurial way. On the other hand, the demand for medical instructor who does not even use computer programs to express their anatomy using virtual reality is terrifying. As demonstrated in the figure, for a higher level of quality in education, strategies should enhance innovation capability in education and training processes.



**Figure 4. Indicators for Education Quality**

The transition system to secondary and tertiary education needs to be provided with a process-oriented assessment structure with the support of practical guidance and coaching services that take the student's interests and abilities into consideration both materially and spiritually. We are aware that we should ensure success in higher education in terms of the quality of higher education by mixing religious training with scientific methodology.

There is no other way to increase the competitiveness of a country in the civilization race. The essential element of competition is a man and advanced innovative technology. Suppose an educated man has a religious and spiritual essence with scientific methodology. Even the critical component of advanced technology is still the human factor. However, increasing the quality of our workforce that will play a leading role in our competitiveness and civilization and will be possible with the common wisdom and effort of all segments of society.

#### ***The Role of Human Capital in Agricultural Society***

Today, economic investments alone are not enough to ensure development in rural areas; different capital dimensions should also be emphasized (Katipoğlu and Armağan, 2020). Although it loses its priority from time to time due to technological developments and changes in the economic system, the agricultural sector is always essential to meet food needs and maintain the vital activities of people. For this reason, in the realization of sustainable production activities in the agricultural sector, in production; productive, conscious individuals with high awareness of the purpose of the work should take part. It is necessary to increase human resources' social and human capital levels in rural areas. As a result of reaching

saturation levels in growing economies and only physical capital, increases are not sufficient for development, and human-oriented economies have begun to be considered. As a result of the socio-economic changes that have occurred with the effects, the widespread acceptance of information society mobility has enabled the production of different representatives of capital. Thus, social and human capital concepts, including human-oriented themes, have begun to have a more robust representation than physical capital. The creation of social capital in the agricultural sector, which stands out in both development-oriented activities and creating workforce resources for other sectors, is essential to contribute to the development process (Bozemir and Bayramoğlu, 2020).

When we examine the animal's duties, it is not like a human's. The animals were sent to the world as if they were educated. We can list many examples of this. For instance, when they hatch, the Caretta heads towards the sea for the last time and can swim very well. So are ducklings. Bee fulfills all the requirements of life in a short time. The silkworm was born in the way of the cocoon knitting art. When the sheep bring the baby lamb into the world, it does not need a hospital. The baby lamb stands up ten, to fifteen minutes after birth. Since animals are not trained, they are inspired by their duties, as per their fittings, whatever their responsibilities are. With the permission of God, tasks such as giving honey, laying eggs, making milk, knitting cocoons, making hex honey honeycombs, making nests, changing colors, and so on. So, whatever task is loaded on their chips, they successfully perform.

Agriculture and farming are the key sectors that are vital for human life. The other sectors like industry, trade, and services are all dependent on agriculture, which generates critical value to worldly life. The basic needs of humans are created through plants and animals, but other economic sectors are all dependent on the outcomes of agriculture which has a multiplier effect. If plants and animals stop the service of humans, then all different industries and activities have to stop. This reality expresses the importance of agricultural society and its development.

In an agricultural society, economic activities generally show a structure based on the production of primary food products that are not self-sufficient. The economy is at the level of the village economy, and a simple division of labor can be seen. In an agricultural society, stagnant technology is dominantly based on natural-organic strength, such as human and animal power. The production method in developing economies is generally based on crafts. The reflection of this situation on economic life was realized as a nature-dependent agricultural production.

Men learn from their fathers to process the land and crops and produce clothes from their mothers. In the agricultural society where the master-apprentice relationship is still valid, the apprentice grows up with a master and learns the skills required by the profession. For this reason, education in agricultural society was limited to elites.

Occupational safety and health professionals must explain technical issues and equip workers for a fundamental change to emerge. It is suggested that approaches that propose solutions should be implemented with rural and agricultural workers. Business education and general education ensure that many obstacles are overcome in developing countries, and great distance is covered. Sharing creative problem-solving is helpful for those who cannot learn about the experiences of others living on earth in other ways.

Multidiscipline brings the expansion of perspectives and the development of creative approaches. It is urgent to develop ways to equip workers to improve living and working conditions urgently. The same applies to improving communication between health and safety professionals. There are joint health and safety studies among non-profit health and safety groups, university education programs, government agencies, public health units, international organizations, and professional associations. The future of global occupational safety and health will depend on these trusted organizations' interdisciplinary and collaborative work worldwide.

### ***The Role of Human Capital in Industrial Society***

In a globalizing world economy, human capital is the main factor of intensive development for countries with anticipatory investment in human capital (Kartal *et al.*, 2017). Human capital plays a crucial role in industrial society, particularly in the production of standardized material goods. As the production process becomes more specialized and hierarchical, workers are expected to perform their tasks mechanically without much room for creativity. In this context, the global health industry is critical in sustaining the human resources needed for production and consumption.

According to Schultz (1961), human capital refers to the knowledge, skills, and abilities that individuals acquire through education, training, and experience. These qualities enable workers to perform their tasks efficiently and effectively, making them valuable assets to the industrial society. As the production process becomes more complex and specialized, workers with specialized knowledge and skills are in high demand.

Moreover, human capital plays a crucial role in innovation, which is essential for the sustainability and growth of the industrial society. As technological advancements continue to

shape the global economy, workers who are innovative and adaptable are necessary to keep pace with these changes. For instance, the healthcare industry plays a critical role in developing and implementing new technologies that improve medical treatment methods, contribute to the creation of an ecosystem that supports the capitalist system, and ultimately sustain the world economy.

Therefore, human capital is a critical resource in industrial society, particularly in the production of standardized material goods. The knowledge, skills, and abilities that individuals acquire through education, training, and experience enable them to perform their tasks efficiently and effectively, making them valuable assets to the global economy. Additionally, human capital plays a crucial role in innovation, which is essential for the sustainability and growth of the industrial society.

In the human capital dimension, particular emphasis should be given to increasing returns from human capital investment. This should involve measures ranging from better protection of intellectual property rights to reforming the education system to raise open-mindedness, creativity, and working in a team (Saygılı *et al.*, 2005). From this perspective, the global health industry has been reducing the mortality rates before, during, and after birth, combating epidemic diseases more effectively, eliminating permanent effects of chronic diseases and controlling chronic diseases, increasing fertility, and increasing the quality of human life. He is working on medicines and treatment methods for many fields. These studies also bring certain types of medication out of interest by technology-producing countries over time and focus on drugs, medical devices, and treatment methods to treat more seriously fatal diseases with more critical consequences for human health.

#### ***The Role of Human Capital in the Information & Knowledge & Wisdom Society***

Various dimensions of human capital transcend themselves through knowledge creation in the spiritual knowledge creation process. These dynamic dimensions of human capital create knowledge in firms and foster practical wisdom (Khan and Altan, 2015). The information society has emerged as an extension of the industrial community in the socio-economic development process, necessitating structural change in all areas, primarily human factors and knowledge. Developments in the information society bring a new way of life in economic, social, cultural, and political fields. This transcends culture beyond standardization and centralization by creating new forms of behavior.

Human capital plays a vital role in generating information, knowledge, and wisdom in the knowledge-based economy. As the production of knowledge takes precedence over material goods in this economy, the focus shifts towards the accumulation of knowledge rather than capital accumulation (Fritz, 2019). In the synergistic economy of the information society, the division of labor, display, and consumption is replaced by sharing and using the information to achieve future goals (Stefanović et al., 2020). Therefore, knowledge workers, who are talented and well-educated, become the primary resource in this economy, and their potential must be revealed to increase efficiency (Fritz, 2019).

In the information society, the demand for services increases at a faster rate than the demand for goods, leading to the creation of new markets (Al-Shawi et al., 2020). However, brain drain is a significant challenge as talented and educated people migrate to developed environments that provide more opportunities and better quality of life. This migration can have both positive and negative effects on the economy, and the impact must be evaluated using multiple factors. Brain drain has been a phenomenon that has occurred throughout history, and it has contributed significantly to the development of various societies (Nwankwo & Ajala, 2021).

Knowledge is the result of human intelligence obtained through learning, research, observation, and thought (Sternberg & Kaufman, 2018). It enables better decision-making and makes communication more productive, thus serving as a powerful resource (Gao et al., 2020). Moreover, knowledge has the power to nurture the mind with love, which leads to a heart full of hope (Moeini-Jazani et al., 2021).

### **A Discussion on the Islamic Perspective of Human Development**

Human capital refers to the skills, knowledge, and abilities possessed by individuals in a society. In an industrial society, the importance of human capital cannot be overstated, as it is a key driver of economic growth and productivity (Bassi & McMurrer, 2004).

However, the significance of human capital extends beyond its economic value. It also plays a critical role in promoting spiritual, moral, and cultural values that balance both temporary life and afterlife expectations in line with Islamic faith and true belief. This is because human capital development goes beyond mere technical skills and knowledge acquisition, but also encompasses character building and the cultivation of moral and ethical values (Alavi-Moghaddam et al., 2018).

In the Islamic context, human capital development is considered a religious obligation, as it is seen as a means of fulfilling the individual's potential and contributing to the betterment of



society as a whole (Faruqi, 1998). Through education and training, individuals can acquire the necessary skills and knowledge to improve their material well-being, and also develop the spiritual and moral qualities necessary to lead a meaningful and fulfilling life in this world and the next.

As one of the important dynamics in human life, hope is a very strong feeling in true believers. Hopelessness, which is a sinful feeling, can cause various crises and problems in individuals and societies, as well as lead to social anomalies and conflicts, although it is seriously affected by unbelief. In this context, religion plays an important role in building people's hopes and developing them by creating the language of faith, tolerance, gratitude, and meaning. Thus, through religion, people are protected from many negativities caused by hopelessness, and also contributes to their resistance to the difficulties caused by poverty (Güdücü & Taşkaya, 2021).

Truth is information with sentiment obtained through reason and logic and it is found by turning inward with heart. It is called in the Hadiths and Surah of the Qur'an that "*the truth is sought in the heart*". Wisdom is vital in the way of truth. Wisdom is to approach the truth. The use of that mind is the transformation of knowledge into action. The reason without wisdom for the journey of truth will be insufficient. It is a level of maturity and life accumulation. Wisdom is the level of development of the soul as indispensable not for the pursuit of instant happiness but for a conscious life. Wisdom is knowing life, love, and learning.

It is important to establish basic structures such as technological productivity, resource efficiency, advanced technology knowledge, collaborative work culture, division of labor, and process optimization, necessary for sustainable economic development at the policy and institutional levels. However, the applicability of basic principles such as respecting ethical values and law, helping, obeying the social order, consciously working for the benefit of humanity, and the willingness of people to accept these principles psychologically, are not only crucial elements for sustainable development but also social welfare, human peace, and happiness (Efe, 2019). Our travel to the truth is not an arrival, it is a journey. Traveling like a serene warrior on the path of truth carries the natural person to balance and integrity. The person can progress on the road and integrate with all aspects. He balances his emotions and passions with divine love. Trying to reach the truth is the most blessed of all efforts. Knowing and then being is the duty of the virtuous human being.

Science and technology had an essential function in transitioning from an industrial society to an information society. However, in the transition from the information society to the wisdom society, computers in the hands of corrupt people do nothing but add strength to the power of

the impostors. The control of technology, which eliminates the difference between distance and time and gives significant momentum to man's productive capacity, will be the most critical problem of the future and today. Production should be a process that excludes whatever is harmful to humanity and nature. Economic growth takes revenue distribution into account environmental issues, and social welfare is not just for wealthy people. It is distributed with sincerity to all people in society (Efe, 2017).

Personal development must include both material and spiritual elements. Otherwise, there may not be sustainable resource management in terms of human capital. In this context, the positive factors affecting personal development can be expressed as follows within the framework of *Risale-i Nur*, one of the commentaries of the Quran by Said Nursi (Nursi, 2020):

### ***Faith***

Believing in Allah means surrendering to Him, which results in *tawakkul* sufficing to God's grace and bounty after proper work. This leads to happiness both in this world and in the hereafter. For faith to bring real happiness to people, it needs to be transformed from imitation to verification. A person who knows Allah Almighty with His beautiful name and attributes will also understand that He does everything in the best and most perfect way. This understanding will ensure that a person is moralized with the moral values of the Qur'an that Allah is pleased with and loves and that he does what he does in the best way possible. Working and doing one's job perfectly will give people flavor and taste and will give them happiness. A person who is a *Muhsin*, that is, a person who does both his worldly work and his worship properly, will also be loved by Allah. The verse that states that hearts can only be satisfied by remembering Allah strengthens this meaning. The satisfaction of human feelings such as love and permanence, compassion is only possible with the existence of the hereafter. At the same time, the existence of the hereafter makes people happy because they save themselves and their loved ones from extinction. Belief in the Hereafter causes a real development by making every part of society happy. Children can find solace in the death of their loved ones only with the idea of heaven. This is the source of spiritual perfection and happiness for them. With the idea of hell, young people suppress the emotional aspects that negatively affect society and do not try to rape them. Elders can only smile at death with their belief in eternal life. On the other hand, the family, which is the core of society, lives and keeps love, compassion, and respect alive thanks to the belief in the hereafter. This belief causes family members to value each other. Happiness, which is one of the goals of personal development, can only be achieved in this way. A person who is connected to life with this happiness strives to improve himself materially

and spiritually. These disbelief views reduce people to the lowest level instead of improving them.

### ***Respect, compassion and love***

A person who develops himself in a good way is a person who communicates well with Allah, people, and himself. Reverence, compassion, and love, which are closely related to each other, are at the forefront of the elements that regulate these relations of people in the best way. The universe is like a tree. Man is the most perfect fruit of this tree. God has placed in the heart of man a feeling of love that will invade the universe. The main purpose of giving this is to love God's Essence, attributes, names, and [they're] manifestations in the universe. Since the love of God is not included in the personal development books that give importance to love, there are disconnections in communication and the feeling of love is not used in its proper place. While a man should love Allah first and then love other beings on his behalf; he directs this love first to himself and then to other people. This causes dissatisfaction with the person's sense of love and leads him to unhappiness. However, since the causes of love, such as beauty, perfection, goodness, and benefit, are eternally and eternally in Allah Almighty, man's feeling of love can only be satisfied by being directed to Allah. A person who loves Allah loves other people and creatures for His sake. Because Allah is eternal, the love of Allah is eternal, but people and other loved objects are ephemeral. A person who loves for the sake of Allah does not have feelings of hatred or enmity. A person who loves for the sake of Allah has perfect relations with himself, with other people, with his family, and with Allah. This shows that man has evolved.

### ***Self-discipline***

In the words of the Qur'an, human beings have a nafs-i ammâre, that is, a soul that desires evil. This soul has been given to cause one's [personal] evolution and progress by preferring what is good even though it bothers him. Man's greatest jihad is against this soul, which desires evil. By not committing the evil he has done again, by regretting and asking for forgiveness, he can turn this into a step towards his perfection. Because in human development, getting away from negativities has an important place. Otherwise, people who tried to make themselves like Allah and strengthen the pharaoh's side resulted in various cruelties and injustices, as seen in history. For this reason, a person needs to know his [own] self and behave per his needs.

### ***Worship***

One of the most important factors affecting the personal development of a person is worship. However, the most important goal of personal development is happiness. Worship also causes the arrangement of the affairs of the world and the hereafter, personal and spiritual perfection, as well as happiness in this world and the hereafter. According to him, worship is doing Allah's orders and avoiding His prohibitions. Since man was created to worship, a worshiper feels the happiness of doing his duty deep in his soul. Moreover, since he aims to comply with people's rights and laws and to eliminate evils, he contributes to the happiness of other people as well as he is happy. On the other hand, worship makes people love each other and creates bonds of brotherhood. In short, a worshiper has made significant progress toward self-development.

### ***Effort with conviction***

Another factor that has a positive effect on a person's personal development is conviction. Contentment is one of the measures of gratitude. After fulfilling the reasons, a person should be satisfied with the result he has achieved, which makes the person happy and the result allows him to continue working, even if it is a little. A perfect man is a man of conviction. Opinion leads to mercy, and greed leads to damage and deprivation, not liking the results that are less, and abandoning the work by falling for the ones that are more. A person's determination to work, morale, and motivation increase. In short, a person with conviction is a person who has matured and developed himself.

### **Conclusion**

According to the theoretical and empirical research in the literature, human capital contributes more to the development of countries than physical capital, and the fact that the growth of knowledge-producing companies such as software is higher than the world average growth rate is evidence of this. Enterprises' knowledge, skills, workplace education, and formal education level provide financial and non-financial returns with an effective human capital transformation. The process, which started with the inclusion of human resources in economic models from classical theory to the present, has turned the flagship of economies into human capital resources. Countries' increasing education levels and quality, primarily vocational and technical schools, contribute more to human capital than other educational institutions. With these investments, an increase in human capital's general knowledge and skill capacity creates a more innovative environment. The importance of human capital in industrial society goes beyond its economic value, as it also contributes to the development of spiritual, moral, and cultural values in line with the Islamic faith and true belief. Through education and training, individuals can acquire the necessary skills and knowledge to succeed in this world while also

fulfilling their religious obligations to develop themselves spiritually and morally. Therefore, human capital is not only important for economic growth and productivity in an industrial society but also for spiritual, moral, and cultural development. Islamic faith and true belief play a crucial role in balancing temporary life and afterlife expectations, and human capital development is considered a religious obligation. Personal development must include both material and spiritual elements, such as faith, respect, compassion, love, self-discipline, worship, and effort with conviction. These factors contribute to individual happiness and social welfare and lead to sustainable resource management. The control of technology, ethical values, law, and collaboration is crucial for sustainable economic development, and the pursuit of truth and wisdom is essential for a conscious and meaningful life.

### **Suggestions**

The importance of human capital in the development of innovative products and economic growth is widely acknowledged. The Global Innovation Index (GII) is an essential tool for evaluating innovation capacity and refining innovation policies to promote economic growth. The relationship between education and employment has transformed, and the structure of education and training must align with the community's futuristic needs, considering both cultural and religious orientations in line with the competencies and professional expertise required for innovation. Social, psychological, and human capital are critical factors in development, and corruption and nepotism negatively affect the development of human capital, threatening national security and causing inefficiency in the public and private sectors. 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. Governments can play a significant role in promoting innovation through science, technology, industry, and innovation policies. The success of innovation ecosystems is based on their ability to imitate natural innovation within creation. Finally, it is essential to note that innovation should be sustainable and aligned with religious obligations. Within the scope of the Turkish National Industrialization Strategy, it is understood that human capital should be strengthened with the following measures:

- Mobilize data analytics and data literacy training as a means of transforming the existing talent pool. It is crucial to ensure that professionals have the necessary skills to read, interpret, and analyze data at the required level to make informed decisions that align with moral and ethical values.

- Draw up a competency map that aligns public employees' needs with national needs while considering moral and ethical values. This approach will ensure that public employees are equipped with the necessary skills and competencies to address society's pressing needs, including spiritual, moral, and cultural concerns.
- Establish collaborative digital platforms that provide incentives and support to Continuing Education Centers, Universities, and similar educational institutions to train educators and develop hybrid education models that include moral and ethical values.
- Create 'Digital Technology Specialist' and 'Digital Technology Manager' certifications that reflect the required competencies and completion of training. Establish a talent pool in platforms that can be accessed by industry, SMEs, and public institutions in need of competent experts. The competency level should be communicated transparently and include moral and ethical values.
- Develop a career-oriented model that integrates vocational schools and vocational high schools with practical training in cooperation with industry while emphasizing moral and ethical values.
- Provide support mechanisms, such as incentives and tax reductions, that encourage vocational and high school graduates to work in their branches while promoting moral and ethical values.
- Disseminate Erasmus+ programs to share good practices and exchange information with vocational schools and vocational high schools in advanced industrial countries. This approach will encourage the exchange of moral and ethical values between different cultures.
- Make project calls to meet the software needs in sectoral roadmaps and priority projects with open-source software. Form a project consortium that includes software companies, the public, customer companies, and application services companies to address moral and ethical concerns while promoting technological advancement.
- Represent the Turkish Open-Source Platform in reputable, global organizations to play an active role in the open-source ecosystem while promoting moral and ethical values.

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