Published in Slovak Republic
European Journal of Economic Studies
Has been issued since 2012.
E-ISSN: 2305-6282
2021. 10(1): 23-28

DOI: 10.13187/es.2021.1.23
www.ejournal2.com

The Role of the Human Factor in Development of Innovative Economy

Giorgi Sanadze [a, *]

[a] Ivane Javakhishvili Tbilisi State University, Georgia

Abstract

The capacity of the innovative economy is becoming significantly important in the modern civilized world. Consequently, the development of a country's economy is influenced by the innovativeness of its constituent structure. Taking into consideration that the human is the main actor within the economy, the economic development from an innovative angle can be described as unimaginable without certain human factors. Based on the above-mentioned, a completely new and previously non-existent human factor might be defined as the main producer of an innovative economy. We call this new factor "Homo Hi Techicus". In our opinion, "Homo Hi Techicus" should supply society with high-tech-based products and services. The role of the "High-Technological Man" human factor in the development of the innovative economy is growing fast, especially nowadays when the development of block chain technologies is getting more and more important. A number of relevant technical skills are characterized for "Homo Hi Techicus" in order to develop or use various modern high-tech-based facilities. Therefore, "Homo Hi Techicus" can be defined as a mostly sufficient and adapted model for the successful production of an innovative economy. The development of a high technology-based innovative economy needs some preparatory measures, including the better promotion of R&D and scientific research-related activities in a country.

Keywords: human factors, Homo Hi Techicus, Homo Innovaticus, Homo Economicus, innovation economy, economic development.

1. Introduction

The economy – it is a system derived from the entrails of society while society itself could be defined as the unity of people based on a certain structure. Therefore, an innovative economy might be characterized as a system based on relevant demands of society.

In the XXI century, society's demand for high tech-based production and services is growing fast. This, in turn, increases the share of innovative facilities in the economy. Until the 1990s, the issues in line with innovation were relatively less popular among economists. Despite this, the situation has changed radically since the 1990s. The internet and its widespread development can be considered as the main reason for this (Lemanowicz, 2015: 62-64).

The innovative economy – this is a theoretical approach that focuses on the active use of high-tech tools and knowledge in order to achieve economic growth and, therefore, produce relevant products and/or services which is unlike the traditional model of economics (Lemanowicz, 2015: 61). Based on the above-mentioned, the main goal of this paper is to discuss those important human factors that are necessary for the production of an innovative economy.

* Corresponding author
E-mail addresses: sanadzeg@yahoo.com (G. Sanadze)

The entire level of the economic development of a country is highly dependent on the relevant technological facilities which are used for the production of services. It should be taken into account that more modern technological facilities provide a more positive effect on economic progress. Technological development can lead to fundamental changes in the norms, values and traditions which exist within a society. Additionally, we can highlight that society's existing demands vis-à-vis technological development are undergoing fundamental changes and it is necessary to develop completely different and innovative technologies based on high technology in order to face them. Those national businesses which are focused on modern technologies and innovations are considered as the main and driving force of the national competitiveness strategy in the modern global world (Beardsley et al., 2010: 61).

2. Methodology

Desk research has been used for this article which includes the collection and analysis of materials from foreign open internet sources as well as the study of research conducted by relevant authors. The main theoretical finding of this article on "Homo Hi Techicus" ("High-Technological Man") has been elaborated by the author based on his research and analysis.

3. Results and discussion

When speaking about the importance of the human factors in the economy, it is also necessary to consider the theoretical concept introduced by Adam Smith which is called "Homo Economicus" ("Economic Man"). This concept refers to the human theoretical approach (model) whose purpose is to obtain maximal economic benefit and/or profit. In order to achieve this goal, it is necessary to expand one's own production as well as relevant investments as Smith clearly mentioned (Heilbroner, Milberg, 2012: 48). Therefore, the "Homo Economicus" theoretical approach is a model focused on any kind of economic profitability.

Special attention needs to be made to Frank Knight's point of view that the theoretical construct of "Homo Economicus" refers to groups and categories of factors that are related to both human goals and the relevant knowledge that must be used in order to achieve the set goals. Therefore, it can be considered that the process of economic activity is a direct duty of "Homo Economicus" (Knight, 1947: 84).

Some scientists (for example, Drucker, 2009) have criticized the "Homo Economicus" theoretical approach for different reasons. According to Peter Drucker, the theory of "Economic Man" no longer corresponds to the existing reality. Drucker argues that it is difficult to say that an "Economic Man" is a worker who is willing to do a colossal volume of work for a small reimbursement which, in turn, causes income imbalances. Based on Drucker's theory, the unequal distribution of income is a prerequisite for a potential wave of protests in society. Drucker argues that the "Economic Man" has lost his function and has mostly become a tool for more political battles (Drucker, 2009: 38). In accordance with Peter Drucker's opinion, society is characterized by a number of mercantile features that are more focused on the consumption of industrialized products. He pays more attention to the theoretical approach of "Industrial Man." It should be noted this approach clearly defines human roles. In turn, it implies that all actors in industrialization perform their duties meticulously. For example, a manager formulates the development plan of an enterprise, a banker issues a loan to expand production and a hired worker tries to perform his work in a relevant quality manner in order to further receive the appropriate remuneration. However, the final goal of all of the above-mentioned to satisfy society's demands.

According to Drucker's opinion, society is characterized by mercantilism while the development of economic activity for a mercantile society carries a peculiar social prestige feature. In other words, level of stability in society is strongly correlated with a better quality of the satisfaction of the existing demands (Druker, 1995: 48-50). The theoretical matters of the innovative development of a country's economy cover a wide range of economic activities. They could be in line with the creation of a completely new sector of the economy as well as a significant improvement of the existing economic sector.

The innovation process in an economy is distinguished by its own dynamics and its specific nature. First of all, it ensures a significant increase in the role of the information and communication (ICT) and R&D sector in the economy of a country (Kelly, 1998: 2).

Before proceeding further with the “Innovative Man” model, it is interesting to see how the concept of innovation itself is defined in the field of social sciences. In his work, Social Theory and Social Structure, the well-known American sociologist, Robert Merton, defines innovation as a model of deviation from the prevailing standards in a society where the practical realization of social and cultural values accentuated and dominating in society takes place through the use of technically effective facilities (Merton, 1968: 230).

Referring to the opinion of Joseph Schumpeter, certain innovative actions are vital for the further development of the economy (Clemence, ed., 2009: 234).

Thus, in order to better implement innovative activities, a number of scientists (for example, Shelton, 2018) define the promotion of the transformation process of “Homo Sapiens” into “Homo Innovaticus” as a necessary precondition for this process.

Despite all of the above-mentioned, it should be noted that emphasis is on the ability to create and use innovative high-tech based products and services in the modern world (Lemanowicz, 2015: 61). Therefore, “Homo Innovaticus” by his nature can be characterized as a future innovation oriented on the human factor (Giddens, 2011: 22). Orientation to the future is somehow closely related to so-called economic optimism which might be ensured only in the case of a stable political, legal and, more importantly, macroeconomic environment. However, the sense of instability somehow contributes to the growth of future risks (Papava, 2019: 135-138).

Referring to R. Blum, various fields of social science (such as, for example, sociology, psychology, political science and etc.) have their own respective human theoretical concept called "Homo Logicus." Therefore, different models appear on the stage such as "Sociological Man," "Psychological Man," "Political Man" and etc. (Blum, 1991: 111). The skills characterized by “Homo Innovaticus” are becoming increasingly irrelevant to the existing reality as the demand for high-tech-related products and services grows gradually. Therefore, the need for a completely new type of theoretical model vis-à-vis the human factor, which we have already called "Homo Hi Techicus" (or "High-Technological Man"), is getting more and more important.

The theoretical model of the "High-Technological Man" implies a number of relevant technical skills that are necessary in order to develop or use modern high-tech-based facilities (including different applications, software and etc.). Consequently, when talking about an innovative economy and its development, we do not forget the importance and the role of those specific skills that characterize the theoretical model of “Homo Hi Techicus.” Nevertheless, in our opinion, “Homo Hi Techicus” combines the best features of the already above-mentioned "Homo Innovaticus."

For the development of a high technology-based innovative economy, providing certain preparatory measures are required in which the main scope of view will be directed on the training of professionals in order to better fulfill the activities related to R&D and scientific research (Papava, 2020).

The enterprises which are focused on creating or using high-tech-related facilities impose specific conditions on their own employees that cannot be met without proper knowledge. Here, it should be mentioned that employees of such enterprises are already free to work from home or even from another continent owing to remote labor options. Working outside the physical office does not negatively affect performance (Coyle, 2020).

In most cases, the innovation economy is carried out by companies that prioritize staff with a higher technical education. In fact, the creation of an innovative economy is driven by R&D-oriented companies with close cooperation to leading scientific research centers. Typically, the creation of an innovative economy is driven by research and development-oriented companies with close ties to leading scientific research centers. The innovation economy itself is achieved not only by high-tech capabilities but it also implies the creation of new or significantly improved products and, consequently, including the development of relevant processes for this production (Fagerberg et al., 2009: 4-8). Creating or using high-tech facilities, as has been mentioned above, can be a prerogative for a completely different human factor which we have named “Homo Hi Techicus.” Nevertheless, there is an opinion on another human factor that might be exerting some influence on the development of the future economy. This factor was called “Homo Complexicus” or in other words – “Machina-Economicus” (for example, Daneke, 2020: 18-39). At first glance, we might detect a great deal of similarities between “Homo Hi Techicus” and “Homo Complexicus.” Moreover, both of them might be considered as the same model. Although, if we analyze the

features of these models in depth, we can see more differences between them than similarities. Based on Daneke's opinion, “Homo Complexicus” would be considered not so much a human factor but artificial intelligence which is mostly oriented on establishing complex control over society and not on the development of the economy. In order to achieve this goal, “Homo Complexicus” relies on several high-tech-based facilities. Therefore, we are not able to correctly characterize “Homo Complexicus” as a human factor focusing on the development of the innovative economy. This issue can be defined as a main distinguishing factor between “Homo Complexicus” and “Homo Hi Techicus.” Despite this, referring to Daneke’s “Homo Complexicus” model is mostly routine work-oriented and it is not flexible. As for “Homo Hi Techicus,” his aim is to define the prevailing wide demands of society with high-tech-based products and services.

Finally, what are the basic features be of “Homo Hi Techicus?” In our opinion, these features could be the following:

- Creative thinking skills;
- Ability to create use or create different kinds software and applications;
- Analytical skills;
- Ability for data processing;
- Ability to think logically;
- Skills in line with problem identification and problem solving in the system;
- Innovation and professional development skills.

Thus, the producer of a modern and innovative economy should be considered "High-Technological Man." “Homo Hi Techicus” should provide society with high-tech based wealth which will be a precondition for the sustainable development of the innovative economy. Despite this, nowadays when the development of block chain technologies is getting more and more important, the "High-Technological Man" human factor is growing immeasurably. Based on this point of view, “Homo Hi Techicus” can be named as the most perfect model for this stage in order to produce an innovative economy.

The innovative economy itself should necessarily be based on the following main aspects (Chen, Dahlman, 2006: 4):

1. Investments in the education sector;
2. Development and implementation of relevant innovative opportunities in the education sector;
3. Ensuring an ICT based infrastructure and economic environment.

In accordance with all of the aforementioned, the following issues need to be carried out for the development of the innovative economy (Chen, Dahlman, 2006: 4):

- Encouraging the economics of the education sector and the development of an appropriate institutional approach which should ultimately ensure the efficient allocation of resources in order to facilitate the acquisition and use of knowledge;
- Increasing the number of educated and experienced specialists who can use their knowledge in an effective manner;
- Promoting companies, research and consulting centers, universities and other organizations in order to ensure the accumulation and realization of knowledge in accordance with the existing needs in society;
- Developing a modern and adequate information infrastructure.

High technologies lead to the further development of the economy which is accompanied by large investments as well as the development of a system of financing high-tech-based entrepreneurship and a relatively high share of employment in terms of scientific research and development. In recent times, also noteworthy is the gradually growing funding of the R&D-related sector, including personnel costs (Papava, 2019: 135). In addition, based on the aforementioned, it is also important to increase the quality of the educational level in a county’s universities in order to elaborate a relevant knowledge-based economic model as well as to enlarge research and development-related activities. Nevertheless, it could be noted here that the development of an innovative economy should not eliminate or neglect the so-called "traditional" industries whose existence contributes to the accumulation of capital and the economic stability in a country (Papava, 2019: 139).

4. Conclusion

Based on all of the above-mentioned, several key directions emerge in the theories related to the innovative development of the economy. A country's economy should meet several conditions before it can be considered as innovative. First of all, it has to be knowledge-based and rely on the latest advances of R&D or, in other words, high technology. The development of an innovative economy requires the relevant political will in order to better promote innovative business in a modern competitive global market. The political will should ensure the development of information technology and a knowledge-based economy in a country to further strengthen the internal economic potential. To achieve sustainable economic development, the main proposition for this issue is to create a knowledge-based economy. Therefore, it is necessary to implement appropriate economic policies in order to promote the development of this type of economy in a country. A knowledge-based economy should ensure the creation of competitive innovative products and/or services. Based on the discussions mentioned above, we can conclude that:

- In modern society, special attention is paid to the products and services that are developed using high-tech facilities.
- Establishing an innovative economy is impossible without the relevant environmental conditions which include the willingness and the desire of society to produce and/or consume innovative high-tech products and services.
- Human factors in economics are the theoretical concepts ensuring the establishing of economic activities. Thus, the theoretical concept of the "Innovative Man" can be considered as the creator of the innovative economy.
- Innovative economics is increasingly relying on high-tech facilities. The relevant technical skills of the "Innovative Man" are no longer sufficient vis-à-vis the existing reality. Consequently, a completely new theoretical concept emerges which can be called the "High-Technological Man."
- "A high-tech individual is the supreme creator of an innovative economy based on high technology.
- Due to the increasing demand on high-tech products and services, the "High-Technological Man" can be considered as the most complete theoretical model for this stage.
- High technologies lead to the further development of the economy and at the same time ensure large investments regarding high-tech-based entrepreneurship.
- The innovative economy is not oriented on eliminating or neglecting the so-called "traditional" industries whose existence contribute to the accumulation of capital and the economic stability in a country.

References

Beardsley et al., 2010 – *Beardsley, S., Enriquez, L., Bonini, Sh., Sandoval, S., Brun, N.* (2010). Fostering the Economic and Social Benefits of ICT. In Global Information Technology Report 2009–2010 ICT for Sustainability, Dutta S., Mia I., eds. Geneva, World Economic Forum. [Electronic resourse]. URL: http://www.itu.int/net/wsis/implementation/ 2010/forum/geneva/docs/publicati ons/GITR%202009-2010_Full_Report_final.pdf

Blum, 1991 – *Blum, R.*(1991). Die Zukunft des Homo Oeconomicus. In: *Das Menschenbild der Okonomischen Theorie*. Hrsg. Von B. Biervert, M. Held. Frankfurt a. M.

Chen, Dahlman, 2006 – *Chen, D., Dahlman, C.* (2006). The Knowledge Economy, the KAM Methodology and World Bank Operations. Washington DC, The World Bank, [Electronic resourse]. URL: http://documents.worldbank.org/curated/en/695211468153873436/pdf/358670WBI0The11dge1Economy01PUBLIC1.pdf

Clemence, ed., 2009 – *Clemence, V., ed.* (2009). Joseph A. Schumpeter – Essays on Entrepreneurship, Innovations, Business Cycles and the Evolution of the Capitalism. New Brunswick, New Jersey, Transaction Publishers.

Coyle, 2020 – *Coyle, D.* (2020). Tech Titans at bay? *Project Syndicate – The World's Opinion Page*, July 31. [Electronic resourse]. URL: https://www.project-syndicate.org/commentary/big-tech-congressional-antitrust-hearing-regulation-by-diane-coyle-2020-07

Daneke, 2020 – *Daneke, G.* (2020). Machina-Economicus or Homo-Complexicus: Artificial Intelligence and the Future of Economics? *Real-World Economics Review*. 3: 18-39. [Electronic resourse]. URL: http://www.paecon.net/PAEReview/issue93/Daneke93.pdf

Drucker, 2009 – *Drucker, P.* (2009). The End of Economic Man – Origin of Totalitarianism. New Brunswick, USA, and London, UK, Transaction Publishers.

Fagerberg et al., 2009 – *Fagerberg, J., Srholec, M., Verspagen, B.* (2010). The role of Innovation in Development. *Review of Economics and Institutions*. 2(2): 4-8. [Electronic resourse]. URL: http://www.rei.unipg.it/rei/article/view/15/19

Giddens, 2011 – *Giddens, A.* (2011). Runaway World. How Globalisation is Reshaping Our Lives. London, Profile Books.

Heilbroner, Milberg, 2012 – *Heilbroner, R., Milberg, W.* (2012). The Making of Economic Society. London, Prentice-Hall International.

Kelly, 1998 – *Kelly, K.* (1998). New Rules for the New Economy. New York, NY, Penguin Putnam Inc.

Knight, 1947 – *Knight, F.* (1947). Freedom and Reform: Essays in Economics and Social Philosophy. New York and London, Harper Bros.

Lemanowicz, 2015 – *Lemanowicz, M.* (2015). Innovation in Economic Theory and the Development of Economic Thought. *Oeconomia*. 14: 61-64.

Merton, 1968 – *Merton, R.K.* (1968). Social Theory and Social Structure. New York, The Free Press.

Papava, 2019 – *Papava, V.* (2019). On the Prospects for the Use of High Technologies in the European Union's Post-Communist Countries. *Bulletin of the Georgian National Academy of Science*. 13(2): 135-138.

Papava, 2020 – *Papava, V.* (2020). On Innovative Activities in Europe's Post-Communist Countries. Georgian Foundation for Strategic and International Studies Expert Opinion, No. 132. Tbilisi, GFSIS. [Electronic resourse]. URL: https://www.gfsis.org/files/library/opinion-papers/132-expert-opinion-eng.pdf

Shelton, 2018 – *Shelton, R.* (2018). From Homo Sapiens to Homo Innovatus, or How to Innovate Better. Park Innovaare, 2018, November 21. [Electronic resourse]. URL: https://www.park innovaare.ch/from-homo-sapiens-to-homo-innovatus-or-how-to-innovate-better