INNOVATION-CENTERED SOCIETY: FROM THE FIRST WAVE TO THE SMART SOCIETY

Codrin-Leonard HERȚANU

“Nicolae Bălcescu” Land Forces Academy, Sibiu, Romania
codyh2004@yahoo.com

Abstract: *Ideas really matter, as they decisively influence people thoughts, creeds and behaviours. Among these, the tomorrow's world feature is a current dominant concern. Alvin Toffler's perspective of the three major disruptive waves colliding mankind's history is still revealing. Also, Thomas Friedman's intuitive vision of an interconnected world becoming flat, relates to circumstances in which any nation could potentially challenge another one, on an equal basis, within the global competitive playing field. Recently, the concept of a future Smart Society gains ground, and innovation plays an essential role in it, as it possesses the potential not only to flatten the world, but also to expand it, in terms of enlarging human knowledge perspectives. Consequently, the future world society should be better named Innovation-Centered Society rather than Smart Society. Following the Toffler's society evolution pattern, the core element of the future should be innovation, as this is the common denominator of the disruptive technologies progress, and has the power to create an entire supporting ecosystem.*

Keywords: innovation, smart society, disruptive technologies, flat world, the third wave

1. Introduction

The Virgin of Guadalupe, or Our Lady of Guadalupe, is the venerated Patroness of Mexico. To honour her memory the Mexicans fabricate statuettes and other cult objects. A matter of great concern occurred for Mexicans when China began to manufacture these statuettes, cheaper than Mexico, even with the included cost of shipping them all the way across the Pacific. The problem is more profound, as these 2004's events described by Friedman in his well-known book 'The World is Flat' [1], have evolved since then, so that China has ascended to its second position within the world's most prosperous countries of 2020, in terms of gross domestic product, and it does not show any sign of slowing down. This article purpose is not to present China global posture, but rather to

underline the fact that things always evolve. For this approach I used specific research methodologies as its main topic has represented a personal concern for many years. Beginning with 1980s, many futurists have made sound predictions regarding the future. However, only a few of these have been accomplished. Among these predictions, Alvin Toffler's and Thomas Friedman's perspectives stand out as being the most relevant. Therefore from their works I started a focused bibliographical research as a part of the overall research methodology.

Then using the hypothesis revision strategy I took the concepts of the analysed authors and further developed them. The paper points out that the normal following of the Toffler's third wave will be the 'Smart Society' as the fourth stage in the human

civilization evolution, with innovation being its fundamental element.

Using the concept transfer method I developed a new term, ‘Innovation-Centred Society’, in order to underline the profound impact exerted by innovation within the present and future society.

2. Will the Fourth Wave Bring the Human-Centered Society?

2.1. History. Alvin Toffler Perspective.

Alvin Toffler’s vision is still colliding human civilization’s concepts related to the future. Surprisingly, his first book ‘Future Shock’ was issued in 1970 and is still revealing. Not surprisingly, in China they have taught Toffler in schools and universities, since his works issuing. In line with this, the former Chinese Premier Zhao Ziyang, who launched the successful economic plan ‘New Technological Revolution 1979-1991’ [5], responsible for China’s nowadays world’s prominent position, asserted that he was greatly inspired by Alvin Toffler’s works.

Toffler split the entire human history in four periods, described in his acclaimed book ‘The Third Wave’. The specific progression from one stage to another was made in three ‘waves’ [6]. Thus, the first wave meant the transition from hunting society to agrarian society, the second one represented the leap towards the industrial society, and the third involved the ascending of information society.

Moreover, Toffler pinpointed four stages in the human civilization history, namely the hunting-gatherer, the agrarian, the industrial and the post-industrial or information society; for each of these he assigned the most prominent element: nature, land, oil, and information, respectively.

2.2. Human-Centered Society, Society 5.0 or Smart Society

Sooner or later, the future will approach mankind and this cannot be changed. Therefore, one reasonable thing our civilization should do is to adapt its perspective, mentality, and behaviour. In

this respect, predicting the future might not seem such a futile endeavor, and researchers from different domains try to project specific paths towards this future.

Recently, the new ‘Human-Centered Society’ or ‘Super Smart Society’ concept has emerged. It is also called ‘Society 5.0’, designated with a software-like number. Irrespective of the adopted terminology, this approach aims to outline a future world. The present paper will use the term ‘Smart Society’ to describe the world of the future, instead of a ‘x.y’ denomination, which might direct our mind into a cliché-like perspective.

Toffler’s pattern assigns an essential element for each described society. Similarly, the human individual is designated as the Smart Society’s core element, and that is why it is called the Human-Centered Society.

Future world would enable human individual to lead an ‘active and enjoyable life’ [7]. With the extensive use of tools provided by information and computer technology, such as Artificial Intelligence, Internet of Things and other disruptive technologies, the physical space and cyberspace will merge into one functional reality, the fully interconnected society.

3. Innovation – A Human Civilization Crucial Element

Innovation is an undisputed progress enabler. In the contemporary global interconnected world, if an institution, an organization or the entire society does not generate innovation, it will not advance, and consequently stagnate or even hold back. With the increasing competition, encompassing virtually all human’s activity domains, for these institutions, organizations or society stagnation means losing the competitive advantages that might lead to vanishing, eventually.

Innovation generates new products, methods and ideas, and sheds new light to approaching things and phenomenon, often in a complete new, unconventional or out of

the box perspective. The courage to leave the beaten tracks is one of the most relevant features of any innovation process, and could lead to solutions that would not have emerged otherwise. Within the context of overall processes standardization and social phenomenon equalizing, innovation is that respective element that can make a difference, and thus can flatten the present and future world.

The concept of a flattened world has been brought within the public spot since the well-known book 'The World Is Flat' publishing in 2005. Friedman used the term 'flat' to describe that 'the global competitive playing field was being leveled' [2]. Within this paper context, a 'flat world' means that, in nowadays interconnected world, given proper technologies, along with the inherent standardization, mechanization, and computerization, any economy and govern may potentially challenge any powerful country on Earth, on any domain, on an equal basis, due to the 'global information–communications platform that transcends distance, place and geography, a platform that connects users anywhere, irrespective of their location' [3].

Despite these facts, some tend to criticize this approach, arguing that the world is not flat at all, but on the contrary is more 'spiky' or 'bumpy' [4]. One of their arguments asserts that globalization, Friedman's key reasoning, is likely to produce disparities, rather than convergences. For instance, Christopherson, Garretsen, and Martin state in their book 'The World is not Flat: Putting Globalization in its Place' that in today's world, not all communities get even access to technology, communication space or internet. The authors assert that prosperity has not been, and perhaps will never be evenly spread world-wide.

This paper arguments that the term 'flat' may be seen more like a metaphor, as it has been excessively used in different context, to support various opinions.

4. Innovation within the Smart Society

4.1. Future World's Energy Perspective

Everything is energy. The Einstein's Theory of General Relativity gives a different perspective, even towards the mankind evolution.

Thus a leaf represents stored solar energy, and an animal hunted by the people of the first hunting-gatherer society means a lot of energy. Following the same rational approach, the coal and oil we have used since the beginning of the industrial age means solar energy stored into prehistoric forests for millions of years.

However, at this moment, mankind is on the brink of taking extreme measures, for an extreme crisis collides human civilization. Sooner than expected, our planet is supposed to run out of fossil fuels, and mankind is forced to use renewable energy sources to provide the immense needed energy for at least 8 billion people. The arduous problem of finding and using reliable technologies to survive on Earth, without completely destroying it, pushes innovation to its limits.

Under these circumstances, human innovation is called once again not only to save mankind from self-destruction, but also to keep it moving toward a future world.

4.2. Innovation: Is the World Flattening or Expanding?

Going back to Friedman's theory it should be stated that his approach is either vastly criticized inside the academic community [8] or only contested to some extents within the business environment [9].

However, at the moment of its initial issue, the 'flat world' concept constituted a huge leap in understanding the global phenomena and in shedding a new light over mankind's future perspective. Besides, as everybody can freely debate now whether the world is flat or not, one should consider that an astonishing idea already exists to argue about, in the first place. To some degree people mostly focus on the metaphor 'flat', omitting that Friedman brought to

everybody attention the meaningful problems mankind is dealing with.

Under the fossil fuels shortage crisis circumstances, if innovation cannot prove that could change the world, and bring prosperity and a better and happy life world-wide, as it is claimed, it would remain a simple theoretical approach, certainly relevant, but of no practical use.

To demonstrate the innovation impact over nowadays human civilization, the Global Innovation Index annually presents 'the latest global innovation trends' [10] world-wide and underlines 'the positive relationship between innovation and development' [11], with solid statistics figures, surveys and researches. For instance, in the year 2020, the top ten economies in terms of innovation were: Hong Kong, United States of America, Israel, Luxembourg, China, Cyprus, Singapore, Denmark, Japan, and Switzerland [12]. Not surprisingly, we encounter in this top the first three economies of the world. However, the other countries included in the Global Innovation Index, might bring a new perspective towards innovation.

If 'small' countries like Luxembourg, Singapore, or Cyprus could score in this top, means that innovation is not necessarily the privilege of the most developed countries in the world. On the contrary, the same cited source shows also countries like Armenia (the second in the upper middle-income group), Viet Nam (the first in the lower middle-income group), and Malawi and Rwanda (the first and the second in the low-income group) that performed above expectations for their level of development. This might mean that innovation can 'flourish' anywhere around the world, wherever creativity is encouraged, and finds proper condition to move forward the entire society. From this angle of view, it might be concluded that world tends to become flattened under the impact of innovation.

Nevertheless, the big picture is more complex than that. As long as innovation spreads 'like a virus' we can infer that it will get wherever it will find the needed conditions to thrive. It may seem that world itself tends to stretch its limits under the pressure exerted by innovation. In this respect, innovation complements the Friedman approach, by adding another dimension to his perspective, that of continuously broadening the human knowledge. Therefore, from this perspective, world may seem not only to become flatter, but also to expand itself.

The world's expansion should be perceived as innovation will use the most favorable conditions to expand human knowledge, prosperity and perspectives, being not necessarily linked with any specific technological development. This rational is used to counter the common misconception related to innovation, regarded mostly from the technological perspective, omitting other relevant aspects.

Some sources [13] use the term 'ecosystem' to refer the essential needed context for the innovation to happen. The innovation ecosystem 'describes the collaborative effort of a diverse set of actors towards innovation' [14], and not addresses any technological circumstances. Among the most relevant actors are both practitioners and scholars involved in the matter as well as policy makers. Besides, the innovation ecosystem also refers to the most relevant organizations committed to the delicate process of generating innovation such as 'producers, suppliers, distributors, financial and research institutions' [15].

Taking into account all the above mentioned aspects, we may ascertain that one of the most crucial elements of generating innovation is the involved actors' behaviour rather than the specific technological stage of a respective social entity, without completely diminishing the technology role.

Therefore, the closure is that the world not only becomes flat, but also tends to expand

itself under the impact of innovation. In the same time, innovation brings all global actors at the same future-departing table, and expands the human knowledge horizon.

4.3. Smart Society as an Innovation-Centered Society

The recent pandemic crisis has posed a serious challenge for the entire mankind. Moreover, it has showed the mankind fragility, and also has forced innovation to find specific solutions to counter the severe circumstances humanity has faced. These dramatic events have proved that human society progresses mostly in off-limit circumstances.

In a Smart Society the focus is the human being, therefore the main aim is to initiate a human resources development revolution. Basically, this revolution refers to all people of a group, entity or society in which all are dynamically engaged, by leading a fulfilling life and using their abilities to the maximum.

Importantly, in this society the disruptive technologies, such as Artificial Intelligence, Blockchain Technology, Cloud Computing and Internet of Things, will play a decisive role. Also, it is foreseen that in a Smart Society the new values will be created by the complete integration of cyberspace and physical space.

For these, innovation, as a primary element, should be employed to the full. Innovation is the mutual factor that can lead to the accomplishment of all forecasted perspectives. With the use of innovation, both the human resources revolution, and the disruptive technologies development, as well as the integration of cyber space with the physical space can be fulfilled.

Like all stages of the human civilization evolution, from that of the human-gatherer to the post-industrial one, that have a crucial, defining element, the Smart Society would better be described by innovation. Elements like nature, land, fossil fuels, information, and innovation, all employed by the human being, best characterize the main generating element of each of the

previous societies. From this perspective, innovation should be addressed as the central feature of the future Smart Society.

5. Conclusions

The present approach emphasizes the fact that ideas really matter. They came from different human experiences, and being forged within specific society contexts, can influence people thoughts and behaviors.

Numerous writers, educators and futurists have approached the future world from different perspectives. Among these, Alvin Toffler was among the most prominent ones. His works have gained world-wide recognition and have influenced various cultures and communities. According to his perspective, the civilization went through three major waves, which dramatically changed the mankind history. At the present moment we are witnessing the approaching of the fourth one, and the age to come will be quite different from the current nowadays circumstances.

Unlike the others mankind's stages, the society of the future is supposed to bring the full accomplishment of the human being, and will set people in its core pursuits. Despite the debates related to the definite features of tomorrow's world, this will certainly impact our customary way of life, and therefore we will have to alter our behaviours and expectations. Nevertheless, we may presumably know some relevant things about the future: the disruptive technologies will play a decisive role, and innovation will be the essential element of it. In this respect, the concept of the Smart Society best delineates the basic features of the future world.

From the perspectives addressed in this paper, innovation is one of the crucial elements that invariably influenced the human civilization progress. Furthermore, it has the unique capability to exponentially evolve especially during mankind crisis, like the pandemic circumstances currently striking our civilization. In this respect, it is foreseen that innovation not only will lead

mankind towards the Smart Society, but also will be its generating force.

Besides, it should be emphasized that under the shock generated by innovation the world tends to become 'flat'. In this respect, innovation represents the common denominator for all economies approaching the tomorrow's world, and the main ingredient that any nation can successfully use to reach the future horizon. To some extents, every nation may know the departure moment towards the future, but none can precisely predict when each will get there, and more importantly, who will eventually manage to reach that point in the future. Also, this concern should be viewed from a different angle, as it would not matter the individual struggle, but mainly the collective effort.

Besides, innovation possesses the capacity to enlarge the human knowledge horizon, and to merge energy from different domains towards achieving a mutual ultimate goal.

From this perspective we may assert that innovation is expanding the world as well. Thus, the precise interpretation of the metaphor issued by Friedman should be that innovation is both flattening and expanding the world in its endeavor to reach the future Smart Society.

Despite the common misconception, innovation is more related to the specific ecosystem that could support and develop it, rather than the technological performances, even though technology plays a vital role in this context. Firstly, from the technological perspectives, in the future the leading role will be played by disruptive technologies. Secondly, the innovation ecosystem mainly addresses the specific actors' behaviour that can generate and sustain innovation during its entire life-cycle. Under the above mentioned arguments, the Smart Society should be regarded primarily as the Innovation-Centered Society.

References List

- [1] Friedman T. *The World is Flat: A Brief History of the Twenty-first Century*. New York: Picador; 2007. 309.
- [2] Ibid. 8.
- [3] Christopherson S., Garretsen H., Martin R. *The World is not Flat: Putting Globalization in its Place*. Cambridge Journal of regions, Economy and Society; 2008.
- [4] Ibid.
- [5] Gewirtz J. *The Futurist of Beijing: Alvin Toffler, Zhao Ziyang, and China's "New Technological Revolution", 1979-1991*. Cambridge University Press; 2019.
- [6] Toffler A. *The Third Wave*. New York: Pan Books; 1981.
- [7] *Society 5.0: What Is It & How To Achieve a Human-Centered Society*. Available at: <https://www.intelligenthq.com/society-5-0-achieve-human-centered-society/>. Accessed April 5, 2021.
- [8] Abowitz K.A., Roberts J. *The Fallacies of Flatness: Thomas Friedman's The World Is Flat*. Journal of Philosophy of Education; 2008.
- [9] Jules J. *The Flat World Debate Revisited*. World View; 2013. Available at <https://www.strategy-business.com/article/00190?gko=64e36>. Accessed April 6, 2021.
- [10] *The Global Innovation Index 2020: Who Will Finance Innovation?* Cornell University and World Intellectual Property Organization; 2020. Ithaca, Fontainebleau and Geneva.
- [11] Ibid.
- [12] Ibid. xxiii, xxiv.
- [13] Dedehayir O., Makinen S.J., Ortt J.R. *Roles during Innovation Ecosystem Genesis: A Literature Review*. Journal of Technological Forecasting & Social Change; 2018.
- [14] Ibid. 18.
- [15] Ibid. 19.