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Digital Well-Being Tourism in the Fourth Industrial Revolution

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ABSTRACT

The current world changes rapidly. This period of great and rapid transformations is known as the IV Industrial Revolution which is characterized by the fact that industries, processes and stocks are linked in a network globally. It is demonstrated in this article with historical foundations that societies are not prepared for those rapid changes and transformations. Sometimes it takes a few generations for society's changes to be assimilated. However, technology development boots innovation and society's transformation within months. As a result, new mental and physical illnesses appear related to technology, such as techno-anxiety and technostress that are directly linked to the concept of digital well-being. Now, the only way that society has to fight against these pathologies is learning and training using new processes and approaches. As the current society cannot stop using technology, the society should take care of digital well-being. In this study, one of the ways to prevent or minimize pathologies caused by the excessive use of technological applications in tourism is presented and discussed. Theoretical and practical implications are presented to decrease health pathologies intensity caused by the used of technological devices.

KEYWORDS

Digital Wellbeing, Tourism, Technology, Technostress, Fourth Industrial Revolution

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1. Introduction

The evolution of humanity as a result of the discovery or implantation of technology has been slow throughout history. As a result of this slowness, societies have had a long time to take on technological changes. The fourth industrial revolution is characterized as a period of great social transformations. The world is changing faster and faster. The evolution that previously came from political changes and transformations is now coming from technology (Alzamora-Ruiz et al., 2021). The changes must be assumed by society immediately in the face of the risk of generating new social classes based on technological knowledge. But assuming changes quickly creates problems in turn, since people are not used to it and one of the problems it generates is health (Barroso-Castro et al., 2020). Mobile phone manufacturers have been aware of the health problems caused by applications installed on devices practically since their inception. When the first devices allowed to play music, the devices warned of excessive volume or time of use when the user used headphones. The evolution of mobile phones to smartphones considerably expands the list of applications and therefore also the problems they generate. Device manufacturers have progressively included alert services and solutions to try to minimize these risks (Barbosa et al., 2020; Saura et al., 2021).

Other utilities were added to the already mentioned alert of inappropriate use of headphones, such as the dim color of the screen at night; the discrimination of call numbers based on groups such as family, work or friends; the disabling of the image on the screen if the device detects that we are driving or in bedtime mode (Belo et al., 2014; Agapito et al., 2014; Kumar et al., 2020). The definitive step for manufacturers comes in 2018 when Google presents a panel for the Android system to encompass all these functions (Martín & Fernández, 2022). According to Google at that time, 70% of its users were demanding help for the intelligent use of devices and their applications that would prevent pathologies and addictions due to use and created a control panel called precisely digital wellbeing, Widdiks (2020). Through this panel, the user can program system alerts for excessive use and temporary daily blockages of applications. All actions carried out smoothly, avoiding abruptness, playing with times and attenuations. The pathologies caused by technology, once they appear, must be treated within the concept that encompasses digital health but they can also be prevented with responsible usage programs (Tiago et al., 2021).

This study addresses Digital wellbeing tourism in the fourth industrial revolution from a transversal perspective in which we include a historical, anthropological and medical section. The main objective of this work is to demonstrate that the problems caused by technological devices and applications can be prevented with responsible use programs but also with digital wellbeing tourism programs and activities. It will also be a new economic activity that will generate employment and resources with high added value.

The article is structured in three sections. It begins with a historical analysis of human evolution based on the implementation of technology in society and how it causes social transformations. In the final part, it is analyzed how these new changes originate new problems that must be treated with new ideas. Thus, the so-called digital well-being can be achieved in various ways and one of them will be tourism.

2. Historical Approach

Human progress has been very slow. Five millennia passed between the Neolithic revolution and the appearance of writing. And for the establishment of the first great trade route, the Silk Road, which linked the areas of the five great rivers on which civilizations originated, several millennia also passed. Humans could take generations to implement the great changes and social transformations. As a result of evolution and the great migrations, they appeared as human characteristics, for example, straight blond hair and blue eyes. With the age of discoveries initiated by the Spanish in the discovery of America, the Scientific Revolution, the Industrial Revolution and the subsequent French Revolution, the growth of the world begins to be promoted. What used to change in decades or centuries, could now change in years and in one or two generations. And the same will happen in China, with the establishment of the People's Republic by the Communist Party of China. A great country that has made in forty years, the IV Industrial Revolutions that the Europeans made in almost three centuries.

Human evolution has been so slow that five millennia have passed since writing was invented on the planet, until almost all humans knew how to use it. And in the Present World, in which illiteracy is barely 5% on the planet, the shadow of a new illiteracy appears; the digital (Harari, 2016).

Every time a new technology appears, it is common for society to generate a certain rejection (Ostic et al., 2021). 5,000 years ago, with the appearance of writing that put an end to prehistory and began history, Socrates would come to say: "damn writing that makes man lose his memory." The locomotives invented at the dawn of the Industrial Revolution allowed man for the first time to reach more speed than that of a galloping horse. The fear of locomotives was such that there were those who claimed that at such speeds human bodies could disintegrate. Other legends that appeared around the railway were those of the "butter-extractors". A mysterious figure who appears in orally transmitted legends who stole from children to extract grease to lubricate iron machines. Such was the generalization of this type of legend, that when mothers lost one of their children, raids were organized to beat the railway locomotives with sticks. In the same way, the workers attacked each new invention or progress, because they mistakenly thought that what it did was end their jobs, O'Rourke, Rahman and Taylor (2013). This form of protest was called luddism at the time and that is why we now speak of neo-luddism, for those who reject the future. The protests became such during the industrial revolution that England for some time promoted very severe penalties against these attacks.

The BBC series Downton Abbey, Byrne (2014) has spawned numerous scientific articles on social and class analysis and even feminism. It is cited because it shows in a literary way real event of the impact of technology on social transformation. A fact that is necessary to mention was the installation of electric light in large houses at the beginning of the 20th century. Many people were afraid to push the switches as they thought they were summoning the devil, since one of his names, Lucifer, means giver of light. The most traditional people crossed themselves every time they had to press a switch and even today, we find memories of this custom in some European rural areas. Another real event that we find in the series is the fact of the installation of radio sets in houses when they were state-of-the-art and very expensive technologies (Saura et al., 2021a). When making solemn speeches, the people who were listening to the receiver stood up as if they were in front of the people in question. In some rural places when televisions began to be installed in the mid-20th century, some older people thought that the presenters could interact with the viewers, so they came to watch the television, properly dressed. Throughout the 20th century, technology based on electricity first and electronics later became established in society.

The first alerts that occurred throughout the second half of the 20th century were due to the excessive use of television, Domingues-Montanari (2017). People spent a lot of time in front of these artifacts, and they were accused of hypnotizing society. Later the video game consoles would arrive and they would be accused of the same thing, hypnotizing users spending excessive time at the controls of video games. The first medical symptoms that would appear due to excessive use would be dehydration, postural or tension pain due to excessive hours sitting in poor conditions, diseases derived from lack of sleep. In a more severe degree, there will be nervous tics, anxiety and even epileptic seizures. The first of them documented to be caused by video games dates back to 1981, Bureau, Hirsch and Vigevano (2004). Then came the studies that showed additions and more recently cognitive problems or excesses of dopamine and serotonin. Another example of inappropriate use of technology was the appearance of the popular Walkman device. The technological revolution of the device was such that the term Electronic narcissism was even coined, Chen (1998), which is used for people who used technological devices as a symbol of belonging to a status. The use of headphones in the 1980s and 1990s caused incipient deafness in many young people due to excessive volume, Bulbul, Muluk, Çakir and Tufan (2009). Today, electronic devices warn of excessive volume, as well as prolonged use, clearly in line with digital well-being.

This historical introduction explains that technology provides numerous benefits, but also generates numerous problems, especially due to a lack of knowledge of its use. Society does not assimilate the rapid implementation of technology and misuse occurs due to ignorance or addiction, generating health problems that must be treated. Problems can be of two types, physical and mental. Manufacturers and designers, aware of this problem, are beginning to offer, integrated with their devices, solutions that help responsible use in accordance with a healthy lifestyle that is usually precisely called digital well-being.

Although the alarms about the misuse of technology are ringing in the Modern World, mainly as a result of the IV Industrial Revolution, this research confirms that the foundations of the problem appeared even before the generalization of smartphones (Saura et al., 2021b). All this because the speed with which society assumes changes is very slow in relation to the appearance of technology. This research proposes

to demonstrate, through an exercise of Big History, Christian (2017), that societies assume changes very slowly and that the IV Industrial Revolution does not give time to assume these changes. Technology is generating mental and physical health problems, which must be addressed through the concept of Digital well-being. Every challenge must be addressed in search of solutions and this research affirms that digital well-being tourism in the fourth industrial revolution, Debasa (2021), will be one of the different solutions to address the problems generated by technology and digital ecosystems. This work is novel in terms of the transversality of the analysis and the fact that it offers unpublished results of investigations that were unpublished.

3. Technology and Social Changes

Historians tend to establish the changes of cycle or era on the basis of political events. However, it is affirmed with this work that the changes of the era from now on will not come from political events but from the technology developed at each moment. This affirmation is also supported by the demand of political activists, normally from the extreme left, who denounce that the States have less and less control over multinationals or transnational companies that do not understand borders or political ideologies. The last great social transformation appeared after the democratization of smartphones, internet access and the making available to the public, either free or as paid services, of the information of Google users since 2004, Redding (2018). On this approach we affirm that the Modern World is built, above all, with the arrival of Google. Technology is transforming the world, and also people. With each new technology, new challenges and new diseases appear, such as technostress and technoanxiety. Therefore, we can now start talking about a new type of health, digital health (Saura et al., 2022).

The generalization of mobile devices at the end of the 20th century conditioned people to be permanently aware of calls, at any time and in any place. A new step was reached with the appearance of SMS instant messaging, in which, to save writing time, users tended to eliminate vowels from words, which came close to creating new languages, teachers complained. that students frequently used this type of writing in assignments and exams, Renchese (2010). However, it was not very different from the code systems used by secretaries in the 20th century to speed up note taking. The subsequent conversion of mobile telephony into smart phones with Android and IOS systems and the generalization of instant and mobile messaging programs such as Instagram, Viber and later the world famous Whastapp, which encourages us to respond practically immediately to any incoming message, Sutikno, Handayani, Stiawan, Riyadi and Subroto (2016), including systems for the sender to see if the receiver is currently within the application, which is called online; if and when he receives the message. This type of service creates new codes in terms of written communications, generating situations of stress, rejection and even misunderstandings. People want to be answered instantly and sometimes they don't put themselves in the role of the receiver without analyzing if at that moment, even if they are online, they can do it or not. The level of commitment and dependency that forces the recipient to be aware of their mobile device has been increasing progressively.

In the early days of mobile telephony, devices had to be turned off as a sign of respect on numerous occasions. Auditoriums, classes, public transport, work environments, etc. However, mobile phone applications opened the door to not turning off power devices, only putting them on silence, being able to stay connected through messaging services. The owner of the phone, instead of being aware of the activity that requires silencing the device, saves part of his attention to answer messages, Vahedi and Saiphoo (2018).

This is how the new dependencies and addictions appear, Jeong, Kim, Yum and Hwang (2016). In the world there are numerous places in digital shadow, that is, territories that the mobile Internet signal does not reach. Professionals are forced to use very expensive satellite devices that are not widespread and difficult for the general public to access. The most representative place in which this digital shadow is produced is aviation. It is significant that all smartphones have a clearly and easily accessible airplane mode in which all functions of the phone that allow communication are automatically disconnected. Although practically all airlines currently have Wi-Fi in the air, access is expensive and slow and is not usually used by users.

Before the generalization of smartphone models, the author carried out the following study, which is now published for the first time, in order to measure the degree of anxiety among aviation users caused by having to turn off the mobile phone. Eight intercontinental flights and another eight European domestic flights were selected for it; The study was conducted after landing, during waiting times to collect checked baggage at the airport. The author identified himself as a university researcher and explained very briefly that he was measuring the impact of technology on people. It is significant to note that Android and IOS smartphones already existed at that time, but they were not yet widespread. The domestic routes were Brussels - Madrid and the intercontinental ones, Madrid - Beijing. The intention of that moment was to demonstrate the strong dependence caused by the mobile phone and the great anxiety generated by not being able to have it for a few hours. The author selected a sample of 30 passengers on each route, classifying them into two ranges, workers and retirees. He asked a single question, which was: Has it caused you anxiety to have to disconnect the phone during the journey? The study was carried out over two years, between 2008 and 2010. Of the group of passengers that we identified as workers, a percentage higher than 90% in all cases showed an affirmative result on intercontinental flights, while on domestic flights this figure dropped to 80%. However, in the group of travelers classified as retired, this figure fell to levels that did not exceed 30%.

Table 1. Has it caused you anxiety to have to disconnect the phone during the plane ride?

Route	Workers	Retirees
Madrid – Beijing	93 %	27 %
Beijing – Madrid	91 %	25 %
Bruxelles - Beijing	95 %	25 %
Beijing – Bruxelles	94 %	26 %
Madrid – Bruxelles	89 %	19%
Bruxelles – Madrid	81 %	20 %
Madrid – A Coruña	82 %	25 %
A Coruña - Madrid	85 %	23 %

Source: Own Elaboration

With this study we show that anxiety problems related to mobile telephony already existed before the arrival of smartphones and applications, with 2G mobile phones. Therefore, we join the approach that the anxiety problems caused by mobile technology originate mainly from the loss of signal rather than from the application itself.

This shows that the loss of the device itself definitely breaks the link with the signal, so the stress levels it generates are very high. Companies are acting against this problem with copies of the smartphone online and in the cloud and with applications that allow remote geolocation and erasing of the device. The key, therefore, is people's dependence on the Internet signal or the telephone line that comes to condition emotions, feelings, moods and therefore clearly influence health.

4. From SPA Tourism to Digital Tourism

Defining tourism is not easy, just as it is not easy to find or consider its origins. A definition to which we adhere, established by the World Tourism Organization based in Madrid, Spain, is that it is the simple fact of going from one place to another without a specific purpose or need. Implicit in this definition is the need that to do tourism you have to move, make a trip, and therefore allocate time and resources for it. Apart from the adventurers and explorers who have always existed throughout all time, we can consider that the first tourists were born thanks to the railways that became widespread with the Industrial Revolution, Walton (2002). People took this transport to feel part of an era, experience new sensations as a result of technology and therefore move from one place to another without needing to. A train trip in the middle of

the industrial revolution transferred to users the characteristics of the progress of the moment. The aesthetics of the industrial revolution of iron, noise, force, smoke and grease emanating from machinery, will be part of the perception of the feeling of modernity for at least two centuries. Marinetti's futurist movement, Debasa (2021), will gloss in its manifesto this perception inherited from the previous century, which can be concentrated in its first point: "We want to sing the love of danger, force and recklessness". As a result of this way of thinking, the implementation of the electric vehicle and its perception as something modern, ecological and sustainable will be delayed by more than a century. Since the industrial revolution and until the arrival of the IV Industrial Revolution, the man who wanted to show his masculine, futuristic and modern condition in public would need vehicles that caused a great noise, emanating smells of burnt fuel and grease. In the automobile sector, this statement is broken by the change in technological perception that Elon Musk and his tesla vehicle brand have undergone.

The Industrial Revolution caused the problems typical of the appearance of a new era and contemporaneous with them, spa tourism began to boom, what we now call SPA or gym, which more than two thousand years ago were called, respectively, thermae by the Romans and gymnasion by the Greeks. Spa tourism in the 19th century was born out of the need to cure or minimize the problems caused by the First Industrial Revolution in the new social class of wealthy bourgeois that we now call industrialists. Here we find the direct antecedent of the current digital well-being tourism, all of them focused on the best quality of life, Uysal, Sirgy, Woo and Kim (2016).

The appearance of the global pandemic of Covid19, Lim (2021) forced practically the entire world to lock themselves in their homes for long periods of time for health reasons. The world society did not collapse thanks to the fact that essential services continued to function and most processes and jobs were able to digitize. A new social scenario was being created in the world that forced people to digitize from one day to the next with no possibility of escape, Debasa (2022).

This new situation of total digitization caused new health problems to appear, both physical and mental. Thus, during the Covid19 pandemic, the definitions of the new concept of digital well-being appear, ranging from statements that affirm that it is a state that is achieved through the responsible use of technology to those that state that it is protection of the health of people who work with technology, especially vulnerable groups such as young people or the elderly. But Google's definition in 2021 says that they are "actions that enhance life, instead of distract from it."

The author agrees with the last statement, since the addictive effect generated by applications is already known and scientifically proven because their use causes the brain to generate dopamine. An effect similar to that of gambling addictions or drug use such as cocaine. Any type of addiction generates a similar behavior in the user, causing them to experience parallel or alternative realities that lead to self-destruction. At the moment it cannot be affirmed that the addiction of technology causes destructive effects, but since these are new concepts and recent definitions, we can affirm that it is early to see effects in the medium and long term. However, we think that the misuse of technological applications could be assimilated to the consumption of socially accepted and legal soft drugs, according to age, such as alcohol and tobacco.

The economy of surveillance capitalism, Zuboff (2019), is based on obtaining safeguards and custody of the data that users do in the digital economy. Since the applications know exactly the practices and times of use of their platforms by users, specific patterns or indicators could be established to measure the digital well-being of their users.

Making this data public, or treating it in a way that generates an economic benefit, is something that has not yet been considered and whose responsibility, due to data protection systems and the right to be forgotten falls into the hands of the States. This type of issue is dealt with in futuristic films and series, the best known being Black Mirror, although we find others such as Don't look up. These types of films should be called Digital Humanism Films, since they try to analyze the challenges of the person in the digital world of the IV Industrial Revolution. Digital well-being therefore has an emotional and psychological component because it deals with the state of technology users' feelings. That is why, in addition to the legal debate on digital well-being, a philosophical debate is needed to study the concept of Digital Humanism and to rethink how the concept of the human being will be constructed after the generalization of digital environments.

Covid19 forced numerous sectors to reinvent themselves. Due to mobility restrictions, co-living has strongly emerged as a kind of mid-stay digital tourism. Some hotel establishments with an optimal digital connection offered their places to people who could carry out their work completely virtually. It was the seed of a digital tourism of people, normally solitary, who wanted to share their work and residence time with other people with similar characteristics, but reserving some spaces individually. Co-living, von Zumbusch and Llicic (2020) is prevailing in hosted hotels, hotels with shared rooms and bathrooms, in such a way that these establishments reserve spaces to share both leisure time and work time. The age of the users of this type of establishment grows and so does their purchasing power, so, without losing the essence of beds in shared rooms, more and more of these types of places reserve rooms with private bathrooms as hotels for this type of public. It is strongly affirmed that the co-living that emerged with force during Covid19, opens the door to digital tourism typical of teleworkers, digital nomads and ways of life that do not want to anchor the fixed residence to any specific place, in search of knowing new places, make new friends and live new experiences.

This is the essence of the road movies, Eyerman and Löfgren (1995), which marked an era by synthesizing the spirit of rebellion in American youth culture. The young people of the sixties of the last century wanted to travel the country with temporary jobs for a few months, with the idea of living many experiences or several lives in one. That ideal is today fully possible and feasible thanks to teleworking and digital jobs. The debate that opens will be about its name: digital tourism or virtual citizenship.

5. Digital Well-Being Tourism

Previously we affirmed that tourism originated in the 19th century as the trip that does not have a specific objective, but the pleasure of knowing transport, a landscape, moving to another culture; or enjoy a new way to spend time. On this last approach, proposals are being developed that fill this way of spending time. Thus, to historical, cultural, botanical, zoological tourism, especially for ornithology, which was the way in which the majority of Anglo-Saxon Hispanists arrived at Spanish culture; rest tourism known as thermal or spas is added. Free or leisure time spent exploring new places could also be used to strengthen health. This type of tourism was originally associated with hot springs that turned those places into spas. It is common to still find in Europe towns whose thermal tradition begins in the 19th century.

In the 1980s, video game consoles and arcade or digital video game machines installed in public places radically changed children's and young people's entertainment. Progressively, the traditional games that were held on public roads were replaced by the recently appeared digital video games. The origin of this market was in Asia, specifically in Japan, and from there it gradually moved to the rest of the world. The alarms about the problems caused by misuse or abusive use of technology began in the 90s of the last century, from which the first steps were taken for its scientific and medical study, as well as for the creation of specific medical units. The political institutions of the Madrid region were pioneers in creating the technological additions unit to start treating this type of pathology with a multidisciplinary medical team.

The pandemic marks a turning point in digital well-being. After an abusive use of leisure, entertainment, telecommuting and other utilities platforms, society began to show symptoms of digital exhaustion and all the problems caused by it. Muscle pain, contractures, tired, irritated and dry eyes, headaches, hearing problems, sleep disorders and in the most serious cases, epilepsy. In addition to the physical symptoms, there are the psychological ones that are even deeper, since they have not yet been studied and are a field of action for modern neurology and psychology.

Enjoying good digital health, Mathews, McShea, Hanley, Ravitz, Labrique and Cohen (2019), in the Current World and the IV Industrial Revolution, is not something that concerns only users, due to ignorance due to the speed in transformations, just as technology manufacturers are putting an interest in favoring it, work should be done jointly with the States. Just as children from an early age are taught disciplines related to sports, nutrition, human values and more recently with inclusion and sustainability; establishing training programs in mental health is absolutely necessary to prevent a possible pandemic of devastating and unpredictable effects caused by the abuse of technology.

Technology appears in society, and applications will stop being used because society demands it, not because States can prohibit them. In addition to violating censorship with VPN applications, we must bear

in mind that each culture or country, understood as a market, shows its own preferences. Some messaging platforms have become popular in the United States, while others have spread in Russia and China. The same happens with the entertainment platforms of series and movies, B2B commercial applications, etc... For many problems caused by technological applications, the human being will not be able to stop using them for now, until the appearance of new services. Based on the messages from the leaders of the technological platforms, it seems that the new scenario for these services will be the metaverse. Regarding the problems caused by technology, which directly affect digital health, there are clearly two scenarios in which to work: (i) Prevention scenarios and (ii) Impact reduction scenarios.

We affirm that in both approaches coordinated actions should be carried out in which political institutions, manufacturers, and committees of independent transversal experts work. Following the example of how the ratios of conventional health parameters such as cholesterol, blood sugar or vitamin levels are set, the parameters that set the levels of digital health must be established. This responsibility should not fall only on the manufacturers, so perhaps agencies such as the US FDA should acquire new powers in this regard. The proposed approach to diagnosis would be as follows:

Table 2. Prevention Scenarios

1.	Assume that there are problems and not deny it
2.	Identify these possible problems and vulnerable subjects
3.	Promote interdisciplinary communication, with experts and institutions

Assess the scope of the situation

5. Identify possible physical and psychological damage

6. Analyze emotional states

7. Analyze the social environment

8. Propose prevention measures

9. Carry out a pedagogical program

10. Establish a communication program

Establish a communication program

Source: Own Flaboration

Table 3. Impact Scenarios

1.	Identify the impact
2.	Elaborate interdisciplinary communication, with experts and institutions
3.	Assess the scope of the problem
4.	Study the physical and psychological damage
5.	Analyze emotional states
6.	Analyze the social environment
7.	Establish action measures
8.	Establish monitoring and quality control plan
9.	Carry out a pedagogical program

Source: Own Elaboration

10.

The diagnosis made in this research generates by itself a new sector. The need to address the medical and health implications caused by technology within Digital Health. It has been explained how spa tourism, which includes the current wellness tourism, was born from the health problems that appeared in the bourgeois class after the Industrial Revolution.

Digital well-being is based on the problems caused by technology and is structured around two scenarios. Services and activities provided preventively and those configured to reduce the impact of damage. Two concepts that go hand in hand with digital well-being, Stankov and Gretzel (2021), are deinfoxication and resilience or social resilience, Keck and Sakdapolrak (2013). Technological users must learn to handle concepts such as contamination due to excess information and its effects. Similarly, the proliferation of applications, digital files and even hardware, causes what has been called, Digital Diogenes Syndrome or Modern Diogenes Syndrome, Балагера (2019). All this generates what we call mental noise. An uncomfortable situation that is generated every time a computer is opened or an operating system is started, similar to that caused when working in dirty environments, full of things and with great disorder. The digital environment of our systems must be harmonious, function correctly, have harmonious and friendly keyboards and mice, clean and flawless screens (Saura et al., 2022a). Once we access the operating system, it must be equally organized and in optimal conditions. Work harmoniously, not hang up, have enough memory, etc... All in order to avoid the mental noise generated by the techno-stress of devices in poor condition.

6. Conclusion

The topics addressed in this study are completely new, so it can serve as a basis for new research. It is the same reason why it cannot be broader, the fundamental limitation is the youth of the discipline. This study shows that technological changes are causing social revolutions. The revolutions before were political and with globalization, they will become technological. The political revolutions of the past were accompanied by propaganda and dissemination actions so that they were understood by the population and silence contrary opinions. Technological revolutions must be accompanied by educational and informative actions if they want to avoid social rejection.

Technology itself forms a new economic sector, and as such, creates problems of its own. Among these problems are those related to health. This has become clear during the lockdowns caused by the global Covid19 pandemic, when many people had to spend a lot of time locked up in their homes. Thus, health and medical problems typical of digital workers emerged that encompass digital health. Just as digital health already exists, we can speak of digital well-being to refer to the problems generated and caused by technology. In any case, it is a very recent sector for which there are several definitions, some of them different from each other. In this article, it is proposed that it be defined as the sector that deals with physical and mental health problems caused by the use of technology and its applications. Especially technostress and technoanxiety. To address these challenges, it is essential to promote responsible and sustainable use of technology.

Due to the complexity of today's world, especially the precision of the legal system, actions must necessarily be established in collaboration with national political authorities and raise a cross-cutting and interdisciplinary debate. This debate must include technologists, lawyers, engineers, political scientists, and also people from the medical and health disciplines, especially mental health. The user must be at the center of all actions and must be treated individually and not as part of a group. For them, big data and machine learning plans can be implemented, which learn by themselves with the particular use of the user. On the other hand, the user must be aware that by involving artificial intelligence in digital well-being processes, they are giving up data and even faculties of their individual freedom.

There are many types of tourism, and some of them are reflections of economic sectors of society. These are cases, for example, of gastronomic, hunting, mycological, historical or health tourism. As a result of digital health, a new type of tourism is already taking shape, digital well-being. All sectors must overcome many challenges and many of them have to do with the problems of the Fourth Industrial Revolution, such as post-truth or fake news. In this sense, when talking about science, it should be very clear what is science and what is not, since misinformation in science generates pseudoscience and everything that is not validated by a scientific method is not. Digital well-being will be a new sector of the economy that will generate jobs and added value. It is still incipient and has a long way to go.

REFERENCES

- Agapito, D., & Quelhas Brito, P. (2020). A Dyadic Approach to Adolescents' Risky Online Behaviors. Journal of Spatial and Organizational Dynamics, 8(3), 244-67. https://www.jsod-cieo.net/journal-tsw/index.php/jtsw/article/view/246
- Alzamora-Ruiz, J., Fuentes-Fuentes, M. D., & Martinez-Fiestas, M. (2021). Together or separately? Direct and synergistic effects of Effectuation and Causation on innovation in technology-based SMEs. International Entrepreneurship and Management Journal, 17(4), 1917–1943. https://doi.org/10.1007/s11365-021-00743-9
- Barbosa, B., Chkoniya, V., Somões, D., Filipe, S., & Santos, C. A. (2020). Sempre ligados: Utilização dos smartphones pela geração Y e capital social. Revista Ibérica de Sistemas e Tecnologias de Informação, (E35), 152-166.
- Barroso-Castro, C., Castaneda, M. D. D., & Serrano, M. D. R. (2020). Listed SMEs and innovation: the role of founding board members. International Entrepreneurship and Management Journal. https://doi.org/10.1007/s11365-020-00709-3
- Belo, A., Fernandes, S. & Castela, G. (2014). Social Networks' Users: Profiles and Motivations. Journal of Spatial and Organizational Dynamics, 2(3) 217-228. https://www.jsod-cieo.net/journal-tsw/index.php/jtsw/article/view/32
- Bulbul, S. F., Muluk, N. B., Çakir, E. P., & Tufan, E. (2009). Subjective tinnitus and hearing problems in adolescents. *Internation*al Journal of Pediatric Otorhinolaryngology, 73(8), 1124-1131. https://doi.org/10.1016/j.ijporl.2009.04.018
- Bureau, M., Hirsch, E., & Vigevano, F. (2004). Epilepsy and videogames. Epilepsia, 45, 24-26. https://doi.org/10.1111/j.0013-9580.2004.451003.x
- Byrne, K. (2014). Adapting heritage: Class and conservatism in Downton Abbey. Rethinking History, 18(3), 311-327. https:// doi.org/10.1080/13642529.2013.811811
- Chen, S. L. S. (1998). Electronic narcissism: College students' experiences of walkman listening. Qualitative Sociology, 21(3), 255-276.
- Christian, D. (2017). What is big history?. Journal of Big History, 1(1), 4-19. https://doi.org/10.22339/jbh.v1i1.2241
- Debasa, F. (2021). Transhumanismo y contracultura. In De la" beat generation" al movimiento punk: Vástagos culturales de la sociedad de la abundancia (pp. 135-158). Sílex.
- Debasa, F. (2021). Digitalisation, pandemics and current world (2019-2021). UNIO-EU Law Journal, 7(1), 18-32. https://doi. org/10.21814/unio.7.1.3575
- Debasa, F. (2022). Algorithms, Social Rejection, and Public Administrations in the Current World. In Handbook of Research on Artificial Intelligence in Government Practices and Processes (pp. 66-86). IGI Global. https://doi.org/10.7861/futurehosp.6-2-94
- Domingues-Montanari, S. (2017). Clinical and psychological effects of excessive screen time on children. Journal of Paediatrics and Child Health, 53(4), 333-338. https://doi.org/10.1111/jpc.13462
- Eyerman, R., & Löfgren, O. (1995). Romancing the road: Road movies and images of mobility. Theory, Culture & Society, 12(1), 53-79. https://doi.org/10.1177%2F026327695012001003
- Harari, Y. N. (2016). Homo Deus: A brief history of tomorrow. Random house.
- Jeong, S. H., Kim, H., Yum, J. Y., & Hwang, Y. (2016). What type of content are smartphone users addicted to?: SNS vs. games. Computers in Human Behavior, 54, 10-17. https://doi.org/10.1016/j.chb.2015.07.035
- Keck, M., & Sakdapolrak, P. (2013). What is social resilience? Lessons learned and ways forward. Erdkunde, 5-19.
- Kumar, J., Konar, R. & Balasubramanian, K. (2020). The Impact of Social Media on Consumers' Purchasing Behaviour in Malaysian Restaurants. Journal of Spatial and Organizational Dynamics, 8(3), 197-216. https://www.jsod-cieo.net/journal-tsw/index.php/jtsw/article/view/243
- Lim, W. M. (2021). History, lessons, and ways forward from the COVID-19 pandemic. International Journal of Quality and Innovation, 5(2), 101-108.
- Martín, J. M. M., & Fernández, J. A. S. (2022). The effects of technological improvements in the train network on tourism sustainability. An approach focused on seasonality. Sustainable Technology and Entrepreneurship, 1(1), 100005. https:// doi.org/10.1016/j.stae.2022.100005
- Mathews, S. C., McShea, M. J., Hanley, C. L., Ravitz, A., Labrique, A. B., & Cohen, A. B. (2019). Digital health: a path to validation. NPJ Digital Medicine, 2(1), 1-9. https://doi.org/10.1080/17437199.2022.2046482
- O'Rourke, K. H., Rahman, A. S., & Taylor, A. M. (2013). Luddites, the industrial revolution, and the demographic transition. Journal of Economic Growth, 18(4), 373-409. https://doi.org/10.1007/s10887-013-9096-y
- Ostic, D., Qalati, S. A., Barbosa, B., Shah, S. M. M., Galvan Vela, E., Herzallah, A. M., & Liu, F. (2021). Effects of social media use on psychological well-being: a mediated model. Frontiers in Psychology, 2381. https://doi.org/10.3389/fpsyg.2021.678766
- Redding, A. C. (2018). Google it: A history of Google. Feiwel & Friends.
- Renchese, M. A. (2010). La escritura de los adolescentes con el uso del chat y el SMS (Doctoral dissertation). Universidad Nacional de Cuyo. Facultad de Ciencias Políticas y Sociales.

- Saura, J. R., Ribeiro-Soriano, D., & Palacios-Marqués, D. (2021). Setting B2B Digital Marketing in Artificial Intelligence-based CRMs: A review and directions for future research. *Industrial Marketing Management*, 98(October), 161-178. https://doi.org/10.1016/j.indmarman.2021.08.006
- Saura, J. R., Ribeiro-Soriano, D., & Palacios-Marqués, D. (2021b). Setting privacy "by default" in social IoT: Theorizing the challenges and directions in Big Data Research. *Big Data Research*, 25(July), 100245. https://doi.org/10.1016/j. bdr.2021.100245
- Saura, J. R., Palacios-Marqués, D. & Ribeiro-Soriano, D (2021a). How SMEs use data sciences in their online marketing performance: A systematic literature review of the state-of-the-art. *Journal of Small Business Management,* 1-36. https://doi.org/10.1080/00472778.2021.1955127
- Saura, J. R., Ribeiro-Soriano, D. & Iturricha-Fernández, A. (2022). Exploring the challenges of remote work on Twitter users' sentiments: From digital technology development to a post-pandemic era. *Journal of Business Research*, 142(March), 242-254. https://doi.org/10.1016/j.jbusres.2021.12.052
- Saura, J. R., Ribeiro-Soriano, D. & Palacios-Marqués, D. (2022a), Adopting digital reservation systems to enable circular economy in entrepreneurship. *Management Decision*, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/MD-02-2022-0190
- Stankov, U., & Gretzel, U. (2021). Digital well-being in the tourism domain: mapping new roles and responsibilities. *Information Technology & Tourism*, 23(1), 5-17. https://doi.org/10.1007/s40558-021-00197-3
- Sutikno, T., Handayani, L., Stiawan, D., Riyadi, M. A., & Subroto, I. M. I. (2016). WhatsApp, viber and telegram: Which is the best for instant messaging?. *International Journal of Electrical & Computer Engineering*, 6(3), 909-914. http://doi.org/10.11591/ijece.v6i3.pp909-914
- Tiago, F., Gil, A., Stemberger, S., & Borges-Tiago, T. (2021). Digital sustainability communication in tourism. *Journal of Innovation & Knowledge*, 6(1), 27-34. https://10.1016/j.jik.2019.12.002
- Uysal, M., Sirgy, M. J., Woo, E., & Kim, H. L. (2016). Quality of life (QOL) and well-being research in tourism. *Tourism Management*, 53, 244-261. https://psycnet.apa.org/doi/10.1016/j.tourman.2015.07.013
- Vahedi, Z., & Saiphoo, A. (2018). The association between smartphone use, stress, and anxiety: A meta-analytic review. *Stress and Health*, *34*(3), 347-358. https://doi.org/10.1002/smi.2805
- von Zumbusch, J. S. H., & Lalicic, L. (2020). The role of co-living spaces in digital nomads' well-being. *Information Technology & Tourism*, 22(3), 439-453. https://doi.org/10.1007/s40558-020-00182-2
- Walton, J. K. (2002). Aproximación a la historia del turismo en el Reino Unido, siglos XVIII-XX. In *Historia Contemporanea*, (vol. 25, pp. 65-82).
- Widdicks, K. (2020, October). When the good turns ugly: Speculating next steps for digital wellbeing tools. In *Proceedings* of the 11th Nordic Conference on Human-Computer Interaction: Shaping Experiences, Shaping Society, 1-6. https://doi.org/10.1145/3419249.3420117
- Zuboff, S. (2019). The age of surveillance capitalism: The fight for a human future at the new frontier of power: Barack Obama's books of 2019. Profile books.
- Балагера, В. (2019). Digital Compulsions or How to Analyze and Deal with Modern Day's Diogenes Syndrome. In Издание подготовлено при грантовой поддержке ФГБУ «Российский фонд фундаментальных исследований»(РФФИ) Проект № 19-012-20002 «III Международная научно-практическая конференция "Язык и речь в Интернете: личность, общество, коммуникация, культура"» 270.

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