Information overload and the digitization of public administration produce major effects on Romanian society

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ABSTRACT
The premise from which the present study starts is that the incessant advances made in science and technology are going to radically change the way we live together, having profound and, at the same time, frightening consequences for society. We are not yet intellectually, philosophically, or morally ready for the world we are creating. In the coming decades, the old ways of thinking, which have served us well for hundreds or even thousands of years, will be called into question. New debates, controversies, movements and ideologies will appear. Some of our most deeply held beliefs will be revised or abandoned altogether. We will have to reimagine together what it means to be free or equal, what it means to have power, and even what it means for a regime to be democratic. The politics of the future will look almost nothing like the politics of the past. Twentieth-century politics was dominated by one essential question: how much of our social life should be determined by the state and how much should it be left to the market and civil society? For the generation that is currently approaching maturity, the question will be completely different: to what extent should our lives be directed and controlled by high-performance digital systems and under what conditions? And above all, what can the public administration do when the foundations are destroyed!? These questions and reflections constituted the main theme of our scientific research approach.

KEYWORDS: *information overload, digitization of public administration, artificial intelligence, ethics, digital dementia*

1. Argumentum

"Smart" administrations are not limited only to digitization and e-government systems, but also to information overload - challenges that must be faced, for the benefit of citizens, direct beneficiaries of the services provided by public administrations. The use of artificial intelligence and new technologies directly affects everyone involved in the process, and the success of their implementation depends on the ability of the staff and the citizens served to exploit their full potential and keep pace with their evolution. It is necessary to acquiesce Romania to European values, in the spirit of building sustainable, digital and green communities, which ensure the quality of life of the beneficiaries. From this perspective, it is significant to analyze the situation in Romania, giving an overview of the future of public administration, regarding the role of digitization and a digitally educated population in the efforts to transform society in relation to the

latest technologies and the transition to an intelligent administration represents an expanding subject requiring constant updating[1]. The reform of public administration in the idea of transition to a sustainable society represents a topical and interesting topic, being an area that all citizens of a state face.

In an era of changes and constant evolution of technologies, public administrations cannot remain indifferent to trends, being directly influenced. From this perspective, they must be responsive and have the capacity to innovate in order to face the challenges they face, especially regarding the professionalization of institutional management[2]. Management represents an essential element of the functioning of the administrative system, directly affected by digitization, and the good functioning, performance and trust conferred by citizens on the administration as a whole depend on it. Also, the efforts of public administrations to evolve in the spirit of new technologies must be supported by a well-trained human resource that can capitalize on the full potential of the digitalization of the administrative system[3]. In a general sense, intelligent public administration means the use of modern technologies to increase quality, efficiency and effectiveness, but even if the technological aspect is most often addressed in specialized literature, the role of human resources cannot be neglected, both from the perspective of the human capital of the administrative system, as well as from the perspective of the citizens who form the community served, the beneficiaries. The confluence of the two dimensions is of particular importance for theoreticians and practitioners because it favors the consolidation of the administrative system and creates the necessary premises for the development of a sustainable society[4].

Nowadays there is no niche that has remained untouched with the advent of technology[5]. Every industry has been revolutionized by technological advances. The relationship between administration and technology is complex and multifaceted. At the initial level, technology is the application of knowledge and resources to solve some deficiencies or create new products and services. Administration and its conductor, administrative law is a set of rules that govern the behavior of individuals and organizations within a society. The connection between administration, law and technology is constantly evolving as new technologies and legal challenges emerge. For example, the development of the Internet has triggered a number of legal questions regarding privacy, intellectual property, and electronic commerce. Similarly, the rise of artificial intelligence has led to concerns about the potential for job displacement and the need for

[1] Mădălina Georgiana Mihăilă, *The transformation of Romanian society in the era of digital talents*, in Universul Academic Publishing House, Bucharest, 2022, pp. 227-236, taken from the website: https://scrd.eu/index.php/scic/issue /view/26.
[2] Emery, Y., Kouadio, A. B., Rousseau, *Towards innovative public services: A framework for the development of the innovation capability of European Public Administrations*, European Institute of Public Administration, 2016.
[3] Matei, L., & Lazăr, C. G., *Quality Management and the Reform of Public Administration in Several States in South-Eastern Europe*, Theoretical and Applied Economics, 18(4)/2011, pp. 65-98.
[4] Giełda, M., *Dimensions of Smart Administration*, în *Wroclaw Review of Law, Administration & Economics*, 9/2019, pp. 40-52, preluat de pe site-ul: https://doi.org/10.2478/wrlae-2019-0010.
[5] Mihaela Vasiliu, *Opinion on the intersection between law and technology*, taken from the site: https://www.juridice.ro 5864.

new laws to govern the development and use of AI. Despite the complexity of the relationship between law and technology, there are a number of principles that can help us formulate a clearer view. Thus, new technologies, processes and automations have brought exciting changes and benefits to consumers. They can be used to automate processes, connect needs with faster solutions, and provide companies with more employees. It is important to consider the impact of new technologies on the workforce and individual rights, ensuring that they are used in a way that benefits everyone. As technology continues to transform the world, its proponents are instrumental in shaping the future. They must ensure that it is used responsibly and ethically, addressing legal complexities and emerging challenges, promoting privacy and cybersecurity, and last but not least encouraging innovation and collaboration between law and AI. In measure As the legal landscape continues to keep pace with technological advances, public administration professionals must be at the forefront of addressing these challenges, developing regulatory frameworks and advocating for policies that strike the right balance between innovation and societal well-being. The role of civil servants is becoming more and more demanding, ensuring that their role and involvement are valued, while protecting the rights and well-being of the citizens they serve especially in the conditions of an information overload that suffocates our lives.

2. Information overload

2.1. Introductory matters

Since today there is a lot of talk about inflation both in the economic and legal fields - legislative inflation - we believe that the term informational inflation would be more appropriate, at least from the perspective of the negative connotation of the term, inflation has that spiritual dimension of the embodiment of evil in society. Moreover, our life today depends so much on new technologies that we have come to feel lost without a computer, internet and smart phone. Every day a new invention comes along to make our work easier, taking most of the mental effort we should be doing. But what are the effects on our brain? Like a muscle, it atrophies the less it is used. We have become accustomed to searching Google for the answer to any question, storing all information on a digital device and even performing a simple calculation on a computer. In addition, we spend more and more time on social networks and replace personal contacts with virtual ones. Using the latest and most important scientific studies, psychiatrist and neuroscientist Manfred Spitzer investigates the negative influence that digital environments can have on memory, concentration and cognitive abilities, especially in young people, and the book is a wake-up call for parents, teachers and politicians. "Dementia is not just about memory loss. And in the case of digital dementia, it's not just about the fact that young people seem to become more and more forgetful. Rather, it is a matter of mental performance, thinking, critical capacity, orientation in the "informational haven". If a cashier uses a calculator to count two plus two and doesn't notice that the result 400 must be wrong, if NASA launches a satellite into the sand (or into infinite space) because no one realized that inches and miles are not the same as centimeters and kilometers, if the bankers miscalculate by 55 billion euros, all this ultimately just means that no one thinks

anymore. Obviously, in these cases, no one approximated the order of magnitude of the result in their head, but instead relied on some digital assistant.[6]"

Manfred Spitzer uses the phrase "information glut", but other connotations can be found around the same theme, such as info-obesity, info-toxicity, information anxiety and information explosion. Another, almost similar term - "information pollution" - was coined by Jakob Nielsen in 2003[7]. Information pollution also referred to as "information pollution" generally applies to digital communications such as email, instant messaging and social media. The term gained particular relevance in 2003, when web usability expert Jakob Nielsen published articles discussing the topic. As early as 1971 researchers expressed doubts about the negative effects of having to recover "valuable nodules from a garbage slurry in which there is a randomly dispersed minor component"[8]. People use information to make decisions and adapt. Cognitive studies have shown that human beings can only process limited information before their decisions begin to deteriorate. Information overload is a related concept that can also affect decision-making. It refers to the large volume of information available without regard to its quality. Although technology is believed to have exacerbated the problem, it is not the only cause of information pollution. Anything that distracts from the essential facts needed to complete a task or make a decision could be considered an informational pollutant.

Information pollution is seen as the digital equivalent of environmental pollution generated by industrial processes and information overload is a crisis of global proportions, on the same scale as the threats facing the environment. Thus, "information overload" is associated with the excessive amount of daily information and involves difficulty in understanding a problem and making effective decisions when one has too much information about that problem.

Another term, information overload, was first used by Bertram Gross[9], and was reset by Alvin Toffler, who made a sensation in the 1970s by defining this shock as “the bewildering disorientation brought on by the premature arrival of the future. It may be the most important disease of the future." Toffler explained in his book that just as an organism buckles under the pressure of environmental overstimulation, the human mind and its decision-making processes will behave irrationally when overloaded. Assaulted with requests for interviews from television stations, immediately after the "explosion" of his book, Toffler warned that he had already seen the signs of exhaustion produced by the informational avalanche around the world. And this was happening in the 70s. "I don't think there's much we can do in our private lives to counter this attack," Toffler said[10]. He was suggesting that the future is happening to us. Furthermore, Bagdikian pointed out that soon computers will be able to store information at a rate of 12 million words per minute, while a printer was able to put on paper (only dot matrix printers were used at the time) 180,000 words per minute, suggesting that these performances would collide with the

[6] See, for details, Manfred Spitzer, *"Digital Dementia*", Humanitas Publishing House, Bucharest, 2020.
[7] See the study "*Information pollution*", taken from the website: https://ro.qaz.wiki/wiki/Information_pollution.
[8] Idem, p. 3.
[9] Bertram Myron Gross, „*The Managing of Organisations*”, Free Press of Glencoe, New York,1964.
[10] Alvin Toffler, "*The Shock of the Future*", Political Publishing House, Bucharest, 1973.

very capabilities of mankind to absorb information and process it[11]. Bagdikian feared that humanity would spend too much time trying to digest all the information, and that people would almost completely give up sleep because of it, which would be extremely unhealthy, in fact, enormous capacity of current information storage media ensures that we will not lose anything[12].

However, until this terminological clarification is reached, we will note that the history of human "information overload" has been documented throughout the periods when technological advances increased the production of information. Thus, as early as the 3rd or 4th century BC, people viewed information overload with disapproval. During this period, in Ecclesiastes we are told that "there is no end to making books"[13] and in the 1st century AD, Seneca the Elder commented that "the abundance of books is a distraction". In 1255, the Dominican Vincent de Beauvais commented on the flood of information: "the multitude of books, the shortening of time, and the slippage of memory." Similar complaints about book growth have been reported in China. Renaissance humanists always wanted to preserve their writings and observations, but they were only able to record ancient texts by hand because books were expensive and only the privileged could afford them. People experience information overload by excessively copying ancient manuscripts and reproducing artifacts, creating libraries and museums that remain today. Around 1453 AD, Johannes Gutenberg invented the printing press and this marked another period of information proliferation. As a result of falling production costs, the generation of printed materials, from pamphlets, manuscripts to books, was made available to the common person. Following Gutenberg's invention, the introduction of mass printing began in Western Europe.

Information overload was often experienced by the wealthy, but book circulation was quickly becoming printed and available at a lower cost, allowing the educated to purchase books. Information could be manually recorded, easily memorized for future storage and accessibility. This era marked a time when inventive methods were established to practice information gathering. In addition to printing books and recording passages, encyclopedias and alphabetical indexes were introduced, allowing people to save and sign information for recovery. These practices have marked both current and future acts of information processing. Erasmus, one of the many recognized humanists of the sixteenth century, asked, "Is there any place on earth free from these swarms of new books?"[14]. To combat information overload, scholars have developed their own information records for easier access and retrieval of archives. Compilers in modern Europe used paper and glue to cut out specific notes and passages from a book and pasted them onto a new sheet for storage. In contemporaneity, Speier admitted that if the input exceeds processing capacity, information overload occurs, which is likely to reduce the quality of decisions[15]. In a newer definition, Roetzel focuses on time and resource issues, stating that when a decision maker is given many sets of information, such as complexity, quantity, and contradiction, the quality of his decision is decreased from due to individual limitation of resources to process all information

[11] Ben H. Bagdikian, Den Emeritus, *The New Media Monopoly*, Beacon Press, 2004.
[12] "*Informational overload, a renewed fear*", taken from the website: https://www.roportal.ro/articole.
[13] Ecclesiastes, 12-12, "And above all this, my son, remember: the writing of books is without end."
[14] *Informational overload, a renewed fear*, op. cit., p. 3.
[15] Matthew Speier, „*The Everyday World of the Child*" in Undersanding Everyday Life, London Routledge, 1999.

and optimally make the best decision. The advent of modern information technology has been a major factor in information overload on several fronts: in the amount produced, the ease of dissemination, and the scale of the audience reached. Longstanding technological factors have been further intensified by the rise of social media. In the era of digital connective technologies, computing, digital culture, information overload is associated with overexposure, excessive viewing of information, and abundance of information and data input[16].

2.2. Information overload, the new disease of the 21st century

One of the first social scientists to notice the negative effects of information overload was the sociologist Georg Simmel[17], who hypothesized that the sensory overload of the modern urban world drove city dwellers crazy and interfered with their ability to react to new situations. Psychologists have recognized that humans have a limited capacity to store current information in memory. Psychologist George Armitage Miller was very influential in this regard, proposing that people can process about seven pieces of information at a time. Miller says that under conditions of overload, people become confused and are likely to make poorer decisions based on the information they have received, as opposed to making informed decisions. Long before this, the concept was introduced by Diderot, though not through the term information overload: "As long as the centuries continue to unfold, the number of books will continually increase, and it may be predicted that a time will come when be almost as difficult to learn anything from books as from the direct study of the whole universe. It will be almost as convenient to look for a bit of truth hidden in nature, as we shall find it hidden in an immense multitude of bound volumes."[18]

In the modern information age, information overload is experienced as entertaining and unmanageable information such as spam and email notifications, instant messages, Tweets and Facebook updates in the context of the work environment. Social media has led to "social information overload" that can occur on sites like Facebook, and technology is changing to serve our social culture. In today's society, everyday activities increasingly involve the technological world where information technology exacerbates the number of interruptions that occur in the work environment. As the world moves into a new era of globalization, more and more people are connecting to the Internet to conduct their own research and are given the opportunity to contribute to as well as view data on a growing number of websites. Users are now classified as active users as more people in society participate in the digital and information age. This flow has created a new life where humanity is in danger of becoming dependent on this method of accessing information, where the risks of perpetuating misinformation are greatly increased and information overload can be seen as a virus - spreading through social media and news.

[16] Idem, p. 3.
[17] Georg Simmel (1858–1918) was one of the founders of German sociology and the most important neo-Kantian philosophers of the late 19th and early 20th centuries. Close to Max Weber, Simmel wrote in a manner reminiscent of the "ideal type" in sociology. The theories of Simmel and Weber would influence the critical theory of the Frankfurt School.
[18] See, *Information overload*, taken from the website: https://ro.qaz.wiki/wiki/Information_overload.

In recent years, the term "information overload" has evolved and Frank Furedi describes how an information overload is metaphorically expressed as a flood, indicating that humanity is "drowning" by the waves of data coming at it. This includes how the human brain continues to process information, whether it is digital or not. Information overload can lead to "information anxiety," which is the gap between information that is understood and information that one perceives needs to be understood. Clay Shirky has indicated that information overload in the modern age is a consequence of a deeper problem, which he calls "filter failure," where people continue to share information with each other. This is due to the rapid growth of applications and unlimited wireless access. In the modern information age, information overload is experienced as entertaining and unmanageable information such as email spam, email notifications, instant messages, Tweets and Facebook updates in the context of the work environment. Social media has led to "social information overload" that can occur on sites like Facebook, and technology is changing to serve our social culture. As people view ever-increasing amounts of information in the form of news, emails, blogs, Facebook statuses, Tweets, and other new sources of information, they become their own publishers, gatekeepers, and information aggregators. Social media platforms create a distraction as users' attention is challenged once they enter an online platform. A concern in this field is that these massive amounts of information can be distracting and have a negative impact on productivity and decision-making and cognitive control. Another concern is "contaminating" useful information with information that may not be entirely accurate.

General causes of information overload include: a rapid growth rate of new information, also known as assertion journalism, which is a continuous news culture where there is a priority on how quickly news can be published; this leads to a competitive advantage in news reporting, but also affects the quality of the news reported. Ease of duplicating and transmitting data over the Internet. An increase in the available channels of incoming information (phone, email, instant messaging). The lack of a method for comparing and processing different types of information results in the information being unrelated or lacking an overall structure to reveal their relationships. Email remains a major source of information overload as people struggle to keep up with the rate of incoming messages. In addition to filtering unsolicited commercial messages (spam), users also have to contend with the increasing use of email attachments in the form of long reports, presentations and media files. This means that rather than responding to each email immediately, users should delete unnecessary emails and sort the others into action or reference folders first. "We're more connected than ever, so we need to be more careful about managing email or it will end up managing us."

Nicholas Carr said “Sometime around 2007, a snake of doubt crept into my info-paradise. I began to realize that the Internet was exerting a much stronger and more complex influence on me than my old PC ever had. It wasn't just that I was staring at a monitor for so long. It wasn't just that so many of my habits and routines were changing as I became more familiar with, and more dependent on, web sites and services. The very way my brain worked seemed to change. That's when my inability to pay attention to anything for more than a few minutes started to concern me. At first I thought the problem was a symptom of middle-aged atrophy of the mind. But my brain, I gave it mind you, she wasn't just going crazy. He was hungry. He demanded to be fed as the

Internet fed him - and the more food he swallowed, the more hungry he grew. Even when I wasn't near a computer, I longed to check my mail, click on various links, do some googling. I wanted to be connected."[19]

And he added, saying email exploits a basic human instinct to seek out new information, causing people to become addicted to "mindlessly pressing levers in the hope of receiving a social or intellectual nugget." His concern is shared by Eric Schmidt, Google's chief executive, who has said that the "instant devices" and abundance of information people are exposed to via email and other technology-based sources could impact the thought process, obstructing thinking. deep, understanding, preventing the formation of memories and making learning difficult. This condition of "cognitive overload" results in a diminished ability to retain information and a failure to connect memories to experiences stored in long-term memory, leaving thoughts "thin and scattered." This also manifests itself in the education process. In addition to email, the World Wide Web provided access to billions of pages of information. In many offices, workers are given unrestricted access to the web, allowing them to manage their own research. Using search engines helps users find information quickly. However, information published online may not always be reliable, due to the lack of authority authorization or a mandatory accuracy check before publication. Information on the Internet lacks credibility because web search engines do not have the ability to filter and manage information and misinformation. This leads to cross-checking what they have read before using it for decision-making, which takes more time. Viktor Mayer-Schönberger, author of Erase: The Virtue of Forgetting in the Digital Age[20], argues that everyone can be a "participant" on the Internet, where everyone is a sender and receiver of information. Delete: The Perils of Perfect Memory in the Digital Age examines the surprising phenomenon of perfect remembering in the digital age and reveals why we need to reintroduce our ability to forget. Digital technology empowers us like never before, but it also has unintended consequences. Potentially humiliating content on Facebook is enshrined in cyberspace for future employers to see. Google remembers everything we searched for and when. The digital realm remembers what is sometimes best forgotten, and this has profound implications for all of us. In Delete, Viktor Mayer-Schönberger traces the important role that forgetting has played throughout human history, from the ability to make healthy decisions unfettered by the past to the possibility of a second chance. The written word has made it possible for people to remember across generations and time, yet now digital technology and global networks are outpacing our natural ability to forget – the past is always present, ready to be called up with the click of a mouse. Mayer-Schönberger examines the technology facilitating the end of forgetting - digitization, cheap storage and easy retrieval, global access and increasingly powerful software - and describes the dangers of eternal digital memory, whether it's outdated information taken out of context or compromising photos. The web won't let us forget. He explains why data privacy rights and other fixes can't help us, and proposes an ingeniously simple solution - to remember how to forget in the digital age.

[19] Nicholas Carr, "Superficials - The effects of the Internet on the human brain", Public Publishing House, Bucharest, 2012.
[20] Viktor Mayer-Schönberger, *Delete: The Virtue of Forgetting in the Digital Age*, Princeton University Press, 2011.

On the Internet, information trails are left behind, allowing other Internet participants to share and exchange information, and information becomes difficult to control. Information overload may not be the main reason for people's anxieties about the amount of information they receive in their daily lives. In contrast, information overload can be considered situational. Social media users tend to feel less information overload when using their personal profiles, rather than when their work institutions expect individuals to amass a mass of information. Most people see information through networks social in their lives as an aid to manage their daily activities and not as an overload. Depending on the social media platform you use, it can be easier or harder to keep up with posts. Facebook users who post and read more than others tend to be able to keep up. On the other hand, Twitter users who post and read a lot of tweets feel that there is too much information[21].

Another problem with social media is that many people make a living by creating content for their own or someone else's platform, which can create content overload for creators to publish. Responding to information overload Many solutions have been proposed to alleviate information overload, but it is difficult to measure the effect. Based on the definition of information overload, there are two general approaches to dealing with it: Reduce the amount of information you receive by being mindful of how you are exposed to information, and limit the scope by unsubscribing from newsletters and advertisements. Improve the ability to process information on how a person records, shapes and stores information is crucial. It's also helpful for people to stop using iPhones as alarm clocks, which means the phone is the first thing people will see when they wake up, leading to immediate email checks. Furthermore, the reduction of large amounts of information is essential as scientists have emphasized the distinction between raw information and information in a form that can be used in thought. In this perspective, information overload can also be seen as a burden on the organization. That is, they suggest that the problem is not so much the volume of information, but the fact that one cannot discern how to make good use of it in the raw or biased form it presents. Wurman uses the term "information anxiety" to describe humanity's attitude towards the volume of information in general and their limitations in processing it in contrast to information pollution whose manifestations can be grouped into those that cause disruption and those that affect the quality of information[22].

Cultural factors have contributed significantly to information pollution by the fact that new technologies that have facilitated everyone's access to information exchange. This is perceived as a sign of individual progress and empowerment, as well as a positive step to bridge the gap between information poor and information rich. However, it also has the effect of increasing the volume of distracting information. The continued use of advertising in websites, technologies, newspapers and in everyday life is known as "cultural pollution"[23]. The effects of information pollution can be seen at many levels. At the individual level, information pollution affects the ability of individuals to evaluate options and find appropriate solutions. This can lead to information overload and anxiety, decision paralysis and stress. It can disrupt the learning process. Even worse, information

[21] Information pollution, op. cit., p. 2.
[22] Idem, p. 4.
[23] Ibidem.

pollution and information overload can cause a loss of perspective and moral values. This argument may explain society's indifferent attitude towards subjects such as scientific discoveries, health warnings or politics. Information pollution contributes to information overload and stress and therefore disrupts decisions. Increased processing time easily translates into lost productivity and revenue. Poor decision making increases the risk of critical errors. Proposed solutions include management techniques and sophisticated technology. Technology-based alternatives include decision support systems and dashboards that allow information to be prioritized. Time management and stress management would involve prioritizing and minimizing interruptions. Improved writing and presentation practices can minimize the effects of information pollution on others, in the reality of the last three decades that have accustomed us, us Romanians, to a growing appetite for hyperconnectivity, but each generation seems convinced that it has reached the peak of overload informational. Television, radio, various apps for iPad, iPhone, etc., books in electronic format and the Internet are spreading a certain general anxiety about humanity's ability to absorb information when it is so sensory-limited. We seem to have lost control, and the evil information web is enveloping us in its webs like a venomous prey spider. And in order to get out of this vicious circle of pollution, not only the proposals made, in the previous ones, by renowned specialists and professionals from different fields, but also a transdisciplinary approach to the issue of ethics and morals in solving the problem of information overload are required.

3. Ethics and information overload

3.1. Introductory matters

The concerns of researchers in the sciences whose objects of study are society have as their finality the general good of man, research not being done only for the desire to research oneself for the sake of research. In this idea, we affirm that ethics also has as its final goal precisely this human good, but also by revealing the social specificity, of life in common. The immediate goal of ethics is to establish how society and social processes influence human behavior in order to know how to act socially. Regarding ethics, the immediate goal is the analysis of reality, since the moral socialization of the individual is carried out according to the social values that they receive from the family, from the school and from the community, and the existence of society cannot be conceived without the forms that regulate relationships between people[24]. Ethics represents a human experience, a state of mind, a natural experience without behavioral efforts. Ethics is not learned from treatises or specialized codes, for ethics there should be no rules that you have to follow ad litteram. You either have ethics or you don't. If a man, structurally, has a natural and good conduct that draws its essence from divine gifts, he does not need ethics treatises except to cultivate his nobility and soulful and intellectual finesse. If another man, structurally, has a non-positive conduct in his relations with other people, all the philosophies and treatises in the world cannot help him overcome his condition. In life you can be a good economist but have atrophied human qualities and you can be an ennobled man of beauty and clarity in the activity of coordinating or applying some decisions, without much schooling. Man must first have knowledge

[24] Valentin -Stelian Bădescu, *Business Ethics*, Pro Universitaria Publishing House, Bucharest, 2014, p. 79.

and this must be vitaminized through knowledge throughout his life, because the human brain has three components: one common including reptiles, one more evolved, instinctual, at the level of mammals and one specific to the human being. In recent times, the instinctual side is exploited the most, but neuroscience combines the anatomical knowledge of the brain with the understanding of more abstract concepts, bordering on philosophy: thinking, language and, of course, consciousness[25]. The terms morality and ethics, in ordinary language, are often used as synonyms, although in reality things are different. Morality[26] represents a real phenomenon, which concerns everyday behavior, while ethics is a science that aims to investigate this phenomenon. This can be defined as a set of rules regulating behavior, based on the values of good/bad, moral/immoral, honor/correctness, sincerity, responsibility, widespread within a community, norms characterized by a high degree of internalization and imposed both by one's own conscience and by the pressure of the attitudes of others. Morality consists of values, norms and exemplary models through which the regulation of inter-human relations is sought, thus representing a considerable part of our life. It appears to us as an ideal, in the normative sense of this term. The ideal to which each of us must strive. We cannot only be performers, climb not only the social and professional ladder, but also that of moral values. And if the individual aims to climb the social and professional hierarchy by defying moral perceptions, his destiny will not be fulfilled. Unlike morality, ethics is the theory or science that investigates this phenomenon, the theory of morality[27]. Thus, we find that morality includes rules of human behavior, while ethics aims to investigate these rules. Ethics tries to answer to the question "how should the individual act in relation to himself, his peers and those around him". Ethics means a coherent, systematic conception, related to the norms of moral life, so to speak, of what is appropriate and what is not. The word comes from Greek, where it means moral, habit, character[28]. The main mission of ethics is to prescribe rules both for individual conduct and for the social organization of life. From this perspective, ethics can be defined, in a broad sense, as the discipline that deals with what is valuable in life, what is worth wanting and the rules that should govern human behavior[29].

What does the word "ethics" mean? Many people are tempted to associate ethics and feelings, probably thinking of some kind of empathic vibration towards our neighbor. But ethics is not necessarily related to certain affective states. They are changeable, capricious and not fully subject to reason, so that very often it is precisely the feelings that prompt us to deviate from ethical norms. Ethics is in a necessary relationship with religion, most religions uphold high ethical standards. But if ethics were only a prerogative of religion, then it would only be valid for religious people. However, ethics is equally addressed to atheists and saints, so that it cannot in any case be confused with religion or fully subordinated to it. At the same time, behaving ethically is not the

[25] The term morality derives from the Latin mores, which has the same meaning of customs, morals, customs.
[26] Aurel Damsa, Ethics and professional deontology of the military, Publishing House of the National Defense University, 2011.
[27] Maria Furst, Jurgen Trinks, *Philosophie*, Humanitas Publishing House, Bucharest, 1992, p.198.
[28] The term ethics derives from the Greek ethos which means custom, morals, customs.
[29] Vasile Morar, *Ethics in business and politics*, Universul Juridic Publishing House, Bucharest, 2010, p. 39. Idem, p. 7.

same as obeying the law. Not infrequently the law incorporates certain moral convictions, which the citizens of a state share. But the law, like feelings, can deviate from what is ethical.

Finally, being ethical is not the same as fully conforming to socially accepted patterns of behavior. In many cases, most people do cultivate ethically correct patterns of behavior, but not always. Sometimes these social patterns of behavior may conflict with ethical principles. It can happen that an entire society is morally corrupt; there were and are, unfortunately, examples of this. On the other hand, if behaving ethically were the same as imitating socially accepted models, then in order to know what is ethically correct, the individual would have to find out what is considered acceptable in the society of which he is a part. In addition, the lack of a full social consensus makes it impossible to identify ethics with what is considered acceptable in a given society.

Leaving aside the current opinions of American businessmen about the meaning of ethics and the semantic peculiarities of the English term ethos[30], we must ask ourselves what is currently understood by the word "ethics" in Romanian, in order to make certain clarifying distinctions. In our country, the term ethics has at least three different meanings. First of all, ethics refers to the so-called morals, customs and traditional customs specific to different cultures. Such traditional customs also exist in the legal field. The Western world places great value on punctuality, while in Latin America or Africa it is considered that a man is more important and more worthy of respect the longer he allows himself to be late. In the West, commissions given, more or less "under the table", to officials who are asked for a contract or certain fiscal or commercial facilities are considered deeply immoral; the same cannot be said about developing countries, where bribing public officials is a common practice, often in plain sight. In order to avoid possible terminological confusions, we will call this set of traditional customs and habits ethos, which is of more interest to cultural anthropology than ethics itself.

Secondly, by the term "ethics" is understood the set of values and norms that define, in a certain society, the man of character and the rules of just, worthy and respectable behavior, the violation of which is reprehensible and worthy of contempt. In this sense, ethics promotes certain values, such as honor, justice, courage, sincerity, generosity, altruism, etc., trying to enforce norms such as: "Don't lie!", "Don't steal!", "Help yourself neighbor!"[31], etc. In the Romanian language, the set of these rules of "good behavior" is called morality, and the condition of the person who aspires to live according to the highest ideals and principles is called morality. In its proper sense, ethics or moral philosophy is a theoretical interpretation of ethos and moral phenomena. Ethical reflection aims to clarify with theoretical tools a series of problems, such as: Can we be moral? Why be moral? How to be moral? What are good and bad, pleasure and duty, justice, dignity or magnanimity? What kinds of rational arguments can consistently support a particular moral commitment or decision? How strong is the influence of irrational factors in our moral attitudes? And so on.

Ethics does not attempt to answer these questions from the specific perspective of any particular category of people, but strives to find answers of universal value. "What should a man

[30] Idem, p. 7.
[31] Ibidem.

do in order to realize his desires, goals and ideals, so that he can reach the maximum fulfillment of his being, without doing unnecessary harm to others, but leaving everyone to seek his own personal fulfillment and even contributing to the progress of society as a whole?" – this is the fundamental question, which lies at the heart of ethical investigations. Applied ethics asks the same question, but they do so from the perspective of a particular social category. Our question is: how should a good man act to fulfill his vocation? what are the responsibilities and moral duties that the citizen must fulfill in order to do his job as well as possible? At the level of common sense, this question has been asked for a long time, since Antiquity, but only recently it is at the center of a new discipline of information technology ethics. Why? What are the social and economic changes that have made common sense views of what people should or should not do in today's society seem outdated and inadequate, calling for an investigation of the ethical standards that should govern the world's information technology contemporary?

3.2. The ethics of information technology

"A robot must not harm a human being". The First Law of Robotics seems essential in the era of the digital citizen and ubiquitous information technology. The same is the case with information, especially when it is provided and disseminated in abundance especially because, "technology is not neutral. It determines our actions, thoughts and lifestyle", which causes the debate on ethics to appear all the more necessary in the context of emerging new technologies"[32]. Although the technology has changed a lot, the ethical issues have remained the same, the only change is the increase in the destructive potential of this technology. In the same interpretation key, we note that informational overload and human-computer interaction (phone, tablet) are already present in society, which creates multiple ethical dilemmas. Social networking sites and other forms of interaction go beyond the simple issue of data protection on the Internet, they contribute to the re-shaping of society. From a moral perspective it should be noted that by addressing these issues we can understand the future and reform the society we want to live in, observing how deep the interaction between man and technology is. Therefore, it is imperative to address ethical issues in the context of information overload as information and communication technology, although sometimes invisible, is already ubiquitous. This raises questions about data protection or its use as a control tool.

Alan Freeland of IBM believes that information and communication technology is essentially neutral, but it depends on how it is implemented: GPSs guide cars but can also control the driving style of drivers. Google's Alma Whitten added that "a powerful information tool like Google, which is built from recycling human intelligence, cannot but recycle the ugly parts." The unfriendly statements of representatives of some of the world's biggest computer polluters create at least ethical dilemmas in scientific research, if not concern. "Research, even well-intentioned research, carries risks," Oxford University neuroscience professor Colin Blakemore told the European Parliament. "Reduction of risks is essential in research and the debate on the balance between the benefits and risks of research is vital and raises questions such as where is the line

[32] See, for details, the website: https://www.europarl.europa.eu/news/ro/headlines/society.

between life and death, between profitable and unprofitable lives". Science is still far from perfect and research is not magic. "Ethically, we must not harm people, but in reality we must do so in order to progress."[33]

Information technology ethics is an important part of computer science ethics[34]. It is a discipline of applied ethics that studies the moral issues that have arisen in line with the development of information technology in recent decades. Moral dilemmas regarding information technology have become more and more numerous in today's society, transformed almost overnight into an information society. The technological revolution inevitably led to a reevaluation of people's perception of the world around them. The explosion of information technology has led, among other things, to the increase in the number of methods of communication between individuals. Access to information, as well as its rapid transmission from one continent to another, had and continue to have both positive and negative consequences on the moral, psychological and social development of individuals, on the structure and functioning of society in general. Information technology ethics also examines the moral issues raised by: copyright, access, privacy and security of information or access to computer program sources. A central role in information technology ethics is played by case-based reasoning[35].

The ethics of information technologies points to the fact that engineers, scientists and technicians through the results of their activity determine the quality and conditions of people's lives in the information society. At the same time, the technicians are obliged not to disturb the activity of other users of the information network and to foresee the social consequences of the developed programs/systems. Specialists claim that the phenomenon of information overload manifests itself at the institutional level in three forms. First, from a simplistic perspective, the effectiveness of an organization is determined by an aggregation of individual skills. If each member of a group is overloaded with information overload, the organization as a whole cannot function effectively. Second, in the process of collecting massive amounts of information, public administrations may face data duplication, which is almost impossible to prevent, especially if the data does not come from primary sources of information. In other words, the same aspects, apparently coming from different sources, can vitiate the decision-making process especially by virtue of the principle of determining the credibility of an information based on the number of independent sources that confirm it. Last but not least, public institutions most often fall prey to the complexity of their own information collection infrastructures. The studies carried out show that both cognitive and informational overload at the organizational level could prove impossible to combat; the solution to either problem exacerbates the other, and both phenomena affect the state's ability to keep pace with daily realities and use information to maintain a state of security. Technological development and innovation will continue to exacerbate information overload. The

[33] See, for details, the website: https://ro.wikipedia.org/wiki/Etica_tehnologiei_informa%C8%9Biei.

[34] Luciano Floridi, „*Information Ethics: On the Theoretical Foundations of Computer Ethics*", Ethics and Information Technology,1999, pp. 37-56.

[35] Herman T. Tavani, „*Ethics & Technology: Ethical Issues in an Age of Information and Communication Technology"*, New Jersey: John Wiley and Sons, Inc, 2004.

advantages of technology are great and it is necessary for people to learn to cope with technology without being overwhelmed by it[36].

Taking into account the current debates, the general context created by the epidemiological and conflict situation, which affects the whole set of public or private activities, but also the shaping of new generations of rights (natural environment, habitat, urbanization, etc.) a series of pertinent questions that deserve an answer. Are the ethics or deontology of the authority still relevant? Can authority still be exercised ethically? Can the holder of the authority still demonstrate deontological behavior in issuing judgments or adopting decisions? Deontology risks falling into obsolescence if authority is exercised materially, strictly under the empire of expected results. Permanently, those who will bear the consequences of the authority are tempted to evaluate in terms of efficiency and effectiveness the way of obtaining the results. If this approach was carried out ignoring the theoretical specificity of the exercise of authority, faithful to ethics and the deontological model, we can conclude that morally the authority, in order to be fully accepted, must follow an ethical-deontological route.

Deontology is at the same time the most expressive and the most relevant form of objectification of authority, located in a permanent hierarchical dynamic, having the ability to provide a benchmark for harmonizing relationships and coherent interpretation of opinions. Deontology, simplistically reduced to the form of "what you can do", respectively "what you can't do in an organization", has not lost its supporting role in the exercise of authority. The concern for deontology is also reflected by the actions to promote the security culture and awareness of different actors regarding the actions that can or cannot be undertaken, including in terms of the leader's ethics and deontology. Deontology, beyond the generally valid ethical prescriptions that it has incorporated under its dome, knows specific particularities of each field that it is called to regulate. Among the existing codes of ethics we can mention: Code of ethics of judges and prosecutors, Code of ethical and professional conduct of medical personnel, Code of conduct of civil servants. Among the general terms and notions that describe the standards of ethical conduct we find: objectivity, impartiality, legality, fairness, but above all honor. The person endowed with deontological authority has the moral duty to act ethically in all the circumstances required by his professional attributions and legally obliged to make decisions in relation to the concerns of the legislator to prevent any form of manifestation of unethical behavior. Deontology has a determining role in balancing relationships between individuals. The deontological personality of the authority influences the organizational climate through the example of dignity and honor it provides. The notion of dignity, from the Latin dignitas, is synonymous with moral authority, greatness, prestige. At the same time, the prestige that allows a person to impose himself in front of others, to be listened to or to make decisions, defines an authority. Dignity is a character trait of the person endowed with authority. An authority that acts with dignity is able to assume responsibility, understood as continuous concern for the effect of its decisions on the collective

[36] Luminiţa Lefter, Mihaela Drăgolici *The effects of the informational avalanche*, taken from the website: https://intelligence.ro/data.

and on other people, but also bearing the consequences. The other definition of dignity, that of rank or high position in the state, should not be ignored either[37].

Honor has meanings that bring it closer to the meaning of authority: reputation, prestige, dignity, moral integrity, probity, fairness. The word also comes from Latin, a language in which honor-honoris signifies dignity, rank, reward, consideration or public office. Honor and dignity are traits that strengthen the moral personality of the authority, and educational institutions have a fundamental role in building and strengthening them. Without these qualities, the personality of authority would be incomplete. In the environment of public administration there is a permanent concern for maintaining a high level of morality. The moral integrity of civil servants is a condition for membership in the integrative organization. The moral personality of the authority is inevitably subject to a systematic process of transformation resulting from the evolution of the organization. There are several milestones that contribute to the change for the better in the organization. Authority holders can help increase individuals' ability to clearly distinguish between what is good, legitimate, or acceptable and what is not. Positive effects can be achieved by improving knowledge and giving a greater degree of freedom or decisional autonomy to each team member. The profile and personality of authority is incomplete without morality, and deontology without norms morals is nothing more than a demagogic approach, interpreted at will. The morality of the authority, which is manifested in the exercise of the specific attributions of the function, is the source of change and progress for the integrative organization. "Morality is a beneficent force, a kind of guard that protects us from mistakes and watches over the non-perpetuation of immoral processes in the organization so that the sense of continuity based on beauty, truth, enthusiasm and creative faith is not lost." Furthermore, each individual's upbringing, habits, needs, aspirations, and character give morality a complex dimension. Finally, we think it would be appropriate to take a brief look at the most important actors of our play, computer scientists and their ethics.

3.3. Ethics of computer scientists

It follows from the above that any new technology creates new risks and generates new problems that the institutions empowered to absorb the shocks caused by the impact of the implementation of the new technology are called upon to solve. Any professional computer scientist has information that the general public either does not have access to, or does not have the competence to understand. Most of the people involved in the use of ICT can be affected by the way the computing and communication equipment work, the correct functioning of the systems, the ethical behavior of IT specialists. The latest achievements in the field of science and information technology have transformed the Internet into an agora, a place where ideas, new concepts and technologies are conceived and exchanged, where contacts between all types of people are not only possible but become reality. The vast majority of ICT users, as a rule, do not understand how information systems work and, therefore, cannot correctly assess their quality and safety in operation, which creates obligations and responsibilities on the part of IT specialists.

[37] Adelin Zăgărin, Mihai Dragomirescu, Deontology and ethics of authority, taken from the website: https://intelligence.sri.ro.

Professional responsibility is a problem of social education and it must be formed in the training process and perfected in the first years of work. The educational process in Romania aims only at training highly skilled specialists in solving technical-scientific problems, omitting that a specialist must also have a high moral standing and be creative. Equally important is the duty of trainers to prepare students, both to approach the solution of a problem systematically, globally, and to study the interconnections between the progress of science and technology and the new phenomena in society. There is an urgent need for real leaders who see the long-term consequences and who want to assume social responsibility for the activity carried out. University professors must become active in the dissemination of basic scientific knowledge in society and through behavior and communication must become active factors, catalysts in the renewal of ethical principles in society. Every computer scientist, and basically every citizen, must behave correctly to ensure a real, sustained and consistent development. This fact cannot be imposed even by the strictest law, but it requires a good understanding of basic scientific information and a social and ethical behavior. The educational obligations of the educational process must go far beyond the doors of the school, high school or university.

Almost 500 years ago François Rabelais was of the opinion that "Science without conscience is nothing but a ruin of the soul". This idea remains valid even today and becomes even more important in the conditions of ICT development and the emergence of the relatively new impact of information and communication technology on society. Today, many of the traditional ethical systems are considered obsolete. We are left only with the concepts of a free market economy and the measurement of success by the value of shares. Maximizing income is the goal, with all the legal and semi-legal meanings. A rational socio-economic system, in order to be sufficient or operational, cannot take into account only external, material costs. If all values become measurable only in monetary units, then the society we live in would become limited, banal, poverty-stricken, and one of the few incentives left to continue living would be the pleasure of cheating and resisting ethical behavior. The motivation for creative work would disappear, the scientific, technical, innovative contribution would no longer be rewarded, at its fair value, and this way of life would represent an involution. A part of humanity would become successful swindlers and wealthy tax agents and the rest, the vast majority, who would live in poverty, would no longer matter anyway. We need renewed ethical principles, which have general, systemic relevance. It should not be understood that we would necessarily have to invent new contents, new ethical concepts. In principle, all relevant and perennial concepts have been expressed and documented over and over again for over 2000 years. All that is necessary is to remodel them in a modern form, compatible with science and information technology. In this way, the ICT field could become a spiritual center that will combine science, the ability to anticipate and social responsibility, that will train computer scientists who will bear social responsibilities and who will be prepared for the demanding functions of society.

The first moral responsibility of an ICT user is to procure and use only original software packages. If software is purchased for a commercial company, its own original software package must be purchased for each computer purchased, as well as the corresponding number of manuals. It is illegal to obtain a single original set of software to be run on multiple computers or to be

loaned, copied or distributed for any reason without the prior written consent of the software manufacturer. When procuring software, the ICT user must ensure that original software is purchased. Many counterfeit software products look identical to those distributed by the original manufacturer, although they are inferior in quality and generate errors or viruses. Manufacturers, suppliers, distributors of products, as well as IT service providers, are obliged to take the necessary measures to be able to give the necessary assurances to those who use them that they are not likely to affect human rights and individual freedoms.

The ethics of computer scientists should be defined, analogously, to that of doctors, lawyers, and teachers and should establish principles of action and solve the problems faced by a computer specialist in the exercise of his function. It should also refer to the responsibilities of a computer scientist in relations with the one who hired him, with his colleagues, with potential clients, with all others who could be affected by his performance. Many of these problems could be solved by general ethical principles common to all professions. Assessing the fact that a company delivers a computer system and a computer scientist designs a virus that he implements, making it impossible for the system to function, or determining the reaction of an employed computer scientist when his boss asks him to make an unauthorized copy of a protected program can be done according to principles of professional ethics.

Information in digital form is volatile and extremely easy to reproduce. Respect for the creative work of others is a critical factor in the cyber environment. Violation of copyright, including plagiarism, violation of the right to private, private life, unauthorized access to a computer system, violation of intellectual property, trade secret, know-how, dissemination of harmful or illegal information should constitute grounds for sanctioning the perpetrators. ICT, like any new technology, also creates new specific problems that cannot be solved only on the basis of general ethical principles. The design of the software generates some problems in establishing responsibility. It is normal for a supplier to refuse to provide a warranty for a product if a buyer has intervened by making constructive changes to that product. This general rule cannot always be applied to the establishment of responsibilities in the case of decision systems. For systems that use models and heuristic decisions to conduct business and make financial decisions, a wrong decision can have incalculable results. In case of decisions, occasionally wrong, who is responsible for the analyst who designed the system or the user for not understanding the risks and limitations of the system used? In such a case, it is mandatory for the analyst to explain the limits and uncertainties of the system provided to the client, and the latter has the obligation not to shirk his responsibility in understanding these system deficiencies and in adopting the necessary protective measures.

Is the programmer analyst responsible for an error that occurs in the designed program? It is known that some errors (viruses) are unavoidable and their appearance cannot be attributed to the author. However, if errors in a program occur due to carelessness or incompetence, the responsibility clearly rests with the person who designed it. A determining factor in determining the ethical responsibility of a programming analyst in the case of designing a program with errors might be whether the programming analyst could logically have avoided those errors and whether the design of verification tests would have eliminated the possibility of their occurrence. errors.

The technological progress generated by computers and the extraordinary pace of ICT development can have a dramatic impact on people's lives. For some who see the computer as a tool that dehumanizes and reduces the quality of life or that threatens the status quo and their well-being, this impact is something terrible. Others see ICT development as a challenge and an exciting opportunity. Does ICT evolution have an overall positive or negative impact? In general, when we evaluate a new technology like e.g. ICT, we should not compare it to something idealized, perfect or with zero side effects or that would not involve any kind of risk. Such a thing would be impossible to obtain, regardless of the type of involved or affected aspect of social life that would diminish, to the point of cancellation, the negative effects that could be generated as we will try to conclude at the end of our scientific research approach.

4. Instead of conclusions, about the painless ethics of the new democratic times

"Painless Ethics of the New Democratic Times" is the subtitle of Gilles Lipovetsky's book, Dusk of Duty[38]. Why the twilight of debt? Lipovetsky speaks of a post-Kantian ethics, specific to contemporary society: the post-moralist culture has widened the range of possible options and ways of life, forced conformism to give way to the individualistic invention of one's own person: we no longer believe in the dream of changing life, not there is nothing but the sovereign individual concerned with managing the quality of his life. The hyperliberal phase is coming to an end, ultra-rigorism no longer has legitimacy; this is the new cultural configuration of our time, which combines the requirement of private autonomy with that of a clean public space. The post-moralist age is no longer transgressive or puritanical, it is correct. In the new context, legitimation strategies change radically. In essence, it is about the fact that no one can legitimize themselves by claiming a great ideology; simply, they no longer offer legitimacy criteria. Like Habermas, who talks about the "horizontal competition between the interests of property owners, which has invaded the public space, Lipovetsky perceives the constructive character of the new ethics, which are put at the service of re-inventing the corporate identity: "The ethical current goes hand in hand with the rise of the communicating enterprise, a total institution from now on, strategically interested in demonstrating that it has a sense of social and moral responsibilities. The classic system based on the natural right to property and the invisible hand of the market has been replaced by an open and produced legitimation system, problematic and communicative. Currently, the legitimacy of the enterprise is no longer given or contested, it is built and sold, we live in the age of marketing values and promotional legitimacy, the ultimate stage of post-moral secularization. Therefore, the ethics of the new democratic times is painless because it no longer assumes the two Kantian poles: "the moral law within us and the starry sky above us".

The categorical imperative is replaced by the science of communication, and moral legitimation is confused with the art of selling. To sell, what? The image of a responsible organization. A vast field of action appeared four decades ago, when I was reading the book of the renowned American futurologist Alvin Toffler, The Third Wave, and I paid very little attention to

[38] Gilles Lipovetsky, *Amurgul datoriei*, Editura Babel, București,1996.

his premonitions that turned out to be extremely accurate, but also to that warning exhortation from the end of the book: "Therefore, the responsibility for change rests with us. And we must start with ourselves, learning not to prematurely close the eyes of the spirit to what is new, surprising, apparently radical. This means that we must fight the assassins of ideas, who are always ready to kill any new suggestion on the grounds that it is unworkable, and instead defend as viable everything that exists, no matter how absurd, oppressive and non-functional. It means fighting for the freedom of expression - for the right of people to make their ideas known, even if they are heretical. And it means, above all, that we begin this process of reconstruction right now, before the disintegration of the existing political systems has reached the point where the cadenced trumpeting of the forces of tyranny would resound in the streets, and the peaceful transition to 21st century democracy would become impotent. If we start now, we and our children will be able to take part in the exciting work of rebuilding not only our outdated political structures, but civilization itself. Like the generation of deceased revolutionaries, we are meant to create[39]". Alvin Toffler warned us of the plurivalent evolution of humanity: the tools and organization of the future, standardization, specialization, synchronization, concentration, maximization, pyramids of power, the global law factory, time programming, working at home, the families of the future, the demassified society, the dislocation of the nation, the telecommunity, the ethics of the prosumer, the breakdown of consensus, the implosion of decisions, the power of minorities, etc. In fact, the great futurist analyst A. Toffler rewrote the history of the planet from another perspective, analyzed its present and made predictions for the future that Nostradamus would be envious of. In the Tofflerian view, human history has been marked by several periods in which technological leaps, spectacular for that time, have subsequently fundamentally changed the way society functions. Most studies that refer to such periods tend to identify at least three technological waves, three industrial revolutions. The first industrial revolution is considered to be triggered towards the end of the 18th century by the advent of the steam engine, which allowed the transition from manual to mechanized work first in the textile industry, then spreading to other sectors of the economy. The second industrial revolution began with the 20th century and led to the organization of assembly lines, enabling mass production. The third industrial revolution marked by Alvin Toffler marks the transition, at the end of the 20th century, from an industrial society to an information society. It was a paradigm shift that led to the fundamental change in the way we gather and process information using the new discoveries of the electronics industry. But, more than any previous revolution, it has enabled the enhancement of human intelligence to levels previously hard to anticipate. This specificity represented an extraordinary opportunity for countries in dire need of financial or industrial capital, but who had very good quality human capital at their disposal.

Intelligence was beginning to become an extremely valuable capital, an important asset of international competitiveness. So important that Alvin Toffler suggested that some countries could make the leap directly from agrarian economies to information economies without going through the industrialization period. It was a period in which many emerging countries gained notoriety in the IT area through the quality human force they had and its achievements, achievements not conditioned by the lack of significant accumulations of financial and industrial capital. Romania

[39] Alvin Toffler, *Al treilea val*, Editura Politica, București, 1983.

also entered this category and living proof of how the third wave carried Romania is the flourishing IT industry and the Romanian companies in the field, which were created by intelligent young Romanians and which were either sold to large international companies or continue to be developed in the present.

What will happen next? The third wave carried us. Will the fourth take us to the bottom? The perspectives are complicated because in the evaluation of the future evolutions of society we are faced with two currents of opinion. One of them believes that the digital revolution, which we see taking place around us, is nothing more than a continuation of the third industrial revolution, which continues its evolution to a new level. It may be something else entirely, and for that reason I am in the camp of those who believe that we are witnessing a new industrial revolution. I believe this because I identify some major differences from the third revolution, which will also lead to noticeably different consequences. The main characteristic of the digital revolution that compares it to the previous industrial revolution, information, is the fact that it, too, is based on the maximum potentiation of human intelligence. The creation of new computer applications, expert systems, robots will be unthinkable without bringing human creativity and intelligence to new levels. The fact that, again, people will make the difference may make us optimistic about the impact that the fourth industrial revolution could have on emerging countries. But there are two other essential features that make the difference and could complicate the destiny of the countries in this category. It is important to remember that until now, it has been possible to increase the productivity of some professional categories through automation and faster access to information, but without significantly dispensing with the human component of industrial activities. The fourth industrial revolution, however, brings a dramatic change. Because it makes possible in the future the total replacement of the human resource. Artificial intelligence and the high degree of sophistication of equipment will make it possible to completely replace some categories of professionals. In other words, simply, the disappearance of the human resource in certain sectors of activity. The impact on the labor market will be severe. The public administration in Romania cannot avoid this path either. And here we have in mind, above all, its quality.

Public administration is part of the broader framework of public governance. Therefore, the political context must be taken into account when designing and implementing administrative reforms. In addition, public administration reflects the institutional foundations of how countries are governed[40] and responds to the needs of society by operating on the basis of organizational structures, processes, roles, relationships, policies and programs. This influences sustainable economic prosperity[41], social cohesion and people's well-being[42]. Public administration influences social trust and determines the conditions for creating public value. Public value is a value shared

[40] Holmberg, S. și Rothstein, B., „*Good Government: The Relevance of Political Science*", Edward Elgar Publishing, 2012.
[41] Kaufmann, D. Kraay și Zoido-Lobatón, *Governance Matters*, Policy Research Working Paper 2196.
[42] Hallerod, B., Rothstein, B., Nandy, S.,*Bad governance and poor children: a comparative analysis of government efficiency and severe child deprivation in 68 low- and middle-income countries*, World Development, august 2013.

by all actors within society: citizens, businesses, organizations and informal groups. Public value is the result of all resource allocation decisions adopted by all stakeholders in society as a whole[43].

Institutions play a fundamental role in setting the right incentives, reducing uncertainty and ensuring long-term prosperity. Weaknesses in the functioning of public administration can create significant obstacles to the functioning of the single market, regional and local investment and innovation[44].

In general, job intensity and stress have increased in public administration. No observable increase in unethical behavior was found. Most HR policies emphasize performance, but developing employee potential does not always receive the same level of priority. Process management prevails over human resource management. In Romania, the methods used in the central and sub-central administration are inconsistent. Given the central role of sub-central government in service delivery (and in some cases in the regulatory process), better coordination at all levels of public administration will respond to the need to have a competent and high-performing public administration. Differentiated approaches are needed that take into account the costs and benefits of designing and managing different combinations of governance styles to achieve desired outcomes and for the optimal allocation of resources based on different needs. Traditional hierarchies are increasingly being replaced by new forms of organization, which places a new emphasis on what might be called collaborative capacity. The so-called networked public administration is based on cooperation and coordination within the public administration as well as with stakeholders and intermediaries. This aims to abolish compartmentalization at the level of different administrative entities, but also to share infrastructure, processes, data, goods, knowledge, resources, content and tools. By reducing the associated workload processing the request, the administration can reallocate its staff to other tasks that require human involvement. Anticipatory strategic planning in public administrations can produce reactivity in addressing problems. Preparing to anticipate future developments can be imperative in an increasingly volatile, unpredictable, complex and ambiguous context. Finally, globalization associated with increasing interdependence and complexity within society, societal changes associated with challenges to public administration make it difficult to anticipate development trends. Moreover, the continuous disruptions in modern society require permanent adaptation, which traditional management and organizational practices cannot provide. Meeting the goal of optimization and efficiency reduces the resilience of organizations and public systems. The need for active and flexible public administrations represents a challenge for future Romania.

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