

**OPPORTUNITIES AND THREATS TO THE FUNCTIONING  
OF CONTEMPORARY SOCIALLY RESPONSIBLE ENTERPRISES  
ORGANIZED ACCORDING TO THE CONCEPT  
OF 'INDUSTRY 4.0'**

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**Abstract:** The article discusses the interaction of processes shaping civilization and technology progress in the context of innovative processes, in particular the processes of implementing modern information and cognitive technologies. The conclusions of this analysis were used to critically assess the so-called social innovation; own proposals in this area were formulated which describe the essence of the so-called socially questionable innovations. In addition, an analysis of the implementation of modern information and cognitive technologies was carried out - constituting changes in the organization of production in modern enterprises in light of the 'Industry 4.0' concept. Lists of threats generated by technologies building the concepts of 'Industry 4.0' were formulated. The original Smart Organization concept was also developed which is an enterprise management model organized in the processes of implementing modern information and cognitive technologies.

**Key words:** management model, corporate social responsibility, industry 4.0

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**Introduction**

Civilization progress and related to this technological progress are cyclical and their subsequent development cycles are characterized by various types of crisis processes that drive and inhibit development processes. As it is shown in the history of civilization development, scientific and technological development cycles as well as the intensity and social acceptance of innovative processes are interrelated and occur in a differentiated manner over time (Gimpell, 1999). Initially, the effects of technological progress driven by the development of innovation are somehow ahead of scientific progress, which does not keep pace with the description of threats and opportunities that are the effect of implementing various technological, organizational, production innovations, etc. One can observe a period of certain stagnation - a crisis of development of these key technologies for a given period of civilization progress - technology. On the other hand, scientific progress, developing at its own pace, creates other sources, among others, of various technological and organizational innovations, etc. Civilization progress

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happens to be not only dynamized and inspired by technological innovations but also inhibited and directed not always in accordance with the needs of people and organizations. At the root of these phenomena, as it has already been noted, is the social verification and acceptance of the use of these innovations by communities, organizations and individuals. And processes in the development and use of these innovations are organized by various types of technologies. But it should also be emphasized with the particular participation and dominance of certain guiding technologies for a given stage of development of technological progress; to mention here such technologies as: technologies organizing energy acquisition and its use, technologies for increasing the efficiency and effectiveness of human work, and increasing the effectiveness of conducting armed conflicts, etc.

The period of the last few decades is the time when IT and cognitive technologies are developed as the key, guiding technologies - currently orienting the progress of civilization (so as not to underestimate the role of other guiding technologies in areas such as health protection, ecology, energy in modern economic, social and political reality). The impacts of these current guiding information and cognitive technologies on development processes is the subject of this article. Social processes are the source and cause of mutual interaction of scientific and technological progress, as well as innovative processes, through their intensity, orientation and impact on the quality of life of societies. Under special conditions, the reciprocity of relationships of cycles of scientific and technological progress acquires the character of crisis processes, of which at least two are key ones: namely economic and financial crises and cognitive crises. The cognitive crisis is the inability to describe social, organizational, economic and political reality with the help of principles that dominate the sciences describing these realities paradigms. It is the inability to develop rational instruments of management, governance and administration to prevent the effects of new threats resulting from new technologies. The civilization crisis manifested in economic and social systems, etc.; it is a consequence of, among others, the new threats generated by new technologies (currently mainly information and cognitive), as well as a consequence of the cognitive crisis. We all experience and are participants in deepening crises, economic and financial systems (Surowiec 2018); crises that are significantly caused by guiding information and cognitive technologies.

Many contemporary scientific authorities claim that the main cause of economic chaos, financial crises and related social and political conflicts is global. This "globalism" is significantly caused by the advantages and disadvantages of the global information and IT network; which are manifested, among others, by the spread of certain crisis phenomena. These causes of global economic crises are, among others, huge differences in the transfer potential (real time) of information and knowledge (Krzakiewicz and Cyfert, 2018) and the real possibilities of their processing in economic organizations, political and social systems. Other reasons for chaos and economic crises nowadays are also differences between global (practically devoid of time and space boundaries of knowledge and value transfer

processes) and limited natural, psychological and physiological abilities of people who are decision makers, commanders or politicians. And so, for example, Ryfkin (2012), an American economist and theoretician, author of many studies on the impact of technology on the economy, describes contemporary economic and social reality as a period of revolutionary changes, precisely the changes of the economic paradigm. He describes the crisis of traditional governance systems and the spread of various forms of governance based on the so-called collaborative economics - sharing economy. But so far our economic reality is shaped too much by traditional forms of management, in which the goals of management measured by the increase of profit are many times lower than the increases of this profit caused by financial processes and instruments. The effect of the above is a dramatic deepening of social inequalities, an increase in speculation - which generates further economic and social crises, giving them the character of global crises. However, the cognitive crisis has a particular impact on the lives of individuals and economic and social organizations, at the basis of which, it is not difficult to see the impact of information and cognitive technologies, as it has already been pointed out, having the nature of guiding technologies today.

The state of the leading technology processes is significantly influenced by mutual positive and less positive relationships - from the point of view of real values professed in a given period, social norms shaping the quality and well-being of people, societies - social needs. Social needs are met through innovations that maintain and develop these guiding, dominant technologies, today mainly information and cognitive technologies. As the realization of social needs, as well as other civilization, social and economic conditions that cause some innovative ideas of outstanding innovators - as it has been said - become guiding and dominant for the progress of civilization. These technologies, as the practice teaches, are particularly subjected to the "protection" of organizations, institutions whose existence and development have been conditioned by these technologies. It is enough to quote defensive strategies called breakthrough innovations used by modern organizations and enterprises in the energy sector, for example. This is noticed by Romanowska et al. (2010). These dominant technologies which guide civilization progress are driven and limited by scientific progress, but above all they are driven by creativity - innovation of people, members, teams, institutions and organizations, etc.

Innovations as specific types of organizational knowledge as the results of cognitive, economic and social processes are dual (Stachowicz, 2018). On the one hand, they are the result of even special competences and awareness of people - often dynamized by trusting team members in deliberately organized R&D institutions and innovative enterprises. So they are new - previously unknown entities (new products, new technologies, new ways of organizing work, etc.); but they are also a special cognitive process.

Defining innovations as a process, it is reasonable to distinguish in this process such phases as: creation of a new being which is innovation, implementation

of innovation into practice and subjecting this innovation to social acceptance and verification. The last phase of this process, i.e. the phase of its social acceptance is important because it is decisive for the essence of innovation. In this phase a given innovation obtains verifications-usability, community - through commercialization (in the case of product, technological and social innovation) but also through legitimacy in the form of formal, legal and institutionally implemented into the practice of governance, the administration and management of new forms, structures, and decision-making processes. The verifying factor which proofs that a given innovation is socially useful is the fact that it meets specific social needs. Usually, these verification processes are subject to positive criteria that determine wise, ethical and moral factors shaping the quality of life of individuals, communities, organizations. These are such values as, for example, the values of recognizing the subjective rights of people in organizations, communities, assertiveness, good cooperation, as well as striving for socially responsible harmonized development of organizations, regions. It is also new forms of self-government and forms of civil society development in regions. Particularly important in contemporary management sciences is the issue of so-called social innovations, i.e. those which directly respond to social demand by explicitly satisfying the realized (but often "imposed" social needs) and which cause positive changes in accordance with ethical values and norms in social groups and systems. The recognition of the need to prioritize solving social problems (health, ecology) in view of their complexity and lack of, inter alia, instruments for describing and effectively solving these problems has revealed the narrow possibilities of impact of technical and product innovations for the purposes of solving these problems. There is widespread belief and recognition of social innovations as key factors in creating and implementing development strategies in the European Union. Every innovation, in order to become a factor shaping business practice, should always include a social dimension, i.e. it should be accepted and verified by meeting specific social needs. Social innovation as a strategic concept and as a scientific category is the subject of many authors' work (Roberts, 2008, Dawson, Daniel 2010).

The pressure and strength of large corporations in creating specific needs for their products and services, further disturbances and contradictions in development processes that shape contemporary political and social reality are the causes of phenomena that are characterized by being aware of and fulfilled through implemented innovations, social needs are not always contribute to the improvement of people's quality of life and the level of their well-being. Hence, the authors introduce the concept of "**doubtfully social innovation**", i.e. one which is verified through meeting specific social needs, but often generated and made under pressure of interest of specific organizations, social groups dominating in political processes, which not always necessarily need to increase quality and happiness of people. Examples of such socially questionable needs are provided by the practice of implementing various "innovative" technologies from the group of technologies

covered by the "Industry 4.0" concept. It can be seen during the research on the conditions of technological entrepreneurship in high technology processes in Poland (Stachowicz et al., 2017) or also discussing the results of Blue Media research (Blue Media report Approach to Fintech, 2019). This particular phase of innovation processes - the phase of social verification and social acceptance - makes us aware and hardly generates new types of threats and opportunities, which are further sources of next innovations and often lead to crisis situations in the cycles of technological and often scientific progress. For example, digital and cognitive technologies are a source of new types of threats, both at the levels of government, administration, organization levels and individual levels.

New types of threats at the level of organizing, governing and administering and commanding in the defense sector caused by modern information and cognitive technologies, significantly (of course, among other reasons) contribute to the change of the management paradigm - moving away from product capitalism to speculative capitalism with financial instruments, deepening social inequalities. These new types of threats that are responsible for social and political crisis are, among others: disinformation on the Internet as one of the major challenges of modern political processes, the danger of the outbreak of autonomous wars, manipulation of the behavior of entire societies, the use of technologies based on artificial intelligence to strengthen control over societies. New types of threats on a regional scale are increasingly frequent cases of cyber-attacks on critical structures (financial system, energy, banking, etc.).

Other dangerous phenomena as a consequence of modern information and cognitive technologies are a crisis of traditional forms of liberal democracy (the creation of entire social groups, the so-called unnecessary, rejected people, not following the progress in implementing these technologies). This is still a certain cognitive loss of people in the face of excess and manipulation of knowledge and information - which is manifested in the search for "authorities" - a new type of leaders whose activity is currently dominated by communication in the network (virtual enterprises). Unfortunately, these new types of leaders often turn out to be destructive - false leaders, entrepreneurs. At this point, one should also mention social phenomena such as "closing" of local communities, an increase in populist phenomena. Nowadays, people are looking for a certain balance between established cultural and moral systems and values, emotions and the pursuit of a rational, rational explanation of their situations, which is not always helped by innovative information and cognitive technologies.

### **Opportunities and Threats - the Effects of Implementing Information and Cognitive Technologies in Contemporary Organizations and Institutions**

Digital technologies that have developed in the global Internet network along with cognitive technologies (big data, cloud computing, artificial intelligence) create a new being - cyberspace - which becomes the network structure of decision-making processes of management, governance, command in modern organizations

and institutions. Hence the impact and role and significance of information and cognitive technologies on the efficiency, effectiveness, and the functioning of organizations and institutions in general, cannot be overestimated and continues to grow. The main **opportunities** created by these technologies at the organizational level understood as social innovations are as follows:

1. Targeting and rationalizing the processes of constitution of modern organizations as not only fulfilling economic and political goals but also goals assessed from the position of progress criteria in terms of the well-being of members, societies, organizations, as stakeholders connected to a given organization, which is:
  - a. organizations with real characteristics of socially responsible enterprises,
  - b. organizations dominated by cooperation and collaboration processes,
  - c. organizations with high innovation standards.
2. An enterprise model in which its main organizational processes are constructed according to criteria and with the help of instruments, but above all moral and organizational values, which is provided by a positive theory of organization, developing on the ontological - epistemological platform of positive psychology. In this model, to ensure high standards of quality, safety, efficiency and efficiency, some instruments are used which are new information technologies covered by the concept of 'Industry 4.0'.

**Threats** posed by information and cognitive technologies **at the organizational level:**

1. Liquidation of traditional jobs organized with traditional qualifications (employees' frustration),
2. Cyber-attacks on the Internet of Things systems in enterprises operating according to the concept of 'Industry 4.0',
3. New forms and crisis phenomena not described so far, the sources of which are the global games aiming for technological advantages and for markets,
4. New forms and previously unknown corruption processes,
5. Possibilities of submitting and using new forms of unfair promotion and manipulation of the needs of customers and users,
6. Subjecting people to continuous monitoring processes.

However, **at the individual level** - members of the organization, members of local communities, etc. - new information and cognitive technologies generate **opportunities** such as:

1. Improving health system, prolonging life, changes in the prevention system,
2. Protection against the effects of environmental pollution,
3. New quality of banking and insurance services,
4. Development of the education system (including mainly self-education),
5. New forms of relaxation, spending free time,
6. Rationalization of management in public security systems,
7. Real, optimistic processes of developing the quality of life of the inhabitants of the region;

The following should be considered as **threats at the individual level**:

1. Cognitive discomfort in the face of contradictions between people's natural perceptive abilities and mass influx of information,
2. Locking in groups and communities - developing relationships of distrust in groups, in local communities,
3. Creating barriers to the development of so-called civil society - discomfort and confusion of people as to the priorities of ethical criteria for assessing managed and governed fellow citizens,
4. The search for new authorities and leaders in the new cognitive reality and often being influenced by various "toxic" authorities,
5. The possibility of devastating traditional forms of democratic governance, the growth of autocratic criticism of governance,
6. Possibility of succumbing to monitoring and control systems of the state and entire societies, individuals, organizations,
7. The threat of cyber-attacks, including the threat of manipulating the consciousness of people, societies, manipulating customer behavior, manipulating processes occurring in the consciousness of living beings.

#### **The Concept of 'Industry 4.0': Dilemmas of Innovative Processes**

The key principles of innovation which rationalizes the organization of production processes in modern enterprises through the implementation of various information and cognitive technologies are being developed as the concept of "**INDUSTRY 4.0**". The key principles of this concept are as follows:

1. Horizontal integration of integrated IT management systems (ERP systems) throughout the enterprise value chain with automated and robotic production devices and systems as well as devices and systems for quality management, safety and environmental protection,
2. Deepening vertical integration (suppliers-customers), which in the future is to ensure access to any information from anywhere and in real time,
3. The use of modern digital and cognitive technologies (Internet, Big Data, technologies based on artificial intelligence),
4. Digitization of integrated systems and devices, as well as communication systems with employees, which results in the implementation, to an increasing extent, in enterprises of a new type of management instrumentation which is the Industrial Internet of Things,
5. Qualitative reconstruction of the production enterprise management system through subsequent implementations of various systems constructed using modern information and cognitive technologies according to model management of production processes, which is called: "Digital Factory".

Analyzing the advantages of organizing management processes by the concept of 'Industry 4.0' the following points deserve special attention:

1. control of processes throughout the entire value chain of production,
2. smaller losses resulting from manual management,

3. greater objectivity of decisions taken,
4. reorganization of tasks in implementation and knowledge management,
5. development of analytical tools for management, including strategic management,
6. reduction of production costs, reduction of employment costs and increase of employment flexibility and others.

However, apart from the values of this great innovation (called by many the revolution), the threats need to be emphasized as well. These are threats that make it possible for this social innovation to be socially questionable in many cases. These **threats** to the implementation of technologies covered by the concept of "Industry 4.0" are:

1. Loss of many jobs and many professions; necessary retraining of many employees, leaving many people unable to work; frustration and fear of change
2. Apparent transfer of labor costs to the starting and ending links of the value chain; lowering the value of human work in favor of "cheap" technologies replacing human work,
3. An uncontrolled change in the organizational culture (language, relationships: managers and IT specialists) of the possibilities of manipulating people's attitudes and behaviors in enterprises,
4. Reduction of employees' creativity: targeted reduction of - often justified - professional activity of employees - specialists and their replacement with SMART instruments,
5. Possible creation at the strategic level of management of destructive leaders manipulating the attitudes and behavior of employees and members of other stakeholders,
6. Underdevelopment and contradictions in the field of labor law, pay regulations etc.
7. Deficiencies in the developed models of organizational structures,
8. Lack of knowledge in the field of practical competences and skills of managers as well as scientific knowledge in the field of risk management and innovation management in these modern enterprises,
9. The growing threat of cyber-attacks.

#### **Towards an Enterprise Management Model Organized in the Technology Implementation Processes within the Concept of 'Industry 4.0'.**

Threats posed by the implementation of modern information and cognitive technologies, further deficiencies and the inability to know the effects (especially the negative ones) of disseminating these technologies, as well as directional changes in management, management and governance paradigms, which become platforms for change in modern management and governance systems, and also in the area of the development of sciences - including management sciences - are the foundations of the model proposed by the authors - a model - of a modern



enterprise. The concept of the **SMART Organization model** was adopted as the basis of:

1. Convincing recommendations confirmed by modern management practice, for rational rebuilding of management processes of modern enterprises that use innovative information and cognitive technology as a rational mix – a combination of existing methods, instruments and forms of organization and management with instrumentation proposed by new information and cognitive technology,
2. Awareness of the importance of threats posed by these new technologies and striving to overcome them by using such tools that justify and generate a new - network theory of organization and management.

Based on the above assumptions, **SMART ORGANIZATION** is an enterprise:

**S** - *socially* responsible

**M** - wise; guided by the principle of harmonizing the *moral* system of moral and organizational values ensuring the well-being of members of the organization with the needs of all other stakeholders of the enterprise, while maintaining the conditions of "not confronting" the enterprise with the natural environment,

**A** - *ambitious*, creative and entrepreneurial,

**R** – *resolving* problems through adopting "solutions" based on modern technologies but

**T** - complying with the criteria of economic efficiency and international law.

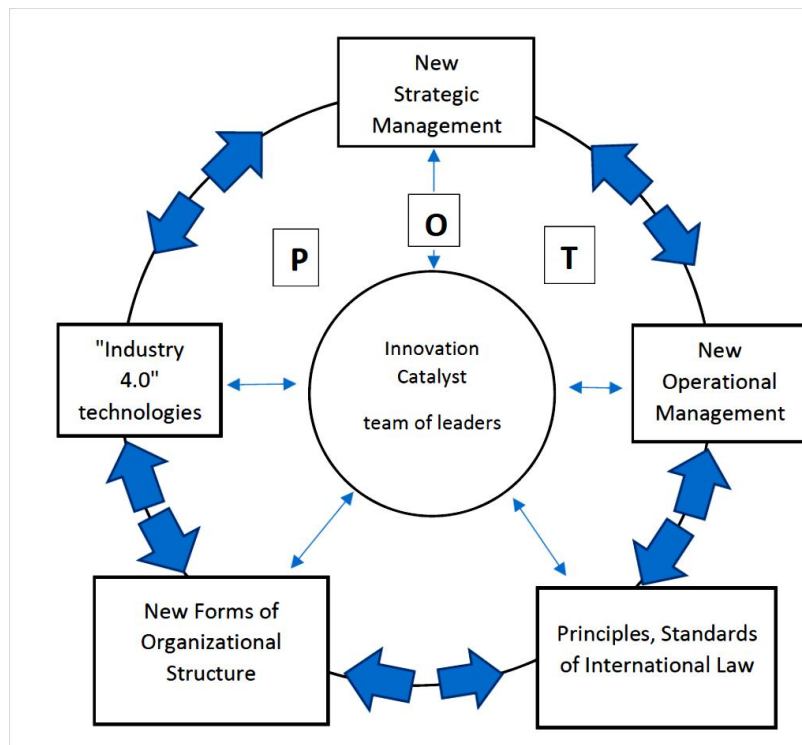
The positive organization basis of the SMART Organization is Positive Organizational Scholarship (POS), and its structure is shown in Figure 1.

The authors formulate key conclusions to the enterprise management model organized in the concept of 'Industry 4.0' as follows:

1. Positive Organizational Scholarship (POS) - a platform for the system of moral and organizational values in an enterprise - is a platform for a new organizational culture as well as principles and application of management instruments.

The phenomenon analysis positive orientation is present in the work of many researchers, among which the results of research by M. J. Stankiewicz (2013) and P. Zbierowski (2012) deserve special attention. Research conducted in the POS current includes various approaches, a different spectrum of human behavior, including entrepreneurial activities focused on the cooperation of people in organizations.

The key role in shaping POS is attributed to the emotional intelligence of the entrepreneur-leader, which constitutes and develops positive trust in the organization. POS focuses in this way on creative dynamics in organizations, the effect of which is creativity, creativity, optimism resulting in high individual and organizational effectiveness (Stachowicz and Stachowicz-Stanusch, p. 24).



**Figure 1: SMART Organization enterprise model**

POS is based on the following theoretical principles:

- a. perception and understanding of the organization as a positive being, friendly to the members of the organization (positive feelings: contentment, satisfaction);
  - b. ways to achieve this is to strive to use and develop human potential;
  - c. redirecting the attitudes of people in the organization from deficiencies in organization and management as a consequence of the weaknesses of the human psyche to the positive sides and ethical behavior of people;
  - d. organizing / implementing positive qualities, states of satisfaction and positive motivations highlights such attitudes as: gratitude, recognition, cooperation, integrity, wisdom, honesty;
  - e. POS is a set of practical recommendations for preferred cooperation within and between organizations;
  - f. shaping behavior patterns of contemporary managers and leaders.
2. The management causative entity in this organization is a team of cooperating, entrepreneurial, creative, wise leaders (strategic leaders - vision and strategy creators, functional leaders - creators of innovation, complex ventures (projects)).

Leaders and innovators play a key role in mature management systems of contemporary enterprises. Leaders and innovators of a new type fulfill the basic functions of an entrepreneurial strategy by learning about and building new opportunities for the future of the company. They construct and develop social relationships (trust relationships) in communities where they build new markets for new innovative products and services. They fulfill the basic, key role in the newly constituting strategic management function, which is the function of: consciously constructing the environment for an innovative enterprise; environment for its effective, efficient and socially responsible functioning and development. Currently, innovations are created and implemented in enterprises in innovation teams - in the main components of the innovation management system in high technology enterprises with mature innovation management systems, innovative processes are created and developed under open innovation models, i.e. after processes implemented in networks of various, many stakeholders. In which networks the role of the new leader and innovator turns out to be not only its new function, but even a key function. In addition, the characteristic features of these new models of innovation management systems are: business models mainly using the strengths of the enterprise, implementation of entrepreneurial strategies, of course, in the concept of open innovation, and new management instruments preferring project and risk management, as well as flattened organizational structures and developed cluster structures.

Functional leaders located in the management structure of these enterprises also play an inspiring role in the processes of rebuilding contemporary enterprises as socially responsible organizations. This is confirmed by the results of research on the role of leaders in the processes of constituting excellence in corporate social responsibility. Leaders - entrepreneurs, strategists but also leaders responsible for the implementation of various process management systems, including leaders of compliance systems (compliance officers) decide on the organization's success measured by the level of rationality of processes of reaching excellence in social responsibility. These are leaders with unique competences, which include, next to a coherent system of values, also credibility as a consequence of integrity (Barcik, 2019).

3. Integration of new principles, values and management instruments:

- a. at the level of strategic management: this integration is inspired by the creators of the vision of a contemporary enterprise (leaders - creators of organizations as a social system with developing positive trust); We pay attention to the so-called mutual trust spiral. P. Sztompka, defining trust as a kind of "bet" undertaken on the subject of uncertain future actions of other people, indicates the effect of self-propelling spirals of trust. Thanks to it, building trust in the networks of cooperation between organizations and cooperating units to achieve specific goals is progressing (Sztompka, 2007). Thus, trust becomes the driving

- force of the "constitution" of organizations that, when cooperating, acquire more and more features of moral communities (Stachowicz, 2018),
- b. at the level of operational management: the principles, instruments and values of a mature innovation management system underpin this integration. We draw attention to the widespread use of the Japanese production and organization system (Toyota Production System) in modern enterprises,
  - c. the use of contemporary experience in project management,
  - d. modern risk management instruments,
  - e. new principles of human capital management instruments in the organization.
4. The functioning of enterprises with knowledge and compliance with international regulations, standards of functioning of modern enterprises, in particular in the area of environmental protection, ensuring the rights of organization members and other enterprise stakeholders.
  5. The use of the instruments of enterprise management organization using innovative technologies covered by the concept of "Industry 4.0" but used in a harmonious manner in relation to real social needs with the awareness of the threats that generate the so-called questionable social innovations.

### Summary

Civilization progress which directs the interaction between development and scientific and technical progress and which has a significant impact on innovation processes, as reported by many modern authorities - is undergoing a kind of breakthrough; a phase that many are extremely optimistic about.

This optimism is manifested in the increasingly common pursuit of ensuring a high level of quality of life and well-being of people in local societies as well as in economic and public organizations. Economists, Sociologists, specialists in the field of management sciences are increasingly formulating thesis about changes in management paradigms, replacing the relationship of confrontation in cooperation management processes with the ever more widespread dissemination of voluntary cooperation communities (Sztompka, 2007; Sedlaček, 2012; Król, 2018).

The pernicious effects of modern man's confrontation with nature are becoming increasingly and better understood. These are the practices which are dominant in the management and which are being replaced by the limitation of the "greed" of contemporary organizations and their managers. The practice of managing organizations clearly describes the dangers of using modern technologies. Furthermore it already provides many practical forms and methods for organizing people's productive activity, i.e. instruments that are supposed to limit the negative effects of implementing these technologies. Whereas a new management organization theory is being created and its creators in Poland are: K. Perechuda (2013), J. Stachowicz (2014), M. Nowicka - Skowron (2017), Kołodko (2013), and in the world: B. Czerniawska (2010), N. Luhmann (1986, 2006), von G. Krogh, K.

Slocum, J. Roos (1994) and others. It provides increasingly useful knowledge for formulating the principles of organization in these new expected social conditions. We are convinced that the formulated SMART Organization model is not only a theoretical proposal but a practical orientation of work for the implementation of innovative modern information and cognitive technologies in the enterprise.

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#### SZANSE I ZAGROŻENIA DLA FUNKCJONOWANIA WSPÓŁCZESNYCH PRZEDSIĘBIORSTW ODPOWIEDZIALNYCH SPOŁECZNIE ZORGANIZOWANYCH ZGODNIE Z KONCEPCJĄ „PRZEMYSŁU 4.0”

**Streszczenie:** W artykule omówiono interakcję procesów kształtujących postęp cywilizacyjny i technologiczny w kontekście procesów innowacyjnych, w szczególności procesów wdrażania nowoczesnych technologii informacyjnych i poznawczych. Wnioski z tej analizy wykorzystano do krytycznej oceny tzw. Innowacji społecznych; sformułowano własne propozycje w tej dziedzinie, które opisują istotę tak zwanych społecznie wątpliwych innowacji. Ponadto przeprowadzono analizę wdrożenia nowoczesnych technologii informacyjnych i poznawczych - stanowiących zmiany w organizacji produkcji we współczesnych przedsiębiorstwach w świetle koncepcji „Przemysłu 4.0”. Sporządzono listy zagrożeń generowanych przez technologie budujące koncepcje „Przemysłu 4.0”. Opracowano również oryginalną koncepcję inteligentnej organizacji, która jest modelem zarządzania przedsiębiorstwem zorganizowanym w procesach wdrażania nowoczesnych technologii informacyjnych i poznawczych.

**Słowa kluczowe:** model zarządzania, społeczna odpowiedzialność biznesu, przemysł 4.0

#### 根据“工业4.0”概念组织的当代具有社会责任感的企业的运作的机遇和威胁

**摘要:** 本文讨论了在创新过程的背景下, 塑造文明与技术进步的过程之间的相互作用, 特别是实施现代信息和认知技术的过程。该分析的结论被用来批判性地评估所谓的社  
会创新。在这方面提出了自己的建议, 描述了所谓的对社会有疑问的创新的实质。此  
外, 还对现代信息和认知技术的实施进行了分析-

根据“工业4.0”的概念, 构成了现代企业生产组织的变化。列出了构建“工业4.0”概念  
的技术所产生的威胁列表。还开发了原始的智能组织概念, 它是在实施现代信息和认  
知技术的过程中组织的企业管理模型。

**关键字:** 管理模式, 企业社会责任, 行业4.0