

MODERN TRANSFORMATIONS IN THE ECONOMIC ACTIVITY²

In today's dynamic, electronic and open market world, the focus is on transformations of policies, strategies, systems, models and mechanisms related to the entrepreneurial and innovation potential of the business for effective management of the changes. This direction requires adequate analyses, assessments and control of the entrepreneurial and innovation potential through the prism of an overall view of the changes providing balanced benefits for the business, as well as for the nature and society. The more and more complex and fast transformations of the business require answers to the following questions:

- *What priorities and where should the analysis and control be focused on?*
- *What is the update of the algorithms and the technologies for analysis and control?*

For some answers to these questions, developed and recommended are:

- *algorithm of a modern system for analysis and control in four main directions (value qualities of the subject; quality of the situation of current work or future work; quality of work, activity; quality of the result of the activity);*
- *model for proactive analysis (GSI system standards are combined with certain QMS standards);*
- *model for analysis and assessment of the entrepreneurial and innovation potential of the enterprises;*
- *algorithm of process innovations in the relation "business – circular economy – complex reengineering";*
- *model of digital infrastructure for the interrelation of the economic entities.*

Keywords: business prevention; complex reengineering; GSI; ISO 14 000; digital infrastructure

JEL: L21; L25; L53

Every society is established to serve the **great goal** – preservation of human life, freedom, creative tension, and property, and to provide the necessary means, political power, laws and courts. This requires, above all, appropriate approaches and methods of management at each level.

Modern management approaches, such as those of open information relations and complex reengineering (CR), could stop or slow down many of the negative development trends.

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However, in order to apply these methods effectively, a suitable environment and business prevention are needed.

The modern environment suffers many and intertwined problems, many of which are unsolvable.

Often, we rush to solve every single problem, but this is not possible and not necessary. Through the complex reengineering, we reveal that we have to work for overcoming the following main groups of problems:

- **Inadequacy of the actions with the ongoing processes of the open economy**, causing many of the negative problems and development trends, including those concerning the growing shortage of energy needed to maintain the comfort and balance that provides benefits to business, society and nature.
- **Damaged moral foundations of the personality and lack of methods and technologies for building and improving current moral foundations is another main problem in the management of the changes.**
- **Perfectionism** has become a main disease in the small business management. There is almost no mention of success, constructiveness and creativity. The price perfectionism in the economy pays is the decline in productivity. There are communication problems, health problems (blocking the activities, especially of small businesses, is accompanied by anxiety and inferiority).
- **Reflection in management** is in some elementary rudiment. Mutual understanding means in your thoughts to put yourself in the other person's shoes, to see and play the situation from his/her point of view and position. Respecting your partner's dignity is an extremely important skill. Is this applied in the drafting of regulations and laws concerning the interests of citizens and organizations? The rating position of the professional reflection is still very low.
- **Damaged foundations of social protection of the population** and lack of methods and technologies for their transformation become a very big problem. It can start with changes in the values and the economic activity of TNCs, banks and energy and water suppliers, which control the market shelves and the main cash flows. Previous studies of scientists from the Economic Research Institute at the Bulgarian Academy of Sciences reveal that this problem is extremely important for the economic policy and for balanced relations in the business.
- **Development of the accompanying** grey and black economy and the related technologies of seizure, suction, fraud, etc., grow.
- **Emergence and development of the system of organized crime and terrorism** and the merging of part of the socio-ideological and political status of the society and certain economic and political circles with it becomes a main problem related not only to the corruption. Power and politics become a territory for enrichment.
- **Status of the microeconomic units and the market infrastructure is a problem.**

- **Demographic crisis and depopulation of the villages** in countries like Bulgaria become a serious barrier to effective economic, social, educational, health and cultural policies.
- **Main problem is the management of the quality of education, science and entrepreneurial and innovation potential.**

Many of the mentioned problems have been outlined years ago by scientists from the Economic Research Institute at the Bulgarian Academy of Sciences and specialists at the Bulgarian Chamber of Commerce and Industry (BCCI), but unfortunately they have not been solved yet. For example, back in 2014, Prof. Mitko Dimitrov has pointed out that “the source of economic growth in Bulgaria should be sought in solving the problems with high levels of corruption, hostile business environment, low-quality services in the judiciary and administration, misuse of natural resources, and demographic crisis” (Dimitrov, 2014).

The interrelation of the mentioned problems outlines three intertwined socio-ideological and economic statuses of the legal, grey and terrorist and criminal economy. The negatives of these statuses are mainly manifested in the less developed countries. There, the ineffectiveness of the management mechanisms and the control and regulation systems create perfect personal marking, not problem regulation. “I deserve” policy, “taking” policy, and bad conditions for the small business dominate, slowing down the legitimate initiatives and creativity. In many cases, the political, legislative and judicial power are inadequate and gradually create a society with criminal intentions, where true entrepreneurship and innovations are neglected. There, the poorer and smarter people are the first to start paying and suffering, and with that, the state system gradually dies. Then everyone else starts paying and suffering. The preservation of the people and the right of every person to do what he/she should absolutely do are neglected. The defining of the situation through complex reengineering reveals that the more and more complex and fast transformations of policies, strategies, systems, models and mechanisms related to the entrepreneurial and innovation potential of the business for effective management of the changes, require the analysis and control through appropriate algorithms and technologies to focus on solving the mentioned main problems. One could start with the approaches outlined in the monograph “Reasonable Management – Reengineering” (Hadjiev, 2000c; as well as Hadjiev, 2000a, pp. 130-135; Hadjiev, 2000b, pp. 135-142). Instruments in these approaches are:

- algorithm of a modern system for analysis and control in four main directions (value qualities of the subject; quality of the situation of current work or future work; quality of work, activity; quality of the result of the activity);
- model for proactive analysis (the standards of the GS1 system are combined with certain standards of QMS);
- model for analysis and assessment of the entrepreneurial and innovation potential of the enterprises;
- algorithm of process innovations in the relation “business – circular economy – complex reengineering”;
- model of digital infrastructure for the interrelation of the economic subjects.

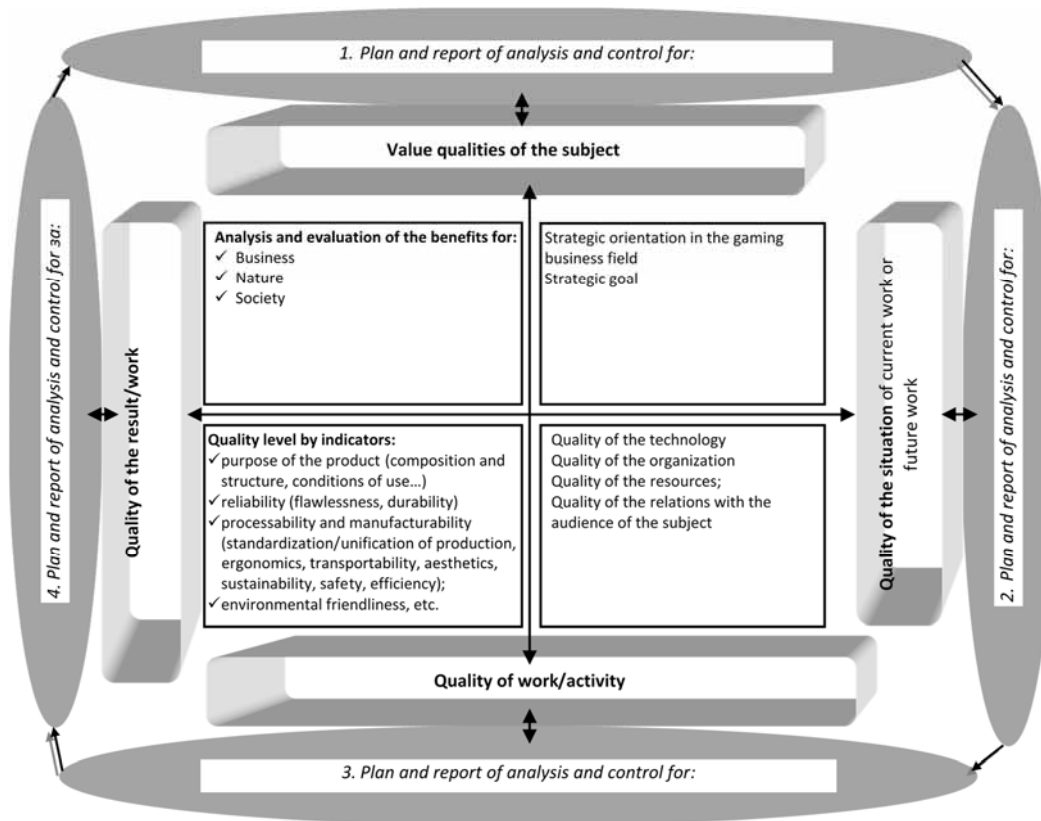
The establishment of good governance in Bulgaria has been and is the focus of many scientists (Dimitrov, 2007; Karapchyan, 2007; Beleva, Dimitrov, 2013; Dimitrov, et al., 2014; Dimitrov, 2017; Tanev, 2018; Dimitrov, et al., 2019).

The focus here is on the mechanisms for applying the algorithms and standards for good governance in Bulgaria.

The modern controlling system harmonizes with the main directions for quality management (QM) in the model for complex reengineering (Figure 1).

Figure 1

Technology for forming and developing a modern controlling system in accordance with the main directions of the QM reengineering model



For the enterprises, extremely important is the motivation for forming and developing QMS and the related technologies according to the main orientations for quality management, as well as the level at which the respective change of the processes and products is initiated. The motivation for certain behaviour of the enterprises concerning the control forms different behaviour depending on whether the control is exercised by an external institution or whether

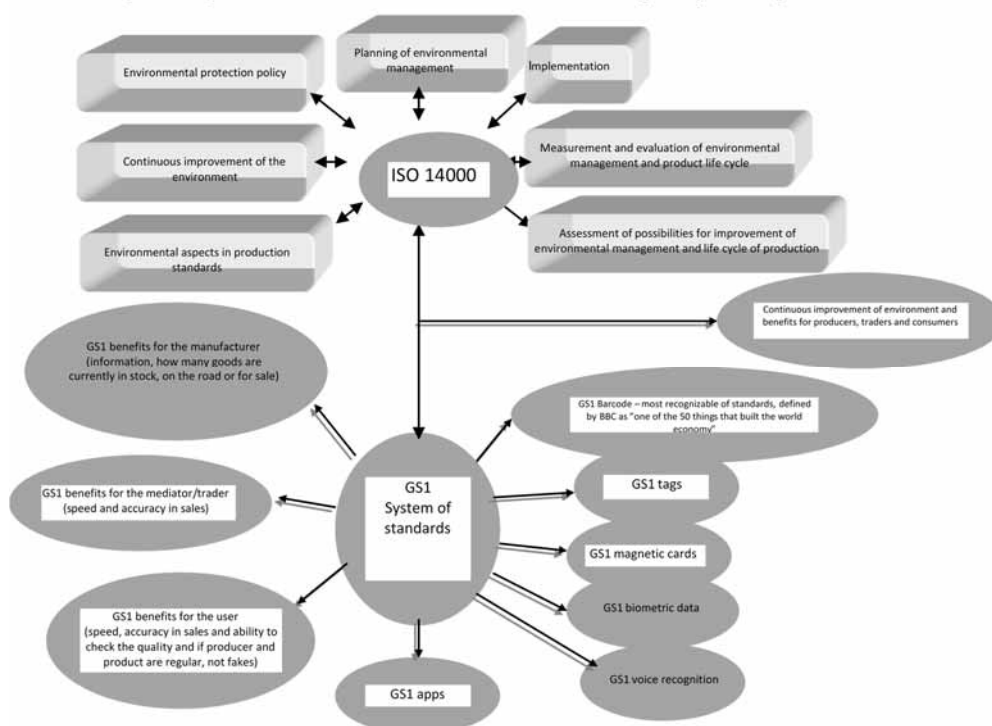
the enterprise has the freedom and potential to form and develop a modern “controlling system”.

Another CR instrument that affects the four groups of quality processes is the one that integrates ISO 14000 standards and the GS1 System of Standards.

The proactive model for analysis through integration aims to provide the subjects with an instrument to deal with the barriers to quality affecting the management system of the environment, assessment of the organizations, assessment of the production, information and quality of storage, transportation and sales.

Figure 2

Integrative proactive model of ISO 14000 and GS1 quality management standards



ISO 14000 system of standards provides opportunities for management of the environment through the prism of assessments of the organization and the production.

GS1 System of Standards provides a standardized approach for identifying sales and logistics units and locations, capturing traffic data along the chain and sharing this data within the company and between the business partners.

CR provides opportunities to address quality barriers and other combinations of the GS1 system and the ISO system of standards.

The model for analysis and assessment of the entrepreneurial and innovation potential of the enterprises is the third instrument that can be used by the subjects.

Without claiming to be exhaustive, such an exemplary model for such an assessment is proposed through the prism of CR (Figure 3).

Figure 3

Model for assessing the entrepreneurial and innovation potential of the enterprises

Block 1. Current significance of the entrepreneurial and innovation activity for the subject	
<p>A. <i>Determining the current entrepreneurial and innovation activity for the subject on a basis of:</i></p> <ul style="list-style-type: none"> ○ significance of revenues from the entrepreneurial and innovation activity for the subject $S_{rev} = \frac{\text{Revenues from entrepreneurial and innovation activity (Rev}_{eia})}{\text{Total revenues of the subject (Rev}_t)}$ ○ significance of profitability of entrepreneurial and innovative activity $S_{prof} = \frac{\text{Profit from entrepreneurship and innovation (Prof}_{eia})}{\text{Rev}_{eia}}$ ○ significance of return on assets from entrepreneurial and innovation activity $S_{ra} = \frac{\text{Rev}_{eia}}{\Sigma \text{assets from entrepreneurial and innovation activity} \times S_{prof}}$ ○ significance of investments for entrepreneurial and innovation activity of the subject $S_{inv} = \frac{\Sigma \text{investments from entrepreneurial and innovation activity}}{\text{Rev}_t}$ ○ assessment of an existing program for the development of entrepreneurial and innovation activity. It is recommended that the program be linked to interventions in the relation “business – circular economy – CR” ○ assessment of available organizational structures, systems, models for activation of participants in entrepreneurial and innovation activity of the subject ○ assessment of available regulatory requirements and measures to promote entrepreneurial and innovative activity in the subject ○ assessment of the share of entrepreneurial and innovation activity in the vision, mission and the overall strategic program for management of the subject <p>B. <i>Ranking of the values of the indicators by the studied subjects.</i></p>	
Block 2. Assessment of capacity for entrepreneurial and innovation activity of the subject	
<p>A. <i>Assessment of the organizational capacity:</i></p> <ul style="list-style-type: none"> ○ capacity for effective internal and external communications of the subject related to the entrepreneurial and innovation activities; ○ availability of sustainable sources and structures in the subject for generating entrepreneurial and innovation ideas; ○ availability of sustainable sources for financing entrepreneurial and innovation ideas; ○ availability of sustainable sources and structures for attracting, training, motivating and stimulating the staff related to the implementation of the program for the development of the entrepreneurial and innovation activity of the subject; <p>B. <i>Assessment of the digital capacity:</i></p> <ul style="list-style-type: none"> ○ assessment of the digital infrastructure of the subject; 	

Block 2. Assessment of capacity for entrepreneurial and innovation activity of the subject

- assessment of the digital culture of the managers;
- assessment of the digital culture and digital knowledge of the participants in the program for development of the entrepreneurial and innovation activity of the subject;
- assessment of the used practices and digital technologies for entrepreneurial and innovation activity;
- assessment of the share of the digital activity of the subject in its total activity;

C. Assessment of the partner capacity:

- assessment of the partnership relations for entrepreneurial and innovation activity with business organizations;
- assessment of the partnership relations for entrepreneurial and innovation activity with branch organizations;
- assessment of the partnership relations for entrepreneurial and innovation activity with higher schools and scientific organizations;
- assessment of the partnership relations for entrepreneurial and innovation activity with clubs and innovators' structures;
- assessment of the partnership relations for entrepreneurial and innovation activity with clubs and investors' structures;

D. Assessment of the financial capacity:

- assessment of the capital structure;
- assessment of the budget for entrepreneurial and innovation activity;
- assessment of the used mechanisms and instruments for financing the entrepreneurial and innovation activity;
- assessment of the potential for the use of modern technologies such as crowdfunding, etc., to finance entrepreneurial and innovation projects;

E. Ranking of the values of the indicators by the studied items and subjects.

Block 3. Assessment of impact of entrepreneurial and innovation interventions of the subject

A. Assessment of the change in the industrial and social significance of the subject:

- based on profitability;
- based on the return of the assets;
- based on investments of the enterprise in nature protection;
- based on the capital structure of the enterprise – relative share of own capital (OC) in the total financial resource (TFR);
- based on social image and CSR;

B. Assessment of the degree of implementation of the program for the development of entrepreneurial and innovation activity;

C. Assessment of the degree of improvement of the expert and human resources potential for entrepreneurial and innovation activity based on participation on the market for innovations and intellectual products;

D. Ranking of the values of the indicators from the studied items and enterprises.

When ranking the indicators according to the above model, the ratings are on a scale from 1 (poor) to 10 (excellent) (Hadjiev, 2001, pp. 23-25; Hadzhiev, 2019; Hadzhiev, 2020a; Hadzhiev, 2020b). The same goes for the other CR models and methodologies. It is assumed that the indicators from a certain block and for the respective block in the model have the same weight. A generalized/average indicator of the three blocks is formed for the individual subjects.

It can turn out that the relevant aggregate indicator for a subject is low. However, this is not a reason to neglect its future entrepreneurial and innovation potential if its activity is closely related to a policy and strategy for seeking balanced benefits for business as well as nature and society, or for example, with the relation “**business – circular economy – CR**”.

That is why this instrument is more and more combined with the other two instruments:

- algorithm of process innovations in the relation “business – circular economy – CR”;
- model of digital infrastructure for the interrelation of the economic subjects.

In the assessment of the entrepreneurial and innovation activity of the subjects, more and more interesting are policies and strategies concerning the degree of self-sufficiency of the process with waste and with already used products and materials and with optimal natural energy.

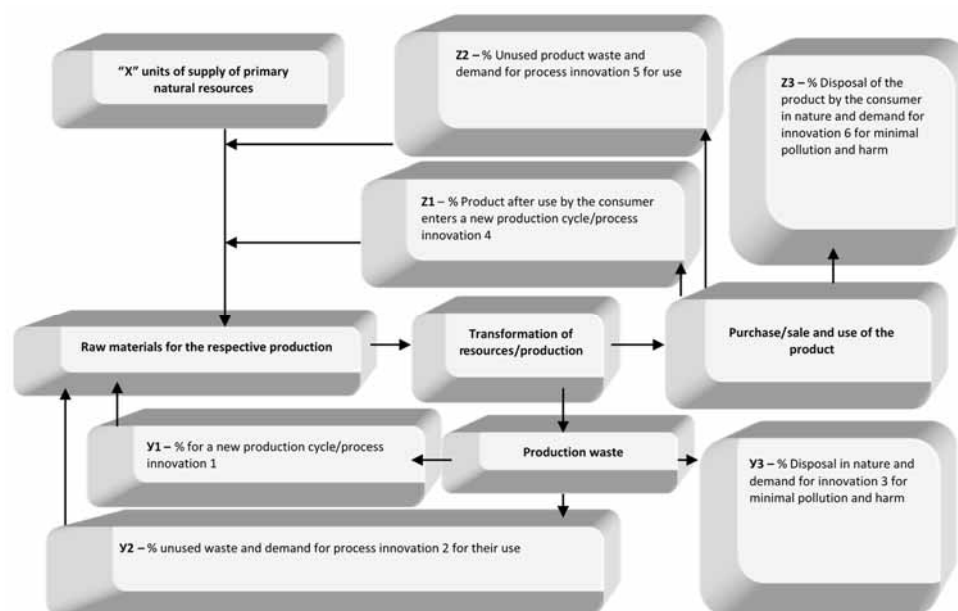
This is because through these policies and strategies are formed many interrelated goals, like:

- to reduce raw materials used from nature, like oil, natural gas, coal, ore, wood, etc.;
- to reduce the energy, needed to produce 1 unit of production;
- to reduce losses from waste disposal and from already used equipment and products;
- to reduce losses from storage and transportation;
- to increase the quality of products and services and the coefficient of efficiency of the subjects, machines and equipment that develop, implement and sell them;
- to improve education and culture concerning the relation “business – circular economy – CR”.

Taking into account the mentioned trend of development of the policies and strategies of the subjects in the modern dynamic and increasingly electronic world, the scheme on Figure 4 presents a cycle for process innovations in the relation “business – circular economy – CR”.

When, through process innovations, the values of operations Z1, Z2, Y1 and Y2 increase, then at sustainable consumption, the values of operation “X” unit of supply of primary natural resources will decrease. This means more benefits for nature, cleaner nature, saving of natural energy and higher quality of production. On the other hand, the reuse of already used raw materials and waste products makes them of better quality raw materials for production and continuously improves the quality of the final product. We should not ignore the fact that in this cycle, in the constant search for effective process innovations for operations Z1, Z2, Z3, Y1, Y2, Y3, the creativity of the subjects increases.

Figure 4
Cycle of process innovations in the relation “business – circular economy – CR”



The study reveals that for the reengineering assessment of the entrepreneurial and innovation potential, it is useful to assess the conditions and efforts of the subjects in developing innovations in the six sectors of the mentioned cycle on Figure 4 and using digital infrastructure models for the interrelation of the economic subjects. The application of certain trading systems, models, algorithms in the respective business space requires appropriate infrastructure (digital and real).

A digital infrastructure “**Digital Entrepreneurial Business Forum 4.0**” app, which provides a digital existence of the subjects, is shown on Figure 5.

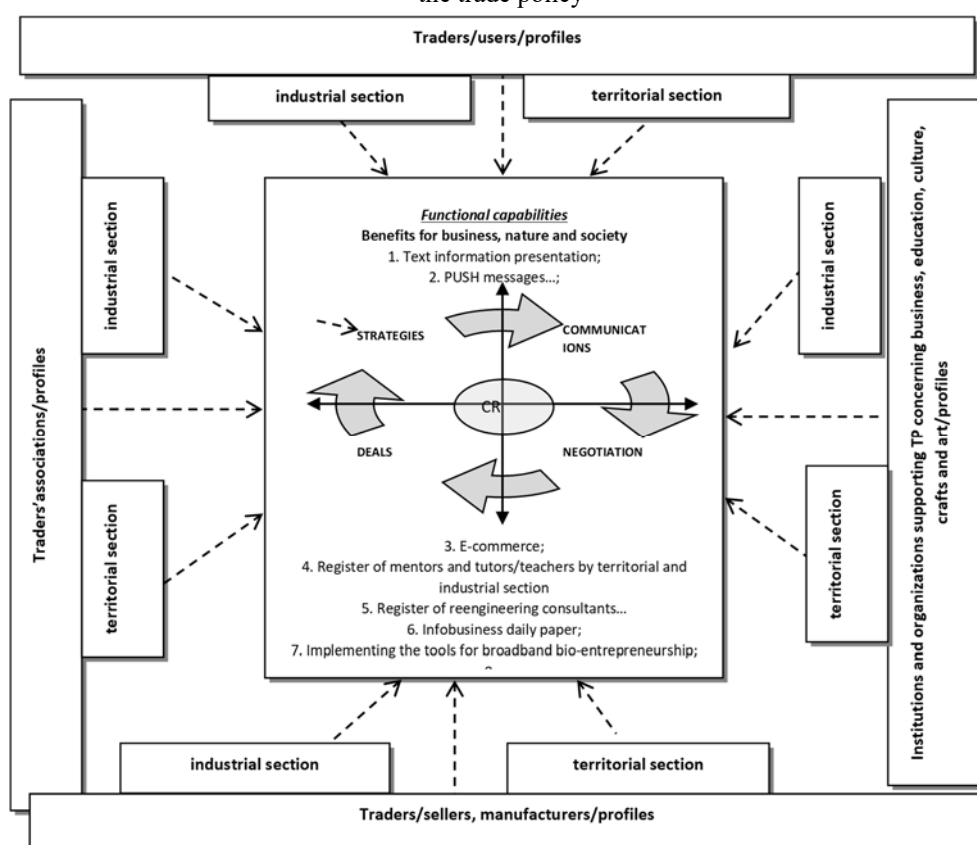
As pointed out by the President of the BCCI during a forum in 2019, the Chamber, in cooperation with Coface, Bulgaria (rating company) and Conet, Slovakia, issues a **certificate of excellence to SMEs (Excellent SME)**. This is an electronic business credit rating certificate, which aims to promote the successful companies, increase their competitiveness, the stable and secure business, the good business practices, and to increase market transparency. This is a new product on the Bulgarian market. BCCI is an exclusive representative offering the service on the territory of the Republic of Bulgaria. The benefits of EXCELLENT SME³ for the traders generally are:

³ For information – <https://www.bcci.bg/excellentsme.html>.

- clear demonstration of good credit score;
- greater reliability of the company in the eyes of the customers and the business partners;
- verification of proper web address;
- smaller business risk;
- stronger trust in the trading partner;
- easier, faster and less risky business solutions.

Figure 5

Reengineering concept of digital infrastructure for the interrelation of subjects concerning the trade policy



The mentioned digital infrastructure allows the subjects to gain a new digital existence and electronic instruments for orientation, communication, negotiations, deals, transactions, production, advertising and more. It gives the opportunity to combine the instruments of broadband entrepreneurship, applying together and separately the relevant algorithms and

thus satisfying the needs of traders and consumers in the territorial and industrial section. On the basis of this type of trade communication, the new trade policy (TP) is formed, which supports the reproduction of life in case of scarcity of means and resources in conditions of ambiguity and uncertainty. This type of TP becomes an engine for the development of human civilization and a means of forming the quality of life of the people in the new reality concerning the digitalization and the powerful development of the artificial intelligence and nanotechnology.

The paper reveals that the entrepreneurial and innovation potential of the enterprises in Bulgaria has the highest weight for their sustainable modern development. The assessment of this potential allows the subjects to make the right choice of policies and strategies for their development by focusing on process innovations in the relation “business – circular economy – CR”. The assessment also provides an opportunity to understand that Industry 4.0 and Industry 5.0 are not a panacea, but are dependent on the industrial imagination, on the entrepreneurial and innovation potential of the subjects.

The fate of our economy lies in our entrepreneurial and innovation efforts for its prosperity related to solving the mentioned problems. Applying the necessary approaches even with other instruments has a high weight for achieving balanced benefits for the business, nature and society. It requires strong participation of the science in the practice, full work commitment and dedication to increase the entrepreneurial and innovation activity, especially for quality management in education, science and SMEs.

The technological world requires complex and innovative thinking, balanced benefits for the business, society and nature, as well as purity, organization and orderliness of each transformation.

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