

**THE UNCERTAINTY FACTOR IN THE MARKET ECONOMIC SYSTEM:
THE MICROECONOMIC ASPECT OF SUSTAINABLE DEVELOPMENT**

Henryk Dźwigol

Abstract. Opportunities for sustainable development of the business entity largely depend on the uncertainty factor, which, in particular, is expressed in the asymmetry of information. Due to the influence of this factor, forecasting the efficiency of enterprises becomes a difficult task. Every company must meet the requirements of modern reality and be open to new solutions. The purpose of this study is a microeconomic analysis of factors that affect the sustainable development of enterprises. The uncertainty condition is considered as an integral element of the modern concept of company management. Based on the analysis of the literature, personal observation and interviews with managers, the guidelines for building a modern microeconomic model of a market economy were identified, which can further become the basis for creating new organizational management models.

Keywords: uncertainty factor, market economic system, sustainable development, network organization, knowledge economy

JEL Classification: D01, O10, P10

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Citation: Dzwigol, H. (2021). The Uncertainty Factor in the Market Economic System: The Microeconomic Aspect of Sustainable Development. *Virtual Economics*. 4(1), 98-117.

[https://doi.org/10.34021/ve.2021.04.01\(5\)](https://doi.org/10.34021/ve.2021.04.01(5))

Received: October 3, 2020. Revised: November 12, 2020. Accepted: January 3, 2021.

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Virtual Economics, Vol. 4, No. 1, 2021

1. Introduction

The ongoing process of globalisation and permanent changes in the market make it necessary for the companies to develop a different approach to the management process. Modern enterprises have to open up to new solutions, learn to perceive problems from different perspectives, become more flexible and sensitive to market signals and be willing to implement changes to the management process. It is related with the fact that, now, in the situation of considerable uncertainty, businesses are, more than ever before, faced with increasingly complex company objectives, evolution of the organisation of work towards its autonomy and the creation of flexible forms of work, decreasing opportunities for achieving the company results through using hierarchical control and greater emphasis on improving the skills of employees and new models of so-called careers without borders. These processes are embraced by modern managers whose style of operation should take into account the interests of the company through the dynamic management of its resources, i.e., marketing and sales, production, human, financial, organizational, physical information sources-related resources.

In addition, companies are operating in the time of the 4th industrial revolution, which is seen as the beginning of a new era in which the industry is becoming increasingly "intelligent" through intensive data exchange, predictive analytics and the use of internet technology, (Porter & Heppelmann 2015; Lenka et al., 2017). This forces the companies from various industries to develop a new way of doing business that affects the entire industrial value chain (Iansiti & Lakhani 2014; Cenamor et al., 2017) and is directly related with the capacity thereof (Imran et al., 2018; Rüßmann et al., 2015; Waschneck et al., 2016). In this context, J. Pieriegud points out that the digitisation of economy and society is one of the most dynamic changes that can be observed in the current environment, which, on one hand, opens up new opportunities for creating business models and, on the other hand, brings with it the uncertainty and various risks related to, inter alia, general security and social consequences of automation of manufacturing processes. The author presents the digitalisation as a continuous process of converging actual and virtual world, which is becoming a driving force for innovation and change in most sectors of the economy (Pieriegud, 2016).

Taking this into consideration, it may be concluded that the changes occurring in our environment produce the necessity to construct the contemporary model of a market economy. However, in order to design such a model, it is necessary firstly to prepare the guidelines for its construction. Therefore, the purpose of the article is to identify variables that may affect the modern market economy model. The article consists of two parts: the first part characterises the variables that may have a key impact on the modern market economy model, while the second part attempts to define the guidelines for constructing the modern market economy model.

2. Variables of the Modern Market Economy Model

When analysing variables of the modern market economy model, it is necessary to refer directly to the "valued" concepts of business management in the global economy, which include:

- the knowledge-based economy;
- sustainable development and sustainable organization;
- network structures;
- social participation;
- temporary management.

The aforementioned concepts will be discussed below.

2.1. The Knowledge-Based Economy

One of the key variables of today's market economy model should be the knowledge-based approach. The essence of the knowledge-based economy may be summarised in the statement that the long-term growth is mainly determined by the investment in human capital and innovations (Welfe, 2009). Here knowledge becomes a driving force for the economy and a resource used in economic trade. It is the result of specific social, economic and political processes (Krätke 2012; Ernst & Kim, 2002). As indicated by K. Kucznik, the knowledge-based economy consists of four pillars, i.e.:

- 1) the institutional and legal environment – factors that can allow the elimination or mitigation of legal-administrative and economic barriers to the market as well as stimulation of entrepreneurship also known as an economic stimulus system;
- 2) innovation systems taking into account the number of people employed in the research and development sector, the number of scientific and technical publications and patents per a million of inhabitants;
- 3) education and training, which take into account the state and effectiveness of continuous education;
- 4) the information infrastructure per 10,000 inhabitants (Kucznik, 2019).

Matusiak (2010) points out that transition from the industrial economy to the knowledge-based economy is evidenced by:

- 1) dematerialisation (knowledge as a source of competitive advantage);
- 2) an increase of dynamics (related to, e.g. technology race and growing demand for innovation),
- 3) decentralisation (management through networks and implementation of flexible business models);
- 4) an uncertainty (corresponding to the turbulence economy);
- 5) globalisation (increased market coverage simultaneously embracing the local and regional specifics).

Despite the numerous advantages of the knowledge-based economy it is also possible to indicate the risks related thereto, namely:

- 1) the possibility of widening of the gap between the backward and the technologically advanced countries as a result of dynamic technological progress;
- 2) additional marginalisation of developing countries as a result of their inability to adopt the global technological achievements made by the other countries;
- 3) deepening inequalities in the level of productivity and the pace of economic development of different countries due to the diversification of organisations' quality;
- 4) monopolisation of the market through unification of products and services;
- 5) growing disparities in the level of the technology use;
- 6) widening of the gap between highly developed countries supporting each other in implementing modern technologies and the remaining countries;
- 7) division of countries into regions equipped with modern infrastructure and adequately qualified human capital and the regions devoid of such resources (Makulska, 2012).

2.2. Sustainable Development

Sustainable development of enterprises is one of the key elements determining the competitiveness level of an organisation (Koszel & Weinert, 2013). Adamczyk (2017) points out that managing a company in accordance with the principles of sustainable development requires balancing of economic, social and environmental objectives. It involves the process of efficient production of the desired products and services, while reducing the use of natural resources, respecting the environmental protection and ensuring that stakeholders' expectations are met. Pursuant to the principles of sustainable development, the company takes into account the interests of customers, employees, suppliers, local community and other groups of stakeholders. Misztal (2018a) emphasises in turn that sustainable development in relations to a company is a process of quantitative and qualitative changes aimed at achieving economic, social and environmental objectives simultaneously.

Sustainable development should be the basis for a long-term approach to organisation management (Misztal, 2018b). Achievement of companies' sustainable development is tied to the necessity to adapt to changing environmental conditions, continuous learning and reorienting of the company's objectives towards increasing value for its partners (Grudzewski et al., 2010).

As underlined by Misztal (2018b), the company's sustainable development is equivalent to the improvement of financial and capital standing of the entity combined with simultaneous improvement of the conditions and quality of its employees' performance and with assurance of improving environment protection standards. However, harmonisation of actions aimed at attaining pre-defined strategic objectives must take into account not only the current operating conditions but also the need to ensure the future of the economic entity.

2.3. A Network Structure of a Modern Enterprise

A network structure is a structure applied in modern organizations that break with traditional organizational solutions and introduce new ways of management. It can therefore be

concluded that this structure is used in businesses which base their activities on network operation and management. Furthermore, as pointed out by Glückler et al. (2012), the concept of the network's creation and operation is linked to ensuring and strengthening of a competitive position which is established through various forms of cooperation among organisations in order to gain access to strategic resources.

A network is a form of organisation that operates in order to build a competitive advantage. Therefore, it consists of specific relation among separate entities, which is characterised to a greater extent by cooperation rather than competitiveness (Zentes et al., 2005).

Contemporary network organisations are created on the basis of a new approach to competition, which is here equated not only with the individual capacities of enterprises, but also with the skills resulting from cooperation in a network of common values. Their essence manifests itself in shared control over specialised and interconnected resources, which are usually intangible. Network organisations are created when there is a strategic potential among the partners of the organisation that creates added value, which is at the same time a factor determining the competitiveness of network-creating entities (Mikołajek-Gocejna 2011).

Working in a network structure requires the managers to have a "high ability to synthesize distributed information material". Modern managers should know how to share their expertise with others, how to update this knowledge so that it can reduce the implementation lead time of projects, enable the creation of informal connections and control the flow of information within the company, create and safeguard the boundaries between the activities of teams or individual employees. Managers operating in a network structure should implement changes in the requirements regarding the members of the staff, a management method, organizational culture and an incentive system.

The advantages of a network organisation include the possibility of achieving high efficiency by eliminating unnecessary operations, increasing operational flexibility, introducing new and faster methods of information exchange, supporting the competitiveness and learning. In addition, the "network of connections" among the entities promotes the exchange of resources, facilitates the control over work and the re-orientation of employee's duties (Mikołajek-Gocejna 2011). Furthermore, it allows the achievement of synergy, the creation of multilateral cooperation and the high independence of the partners in the system, which promotes innovation and learning (Sułkowski & Sikorski 2014). Undoubtedly, like any concept, this one is not flawless either. The main disadvantages of this approach include: possibility of exploitation by the main organisation, requirements regarding the professionalism and training of employees, problems in managing mutual interconnections of the enterprises, increasing the number of participants and problems with information management and control (Mikołajek-Gocejna 2011).

2.4. Social Participation in the Management Process

Participation is understood as the inclusion of employees in the decision-making process regarding the functioning of the organisation and their participation in the management thereof. Participation in the management process enables employees to become responsible for the company's future and results. Their behaviour and commitment enhance their creativity and thus improves the development opportunities of the entire organization. In that context, E. Poustma emphasises that at the level of employees participation is not limited to being a member of a team, since the essence of participation is to take an active role in the team, to have a say in decisions and to take responsibility for joint actions.

As pointed out by Kisielowska (1998), the sense of employees' participation in management has a motivating nature and is summarised as the activities aimed at inducing grassroots initiatives and generating a willingness to take, at least, partial responsibility in the workplace. Participation means the employee's empowerment with all the positive effects to form desired attitudes on the part of the employee.

Within the participation activities, it is particularly important to involve as diverse employees as possible in the decision-making process because they bring their unique knowledge of different areas of the company (Przywojska, 2019). At the same time, as underlined by B. Wenerska & Rącka (2018), it is necessary to implement the process of participation in a good way. It should allow strengthening the employees' awareness regarding their position (Denhardt & Denhardt, 2007) and promote the increase of their confidence. It is also important to assure that social participation enables the actual participation in planning and decision-making as it is not enough for employees to be heard, it is necessary to take their views into account in the company's policy (Przywojska, 2019).

2.5. Temporary Management as a New Approach to the Company Development

Temporary management is a concept with many interpretations and definitions, e.g.: it is the temporary handover of management of an enterprise or a part thereof to the selected manager for special tasks in order to make changes to individual or all areas of this business.

The factors determining this approach include (Rytka, 2011):

- 1) growing competitive pressure resulting from globalisation of markets with a simultaneous removal of access barriers, for example, in the European Union;
- 2) growing influence and role of consumers – access to information through the Internet;
- 3) increasing uncertainty regarding the future resulting from the increase of operational, financial, political and other similar risks, the loss of the sense of economic security in business;
- 4) the growing role of innovation and flexibility in economic processes;
- 5) dynamic changes occurring in the economic and business environment of enterprises.

The manager responsible for such temporary management should be characterised by a specific approach and achievements (Wendt, 2011), i.e.:

- 1) experience enabling the use of proven methods in the customer's organisation;
- 2) professional success;
- 3) stable life situation making him less susceptible to adopt various types of behaviour;
- 4) willingness to face challenges since the temporary manager is hired when competences of a usual manager are no longer sufficient;
- 5) openness to new tasks and goals enabling the increase in effectiveness of their implementation;
- 6) performance of the function not merely for the power related thereto but in order to achieve satisfaction with the effects.

Summarising, it can be stated that this concept focuses on key competences, increasing demand for effectiveness and efficiency of the actions taken, drive towards the mitigation of risk associated with the profit generated and towards the innovation.

As can be inferred from the analysis, the construction of a new market economy model (NMEM) should be carried out taking into account such aspects as sustainable development, the knowledge-based economy, the use of network structures, social participation in the management process and the use of temporary management (hiring managers for special tasks). Survival of a company under changing conditions is determined by its ability to anticipate and effectively manage changes, adapt management methods to new implementation conditions, focus on building effective processes and creating employees' effective attitudes and behaviours (Nogalski & Rutka, 2007). It is also necessary to leave the linear approach to process building (so called linearity) in favour of processes characterised by high independence in decision-making, speed, higher product quality and more efficient management (so-called networking).

Moreover, the study of the sustainable development parameters as priority strategic goals in the context of Industry 4.0 is carried out in the works by Abazov (2021), Arefieva et al. (2021), Boiko et al. (2019), Bogachov et al. (2020), Borychowski et al. (2020), Chygryn et al. (2020), Cyfert et al. (2021), Czyżewski et al. (2019, 2020), Dalevska (2013), Dalevska et al. (2019), Dementyev (2013, 2015, 2019), Dementyev & Scherbakov (2017), Dementyev & Kwilinski (2020), Dementyev et al. (2021), Dzwigol (2019a, 2019b, 2020a, 2020b, 2020c; 2021a; 2021b; 2021c), Dzwigol & Dźwigol-Barosz (2018a; 2020a; 2020b), Dzwigol et al. (2019a, 2019b, 2019c, 2020a, 2020b), Gorynia (2019), Gorynia et al. (2019), Kaźmierczyk & Chinalska (2018), Kharazishvili et al. (2020, 2021a, 2021b), Khrapkina (2021), Koibichuk et al. (2021), Kondratenko et al. (2020), Kwilinski (2018a, 2018b, 2019), Kwilinski et al. (2019a, 2019b, 2019c, 2019d, 2019e, 2019f, 2019g, 2020a, 2020b, 2020c, 2020d, 2020e, 2021), Kwilinski & Kuzior (2020), Kyrylov et al. (2020), Lyulyov et al. (2020a, 2020b, 2021a; 2021b), Melnychenko (2019, 2020), Mlaabdal et al. (2020), Miskiewicz (2020a, 2020b, 2021), Pająk et al. (2016, 2017), Polcyn (2018), Prokopenko & Miskiewicz (2020), Saługa et al. (2020), Savchenko et al. (2019), Tkachenko et al. (2019a, 2019b, 2019c, 2019d, 2019e), Todorov et al. (2021), Trushkina (2019), Trushkina et al. (2020), and others.

3. Methodology of Research

The primary objective of this article is to analyse variables affecting the construction of modern market economy models of companies operating under conditions of uncertainty. As a theoretical background, the research uses the “valued” concepts related to business management in the global economy, i.e., the concepts of: the knowledge-based economy, a network organisation, sustainable development, temporary management and social participation. Achievement of the objective required finding answers to two basic research questions:

1. What are the guidelines for designing a modern model of a market economy under conditions of uncertainty?
2. What measures should be taken in the area of business management to direct it towards a modern model of a market economy operating under conditions of uncertainty?

The main research methods for achieving the purpose of the article include: participatory observation and interviews with 40 managers of both Polish and global companies. The research was carried out in 2019-2020. Participatory observation provided the author with a very good access to the study of variables of the market economy model under conditions of uncertainty due to the possibility of interaction and immersion in related circumstances (Verschuren, 2003; Czakon, 2009). The participatory observation was complemented by interviews. They were semi-structured in nature and contained open directional questions. Managers came from various industries (i.e., manufacturing, commercial and educational) and business types: 8 of those surveyed belonged to so-called micro-entrepreneurs, 16 were managers of small enterprises, 6 respondents represented medium-sized enterprises, while 10 held positions in large enterprises.

4. The Guidelines for Creating a Modern Market Economy Model

The guidelines for creating a modern model of a market economy under conditions of uncertainty were defined on the basis of research carried out and the literature analysis. They are summarised in *Figure 1*.

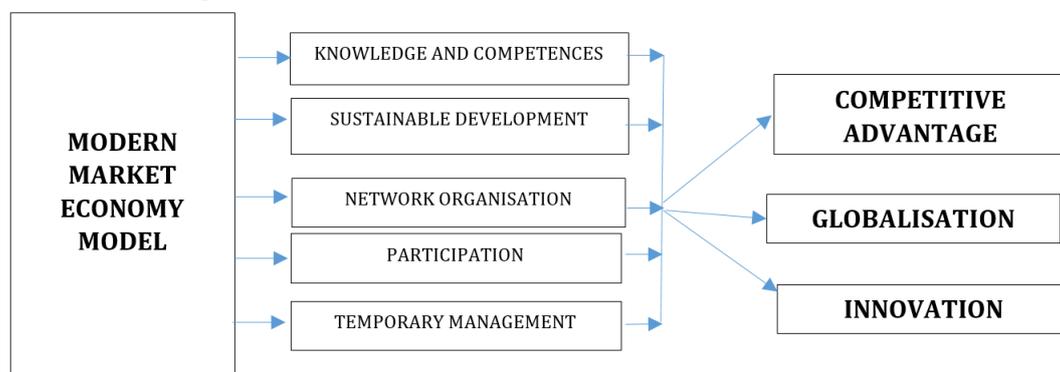


Figure 1. The guidelines for creating a modern model of a market economy under conditions of uncertainty.

Source: developed by the author.

As it results from *Figure 1*, the basic elements of a modern model of a market economy operating in times of uncertainty are, firstly, knowledge and competence, so that the organisation may continuously improve and operate even in difficult and uncertain conditions, as it is prepared to learn and meet new challenges. Secondly, sustainable development of the organisation is a necessary element that will take into account the needs of all company's stakeholders. Only such a holistic approach will enable smooth operation in uncertain conditions and achievement of an advantage in the market. Another element of the model, i.e., network organisation, is necessary if the company wants to grow and enter new sales markets. The network operation enables sharing resources, speeds up learning and information exchange process and increases flexibility in operation, which promotes competitiveness, innovation and globalisation of the activities carried out. In order to enable the company to produce high-quality solutions, it is also necessary to include employees in the processes occurring in the company and to enable the staff to co-decide on the direction of actions taken. Only such an attitude allowing employees to participate in the activities of the organisation can take it to the next level and allow the synergies of the activities, especially in difficult and changing conditions. The last element of the model – temporary management – shall in turn enable the enterprise to increase the dynamics of development and innovative processes and to improve the efficiency of actions taken.

Moreover, the literature analysis, interviews with managers and own observations served as a basis for defining the actions that should be taken by the companies in order to steer their activities towards a modern model of a market economy operating under conditions of uncertainty. The following actions have been identified:

1. Simplifying the organisational framework by taking greater account of the diversification of the scope of activities.
2. Simplifying the management system and specialisation of management processes by creating strategic business units.
3. Decentralising the responsibility for creating profit.
4. Precisely separating basic and auxiliary activities.
5. Transparent planning and analysing technical and economic indicators.
6. Strengthening the responsibilities of selected services and functions.
7. Implementing new shape of relations with the environment and focusing on the customer.
8. Reducing administrative and maintenance activities.

Moreover, enterprises of the future need to base, to a greater extent, their functioning, production system and management on innovative solutions. Their activities should be grounded on short-term projects repeating frequently from the capital accumulated in another form, using the external resources and works performed by the entities from the environment rather than from inside the company (Dźwigoł, 2014). In addition, the work should be organised around mini enterprises within the institution. At the same time, the employees' responsibility should be structured not so much by function (e.g., marketing, accounting, production) but by the divisional arrangement associated with a given product or service – the use of project management method. (Dzwigol, 2021).

4. Conclusion

The ongoing globalisation process as well as continuous and turbulent changes in the market make it necessary to develop a different approach to the management process. Learning is the basis for achieving benefits in a competitive market. In order to remain viable in variable and demanding business environment the companies must undergo a permanent process of continuous improvement. This is a prerequisite for further existence and development, a part of the company's daily functioning (Dźwigoł, 2019a).

The organisation should be intelligent, flexible, critical, open, creative and innovative, capable of on-going transformation while maintaining a sense of purpose and direction (Dźwigoł, 2019a).

Research has shown that, while designing a modern model of a market economy in times of uncertainty, it is necessary to take into account such aspects as sustainable development, building the company on the basis of knowledge and competences, enabling employees to co-create the enterprise, using temporary management and network co-operation.

The application of the above-mentioned concepts requires developing one of the most important resources of the organisation, which is knowledge, i.e., everything that employees know about the mechanisms of its operation. Skilful knowledge management, choosing the knowledge that is the most important from the point of view of the organisation, will have a decisive impact on gaining a competitive advantage. In the process of a modern organisation's development, there should be taken into account certain factors in the process of its functioning, i.e., internal and external conditions, predisposition of employees, that is, everything that constitutes entrepreneurial activities.

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