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# INNOVATING MEASUREMENT OF ECONOMIC SUCCESS FOR MORE ACCURATE INFORMATION

## Inoviranje merjenja ekonomskega uspeha za bolj ustrezne informacije

*Zdenka Ženko*
*Faculty of Economics and Business, University in Maribor*
*zdenka.zenko@uni-mb.si*

*Matjaž Mulej*
*Faculty of Economics and Business, University in Maribor*
*mulej@uni-mb.si*

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### *Abstract*

Humankind lives now in the 'bubble and affluence economy', like never before. Thus, the currently used measures of economic success are obsolete and too one-sided to provide effectively usable information any longer. When industrial society was the main economic activity, the results were measured in quantities. Society evolved to become innovative and is now becoming the affluent society destroying both the motivation for hard work (in order to have) and the natural preconditions of humankind's survival. A more requisite holistic approach is necessary, taking into account the complexity of the entire innovation process and creativity-based well-being.

*Keywords:* Information, Gross domestic product (GDP), Innovation, Dialectical Systems Theory.

### *Izvleček*

Človeštvo živi danes bolj v »balonu in družbi obilja« kot kdaj prej. Zdaj uporabljana merila ekonomskega uspeha so zastarela in preozka, da bi še omogočila uporabne informacije. Dokler je bila industrijska družba glavna ekonomska dejavnost, so rezultate merili količinsko. Družba pa se je razvila v inovativno, postaja družba obilja in hkrati uničuje motivacijo za trdo delo z namenom imeti in naravne možnosti za preživetje človeštva. Potreben je bolj/zadostno celovit pristop ob upoštevanju kompleksnosti celotnega inovacijskega procesa in na ustvarjalnosti zasnovanega dobrega počutja.

*Ključne besede:* informacije, bruto družbeni proizvod (BDP), inovacije, dialektična teorija sistemov.

## 1 Introduction

Economists around the world, including—or even headed by—those in the most influential positions in the European Union, US, and other members and bodies of OECD, cannot agree on the way to escape the current crisis of the 'bubble economy' and 'affluence' (Dyck 2011; Bošković 2011; James 2007; Senge et al. 2008). They cannot agree on which data or information should be used for the related decisions. GDP and related measures of economic success belong in industrialization, which has aimed to erase centuries of hungry times. Conditions that the usual economic success measures used to match have essentially changed. The economist Mencinger (2009) is right: 'the basic economic laws became unreliable'. Sociologist Beck (Korade 2009) has been warning for

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many years that the 'industrial society is leaving the stage of the world history' and 'today it is not worlds that are being destroyed, but the monopolies of the industrial society'. The Nobel-prize winning economist Stiglitz still focusing on the framework of the industrial society, but is also working on new measures of economic success (Stiglitz 2009).

Enterprises can be more influential than they perceive themselves to be in both providing progress and destroying nature (Hustič 2009; Ženko 1995); however, they obey measures of economic success needing innovation due to the following data. We aim to contribute to ideas about what should be added to gross domestic product (GDP), gross national product (GNP), gross national income per capita, etc., for people, their enterprises, and governments to further consider the causes and definition of success rather than marketed amounts.

## 2 Some Essential Data

The suggested innovation must take into account radically changed conditions:

- Since 1820, after the 3 (three only)% per-millennium growth rate before industrialization, the growth rate reached 5500% (fifty five times) in less than two centuries; humankind is now facing three bombs—population, ecology, and resources—but continues to use shallow information rather than the available deep knowledge and wisdom (Targowski 2009).
- Compared to 1820, today there are 6 times more humans on the planet Earth; every person uses on average 5+ times more energy, has 17 times more wealth, and has 1.000 times more mobility, travelling about 40 kilometres a day. We can no longer afford to emit four million tonnes of $CO_2$ into our air every hour by burning fossil fuels, cut 1.500 hectares of wood every hour, or add 1.7 million tonnes of nitrogen by mineral dunging in our soil every hour, like humankind is doing today (Kajfež-Bogataj 2009). Kajfež-Bogataj reiterates that history is full of belated responses to early warnings.
- Since 1945—in only 6 decades—humankind has grown 2.5 times, and its economy and consumption of natural resources has grown 7 times. But the planet has not grown and is becoming critically depleted (Božičnik et al. 2008; Brown 2008; Ećimović et al. 2007; Korten 2009; Mulej 2011; Plut 2009; Taylor 2008; Wilby ed. 2009).

The most influential people want to keep their short-term benefits while disregarding the long-term troubles (Kajfež-Bogataj 2010). The one-sided measurement of economic success belongs to their bases/excuses. Drastic changes in our natural and economic environment require socially responsible behaviour (Mulej, Hrast eds. 2010; ISO 2010), which basically requires a change in perception of the objective reality. Changes in society already started with the Kyoto protocol in 1990. Although the Kyoto protocol did not bring about the desired results, it has induced global changes in perceptions and actions. Awareness of the impact of human activities (agriculture, industry, energy production, traffic) has increased, and environmental changes have become better studied and discussed. Many countries are intensively investing in new technologies, new sources of energy, energy-efficient appliances and transportation, more sustainable uses of natural resources, ecological agriculture, etc. The diffusion process of invention into innovation, especially non-technological innovation, has preconditions and takes time (Nedelko 2011; Ženko 2011; Ženko et al. 2008; Ženko 1995).

## 3 Some Missing Aspects of Measurement of Economic Success

Contributions by Gerzema (2010), Hustič (2009), Hustič, Mulej (2010), Šarotar-Žižek et al. (2009), authors in proceedings about the issues discussed here (Mulej et al. eds. 2009), and in IRDO's proceedings about social responsibility (Hrast et al. eds. 2006 and later) as well as other references indicate that the answer about the direction of where to go depends essentially on tools of measurement for what is going on. The innovation expert, engineer, and economic analyst Kos (2009) effectively demonstrated the economic innovation indicators of the East and Central European EU members, but his (normal state-of-art) measures say nothing about, for example:

- The future and sources for it (e.g., fish stock remaining in oceans after fishing);
- Exploitation and abuse of nature by humans (e.g., fields turned to towns, and roads);
- The usual practice of subsidizing the ruining of the natural preconditions of human existence (e.g., the cost of maintenance of a healthy natural environment is not covered and included into transport, goods', and other prices, but laid off and piling up into an unbearable burden for our children and grandchildren—quite possibly ourselves as well);
- The practice of only partial insurance of humans against health and old-age troubles;
- Poor rewarding of people for their preventive care for their own health and working capacity, etc.;
- Shortening of working hours based on productivity increases resulting from managerial, organizational, technological, and other innovations, while needs are being reduced (because the population is aging and products' quality and durability are growing, etc.);
- Humans' well-being and happiness being the reasons for economy and innovation to exist; and
- Accumulated debts of countries around the world.

Psychologists Diener and Seligman (2004), sociologist Hornung (2006), and economists (Božičnik et al. eds. 2008; Brown 2008; Korten 2009; Taylor 2008) encourage us to think about innovated measures of economic success.

The GDP or GNP directs the industrial economy as measuring indicators, but hides the essence (Stiglitz 2009). In a comparative analysis, very few reliable measures can be used. Thus, GNP is a criterion for success of economy and management models, considering methodology, currency fluctuations, and availability for long periods from reliable sources (Ženko 1999). GDP and GNP do not say much about success and productivity—and even less about well-being, happiness and sustainability of the human life, which economy should serve (not only the enterprise owners). GDP addresses only the amount of market exchange and costs. When GDP is the most important criterion for investment funds allocation, regions might be selected without the appropriate infrastructure, skilled workers, or political and economic environments supporting innovations.

GDP must be replaced, or completed, by something more suitable to the current practice of affluence and closer to humans. For example, the British 'New Economic Foundation' suggests a 'Happy Planet Index'. The worst country (ranked 178th) is Zimbabwe, Russia is 172nd, and the US is 150th; results of other industrial countries are similarly bad. Meanwhile, Vanuatu ranks number one (Korten 2009). Similar new measures abound today (Taylor 2008; etc.). They are even official in a few cases, such as Bhutan, but results are not yet visible. Ultimately, measures matter since they direct our actions.

## 4 The Real Measure: Life, not money

The real measure of wealth is life; money is just its tool. The most important forms of a high-quality life have no prices and cannot be bought in the market, although humans used to call it omnipotent (due to the neo-liberal fiction that a perfect market exists, along with theory of imperfect competition that schools of economics teach). They include:

- Healthy and happy children,
- Loving families,
- Caring communities,
- Satisfying relations and communications among people,
- Prospering future with employment and career opportunities, and
- Beautiful and healthy natural environments.

The real richness includes also many items with inner artistic, spiritual, or applied values, which are essential for maintaining various forms of a rich life. Some items have a market price, some do not. We have in mind:

- Healthy food,
- Fertile land,
- Clean water, air, and soil,
- Caring relationships,
- Loving parents,
- Education,
- Safe environment,
- Opportunities to happily help,
- Time for meditation, etc.

To this end, the economy must meet six criteria for economic health (Korten 2009):

1. Provide everyone with opportunities for a healthy, dignified, and fulfilling life.
2. Bring human consumption into balance with Earth's natural systems.
3. Nurture relationships within strong, caring communities.
4. Honour sound, rule-based market principles.
5. Support an equitable and socially efficient allocation of resources.
6. Fulfil the democratic ideal on one-person, one-vote citizen sovereignty.

Korten suggests 12 actions (2009):

1. Redirect the focus of economic policy from growing phantom wealth to growing real wealth.
2. Recover Wall Street's unearned profits, and assess fees and fines to make Wall Street's theft and gambling unprofitable.
3. Implement full-cost market pricing.
4. Reclaim the corporate charter.
5. Restore national economic sovereignty.
6. Rebuild communities with a goal of achieving local self-reliance in meeting basic needs.
7. Implement policies that create a strong bias in favour of human-scale businesses owned by local stakeholders.
8. Facilitate and fund stakeholder buyouts to democratize ownership.
9. Use tax and income policies to favour the equitable distribution of wealth and income.
10. Revise intellectual property rules to facilitate the free sharing of information and technology.
11. Restructure financial services to serve Main Street.
12. Transfer the responsibility for issuing money from Wall Street to the federal government.

This seems idealistic and futuristic, but it will become attainable once humans perceive that, for example, the 2008 crisis is only information showing the top of the iceberg—namely, the real network/synergy of the 2008 crises. It is high time for humankind to transit from feudal to real market capitalism without monopolies of big enterprises, their networks, and countries over everything. In the model of thus far, people forgot the need to focus on interdependence with nature instead of power over nature. If in the coming decade we do not diminish emissions of carbon dioxide by 80%, we will have no place to live and nothing to drink, eat, or breathe, as the cited and similar references warn. Technical solutions are in the quoted books; we have no room here to describe them. Rather, we will address another crucial viewpoint of the current times, which also requires new measures of economic success: the affluent society.

## 5 The Affluent Society—The Phase after Innovation and Before Decay—is Here

Affluent societies (James 2007), in which the 2008 crises have surfaced, have more resources than needs, especially material/economic resources. Their currently practiced tracks suggest that governments should encourage demand/consumption by easy loans, but their success is obviously limited. This may differ from the previous crises and development phases. The human tendency to resolve the lack of resources relative to needs has namely brought humankind from (1) the phase in which competitiveness was based on the possession of natural resources via (2) the phase of investment into a better exploitation of natural resources, and (3) the phase of innovation aimed at even better exploitation of limited resources and investment to (4) the phase of affluence. Affluence is not only the best accomplishment of human desires for good life, but also a blind alley because resources are no longer limited and motivation for hard work disappears (Porter 1990). Baumol et al. (2007) cite a top global businessperson saying that only fanatics still work hard once they are rich. As such, enterprises encourage people to work and shop by changing their needs to greed for things that are not needed in reality and contribute less and less to well-being and happiness. They do so even when sociological and psychological perceptions of humans' needs reach beyond the biological and economic ones. But this ruins humankind's natural basis of survival rapidly, as the previously summarised data indicate.

In other words, for at least the most advanced 15% of humankind who lived before the 2008 crisis in affluence (i.e., on more than six or even on several thousand US$/day), the basics of economics are no longer valid. Neither are they valid for other humans who do not want to work hard in order to have more things. Data are clear: The 2008 crisis surfaced exactly in affluent societies; their governments provide big sums to increase demand, and they are advised by economists who fail to see natural limitations. In 2009-2010, the increases in shopping and investment are reported to be poor, while growth of GDP is mostly negative. The amount of economic activity continues to diminish; products can hardly be sold because neither trust and demand nor need, in general, exists—at least not for things on offer/supply. The following conclusions are not reflected in the usual measurement of economic success and are still valid (Mulej et al. 2009):

1. Demand does not depend on money alone, but also on humans' decision about what they really need. This has changed. Needs for things are well covered after decades of competition by total quality and long-term usability of products, services, and procedures. The needs for non-material aspects of life remain less covered. More family time, services for aging population, specific groups, etc., are required. The crisis has accelerated the surfacing of such new values/culture/ethics/norms (VCEN).
2. Businesses need new bases and methods, taking in account new VCEN of humans, including their personal and personality development, leading both humans and businesses to their own requisite holism. The often one-sided and opportunistic enterprise policy thus far has aimed to satisfy only the short-term and narrow-minded financial interest of enterprise owners. It is now obsolete due to change of consumers' VCEN (Gerzema 2010). The social responsibility (SR)—as the modern type of VCEN—of enterprises, governments, and humans is therefore ever more important. It requires enterprises to search for new opportunities and meet new VCEN as well, as part of meeting interests of all enterprise stakeholders; they strive for this approach (Esposito 2009; cases in Hrast et al. eds. 2006 to 2011). Hence, we are entering the phase of innovation of enterprise policy focusing on more SR in enterprise policy, including and stressing sustainability (Belak 2009).
3. It is time to eliminate the neo-liberal definition that economy is something self-sufficient rather than aimed at well-being and happiness of people. Halimi (2008) summarizes this definition when he cites Gary Becker, Nobel Laureate for economics from the neo-liberal school of economics. Becker was very un-holistic when saying: 'The advanced countries exaggerate with protection of workers and environment. Free trade will destroy some of these extremes, because it forces everybody to stay competitive when importing from developing countries' (Halimi 2008). Becker mixed up profit and survival, price and value, as well as growth and development; he forgot about the longer-term and broader aspects (Rihtarič 2009). Influential philosopher Žižek writes of the death of neo-liberalism (2010). In his last comprehensive analysis, he predicts the end of capitalism. Toth (2008) sees that the legal forms of 'shareholding and limited-liability companies' separate the individual human rights from responsibilities. The same assessment holds concerning enforcing of the contemporary globalization. This behaviour expresses a lack of holism and SR with which professionals (should) work on topics of a broader/social importance (for details, see: Mulej, Ženko 2010; Mulej et al. 2009 and earlier, since: Mulej 1974). The neo-liberal economic theory and practice defend the lack of holism and SR. Therefore, neo-liberalism is a serious practical danger to the existence of current society.
4. Innovation is needed that reaches beyond technology to VCEN of humans. Technological innovations are complex and deserve due respect, but they are much less complex than innovation of VCEN; otherwise history would not show the 2-generation (some 70-year cycle) period of time for innovation of the prevailing VCEN, during recent centuries. Cases demonstrate that with conscious innovation of VCEN the cycle can be shortened. If VCEN are left aside and only technology is focused in innovation, Einstein's assessment of the

current times becomes true: Humans have wonderful tools for unclear objectives.

5. Unclear priorities (Belak 2009; Duh, Štrukelj 2011) make an unclear political level of the enterprise's governance/management process (its planning and formulation of vision, mission, policy, objectives and basic goals). Managers of such enterprises have too much work related to the problems of satisfaction and attainment of their economic and technical rationality (i.e., effectiveness and efficiency) to have any time for problems related to meeting SR, socio-economic rationality, their roles in their social and natural environments, and other stakeholder-related responsibilities. This situation causes their failure to have the necessary requisitely holistic personal attributes and bases for requisitely holistic planning of enterprise's VCEN. This is crucial because the innovation of VCEN is a long-term process and a far-into-the-future reaching objective, which must be clearly defined and expressed in the interests of the enterprise's key stakeholders (Belak 2009; Belak, Mulej 2009).
6. The definition that we now increasingly live in a knowledge society is not accurate: We live in knowledge-and-VCEN society that is more or less friendly to innovation, requisite holism, and SR. Employment of knowledge crucially depends on VCEN. The 2-generation cycle of VCEN of 'feudal capitalism' is ending (Goerner et al. 2008; Mulej et al. eds. 2009), and it is time to consider all three interdependent slogans of the French revolution—not only freedom, but also equality and brotherhood. The VCEN call for the ethics of interdependence and creative cooperation for requisite holism/wholeness of innovation and creating as the basic content of both leisure and work time now. This is also the message in international documents promoting SR (ISO 2010; EU 2001; Hrast et al. eds. 2006 and later).
7. Success makes people sleepy (Whittaker, Cole 2006), leading them to forget how rare it is (Nussbaum et al. 2005).
8. What is needed is innovation of human resource management in order to base it on increasing SR and humans' subjective and objective well-being. Šarotar, Mulej and Treven's contribution (2009) offers an interesting approach to this innovation, which should be completed with the mentioned aspects. Innovation is urgently needed to make the economic practice more holistic (Ženko et al. 2010; Ženko et al. 2008).

Innovation in tools of measurement of economic success may help.

## 6 A Short Dialectical-Systems View on the Way toward New Measures of Economic Success

The creation of idea process needs to be successfully managed to generate invention and potential innovation from ideas. To make them innovative, the whole diffusion process must be completed. In some cases, the diffusion process can take a few months; in others, many years.

The diffusion process covers several areas: novelty, time, communication channels, and social system. As such, change agents and opinion leaders are needed to develop a potential invention into innovation (Rogers 2003). The previously described process is called (with over-simplification) Invention Innovation Diffusion Process (IIDP) and is summarised in Table 1. The business success, including its IIDP part, depends on quality and hence on the modernity of management (Ženko 2011, Mulej, Ženko 2004). Therefore, the most crucial innovation type is the very influential innovation of management, which influences VCEN while the selected measures of economic success depend equally as much on VCEN as they depend on knowledge.

In the official international definition *'innovation is every novelty found beneficial in experience and judgment of its users'* (EU 2000: 4). It reaches beyond technology in definition, but less so in measurement, which makes statistics misleadingly one-sided.

Tables 1 and 2 clearly show that IIDPs are very complex and complicated. Thus, the European Union appropriately requires that IIDP be considered with systems theory based on the version related to interdisciplinary cooperation rather than with a single problem from a single viewpoint, although with a precious quantification and preciseness (EU 2000: 6).

Table 1: *A simplified process model of IIDP (feedback, etc., not considered)*

| Ideas | → | Inventions | → | Suggestions | → | Potential innovations | → | Innovation | → | Diffusion |
|---|---|---|---|---|---|---|---|---|---|---|
| PROMISING | → | RECORDED | → | DEVELOPPED | → | USED IN PRACTICE | → | MANY USERS | → | BENEFIT MANY |
| No → ? | | No → ? | | No → ? | | No → ? | | No → ? | | No → ? |

Table 2: *Framework model-list of interdependent preconditions for successful IIDP (details and synergies not considered)*

| Managerial preconditions | Knowledge- related precondition | Values, culture, ethic, norms related preconditions | Behaviour related preconditions | Impersonal preconditions | Market-related preconditions |
|---|---|---|---|---|---|
| IIDP system<br>- Vision<br>- Mission<br>- Politics<br>- Strategy(ies)<br>- Tactic(s)<br>- Operation practice<br>- Data monitoring<br>- Feedback interventions<br><br>Cooperative rather than one-way commanding management<br><br>Entrepreneurial spirit and entrepreneur-ship (more crucial than ownership)<br><br>Mastering of the entire equation of preconditions of innovation | Knowledge, expertise<br>- Tangible<br>- Tacit<br><br>Knowledge, processes, etc., manage-ment<br><br>Creation<br><br>Learning<br><br>Cooperation<br><br>Networking<br><br>Absorption capacity concerning knowledge and other resources | Motivation<br><br>Values, culture, ethic, and norms supporting IIDP<br><br>Reliability and trust<br><br>Ethics of interdepen-dence<br><br>Happiness and well-being based on IIDP<br><br>Consideration of 5I: 'integration, imagination, involvement, intellect, and intervention' (Nakamori, 2010) | Requisite holism of behaviour, based on long-term and broad values and thinking, in order to prevent high cost of consequences of short-term and narrow-minded decisions and actions<br><br>'Open IIDP, only partly closed IIDP'<br><br>Market pressure is no surprise | Material, natural, economic, ecological etc. conditions and preconditions<br><br>Perception and development of organizational capabilities and possibilities<br><br>Creation of outer organizational conditions and resources<br><br>Consideration and creation of preconditions for the entire equation of preconditions of IIDP/ innovation to work | Perception, comprehension, forecasting and development of (preferential) needs of possible new and permanent customers, as well as of authors and owners of novelties (as a consequence)<br><br>Discovering of niches and gaps in the market (by R&D, marketing, anthropologists, ethnologists, face-to-face contacts with customers, etc.) and filling them with supplies |

Today the market-economy prevails: Supply is bigger—or even much bigger—than demand. There are not many local markets, but rather global ones with attributes expressed in the formula (information society + science/technology society + learning society + creating society = innovative society). Briefly, one must consider at least everything summarised in Tables 1 and 2, including measures of economic success:

No specialist can be expected to attain requisite holism for every phase in Table 1 and every attribute and activity in Table 2 without creative interdisciplinary cooperation in contemporary conditions. Specialists are usually educated and trained for a single profession, but less for interdisciplinary creative co-operation. Everybody needs capability, knowledge, and will to enter this co-operation along with their specialization. However, these attributes are rare birds, which schools and bosses leave to incidental acquisition. This sad fact is visible from the data on how few books, articles, and papers are written by teams (Mulej 2007) and from reported experiences (Barabba 2004). Co-operation can receive support, instead of a content-poor sitting in meetings and losing time, from several methods such as the combination of USOMID and 'Six thinking hats' methods (Mulej, M. and N. 2006). It is essential to acquire the habit to listen to each other because we disagree: As different specialists, we have different bases and complete each other with different findings. Completing can be achieved with no loss of time and arguing; methods enable this.

All these and similar factors of a contemporary economic success should be reflected in tools of measurement of economic success; currently, they are not. Consequences include visible, misleadingly one-sided insights such as GDP, GNP, etc., as bases for human decisions rather than a more/requisitely holistic basis. Mulej and Kajzer (1998) defined requisite holism; later we determined that it is a law. A whole demands consideration of all viewpoints and all synergies to contain everything, all parts, and all their relations. Due to human limitations in specialist education, training, and other circumstances, total holism is unachievable. One must determine the most important viewpoints to include them in one's dialectical thinking. A requisitely holistic, complex approach and work make consequences, results, and outcomes simple (Mulej et al. 2000).

## 7 Concluding Remarks

In contemporary conditions, we humans cannot avoid IIDP if we want to be competitive and improve our quality of business and personal lives as well as solve the piled up problems of environmental preconditions of our survival that we have not been able, willing, or knowledgeable to solve. IIDP is unavoidable, but nobody can master its complexity with no creative interdisciplinary co-operation. Fictitious holism of isolated specialists does not help them. If measures of economic success require enterprises to practice SR including VCEN of sustainability of well-being, they will manage the global crisis more effectively. The

affluent society and the real market capitalism with background in the synergy of freedom, equality, and brotherhood—not in one-sidedness alone—cannot succeed by measures of economic success from the hungry society times. The latter are evitable, once influential people are willing to modernize their VCEN. Modernized measurements of economic success might accelerate their modernization and save humankind. Otherwise the human race—at least its current civilization—is in danger and may soon cease to exist.

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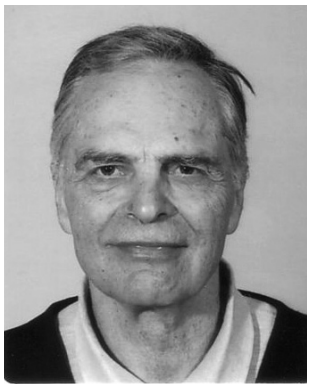
**Zdenka Ženko**, PhD, is Assistant Professor of Innovation Theory and System Theory at the Faculty of Economics and Business, Maribor, teaching courses in innovation management, system theory, methods for creative thinking, and decision making as well as conducting research in entrepreneurship. She mentors graduating undergraduate and graduate students. Her research includes systemic approaches to innovation management, creative thinking and deciding, and diffusion processes with social responsibility. She has worked in companies in five countries.

Dr. **Zdenka Ženko** je docentka za teorijo inoviranja in teorijo sistemov na Ekonomsko-poslovni fakulteti v Mariboru. Uči predmete inovacijski management, teorija sistemov, metode ustvarjalnega razmišljanja in odločanja, raziskovanje podjetništva. Je mentorica dodiplomskim in podiplomskih študentom. Njeno raziskovanje vključuje sistemski pristop k inovacijskemu menedžmentu, ustvarjalno razmišljanje in odločanje, difuzijske procese z družbeno odgovornostjo. Delala je v družbah v petih državah.



**Matjaž Mulej**, PhD, PhD, is Professor Emeritus of Systems and Innovation Theories at the Faculty of Economics and Business, Maribor. He authored Dialectical Systems Theory and Theory of Innovative Business. He is active in:

- IRDO Institute for Development of Social Responsibility, Maribor, Slovenia (head of experts board);
- IASCYS International Academy for Systems and Cybernetic Sciences, Vienna (president);
- European Academy of Sciences and Arts, Salzburg (member); and
- European Academy of Sciences, Arts and Humanities, Paris (member).
- He has published 1600+ contributions in 40+ countries and worked in 6 countries, including 15 semesters as a visiting professor.

Ddr. **Matjaž Mulej** je zaslužni profesor sistemskih in inovacijskih teorij na Ekonomsko-poslovni fakulteti v Mariboru. Je avtor dialektične teorije sistemov in teorije inovativnega poslovanja. Na Inštitutu za razvoj družbene odgovornosti je vodja strokovnega sveta. Je predsednik Mednarodne akademije sistemskih in kibernetskih znanosti (IASCYS) na Dunaju ter član Evropske akademije znanosti in umetnosti v Salzburgu in Evropske akademije znanosti, umetnosti in humanitet v Parizu. Objavil je več kot 1600 prispevkov v več kot 40 državah in delal v šestih, med drugim 15 semestrov kot gostujoči profesor.