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THE DIGITAL ENTREPRENEURSHIP AS A NEW GENERATION SOFTWARE OF THE MIND

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Abstract

The Fourth Industrial Revolution as a new technological way of production and services requires a new type of entrepreneurs with a new generation software of the mind as a complex of values, norms and beliefs. In the foreground come out the so-called digital entrepreneurs, whose creative and innovative potential, self-motivation and self-management are the key to business success. The aim of this article is to analyse the value model of digital entrepreneurship via empirical evidence from Bulgaria, using the Schwartz Value Survey. An empirical study among 566 entrepreneurs, conducted in 2018, shows that their value priorities include both collective values (embeddedness and egalitarianism) and individual ones (such as mastery). The value conflicts are dealt with in favour of the values of the status quo, equal social relations and exploitation of the environment. These findings reveal the flexibility of value model and related business behaviour of contemporary entrepreneurs as an adaptive mechanism to the dynamics and uncertainty of the environment. The new business situation requires a new value system type, including many individually- and socially-determined features that make their value profile more complex. The study also identifies some possible obstacles to the Bulgarian entrepreneurial culture as the priority position of embeddedness.

Keywords: Digital entrepreneurship, software of the mind, value orientations, value priorities, value conflicts.

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1. Introduction

In today's dynamic world, we are witnessing a qualitative leap from an industrial to post-industrial paradigm or the so-called "Fourth Industrial Revolution". It can be described as a set of new technologies that connect the physical, digital and biological worlds and affect each aspect of life, such as governments, businesses, economy, technology and society as a whole. This revolution includes emerging technological breakthroughs in different areas like new energy, artificial intelligence, advanced robotics, the Internet of things, autonomous vehicles, 3D printing, quantum computers, new information technologies, biotechnology and nanotechnology and so on (Schwab, 2016).

According to Schwab (2016), previous industrial revolutions liberated humankind from animal power, made mass production possible and brought digital capabilities to billions of people. The Fourth Industrial Revolution, however, has the potential to connect more people to digital networks, dramatically improve the efficiency of organizations and even manage assets in ways that can help regenerate the natural environment, potentially undoing the damage of previous industrial revolutions (Schwab, 2016). The new technological way of production requires a new type of human factor in which creative and innovative potential, self-motivation and self-management are the key to success, implying that the global need entrepreneurs and intrapreneurs (enterprising company managers) with open-minded attitudes and behaviours will intensively increase.

Traditionally, a number of theoretical and empirical studies outline the profile of the entrepreneur and his distinctive psychological characteristics, including individual interests, personal traits and skills (initiative, ambition, tenacity, motivation for success and competitiveness, openness to change, moderate risk, and so on), innovative business behaviour, economic freedom, cultural ethos, etc. (Weber, 2002; Drucker, 1985; Bell, 1996; Schwartz & Ros, 1995). The emergence of new business and organizational models under the influence of the development of digital technology highlights entrepreneurs with new values, beliefs and behavioural patterns, oriented not only to individual success, but also to collective responsibility (Garvanova, Shishkov, & Janssen, 2018; Garvanova & Shishkov, 2019).

One of the widely used approaches in social sciences for measuring cultural and work-related values belong to Shalom Schwartz – Schwartz Value Survey, SVS (Smith, Peterson, & Schwartz, 2002; Schwartz, 1999, 2006, 2008). According to Schwartz (2006, 2008), the value system on cultural level is described by seven universal value orientations, grouped into three bipolar dimensions: *embeddedness* (EMB) vs. *autonomy* – unified *intellectual autonomy* and *affective autonomy* (AUT) (the undifferentiated vs. the differentiated from the group individual) – Ist bipolar dimension; *hierarchy* (HIE) vs. *egalitarianism* (EGA) (inequality vs. equality) – IInd bipolar dimension, and *mastery* (MAS) vs. *harmony* (HAR) (control and change vs. adaptation to the social and natural environment) – IIIrd bipolar dimension.

Embeddedness includes values that focused on the status quo and prevent actions or inclinations that might disrupt the group solidarity or the traditional order, while autonomy puts accent on human uniqueness and independence in personal ideas, emotions, and activities. Hierarchy emphasizes on social regulation and obligations as well as power, influence, and wealth, while egalitarianism expresses the persuasion of the group interests and goals, horizontal social relationships, and cooperation. Mastery highlights values and related policies and practices that point out change, control, and exploitation of the surroundings, while harmony reflects the needs for prevention and preservation of environmental parameters. Embeddedness,

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egalitarianism and harmony are collectively oriented values, while autonomy, hierarchy and mastery are individually oriented ones (for more details about value orientations see Schwartz, 2006, 2008).

2. Problem Statement

The present study examines the problem of the new digital entrepreneurship as a new generation software of the mind, if we use the Hofstede's metaphor for the cultural programming of the mind and its implication to work values (Hofstede, 2001) through a case study from Bulgaria.

The basic assumption is that the global and dynamic technological and economic conditions require entrepreneurs with complex personal and professional traits and skills that reflect their values, motives, and behavioural intentions.

3. Research Questions

In order to successfully realize their activities, digital entrepreneurs should possess complex traits, skills and characteristics in pursuing both individual and collective goals, which can be captured by empirical study on their value orientations and value hierarchy.

4. Purpose of the Study

The aim of the current research is to outline the cultural ethos of the digital entrepreneurs as a specific socio-professional group expressing new business ethics, leadership values and innovative entrepreneurial practices in contemporary society through: 1) analysis of the ways of solving the value conflicts and contradictions into three bipolar dimensions, and 2) outlining the value priorities, using the SVS.

5. Research Methods

In September – November 2018, an online questionnaire survey based on Schwartz's methodology for measuring cultural values (Schwartz, 2006, 2008) among Bulgarian entrepreneurs was applied via Google forms. It contained 44 items (values) such as social power, success, freedom, etc. By using a 9-point scale (from 0 – not important to 7 – extremely important and [-1] – contrary to my values) every respondent assessed the importance of each value as a guiding principle in his/her life. These values are grouped into six value categories (orientations) and three bipolar dimensions (alternatives).

The number of the Bulgarian entrepreneurs studied was 566. All of them fall within the age range of 18-68 y.o. (M=34.52; SD=10.28): 197 are men (34.8%) and 369 – women (65.2%); education – secondary 187 (33.0%), college 38 (6.7%) and university 341 (60.3%); marital status – single 199 (35.1%), married – 205 (36.2%), separated/divorced – 32 (5.7%), in cohabitation with partner 124 (21.9%) and widower/widow 6 (1.1%); with children – 276 (48.8%) and without children – 290 (51.2%); residence – Sofia (capital) 402 (71.0%), regional city 113 (20.0%), another town 35 (6.2%) and village 16 (2.6%). All respondents are high-level managers, investors, entrepreneurs or owners of small and medium-sized

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companies in the field of information and communication technologies, telecommunications and engineering.

6. Findings

The empirical data is processed with IBM SPSS Statistics 19. To test the hypothesis of the study Descriptive statistics and a series of Paired-samples t-tests are used. The results about value alternatives are summarized in Table 1.

Table 01. Descriptive statistics of value dimensions (N=566)

Value Alternatives (Dimensions)	**Descriptive Statistics**	
	M	**SD**
Autonomy	5.16	1.10
Embeddedness	5.24	0.91
Dominance of autonomy over embeddedness	-0.08	0.95
Hierarchy	3.61	1.26
Egalitarianism	5.42	0.93
Dominance of hierarchy over egalitarianism	-1.80	1.33
Mastery	5.35	0.96
Harmony	5.13	1.31
Dominance of mastery over harmony	0.22	1.29

The results from Table 1 reveal that all value categories except hierarchy are evaluated as very important guiding principles with mean of over 5. Only hierarchy has a lower average value and is considered to be somewhat important in the value system of entrepreneurs (M=3.61). Also, the dominant force between two categories can be presented as their mean differences. If the number is positive – the first variable has preponderance, and if it is negative – the second one. Thus embeddedness slightly dominates autonomy (M=-0.08), egalitarianism over hierarchy (M=-1.80) and mastery over harmony (M=0.22). In other words, in the case of entrepreneurs surveyed, the value conflicts are dealt with in favour of the values of the status quo, equal social relations and exploitation of the environment. Therefore, it can be said that the value model of entrepreneurs is complex and multi-layered.

Analyzing the structural and hierarchical organization of values enables us to examine much more closely any possible changes in the value priorities of the group studied. For that purpose, the mean of the value categories is sorted in descending order, with 1 being the highest value and 6 the lowest value. Paired samples *t*-test is used to identify the statistically (in)significant differences between each pair of variables. Value types with statistically significant differences in the mean are classified by a single ranking, while those with insignificant differences share the same ranking as others. The final rankings of value categories are shown in Fig. 1. Collective values are indicated by a black circle, and individual values are indicated by a white circle.

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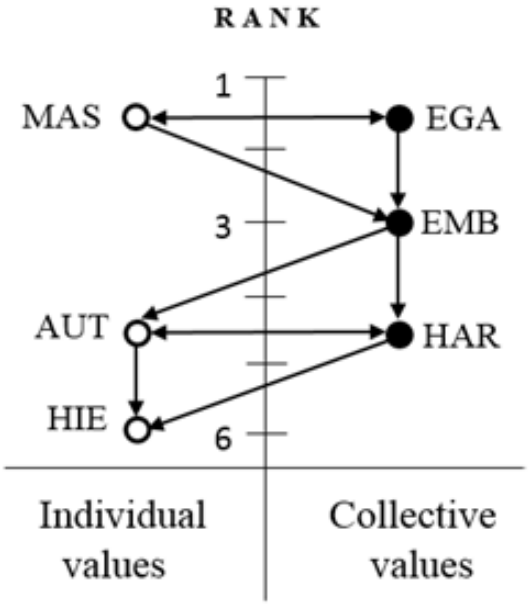

Figure 01. Structural-hierarchical model of the entrepreneurs surveyed in 2018 (N=566)

The visualization of the data in Fig. 1 shows that the value hierarchy of entrepreneurs consists of 4 structural levels: level I with a shared rank of 1.5 places mastery and egalitarianism, level II with rank 3 – embeddedness, level III with rank 4.5 – autonomy and harmony and at the last level IV with rank 6 is hierarchy. Value priorities are outlined by mastery, egalitarianism and embeddedness. The coordination of individual and collective values on the I and III levels of the value hierarchy and subordination of values with opposite orientations on the II and IV levels, respectively, reveals the flexibility of the value model and related business behaviour of contemporary entrepreneurs as an adaptive mechanism to the dynamics and uncertainty of the national and global business environment.

The priority position of mastery (change, control and exploitation of the environment through ambition and daring) is related to the digital entrepreneurs' activities to continuously invest and develop technological innovation, using new and different ventures on digital artefacts, resource acquisition, team dynamics and funding strategies, characterized by autonomy via broad-mindedness, creativity and curiosity, high tolerance to risk and uncertainty (Giones & Brem, 2017). Egalitarianism (social justice, equality) as a cultural orientation plays a key role in forming attitudes towards intolerance for abuses of market and political power and affect multinational firms' choices of destinations for foreign direct investment (Siegel, Licht, & Schwartz, 2012). The high rating of harmony (unity with nature, world at peace), in turn, is an empirical evidence that the new type of entrepreneurship is also recognized as a socially responsible behaviour, oriented towards the development and application of advanced technologies for supporting the regeneration and preservation of natural environments (Schwab, 2016).

The dominant place of embeddedness (social order, obedience, respect for tradition) raises some important questions. Some cross-cultural studies find that embeddedness correlates positively with the level of corruption in business and negatively with democracy, rule of law, government effectiveness, women's equality, social security benefits, etc. (Schwartz, 2009). It could be speculated that in many aspects embeddedness is a significant constraint to social and economic change (Schwartz, 2015; Garvanova,

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2018). At the bottom of the value order, hierarchy (authority, social power, wealth) is placed that does not correspond to the preference in the market-driven societies for allocating roles and resources hierarchically and unequally (Schwartz, 2007). According to Schwab, in the period of digital revolution, new partnerships are being formed as companies learn the importance of new forms of strategic coordination (Schwab, 2016).

7. Conclusion

The era of digital technology has paved the way for the digital entrepreneurs, accompanied by a new large-scale open innovation culture. The leader's ability to continually learn, adapt and challenge his/her own conceptual and operating models of success distinguish the next generation of business leaders, holding a high level of self-awareness, self-regulation, motivation, empathy and social skills (Schwab, 2016). This provoked the empirical study carried out at the end of 2018 among Bulgarian entrepreneurs from small and medium-sized businesses (N=566), aimed to analyse the new software of the mind of this socio-professional group as a system of values, motives and beliefs through the globally validated SVS methodology.

Traditionally, the entrepreneurial culture is characterized by leading value orientations such as autonomy (independence in thinking and behaviour, innovativeness), mastery (self-direction, pursuit of individual success, ambition), and hierarchy (motivation for power and financial well-being) (Schwartz, 2007). The hypothesis of the study is based on the assumption that the new type of digital technology entrepreneurs additionally will have many socially-determined features that make their value profile more complex. The analysis of value conflicts and value hierarchy reveals that the values of mastery, egalitarianism and embeddedness are the guiding principles for the entrepreneurs surveyed, followed by autonomy, harmony and hierarchy. In other words, the value priorities consist of both individual- and collectively-oriented motives that confirm the hypothesis. The high intensity of embeddedness and the low one of hierarchy suggest, however, that there are possible constrains to entrepreneurial software of the mind in the Bulgarian socio-cultural context and that it is in the process of formation and affirmation to be an engine of technological advancement and implementation of innovation in the businesses.

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