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MANAGEMENT INNOVATIVENESS: A CASE OF SLOVENIAN SMALL AND MEDIUM ENTERPRISES

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ABSTRACT. *The purpose of this paper is to report how organizational stakeholders' personal values influence innovativeness. In that framework, we discuss management's understanding and perception of innovativeness. We analyse the selected values (as a part of the entity of culture, ethics and norms - VCEN) of managers. Based on a literature review, we argue that the selected personal values of management support management innovativeness. We investigated Slovenian organizations and their managers as a case study. The confirmed hypothesized model suggests that, in considered Slovenian organizations, as the importance of the selected management values increased, so did the level of management innovativeness. These findings are especially important for countries in Central and Eastern Europe, particularly their organizations and their management, since they need to "make a shift in value priority" to reinforce manager's innovativeness.*

KEYWORDS: management, innovativeness, personal values, small and medium enterprises, values-culture-ethics-norms (VCEN), Slovenia.

JEL classification: D23, M10, O31, P20.

Introduction

An organization is a business system (BS). The selected viewpoints of dealing with business are exposed in its business attributes (Schumpeter, 1934; Fagerberg *et al.*, 2006; Kuratko, 2008; Fink, Kraus, 2009; Baumol, 2010). Firms, enterprises, organizations and company business systems became very influential institutions of the modern age (Collins, 2001; Fink, Kraus, 2009; Kaplan, Warren, 2009; Korten, 2009). Since the great majority of all business systems are small and medium enterprises (SMEs), it is almost impossible to reach any goal in society without engaging the SMEs (Hebert, Link, 1989; Fink, Kraus, 2009; Kaplan, Warren, 2009).

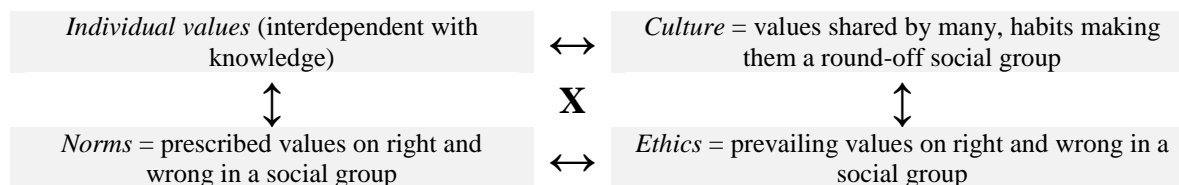
Currently in Europe, about 99% of all enterprises are SMEs, employing over 50% of all employees (Potocan, Mulej, 2007; Potocan, 2009; Rebernik *et al.*, 2010). Demands over SMEs have developed from efficiency by adding quality, range, uniqueness, and sustainability in synergy over recent decades (Collins, Porras, 1994; Collins, 2001; Potocan, Mulej, 2009). This requires constant innovations.

Innovation is defined as every novelty found beneficial in the experience of its users (Afuah, 1998; Rogers, 2003; European Union, 2006). In other words, innovation comprises invention plus its commercialization (Afuah, 1998).

Modern enterprises, including SMEs, face at least two important challenges: how to satisfy demanding customer's requirements and how to make their own business requisitely innovative to make customers happier with their organization than their competitors (Baumol *et al.*, 2007; Lafley, Johnson, 2010; Potocan, Mulej, 2010).

Consequently, SMEs must create and implement holistic development similar to, or greater than, the bigger enterprises. Meeting these requirements depends on influential persons, not only on the institutional order alone. If we wish to understand the human part of SMEs, we must take into consideration mutual interdependence and the synergetic entity of values, culture, ethics and norms (i.e., VCEN) on all important levels and functions of SMEs (*Figure 1*). In this

framework, values (and especially business values) of SMEs provide a basis for the innovativeness of SMEs.



Source: created by the authors.

Figure 1. Circular Interdependence of Values, Culture, Ethics, and Norms

We discuss the issue of improving the level of innovativeness on the basis of knowing: possibilities to assure the human basis for innovativeness, the role and importance of SMEs stakeholders' values as a background of their understanding and perception of innovativeness in SMEs, and relationships between the SMEs stakeholders' values and the selected important elements of innovativeness.

1. The Literature Review

1.1 The Human Part of Preconditions of the Innovative Business

Around the world, 80% of humankind lives in the less innovative countries, partly in undeveloped countries, partly in the more traditional (and less developed) areas inside the innovative countries (Mulej, 2000; Baumol *et al.*, 2007; Potocan, Mulej, 2007; Chesbrough, 2009; Rebernik *et al.*, 2010).

Everywhere, making the innovative business a prevailing practice requires systemic change of the inherited culture and practice toward the invention-innovation-diffusion processes (IIDP) as a normal daily practice. At least, this change requires making and implementation in a harmonized business of both:

- 1) The institutional economic and legal order supportive of innovative business;
- 2) The innovation-friendly behaviour of decisive participants of innovative business in organizations as BSs.

Traditional economists tend to suppose that the institutions alone can work well enough (Casson, 1982; Robbins, 2002; Fagerberg *et al.*, 2006; Leydesdorff, 2006; Mullins, 2006; Lawrence, Weber, 2007; Kuratko, 2008; Melnikas, 2008; Lerner, 2009; Lahovnik, 2010). Influential persons in an organization tend to read the institutional system measures from their own viewpoints, though. Thus, the business reality is not only based on economics, but also – to an equal level of importance – on management and organization of human relations.

In the innovative business, a central role is played by interdisciplinary co-operation and therefore interdependence in the professional IIDP teams. They do not consist of the research and development professionals only, but marketing professionals, at least, must be equal-footed for teams to make inventions and make innovations from them, while anthropologists and ethnologists are required increasingly, too, because their observation methods can shed light on future needs of potential customers (Barabba, 2004; Mulej, 2007; Sheshimski *et al.*, 2007; Potocan, 2009; Pyka, Scharnhorst, 2009; Lahovnik, 2010). This includes SMEs, their owners, managers, employees, consultants and other business partners.

The contemporary need for more holistic development of SMEs (Mulej, 2000; Mulej, 2007) requires professionals to accept their practical interdependence and enter interdisciplinary co-operation concerning all IIDP and all resulting novelties – inventions, suggestions, potential innovations, innovations, and their diffusion in markets.

The research, development, and marketing professionals are not enough; all operation managers and professionals in production, design, finance, human resource services, law, etc., are equally unavoidable – for innovation to result from IIDP. Even if their co-operation is quite holistic, everything cannot be foreseen and in every IIDP phase mentioned above only a small portion of its results proceeds to the next stage. Stages do not follow each other in a simple linear style, but in interdependence: the later ones also have impact on the earlier ones, e.g., through expectations, estimations, future research, prognoses etc., not only by feedback stimulating a next cycle.

In the briefed IIDP very different people show up, per functional areas, professions, human personality attributes, values/VCEN, etc. (Mulej, 2000; Mulej, 2007; Potocan, Mulej, 2007; Potocan, 2009). From all organizational VCEN for IIDP/innovations we will expose influence of VCEN (*Figure 1*).

1.2 The Role of Values/VCEN for Innovativeness of SMEs

There are two main approaches to human values (and/or whole VCEN) in business/behaviour of SMEs as BSs rather than biological, social, environmental, etc. systems.

- Some see SME's values/VCEN as a complex entity which mostly comes from society (and/or other important environments) via norms from prevailing VCEN in society (Swedberg, 2000; Mullins, 2006; Huczynski and Buchanan, 2007; Conway and Steward, 2009; etc.).
- Other authors see SME's values/VCEN just as results of interests, motives, etc. of the most influential group in organization (Robbins, 2002; Mullins, 2006; Huczynski and Buchanan, 2007; Fink and Klaus, 2009; etc.).

This means that there are many different definitions of values/VCEN of SMEs and/or SMEs' stakeholders.

More about the role and importance of the entire VCEN for SMEs see in e.g., Becker, McClintock (1967), Rokeach (1973), Hofstede (1994), and Schwartz (1992). More about the role and importance of values in the innovation business and behaviour of SMEs is presented in Swedberg (2000), Cavanagh (2005), Potocan, Mulej (2007), and Chesbrough (2009).

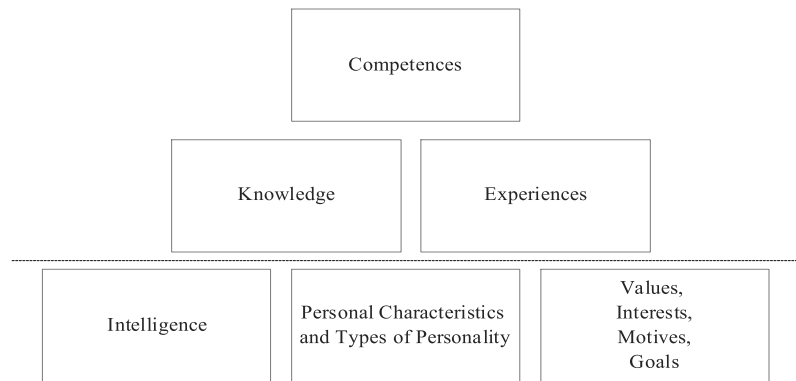
But all researchers also face the dilemma, how to understand possibilities for changing of values and hence of VCEN. From different theoretical cognitions about values (in philosophy, sociology, psychology, etc.) we based our work on cognitions taken from different authors in psychology (Rokeach, 1968; Schwartz, 1994; etc.). These researches focus on empirical detecting of the real state of values and responses to issues related to values.

Various authors share a relatively unified understanding and definition of the basic functions of values (Rokeach, 1968; Schwartz, 1994; Hofstede, 2001; etc.). They claim that the basic functions of values direct individuals' behaviour at conflict solving, decision making, and motivating. Every person has a relatively personal and possibly broad set of values, which he/she forms as a value-based hierarchy and interdependence of values, i.e., a value system (a complex entity, not a mental picture of it). In the same way values/VCEN on all levels of the human action can be worked on.

An individual's value system is relatively durable, ordered, and stable; but their hierarchy can change along with changes in society, culture, personal experience, etc., which

influence the changing of the relative importance of single values for the given individual (and the organized forms of his/her actions) (Rokeach, 1973, p.11). Changing of values is a complex and long-lasting process; it can support or hinder IIDP. Our consideration of it is based on findings of many theorists that the process of changing of values consists only, or mostly, of changes of the relative importance of single values inside the value system rather than of changes in the related structure content of the value system itself (Becker, McClintock, 1967; Rokeach, 1973; Schwartz, 1992; Hofstede, 2001; etc.).

For SME and/or stakeholders of SMEs its/their values (and other parts of VCEN) make important building blocks (different authors also use term elements or components) of business and behaviour of SMEs' stakeholders (Schwartz, 1992; Cavanagh, 2005; Mullins, 2006; Melnikas, 2008; Potocan, 2009; etc.). From the SMEs' viewpoint, the IIDP is primarily based on knowledge, experience, competences, but SMEs also try to improve other basic blocks of their business – e.g., values of stakeholders of SMEs. Basic building blocks of business and behaviour of SME stakeholder are presented in *Figure 2*.



Source: created by the authors according to Hughes *et al.*, 2009, p.265.

Figure 2. Some Relationships between the Selected Human Attributes

Importance of SME stakeholders' values for understanding of their and SME innovativeness is acknowledged in both literature on, and practice of, SMEs and/or innovativeness of SMEs. But there is no shared opinion in what way should SMEs transmit values to SME stakeholders, and vice versa, to make prevailing VCEN from values shared by the influential ones.

SME stakeholders' attributes can, most generally, be defined on the basis of attributes of their business and behaviour in SMEs (Becker, McClintock, 1967; Rokeach, 1973; Potocan, Mulej, 2007; Potocan, 2009; etc.). In line with findings of various authors we may conclude that business/behaviour of SME stakeholders is under important impact of their cognitive basis and values (and/or entire VCEN and/or parts of VCEN), first of all. Inside this framework it is true in the most general lines that the crucial personal values of SME stakeholders influence attributes of their business/behaviour.

The cognitive basis of VCEN of SME stakeholders can influence their SMEs in two ways:

- The crucial VCENs of crucial stakeholders (and especially the values of stakeholders) influence the SMEs process indirectly, through the SMEs stakeholders' cognitive and decision-making basis; or

- A synergetic impact of the cognitive basis and values of SME stakeholders (and/or all their VCEN) is noticed.

For a more holistic consideration of the business/behaviour of stakeholders in SMEs, one must take into account three groups of factors: impact of SME environments, bounded rationality and irrationality of individuals, and their selective perceptions (Potocan, Mulej, 2007; Potocan, 2009). A detailed discussion about the groups of factors reaches beyond the chosen frame of our contribution.

2. Field Research on Innovativeness and the Innovative Behaviour of SME Stakeholders Aims, Tasks, and Methodology

2.1 Framework of the Survey

The impact of SME stakeholders' personal values (and in that frame, the selected group of managers' personal values) on perception of IIDP/innovations has been widely recognized in literature and in business practice (Swedberg, 2000; Gloor, 2006; Potocan, Mulej, 2007; Sheshimski *et al.*, 2007; Melnikas, 2008; Skarzynski, Gibson, 2008; Martin, 2009; Lahovnik, 2010). Several authors focused their research on examining the relationship between the perceptions of IIDP/innovations and SME stakeholder's personal values.

For our work, we conclude that perception of IIDP/innovations is driven by a cognitive basis and the VCEN of SME stakeholders (see previous chapter). In addition, we assume that the selected important SME stakeholders' personal value greatly determines (and/or influences) their perception of IIDP/innovations. It becomes more about the importance of the selected personal values for SME stakeholders' perceptions of IIDP/innovations (Hage, Dewar, 1973; O'Reilly *et al.*, 1991; Chatman, Jehn, 1994; Potocan, Mulej, 2007; Tidd, Bessant, 2009).

Different authors measuring relationships between single criteria of innovativeness (of SME stakeholder) and assigned personal values (of stakeholder of SME) have been tested and validated (O'Reilly *et al.*, 1991; Russell, Russell, 1992; Cavanagh, 2005; Potocan, Mulej, 2007; Potocan, Nedelko, 2010; Nedelko, 2011).

2.2 Research Methodology

In our investigation, we used a sample of SME stakeholders, i.e., managers of the Slovenian organizations. Data were obtained through computer assisted telephone interviewing (CATI) of stakeholders in Slovenian SMEs in 2010. Altogether 500 organizations were contacted, while 260 answers from their managers, appropriate for our research, were received.

Therefore, the sample consists of 260 managers of SMEs in Slovenia and meets the basic criteria for data (i.e., represents a relatively representative regional coverage; sample met the basic-activity structure of Slovenian SMEs, well fitting the industry-based structure of the Slovenian economy). Members of all organizations participated voluntarily in the study. According to proposed research hypotheses (defined in 2.3), we measured manager's personal values and their attitudes about innovativeness. More facts about the survey are available from the authors of this contribution.

For measuring personal values, "the Schwartz Value Survey (SVS)" was used (Schwartz, 1994). The original SVS consists of 56 items. We added "innovativeness" as a value. Respondents rate each personal value using a 9-point Likert-type scale, ranging from "opposed

to my values” (-1) to “of supreme importance” (7) (Ralston *et al.*, 1997; Yammarino *et al.*, 2005).

Based on our previous research and the cognition of others (O’Reilly *et al.*, 1991; Ralston *et al.*, 1997; Lester, Piore, 2004; Govindarajan, Trimble, 2010), we identified the following set of criteria for the examination of management innovativeness: 1) SME manager’s stimulation for creativity; 2) Openness of SME managers to new ideas and other’s knowledge; 3) Benevolence to changes; 4) Risk perception; and 5) Innovativeness as a value.

For measuring management attitudes and/or preferences towards innovativeness, we identify the concept of “management innovativeness”, based on prior studies of innovativeness (O’Reilly *et al.*, 1991; Potocan, Mulej, 2007; Green, 2009). Five items in the construct are measured using a 7-point Likert-type scale, with anchors referring to low innovative thinking (1) and high innovative thinking (7). Items in the term assess SME members’ stimulation for creativity (1 – not supporting; 7 – supporting); openness of SME members to new ideas and other’s knowledge (1 – refusing; 7 – accepting); benevolence to changes (1 – don’t support; 7 - support); risk perception (1 – refusing; 7 – preference); and innovativeness as a value (1 – low; 7 – high).

Based on the presented theoretical cognitions (Katz, 2003; Gloor, 2006; Martin, 2009; Berkun, 2010; Christensen *et al.*, 2010) and our experiences from business practice (Potocan, Mulej, 2010; Potocan, Nedelko, 2010), we identified several relationships between the items (which constitute the construct “management innovativeness”) and selected personal values of managers. Insights are summarized in *Table 1*.

Table 1. Significant values for management innovativeness

Management innovativeness	Significant personal value
SME managers stimulation for creativity	Creativity
Openness of SME managers to new ideas and other’s knowledge	Broad-minded
Benevolence to changes	Dynamic life
Perception of risk	Daring
Innovativeness as a value	Innovativeness

Source: created by the authors.

For analyzing the collected data, several methods were used. Based on normality tests using the Kolmogorov Smirnov test, we conclude that all items (i.e., items included to test the hypotheses) are not congruent with a normal distribution (Argyrous, 2006). Since assumptions about normality are markedly violated, we used adequate tests of non-parametric statistics (when applicable). In that frame, the Spearman’s correlation coefficient (ρ) was used for measuring the association between the selected items denoting innovative thinking and detected personal values of the SME members. We used Cronbach’s alpha for measuring the reliability of the construct referring to management innovativeness. More about the utilized methods for data analysis see in Argyrous (2006).

In our examination of the impact of the management’s personal values on management innovativeness, we go beyond inferential and descriptive statistics. We use techniques of structural equation modelling (SEM) to examine the impact of the management’s personal values on their innovativeness. Using SEM enables us to estimate relationships of multiple and interrelated dependence between selected single personal values of management (i.e., indicators

of VCEN-INOVM), latent variable VCEN-INOVM, indicators of management innovativeness, and latent variable management innovativeness, simultaneously.

The hypothesized model of causal structure for predicting the level of management innovativeness was tested on a sample of Slovenian managers of SMEs. For testing the goodness-of-fit of the hypothesized model, we applied the most frequently used absolute and incremental fit measures (e.g., chi-square, RMSEA, CFI, NFI, RFI).

Based on the literature review, presented cognitions, and prior research of selected problems in organizations, the hypothesized model evaluates how single manager's personal values (represented by the latent construct of VCEN-INOVM) predict the level of management innovativeness (represented by the latent construct of management innovativeness). Due to the nature of the aim of our research, our study strives to examine direct, indirect, and total effects among indicators and latent variables in the hypothesized model.

In the next section, we outline the proposed research hypotheses.

2.3 Hypotheses

According to the proposed framework of our survey and literature review about the examination of roles and the importance of personal values of management for management innovativeness, we postulated three hypotheses.

H1: Stakeholders of Slovenian SMEs consider innovation as an important characteristic of their business.

Figures from research on the diffusion of novelties aimed at becoming innovations (Afuah, 1998; Rogers, 2003; Lester, Piore, 2004; Martin, 2009; Christensen *et al.*, 2010) include rather innovative recipients of novelties, only about 18 - 30% of all adults. This means that new concepts, such as economic entrepreneurship replacing routine-loving behaviour (including employment without a lot of own responsibility), are difficult to implement.

From the viewpoint of a current situation in Slovenia, the level of understanding and acceptance of innovations among members of SMEs (i.e., selected group of managers) is relatively favourable. Details of the general framework, institutional conditions for innovativeness, and the state of innovativeness in Slovenian organizations are presented in Rebernik *et al.* (2000-2010), Potocan, Mulej (2007), and Potocan, Mulej (2010). The results of the survey of personal values of members in Slovenian SMEs in 2010 indicates that members of SMEs consider innovations (and innovative conditions) important characteristics of their business (Potocan, Nedelko, 2010).

Innovativeness of managers of SMEs on a great extent depends upon all synergetic objective factors (e.g., organizational goals, requirements of owners, shareholders) and especially on their subjective starting points. In that framework, we emphasize the values of managers of SMEs as one of crucial factors influencing innovativeness.

This leads to the conclusion that managers of SMEs (and/or members in general), based on their personal values, recognize, and/or are aware of, their need for innovativeness, practiced through their business and behaviour in organizations. Thus, the key factor is the personal values of managers of SMEs, favourable or unfavourable to innovative thinking, business, and the behaviour of all SME members.

H2: Personal values of stakeholders of SMEs in Slovenian organizations support their innovative thinking.

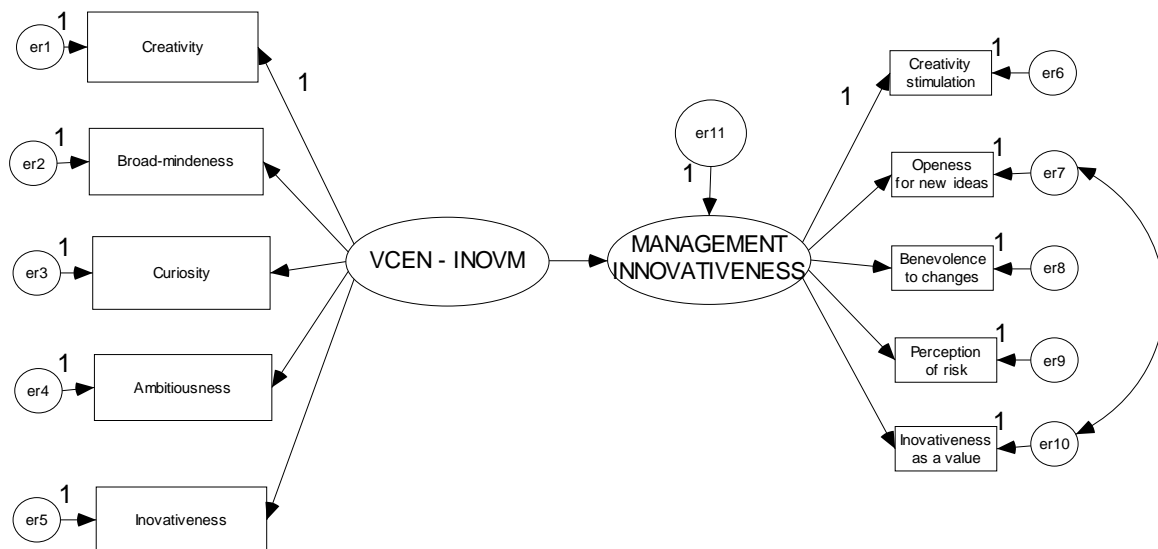
Figures from the research of entrepreneurship and innovativeness include the finding that about 40% of adults in a society must be entrepreneurial persons to make enterprises

economic, rather than only legal entities, called enterprises (Rogers, 2003; Rebernik *et al.*, 2000-2010; Chesbrough, 2009; Tidd, Bessant, 2009; Lafley, Johnson, 2010). This percentage must be achieved by innovativeness and the innovation of human values, which will not be a novelty yielding no benefit to its users, but an innovation. The results of the survey of members of the Slovenian SMEs in 2010 indicate that personal values from members of the selected SMEs do influence (and/or support) innovativeness in Slovenian SMEs (Mulej, Potocan, 2010; Potocan, Nedelko, 2010).

H3: Management's personal values predict the level of management innovativeness.

The proposed model evaluates how personal values of management (represented by the latent construct of VCEN-INOVM) predict (and/or influence) the level of innovativeness of management. As the level of management innovativeness is not assumed to be perfectly predicted by selected personal values of management, this dependent variable (i.e., management innovativeness) includes a residual (er11).

The formulation of the hypothesized model presented in *Figure 3* is derived from summarised findings from a review of the relevant literature about the impact of personal values on innovativeness (see Chapter 1). Therefore, a postulated hypothesis is that VCEN-INOVM importantly predicts the level of management innovativeness. This hypothesis reflects the findings in the literature. Predicting of the level of management innovativeness is depicted in *Figure 3*.



Source: created by the authors.

Figure 3. Hypothesized Model of Causal Structure for Predicting the Level of Management's Innovativeness

Generally, our research of the proposed model with AMOS consists of two distinct parts: (1) the exploratory factor model, which specifies the relationships of the observed variables (i.e., indicators) to their positioned underlying construct (in our case, management innovativeness), and (2) the structural equation model, which specifies the relationships of the constructs between each other, as posited by a research model (i.e., VCEN-INOVM and management's innovativeness).

In the model, we have two latent (i.e., unobservable) variables, namely VCEN-INOVM and management innovativeness. Since those two variables cannot be observed directly, we

identified several manifesting variables which serve as indicators of the underlying construct which they are presumed to represent.

Regarding the proposed model, one questions the plausibility of the multidimensional structure of (1) VCEN-INOMV, and (2) management innovativeness.

Regarding VCEN-INOVM, values are chosen exclusively on prior theoretical and practical findings (Hage, Dewar, 1973; O'Reilly *et al.*, 1991; Rusell, Rusell, 1992; Chatman, Jehn, 1994; Nedelko, Potocan, 2010; Nedelko, 2011). Based on that, we can most generally conclude that the selected personal values (represented by the construct VCEN-INOMV), have the strongest impact on the level of management innovativeness. This cognition is valid for dealing with personal values at the level of single values; i.e., therefore, all values from Schwartz value list and one added – innovativeness – were taken into consideration and tested. For more about this, see Schwartz (1992; 1994) and Nedelko (2011). We now accept this multidimensional structure as taken for granted.

Regarding the latent variable of management innovativeness, we can most generally summarize that there are numerous studies that have supported the multidimensionality of the construct of management innovativeness (Afuah, 1998; Collins, 2001; Rogers, 2003; Gloor, 2006; Chesbrough, 2009; Tidd, Bessant, 2009). Studies which explicitly determine (several) factors, which determine the multidimensional structure of management's innovativeness, are very scarce. In addition, this problem is investigated less in former transition countries in Central and Eastern Europe. Based on different prior studies, especially in the developed world, we argue that there is an about-five-factor structure for the construct of management innovativeness (Afuah, 1998; Collins, 2001; Rogers, 2003; Gloor, 2006; Chesbrough, 2009; Tidd, Bessant, 2009).

3. Research Results and Findings

3.1 Consideration of Hypothesis 1 on the Basis of Results of the Survey

H1: Stakeholders of Slovenian SMEs consider innovation as an important characteristic of their business.

To measure “management innovativeness” we identify the construct of management innovativeness, consisting of five items (*Table 2*). All 260 cases were processed in the analysis. The Cronbach's alpha is 0.806, which indicates high overall internal consistency among the five items representing the construct of innovative thinking (*Table 2*).

Table 2. Mean values for “management's innovativeness” items

	N	Minimum	Maximum	Mean	Std. Deviation
Management stimulation for creativity	260	1	8	6.50	1.511
Openness of management to ideas and knowledge of employees	260	1	8	6.83	1.369
Benevolence to changes	260	1	8	6.53	1.482
Perception of risk	260	1	8	5.63	1.623
Innovativeness as a value	260	1	8	6.63	1.611
Valid N (list-wise)	260				

Source: own calculations.

Based on the obtained results, we can make some conclusions about managers' attitudes toward innovativeness in Slovenian organizations:

- Among several items, the openness of members of SMEs to new ideas and other's knowledge is the most important, while the perception of risk is the lowest.
- Members of SMEs are willing to accept new ideas and other's knowledge (e.g., from the environment of the organization and from other members of organizations), since the current situation requires consideration of all available ideas and knowledge for organizations to survive in the modern business environment. On the other hand, accepting (also) ideas of other members is an important prerequisite for IIDP/innovations in organizations, especially SMEs.
- SME members stimulate creativity of other members of a SME, since creativity is central to innovativeness. SME members must also be benevolent to changes, because innovativeness is based on (continuous, hopefully beneficial) changes.
- SME members are not very willing to accept (too high) risks. This could have deeper roots, e.g., in a traditional aversive cognition of risk among Slovenian organizations.

The results enable us to confirm Hypothesis 1.

4.2 Consideration of Hypothesis 2 on the Basis of the Survey Results

H2: Personal values of SME stakeholders in Slovenian organizations support their innovativeness.

We will test the considered hypothesis in two phases. In the first phase, we examine the relationship (i.e., correlations) between all single characteristics of management innovativeness and its single appointed personal value, for all five selected characteristics. In the second phase, we examine the relationship between the selected personal values supporting management innovativeness (i.e., VCEN-INOVM) and the examined characteristics of management innovativeness. Structural equation modelling was used.

In our conclusions regarding Hypothesis 1, we point out several possible relationships between personal values of SME members and items referring to their innovativeness. This will be outlined in the framework testing Hypothesis 2. For the purpose of researching the impact of personal values on innovativeness, we assign the selected personal value to each item in the construct (*Table 3*).

Table 3. Correlation between management innovativeness and personal values

Management innovativeness	Significant personal value	Correlation
1. SME managers stimulation for creativity	Creativity	r=0.172* (p=0.005)
2. Openness of SME managers to new ideas and other's knowledge	Broad-minded	r=0.343* (p=0.000)
3. Benevolence to changes	Dynamic life	r=0.106 (p=0.087)
4. Risk perception	Daring	r=0.124* (p=0.046)
5. Innovativeness as a value	Innovativeness	r=0.293* (p=0.000)

Notes: * Correlation is significant at the 0.05 level (2-tailed).

Source: own calculations.

The results in *Table 3* indicate that there are significant relationships between a detected personal value and the selected item of management innovativeness ($p < 0.05$). One instance (benevolence to change and dynamic life), demonstrates the correlation of 0.076 ($p = 0.223$) indicating no relationship.

Regarding the strength of the relationships, we conclude for relationships 2 and 5 that the relationship is quite strong for the (used) explorative approach and from our selected viewpoint. The other two relationships, 1 and 4, indicate a weaker relationship.

Some possible conclusions about relationships between innovative thinking and SME members' personal values include:

- SME members who value creativity (as a personal value) highly, invest a lot of effort to stimulate the creativity of other organizational members;
- SME members who are broad-minded are open to new ideas and knowledge of other employees;
- SME members who give more priority to daring are more benevolent to changes in the organization; and
- SME members who value innovativeness are very concerned with innovativeness and innovative thinking, which they spread to other members of the organization.

On the basis of our research, we support 4 (1,2,4,5) of the 5 identified relationships in *Table 3* ($p < 0.005$).

4.3 Consideration of Hypothesis 3 on the Basis of the Survey Results

H3: Management personal values predict the level of management innovativeness.

In the frame of the assessment of the hypothesized model, we first present results about goodness-of-fit of the model, followed by modification indices and the interpretation of the parameters in the model.

The input covariance matrix generated from ten observed variables of the model contains 55 sample moments. For the hypothesized model, there are 21 parameters to be estimated (i.e., 12 variances and 9 regression weights). The model has positive degrees of freedom, which identifies the model. The chi-square goodness-of-fit statistics were computed. The results indicate that the model does not fit the data well by the chi-square test, χ^2 ($N = 260$, $df = 34$) = 70.94, $p < 0.05$.

Since in the research practice, χ^2 provides little guidance in determining the extent to which the model does not fit the data, we base our decision on selected indices of the fit. The Amos output provides us with numerous indices of fit; CFI and RMSEA were used.

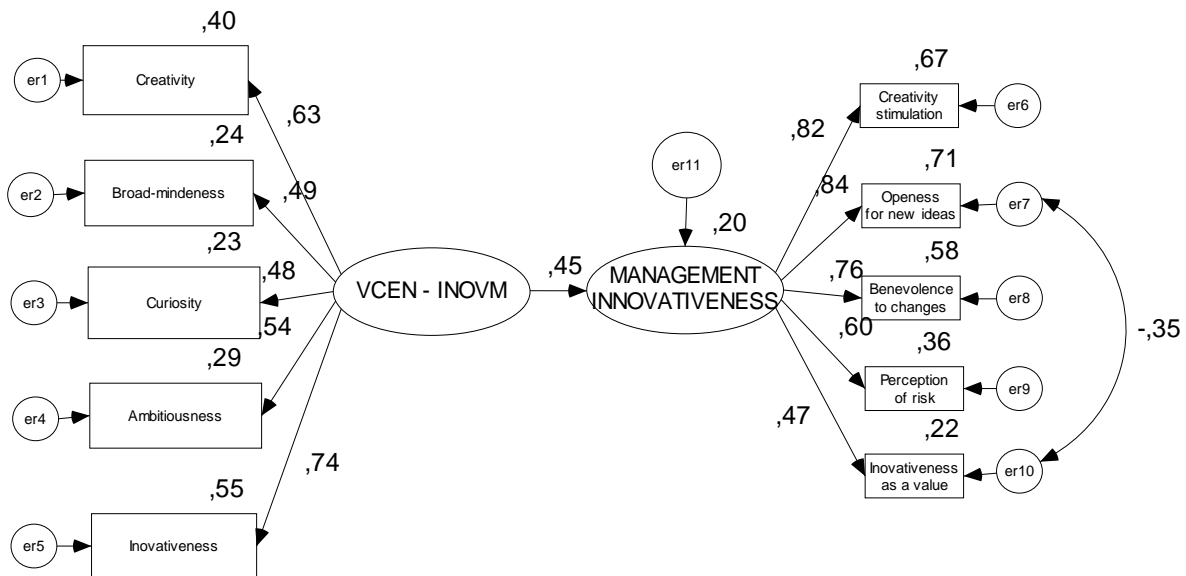
In reviewing these fit indices, we see that a hypothesized model is relatively reasonably well fitting, as indicated by a CFI of 0.950 and RMSEA value of 0.065; both within a recommended range of acceptability. This indicates a relatively good conformity between the hypothesized model and the observed data (i.e., from 0.05 to 0.08). On the other hand, the coherency of fit (PCLOSE), which test the hypothesis that the RMSEA is good in the population, is 0.120; significantly below the desired > 0.50 . This is probably due to the RMSEA tendency to over-reject true population models in small samples, like our model does. In addition to CFI, other baseline comparisons fit indices of NFI, RFI, and IFI, indicating a reasonably well-fitting model.

A review of the modification indices (MIs) reveals some evidence of misfit of the model. Therefore, we cease to operate in a confirmatory mode of analysis and proceed further with exploratory analysis. We adopt a step-by-step approach in the re-specification of the hypothesized model regarding MIs. In reviewing the list of MIs, we turn our attention to the MIs related to covariance's. We see very clear evidence of the misspecification associated with

pairing of the error terms associated with “openness to new ideas” and “innovativeness as a value” (er7<->er10; MI = 14.426).

Consequently, we re-specified the hypothesized model and add the error covariance er7<->er10 (see final model). Goodness-of-fit statistics related to this model revealed that the incorporation of the error covariance between “openness to new ideas” and “innovativeness as a value” made a substantial improvement of the model fit, χ^2 (N = 260, df = 33) = 52.95, p = 0.015. In particular, the overall chi square value decreased from 70.94 to 52.95 and the CFI value increased from 0.950 to 0.973. In addition to CFI, other baseline comparisons fit indices of NFI, RFI, and IFI, indicating a well-fitting model (all are above 0.9; range 0.909 to 0.974). Turning to the RMSEA, we see that the RMSEA value for the re-specified model decreased from 0.065 to 0.048, with the 90% confidence interval ranging from 0.021 to 0.072. The p-value for the test of closeness of fit (PCLOSE) is equal to 0.518. Based on these values, we can conclude that we are 90% confident that the true RMSEA value in the population will fall within the bounds of 0.021 and 0.072, which is sufficiently precise, especially in small samples, like our model is. We can conclude that the re-specified model fits the data well.

Turning to the results of MIs for the re-specified model, we see no evidence of substantively reasonable misspecification in the proposed model. Therefore, we consider it to show the final best-fitting and most parsimonious model to introduce the data. The final model of the causal structure for predicting the level of management’s innovativeness with standardized estimates is presented in Figure 4.



Source: own calculations.

Figure 4. Final model of causal Structure for Predicting the Level of Management Innovativeness with Standardized Estimates

We now turn our attention to examining the standardized estimates. Basic explanations and results for their consideration are:

- Turning first to the regression weights, we see that all are statistically significant by the critical ratio test. For interpretation, we used standardized regression weights (Figure 4). The results indicate that VCEN-INOVM (i.e., perceptions about selected values, represented by

this construct) significantly and positively impact the level of management innovativeness (standardized regression weight: $\beta = 0.449$, $p < 0.001$). Thus, we support hypothesis 3.

- Regression weights also revealed that the 10 observed measurement variables (five personal values and five indicators of management innovativeness) are all significantly represented by their respective latent constructs ($p < 0.001$) (i.e., VCEN-INOVM and management innovativeness). Therefore, we conclude that as personal values in VCEN-INOVM are becoming more important to management, the stronger is the support for management innovativeness.

- Regarding the error covariance between “openness to new ideas” and “innovativeness as a value,” we summarize that openness to new ideas is concerned with the readiness of people to accept new ideas and suggestions; “innovativeness as a value” deals with someone’s general perception of how important innovating is to him/her. Clearly, these two items appear to be expressing the same idea, albeit their focus is significantly different. This is also confirmed by fact that as you are innovative, you are open to new ideas, and vice versa. We can therefore suppose the correlated errors are due to the item content overlap.

- The percentage of variance explained for 10 measurement variables range from 22% (Innovativeness as a value) to 71.2% (Openness to new ideas).

- The squared multiple correlations show that 20.2% of the variance in the level of management innovativeness is accounted for by the variance in VCEN-INOVM. The remaining variance in management innovativeness cannot be explained by the model, and it is thus attributed to unique factor ϵ_1 . This could be attributed to the fact that a synergetic set of hard and soft factors (also defined as rational and irrational factors), (Rogers, 2003; Mullins, 2006; Potocan, 2009) influences the innovativeness of management. Those are factors that affect the innovativeness of management, but do not appear in a proposed model. In such circumstances, we can assume that VCEN INOVM (i.e., the selected personal values of management) have a great explanatory power, since they explain almost 21% of variance in the level of management innovativeness.

In the frame of explaining factor loadings, we will examine the total, direct, and indirect effects encountered in the hypothesized final model. In *Table 4*, the standardized indirect, direct and total effects are outlined.

Table 4. Standardized indirect, direct and total effects

	VCEN - INOVM	Management innovativeness
Management innovativeness	.449	.000
Innovativeness as a value	.211	.469
Perception of risk	.271	.603
Benevolence to changes	.341	.760
Openness for new ideas	.379	.844
Creativity stimulation	.368	.820
Creativity	.630	.000
Broad-mindedness	.488	.000
Curiosity	.483	.000
Ambitiousness	.541	.000
Innovativeness	.741	.000

Source: own calculations.

Table 4 reveals the following:

- The first row of the table indicates that management innovativeness only directly depends on VCEN-INOVM. The total effect of VCEN-INOVM on management innovativeness is 0.449. The fact that effect is positive means that, all other things being equal, a relatively high VCEN-INOVM is associated with a relatively high level of management innovativeness. More accurately, this means that with the rising importance of single management values supporting innovativeness, the support for management's innovativeness is higher.
- Creativity stimulation depends directly on management innovativeness (0.820) and indirectly on VCEN-INOVM (0.368). High scores on VCEN-INOVM and high scores on management innovativeness are associated with stimulation of high creativity by management in organizations.
- Openness to new ideas depends directly on management innovativeness (0.844) and indirectly on VCEN-INOVM (0.379). High scores on VCEN-INOVM and high scores on management innovativeness are associated with a high openness of management to new ideas.
- Benevolence to changes depends directly on management innovativeness (0.760) and indirectly on VCEN-INOVM (0.341). High scores on VCEN-INOVM and high scores on management innovativeness are associated with a high managerial benevolence to changes.
- Perception of risk depends directly on management innovativeness (0.603) and indirectly on VCEN-INOVM (0.271). High scores on VCEN-INOVM and high scores on management innovativeness are associated with a high managerial willingness to accept risk.
- Innovativeness as a value (in organization) depends directly on management innovativeness (0.469) and indirectly on VCEN-INOVM (0.211). High scores on VCEN-INOVM and high scores on management innovativeness are associated with a higher importance of innovativeness (as a value) of management.

Regarding the impact of VCEN-INOVM and management innovativeness on indicators measuring management innovativeness we can conclude the following:

- Openness to new ideas, creativity stimulation and benevolence to changes has a strong direct effect on management innovativeness. A moderate effect belongs to the perception of risk, while the lowest effect stems from innovativeness as a value.
- Regarding the indirect effect of VCEN-INOVM on the indicators of management innovativeness, a moderate indirect effect of VCEN-INOVM on creativity stimulation comes from openness to new ideas and benevolence to changes; while this impact on the perception of risk and innovativeness as a value is weak.

Single personal values, selected as indicators of VCEN-INOVM, only depend directly on VCEN-INOMV. There is no indirect effect of management innovativeness on single personal values. The findings are as follows:

- Creativity (as a value) only depends directly on VCEN-INOMV (0.630),
- Broad-mindedness (as a value) only depends directly on VCEN-INOMV (0.488),
- Curiosity (as a value) only depends directly on VCEN-INOMV (0.483),
- Ambitiousness (as a value) only depends directly on VCEN-INOMV (0.541), and
- Innovativeness (as a value) only depends directly on VCEN-INOMV (0.741).

There is no evidence about an indirect effect of any single personal value on management innovativeness; but there is strong evidence of a direct impact of VCEN-INOMV on management innovativeness and indirect impact of VCEN-INOMV on single indicators of management innovativeness. This is probably due to the synergetic nature of personal values in the frame of personal value system.

Judging by the critical ratios, the null hypothesis would be accepted at the conventional significance level of the management innovativeness depends on VCEN-INOVM (critical ratio = 5.324).

Conclusions

The primary aim of our paper was to present our research on the role and importance of SME managers' personal values for managerial innovativeness. In that framework, and based on the presented theoretical cognitions, we introduce and considered items for measuring innovative thinking and their linkage to the personal values of SME members. Regarding the relative importance of other measured characteristics of organizations (which are not presented here); we can conclude that innovativeness is considered an important characteristic of SME managers. We therefore support Hypothesis 1.

Based on the examination of single relationships between the selected personal value and associated items of management innovativeness, we can conclude that SME managers' personal values play an important role in their innovativeness. The strength in four of five considered relationships is significant from the selected viewpoint. We therefore support Hypothesis 2.

The results indicate that the selected management personal values (represented by the construct of VCEN-INOVM) significantly and positively impact the level of management innovativeness. There is also strong evidence of the direct impact of VCEN-INOMV on management innovativeness and indirect impact of VCEN-INOMV on a single indicator of management innovativeness. Based on these cognitions, we support Hypothesis 3.

On the grounds of presented cognitions about all three hypotheses, we conclude the following:

- Correlation coefficients for relationships between the selected personal values and the selected indicators of management innovativeness indicate a significant impact of personal values on the assigned indicators of management innovativeness; an exception exists about the impact of curiosity on the benevolence to changes.

- Taking into consideration the impact of single personal values on management innovativeness, this simultaneously reveals that the effect of single personal values on the assigned indicators of management innovativeness differs from the synergetic effect of VCEN-INOVM on the level of management innovativeness.

- Innovativeness (as a personal value of management) and creativity have a strong effect on VCEN-INOVM (explain the highest percent of its variance), which greatly influences the level of management innovativeness. Ambition, curiosity, and broad-mindedness have a relatively moderate effect on VCEN-INOVM.

- Management innovativeness (i.e., explaining the largest percent of its variance) experiences the strongest effect of creativity stimulation, openness to new ideas, and benevolence to changes.

- We conclude that management personal value creativity most importantly influences the level of management innovativeness. Therefore, as the importance of value creativity for management increased, so did the level of management innovativeness.

The overall results of our research reveal that the impact of selected personal values should be considered as a synergetic whole of the selected personal values assigned to support management innovativeness. This cognition opens new questions/dilemmas for future research on the impact of personal values of management on their innovativeness (e.g., the examination

of the impact of categories of personal values (single personal values are joined in categories) and the examination of the impact of macro-categories of personal values (i.e., categories of values are joined in macro-categories of values).

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VALDYMO NOVATORIŠKUMAS: SLOVĒNIJOS MAŽŲ IR VIDUTINIŲ ĮMONIŲ ATVEJIS**Vojko Potocan, Zlადko Nedelko****SANTRAUKA**

Straipsnyje nagrinėjama, kokią įtaką pažangai daro asmeninės organizacijos suinteresuotųjų šalių vertybės. Šiame kontekste aptariamos vadovybės ir pažangos sampratos, analizuojamos pasirinktos vadovų vertybės (VCEN – kaip kultūros, etikos ir normų subjekto dalis). Remiantis literatūros apžvalga, teigiama, kad pasirinktosios vadovų asmeninės vertybės glaudžiai susiję su valdymo pažanga. Atvejo studijos analizė atlikta remiantis Slovėnijos organizacijų ir jų vadovų asmeninių vertybių tyrimo rezultatais. Patvirtintas hipotetinis modelis rodo, kad padidėjus pasirinktų valdymo vertybių svarbai analizuotose Slovėnijos organizacijose, pakilo ir valdymo novatoriškumas. Šie duomenys itin svarbūs Centrinės ir Rytų Europos šalims, jų organizacijoms ir organizacijų valdymui. Siekiant pagerinti valdymo pažangą, jose būtini „vertybių eiliškumo pokyčiai“.

REIKŠMINIAI ŽODŽIAI: valdymas, pažanga, asmeninės vertybės, mažos ir vidutinės įmonės, vertybės-kultūra-etika-normos (VCEN), Slovėnija.