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INNOVATIONS SKILLS REPOSITORY OF CROATIAN MIDDLE-LEVEL MANAGERS

Summary: Innovation is the application of new and improved ideas, procedures, goods, services, processes, which brings new quality used in the application. Particularly important is the role of innovation in entrepreneurship, and entrepreneurship and is defined as a continuing effort to seek innovation and commercialization of their profit. The innovation skills repository is an important preposition for the innovations to become realized in the practice. The goal of the paper is to evaluate the level of innovations skills repository of Croatian middle-level managers. Survey research has been conducted on the sample of Croatian managers. The results of the survey indicate that innovation skills repository of Croatian middle-managers is at the high level, but there is also need for further improvement.

Key words: Innovation, skills repository, Croatia, middle-level managers

1. Introduction

In a broader sense, innovation makes improvements in product design (technological innovation), innovation processes, work organization or business, marketing, innovation service, etc. Innovations are a quite new notion but becoming more and more important (Chen and Chen, 2010). One of the definitions of innovation is something new and unique that can be a new idea, unique product or service, new process in the organization or significant changes in the organization that lead to a better position on the market. In other words, innovations are a process of creating something that has a significant value (Gupta, 2011) and managers are those who have the freedom to bring new and unique changes into the organizations.

In conditions of fierce competition and saturated markets, companies that do not innovate - stagnate, and stagnation is the prelude to death. In a broader sense, innovation is any intervention that reduces inputs, i.e., production and administration costs, increase productivity or use of equipment or time, improves the quality of products or services, increase security, reduce scrap,

improve marketing, etc., or any measure leading to an increase in competitiveness. Importance of innovations, especially in management is today more important rather than cost reduction (Chen and Chen, 2010) or quality criteria (Tomala and Senechal, 2004).

Special types of innovation are technology innovation, from the category of useful suggestions, through technical improvements to the invention, with which its owner can provide significant competitive advantage, like monopoly. In developed economies, special attention is paid to innovation and innovators, and invention is very high on the scale of values. The most valuable resource for companies are not considered tangible property such as buildings, facilities or capital (it can always be found in the market), but the knowledge, experience and inventiveness contained in the nation's industrial tradition and quality staff. Quality and innovation have referred for decades as the fundamental source of competitive advantage. In equal measure, scientists as well as management of the world's most successful companies agree with this statement.

Thanks to a successful copying quality principles at the global level, which appears as a result of growing competitiveness of the role of quality as a factor that brings victory in competition is increasingly fading. This does not mean that quality is something that is no longer relevant, on the contrary, it now becomes what the customer actually expects. This fact means that the space for errors is actually much less than before.

On the other hand, innovation is becoming almost synonymous with competitiveness. Although it stressed the importance of innovation in all parts of the management, innovation has been viewed for a long time as the task of Research and Development. However, over time this attitude changed and there are more and more stories about the culture of innovation, and in the case of most developed world economies also about "innovative companies". The key change is that innovation can be managed systematically.

Managers are those who are in charge of improving organizations' competitiveness and using innovations as strategy of knowledge, ideas and skills they can manage the organization very successful (Kim, Kumar and Kumar, 2012). Innovations present new opportunities for the organizations (Kim, Kumar and Kumar, 2012; Teece, 2008). Managers use innovations in order to provide unique products or services which lead to higher competitiveness of the organization. Successful organizations are those whose managers are aware of the importance of the innovations (Daft, 2004) and who are capable to identify new chances in order to ensure a sustainable competitive advantage (Kim, Kumar and Kumar, 2012).

Innovation management presents a new interdisciplinary field where use of soft skills and knowledge is used to improve organizations' performance (Zabala-Iturriagagoitia, 2012; Garcia and Calantone, 2002). Knowledge and lifelong learning are an important factor in innovation and creation of something. Research on the social composition of top management and innovation adoption showed that most innovative organizations are those managed by more educated managers (Bantel and Jackson, 1989). Innovations are a useful tool for managers to reinvent and create the future (Harrington and Voehl, 2012).

The goal of the paper is to explore to what extent Croatian middle-managers have developed innovation skills repository. In order to realize this goal, survey research has been conducted on the sample of Croatian middle-managers. In the following parts of the paper, the innovation skills repository will be explained, importance of innovations for Croatian companies will be evaluated, and results of the research will be presented.

2. Innovations skills repository

Innovation capacity is the capacity for innovation activities and develop the potential for innovation. How these potentials would be fully able to develop there should be constantly building and strengthening the innovation system that is based on innovative employees, ICT infrastructure, innovative procedures, processes, organization, culture, and innovation strategy. When a particular company has all these factors are at optimum level, innovation will manifest as a new economic value to the business processes and models, as well as innovative market goods.

Also, the evaluation of ideas and innovation within the organization is very important for the development of innovation. By introducing a system of rewarding employees receive extra motivation they are willing to offer new ideas, but also to participate in building a corporate culture that values innovation. Practice shows that proposing new ideas and creating an organizational culture that encourage creativity and innovation in all parts of the company best encouraged through a combination of tangible and intangible rewards.

The company, which at the present time of fast development dynamics and high competition does not recognize the necessity of constant change and the importance of creating innovative products and services, can be expected that will soon lose the market and that will (faster or slower) fail in time. Just for this reason, constant development and investment in innovation must become a priority for every company that wants to become more competitive and take their place in the market.

Innovations skills repository is explained through four dimensions: communications skills, tolerance and uncertainty, risk taking, commitment to innovations. Each of four dimensions has a different number of levels.

Communication skills consist of six levels. Those levels refer to: (1) open discussion with co-workers/boss on how to get ahead, (2) speaking out easily in meetings, (3) providing written evaluations of proposed ideas, (4) developing contacts with experts outside the firm, (5) using personal contacts to manoeuvre myself into choice work assignments, and (6) taking the opportunity to translate communications from other departments for my work group.

Tolerance and Uncertainty skills consist of three levels. Those levels refer to: (1) tolerating people who depart from organizational routine, (2) working in teams to try to solve complex problems and (3) facing with uncertainty and unusual circumstances related to working tasks.

Risk taking consists of four levels. Those levels refer to: (1) negotiating salary openly with the boss, (2) setting aside resources for the pursuit of a risky project, (3) being the pioneer in trying out a new idea or method between other colleagues and co-workers, and (4) providing critical input toward a new solution.

Commitment to innovation consists of five levels. Those levels refer to: (1) trying new ideas and approaches to problems, (2) taking things or situations separately to understand how it works, (3) counted on in order to find a new use for existing methods or equipment, (4) working on a problem that has caused others and (5) making time to pursue own ideas or projects.

3. Innovations and its importance for Croatian companies

Croatian companies are aware of the importance of innovation as a key to sustainable competitiveness, and they are at the very top by using innovation in their business. Also, Croatia is one of the leading countries in the region, particularly with the number of companies that use technological innovation in their business regardless of whether it is the product or process within the company. Also, more than 30% of innovation in companies are related to innovative processes in manufacturing and innovative products *(Figure 1)*.

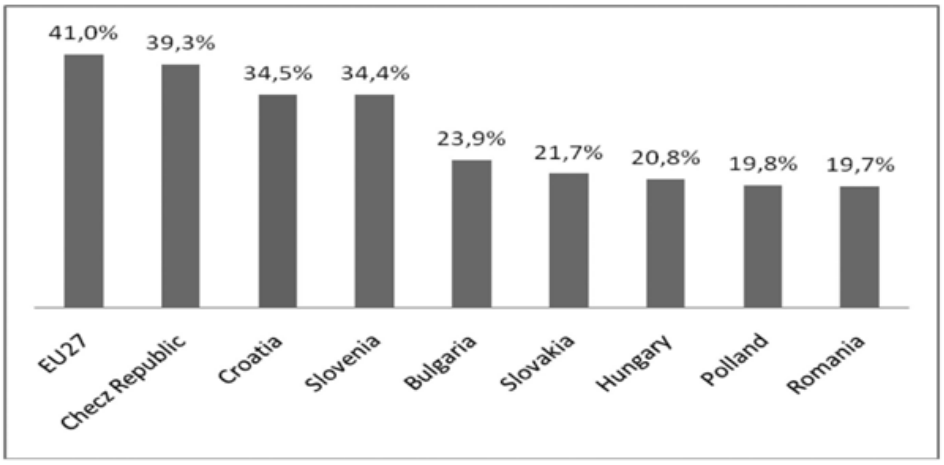

Figure 1. Enterprises with technological innovation in 2011 (% of all firms)
Source: Eurostat, epp.eurostat.ec.europa.eu

These results show that Croatian companies have a lot of opportunities to develop their own innovative capacity, processes and strategies if they start systematically access of ideas and innovation, and realize that the absolute spontaneity does not produce quality mechanisms for the development of innovation capacity. Innovation must become a priority, not only on paper but must be imbued with the strategy, the entire organization and all the processes as the foundation of a successful and long term business.

4. Methodology

Survey research on innovations skills repository was carried out in January 2013 on a random sample of 62 respondents. The questionnaire was mailed to respondents. Innovations skills repository is explained through four dimensions: communications skills, tolerance and uncertainty, risk taking, commitment to innovations with many levels of each dimension. The goal of the survey was to estimate to what extent respondents agree or not agree with the statements referring to innovations.

5. Sample characteristics

Table 1. presents sample characteristics. Most of the respondents are female (56,5%), while 43,5% are male. The highest percentage of respondents (35,5%) prefer working in private small or medium firm while only 11,3% of respondents prefer to work in private large firm. Approximately the same percentage of respondents would like to work with international firm (13%) or to be an entrepreneur (11%).

Table 1. Sample characteristics

	Frequency	Percent	Cumulative Percent
Gender			
Female	35	56,5	56,5
Male	27	43,5	100
Employment			
Governmental organization	9	14,5	14,5
Entrepreneur	11	17,7	32,3
International firm	13	21	53,2
Private large firm	7	11,3	64,5
Private small or medium firm	22	35,5	100

Source: Author survey, January, 2013

Table 2. presents minimum, maximum, mean and standard deviation of grades. The total number of respondents is 62. Minimal grade is 2, while maximum grade is 4,80. The average grade is 3,30 to 0,51 of a standard deviation.

Table 2. Descriptive statistics of average grades

	N	Minimum	Maximum	Mean	Std. Deviation
Average grade	62	2,00	4,80	3,30	0,51

Source: Author survey, January, 2013

6. Results

Table 2. presents the results referring to dimension communication skills which consist of six levels. The first level refers to open discussion with my co-workers/boss on how to get ahead (CS1). Most respondents agree with that statement (66%), while only 3% of them disagree. The second level refers to speaking out easily in meetings (CS2). Approximately thirty percent of respondents agree (32%) or completely agree (27%) on that statement. Only 2% completely disagree. The third level is about writing evaluations of proposed ideas (CS3). In most cases 40% of

respondents are undecided, which means that they do not consider this dimension implemented for communication skills. Only 2% of them completely disagree and completely agree. The fourth dimension is about developing contacts with experts outside the firm (CS4).

There are the same percentage of respondents who disagree (24%) and who agree (24%) on this dimension. Just 3% of them completely disagree.

The fifth dimension refers to personal contacts to manoeuvre myself into choice work assignments (CS5). In most cases respondents agree on the fifth dimension (42%). Only 2% of respondents completely disagree with using personal contact to manoeuvre their self into choice work assignment. The sixth dimension is about taking the opportunity to translate communications from other departments for my work group (CS6). The highest percentage of respondents (35%) agree to take the opportunity to translate communications from other departments for their work group. Just negligible percentage of respondents completely disagree (2). All average grades for dimension communication skills are quite high, over 3. The highest average grade is from the first level which refers to open discussion with co-workers/boss on how to get ahead (3,92) which means that the most respondents agree with that statement (66%). The lowest average grade is for the third level which is about providing written evaluations of proposed ideas (3,08) which can be explained by very high percentage of respondents who cannot decide whether they agree or not agree on this statement (40%).

Table 3. Communication skills

	Completely disagree	Disagree	Undecided	Agree	Completely agree	Average
I openly discuss with my co-workers/boss how to get ahead (CS1)	5%	3%	6%	66%	19%	3,92
I speak out easily in meetings (CS2)	2%	15%	24%	32%	27%	3,69
I provide written evaluations of proposed ideas (CS3)	2%	24%	40%	32%	2%	3,08
I develop contacts with experts outside my firm (CS4)	3%	24%	32%	24%	16%	3,26
I use personal contacts to manoeuvre myself into choice work assignments (CS5)	2%	15%	32%	42%	10%	3,44
I take the opportunity to translate communications from other departments for my work group (CS6)	2%	23%	32%	35%	8%	3,26

Source: Author survey, January, 2013

Table 3. presents the results referring to dimension tolerance and uncertainty which consist of three levels. The first level refers to tolerating people who depart from organizational routine (TU1). Most respondents agree with that statement (42%), while only 8% of them completely disagree. The second dimension is about working in teams to try to solve complex problems (TU2). The majority of respondents agrees (39%) or completely agree (32%) on that statement. Only 3% completely disagree. The third level refers on facing with uncertainty and unusual circumstances related to working tasks (TU3). In both cases (32%) respondents disagree or are undecided while no-one completely disagrees. All average grades for dimension tolerance and uncertainty skills are quite high, over 3. The highest average grade is for the second level which is about working in teams to try to solve complex problems (3,81), indicating that the most respondents agree or completely agree with that statement (71%).

The lowest average grade is for the third level about facing with uncertainty and unusual circumstances (3,11) which can be explained by a high percentage of respondents who disagree or cannot decide on this statement (64%).

Table 4. Tolerance & Uncertainty

		Completely disagree	Disagree	Undecided	Agree	Completely agree	Average
I tolerate people who depart from organizational routine (TU1)		8%	15%	23%	42%	13%	3,37
I work in teams to try to solve complex problems (TU2)	3%	16%	10%	39%	32%	3,81	
I welcome uncertainty and unusual circumstances related to my task. (TU3)	0%	32%	32%	27%	8%	3,11	

Source: Author survey, January, 2013

Table 4. presents the results referring to dimension risk taking which consist of four levels. The first level refers on negotiating salary openly with the boss (RT1). Most of respondents disagree with that statement (42%), while only 8% of them completely agree. The second dimension is about setting aside resources for the pursuit of a risky project (RT2). The majority of respondents is undecided (34%) or agree (31%) on that statement. The same percentages (5%) of respondents completely disagree or completely agree on this second level. The third level refers to being the pioneer in trying out a new idea or method between other colleagues and co-workers (RT3). The majority of respondents is undecided (37%) or agree (32%) on that statement. Only 2% of respondents completely disagree with this statement. Three out of four average grades for risk taking are quite high, over 3. The first level, negotiating salary openly with boss, has the lowest average grade (2,26) which means that is not accepted by the respondents. The highest average grade is for the fourth level, providing critical input toward a new solution (3,40) which means that half of respondents agree with that statement (50%).

Table 5. Risk taking

	Completely disagree	Disagree	Undecided	Agree	Completely agree	Average
I negotiate my salary openly with my boss (RT1)	29%	42%	11%	10%	8%	2,26
I set aside resources for the pursuit of a risky project (RT2)	5%	26%	34%	31%	5%	3,05
Among my colleagues and co-workers, I will be the first or nearly the first to try out a new idea or method (RT3)	2%	23%	37%	32%	6%	3,19

Source: Author survey, January, 2013

Table 5. presents the results referring on commitment of respondents to innovation which consists of five levels. The first level refers to trying new ideas and approaches to problems (CTI1). More than half of respondents agree with that statement (52%) which means that they consider this dimension implemented for commitment to innovation while only 2% of them completely disagree. The second level is about taking things or situations separately to understand how work (CTI2). Almost half percent of respondents agree (48%) while 32% are undecided on that statement. Only 2% completely disagree. The third level refers to counting on in order to find a new use for existing methods or equipment (CTI3). In most cases 48% of respondents agree while 35% is undecided.

Only 2% of them completely agree with this statement. The fourth level refers to working on a problem that has caused others (CTI4). There is the same percentage of respondents who are undecided (40%) or agree (40%) on this level. Just 3% of them completely disagree. The fifth dimension is about making time to pursue own ideas or projects (CTI5). In most cases respondents agree on the fifth dimension (44%). Only 3% of respondents completely disagree with this statement as a commitment to innovation. All average grades for dimension commitment to innovation are quite high, over 3. The highest average grade is from the first level which refers to trying new ideas and approaches to problems (3,84) which means that the most respondents agree or completely agree with that statement (71%). The lowest average grade is for the third level which refers on counted on in order to find a new use for existing methods or equipment (3,34), which can be explained by a high percentage of respondents who cannot decide whether they agree or not agree on this statement (35%).

Table 6. Commitment to Innovation

	Completely disagree	Disagree	Undecided	Agree	Completely agree	Average
I try new ideas and approaches to problems (CTI1)	2%	3%	24%	52%	19%	3,84
I take things or situations apart to find out how they work (CTI2)	2%	6%	32%	48%	11%	3,61
I can be counted on to find a new use for existing methods or equipment (CTI3)	3%	11%	35%	48%	2%	3,34
I will work on a problem that has caused others great difficulty (CTI4)	3%	10%	40%	40%	6%	3,37
I make time to pursue my own pet ideas or projects (CTI5)	3%	13%	26%	44%	15%	3,53

Source: Author survey, January, 2013.

Figure 1. shows a comparison of average values for Innovation skills Repository. The highest average total number was given for commitment to innovation skills (3,5) which means that most of the respondents consider those skills as most implemented. On the other hand the lowest total average number was given to Risk taking skills (3,0) which were understood as the least implemented in Innovation skills Repository. Two skills (Communication skills and Tolerance and uncertainty skills) where graded with same total average value of 3,4.

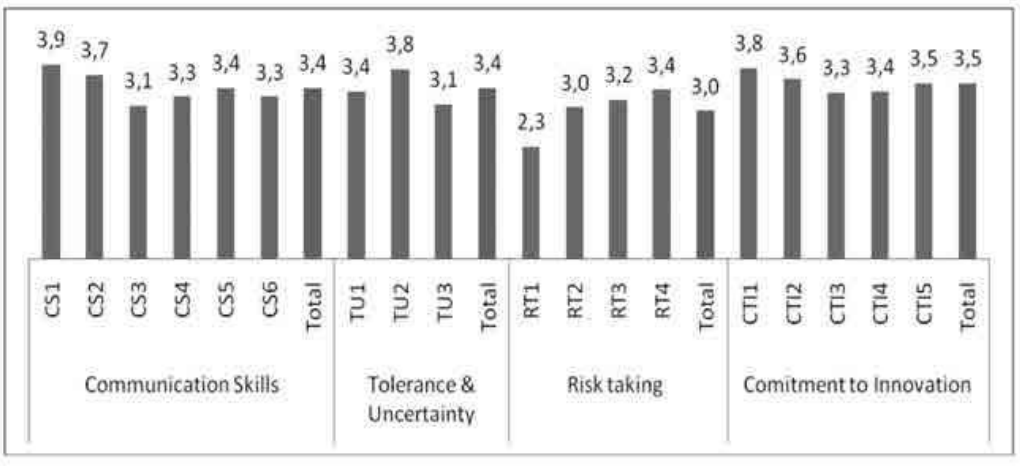

Figure 1. Comparison of average values for Innovation skills Repository
Source: Autor survey, January, 2013

7. Discussion and conclusion

The survey research on the level of innovation repository skills of Croatian middle-managers has been conducted, revealing the controversies results. It seems that some of the innovation repository skills are more developed than the others, while for other skills there is more room for improvement. Summary of the highest average grades, middle-level average grades, and the lowest average grade is presented in order to give further directions for improvement in Croatian firms.

The highest average grade is in dimension Communication skills, level one open discussion with coworkers/boss how to get ahead. Another two levels, one from the dimension Tolerance and uncertainty and another from dimension Commitment to innovations, also have very high average grades (working in teams to try to solve complex problems, and trying new ideas and approaches to problems.

The middle level of average grade it can be found in three dimensions: Communication skills-level five, Commitment to innovations-level five and Risk taking-level four. Average grades for levels mentioned above are around 3,5 (working on a problem that has caused others, providing written evaluations of proposed ideas, and providing critical input toward a new solution.

The lowest average grade is in dimension Risk taking, level one and level two: negotiating salary openly with boss and setting aside resources for the pursuit of a risky project. Two levels from dimension Tolerance and ignorance and Communication skills also have a very low average grade (developing contacts with experts outside the firm, and facing with uncertainty and unusual circumstances related to working tasks. It can be concluded that most of the respondents consider these levels, with the lowest average grade, as the least implemented.

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REPOZITORIJ INOVACIJSKIH VJEŠTINA HRVATSKIH MENADŽERA SREDNJE RAZINE

Sažetak

Inovacija je primjena novih i unaprijeđenih ideja, procedura, roba, usluga te procesa, koja donosi novu kvalitetu koja se koristi u praksi. Osobito je važna uloga inovacija u poduzetništvu, te poduzetništvo i definira kao trajno nastojanje koje traži inovacije i komercijalizaciju svog profita.

Repozitorij inovacijskih vještina je važan prijedlog za inovacije da postanu realizirane u praksi. Cilj ovog rada je procijeniti razinu repozitorija inovacijskih vještina hrvatskih menadžera srednje razine. Istraživanje je provedeno na uzorku hrvatskih menadžera. Rezultati istraživanja pokazuju da su repozitoriji inovacijskih vještina hrvatskih srednjih menadžera na visokoj razini, ali također postoji i potreba za daljnjim poboljšanjem.

Ključne riječi: Inovacija, repozitorij vještina, Hrvatska, menadžeri srednje razine

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INNOVATIONSFERTIGKEITEN DER KROATISCHEN MIDDLE-LEVEL MANAGERS

Zusammenfassung

Innovation ist die Anwendung von neuen, besseren Ideen, Verfahren, Waren und Dienstleistungen, welche eine neue Qualität mitbringen. Von besonderer Bedeutung ist die Rolle der Innovation im Unternehmertum, die als ständiges Streben nach Innovation und Kommerzialisierung des Profits der Unternehmen definiert wird. Die Innovations-Datenbanken bilden eine wichtige Voraussetzung für die Anwendung der Innovationen in der Praxis. Das Ziel dieser Arbeit ist, die Ebene des Bestandes an Innovationsfertigkeiten der kroatischen Middle-level Managers zu untersuchen. Zu diesem Zweck wurde eine Umfrage unter kroatischen Managers durchgeführt. Die Ergebnisse der Umfrage weisen darauf hin, dass der Bestand an Innovationsfertigkeiten der kroatischen Middle-Managers auf einer hohen Ebene ist, dass aber auch ein weiterer Fortschritt erforderlich ist.

Schlagwörter: Innovationen, Bestand von Fertigkeiten, Middle-Level Managers