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Career Planning as a Building Block for Personal Excellence

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The narrow field of research here is the development of a model for the building of personal excellence using a career plan that is empirically tested and confirmed, both qualitatively and quantitatively. The purpose of this study relates to the writing of a career plan, for the determination of the factors that influence the feeling of personal excellence of participants in career planning education, in relation to other participants who are not. The qualitative analysis consists of basic experience data that was collected during the education process, through 20 essays, and the paradigmatic model, with the final theory defined, and based on this, a questionnaire was created. The quantitative analysis involved a total of 547 participants. For the statistical analyses of the data, bivariate analysis was used to assess the linear connection of individual pairs of variables. The search for differences between the two groups used t-tests for independent samples. Factor analysis was used to determine whether the relations among the examined variables can be explained with a smaller number of indirectly examined variables. The final model consists of three elements: (1) relation with career; (2) self-esteem; and (3) perception of personal excellence. Management can use the results of this study for management decisions. The increased success of every individual organisation benefits the whole of society. This study represents an original contribution and offers a new approach that is based on the paradigm of the understanding of a career and the importance of its planning as a motive for excellence.

Key words: career planning, personal excellence, career break, qualitative analyses, quantitative analyses, neurolinguistic programming.

1 Introduction

The final goal of a career is the psychological success, the feeling of pride, and the personal achievement, which all come from the attainment of the most important goals in life: success, family happiness, and inner peace. There are an infinite number of possibilities for the achievement of psychological success; indeed, as many as there are unique human needs (Maslow 1948, pp. 433-436). Our career and personal career plan is managed by ourselves, not by any company. The security of the work place is becoming less important, and is being substituted by another goal – employability.

The idea for the model is derived from the model of experience learning. It consists of tools, that were tested and developed here during the education process, through four activities for the participants: (a) recognition of their own potential; (b) a more thorough understanding of themselves; (c) development of their own concrete career goals; and (d) their self-promotion and self-branding.

In our research, we set the following hypotheses: Individuals who have made a personal career plan and after the act: change their attitude towards careers and take control of their life, achieve a high degree of self-reliance and self-confidence, achieve a perception of personal excellence to a greater extent than individuals who are not career educated and have not made a career plan.

We show that a career plan can be a building block for their personal excellence. This is expressed through a changed attitude to their career, and through taking over the control of their own life. They also show high levels of self-trust and self-confidence, through their experiencing of a higher level of personal excellence, in relation to the individuals who did not participate in the career-education process and who had not made a career plan.

2 Theoretical background and survey of the literature

2.1 The potential of a personal career plan as a building block for personal excellence

The potential of a personal career plan was described by Noer (2009, pp. 22-27) who determined that a 'career contract' is not a contract with any company, but with oneself and one's own work. 'The path to the top' has been exchanged for 'the path to the hearth'. Shepard (2011, pp. 25-46) used this expression for the description of success, in the sense of one's own vision and values. In the 21st century, the demands on the labour market will shift from those who have the knowledge and experience, to those who learn constantly (Hall, 1996, pp. 10-14).

The most important career management powers are identity and adaptability (Hall and Chandler, 2005). For the realization of a new career, individuals develop new management powers regarding the management of themselves and their career. With the new career, the process of learning becomes more and more stable, and the individuals who learn constantly will be the first to find out how to develop their own new knowledge and adaptability (Hall and Chandler, 2005, pp. 155-176).

The personal career plan of any individual is based on their own characteristics, experience, tasks, knowledge, training, skills, goals and philosophy. Career planning is intended to improve the ability of these individuals to make career decisions (Savickas and Porfeli, 2012, pp. 748-753). Meta-analyses have shown that career planning provides as great an improvement in people as the improvement that is achieved generally with well-developed psychological, educational and behavioural techniques (Lipsey and Wilson, 2001).

2.2 Career theories and models

In her theory of personal development, Roe claimed that people do not work only for survival, but that "they prefer much more what they expect of the fruit of their labour than of the receipt of the payment" (Roe, 1956, pp. 123-178). She showed that people's professional work represents a focus of their own life. She took as a basis the hierarchy of Maslow (Maslow 1948, pp. 433-436) and to the physiological needs, and the needs for safety, membership, importance, respect, and self-confidence, she also added the needs for love, independence, information, understanding, beauty, and self-realisation.

Roe (1956) developed this theory extensively, although others summarised this as follows (Osipow, 1983; 1990, Walsh and Osipow, 1983):

(1) The limits of possible development are determined by genetic inheritance, intellectual capability, temperament, interests, and ability.
(2) The general cultural background and socio-economical status of the family influence the unique individual experience.

(3) The individual experience is determined by the pattern of the development of interests, relations and other personal variables, with the exception of genetic ones.
(4) Early satisfaction and frustration originate from family circumstances, and most importantly from the relations with parents, and these can be expressed through over-protection, avoidance of children, or the loving acceptance of children. The levels of satisfaction of these needs determine which of the needs according to Maslow (1948) will become the main factor in the motivation.
(5) The pattern of physical energy (e.g., the ability to pay attention) is the main factor for the interests. The intensity with which the individual feels the needs and the satisfaction of the needs determines the level of motivation for the achievement of their own goals (Walsh and Osipow, 1983, pp. 82-85).

The social cognitive theory of behaviour was developed by Bandura (1969, 1977), with the intention being to explain how personality and behaviour develop from the unique individual learning experience and effects, and what influences represent positive and negative experiences.

The Krumboltz theory, which is based on the work of Bandura (1969, 1977, pp. 25-29), developed Krumboltz's own revised theory that "assumes two basic types of learning experiences, which come from individual behaviour and cognitive abilities and advantages, and which enable people to successfully interact in the world" (Krumboltz, 1994, p. 25). First, there are the useful learning experiences, which "appear when the individual feels successful or is punished, because of certain patterns of behaviour and with their connected cognitive capabilities" (Krumboltz, 1994, p. 27). Secondly, the individual develops associative learning experience, which "appears when people connect certain emotionally neutral situations with stored emotional situations" (Krumboltz, 1994, p. 29).

Hackett and Betz (1981, 1997, 2005), Taylor and Betz (1983), Multon, Brown and Lent (1991), Hackett and Lent (1992), Lent, Brown and Hackett (1994, 1996), and Betz (2007) all worked on the improvement of Bandura's general theory of the cognitive social process (Bandura, 1969). The work in this field can be summarised from proposals, as described in Lent, Brown and Hackett (1994). The results of expectation influence the choice of goals and actions, both indirectly and directly. People will try to achieve a certain professional or academic field, which is in agreement with their possible goals under the conditions whereby they are determined that this is their goal, and that this goal is clearly expressed, possibly right from the beginning (Lent, Brown and Hackett, 1994, p. 93).

Super (1990, p. 199) saw the theories of learning as "cement which connects various segments of development of career theory". Parson (1909) created a three-level scheme, which was the basis for the first conceptual framework of career decision making (Brown 1990) and the professionally oriented movement (Srebalus, Marinelli and Messing, 1982; Super, 1990). Parson's three-level model promotes personal analysis, where individuals recognise their own advantages and disadvantages, characteristics or features. In the analysis of positions according to their properties, their conditions for success in professions, and their matching with the scientific

advice, which means that they recognise professional choices, based on the information that represents the basis for career decisions (Brown and Brooks, 1990, Herr and Cramer, 1988; McDaniels and Gysbers, 1992).

The personality theory of Holland (1985) claimed that every individual belongs to one of six basic types that are based on the principle of knowledge and characteristics. There are six types of environment: realistic, investigative, artistic, social, entrepreneurial, and conventional. People search the environments that will let them enforce their knowledge and capabilities, express their opinion and values, solve positive challenges, and have good roles. The behaviour is established through the interaction between the personality and the environment (Holland, 1985, pp. 12-42). All six types of personality are represented in the common profile of the individual, but Holland (1985) developed the system for the definition of personality that is found in every individual, which is based on three of the most common types. He used a three-letter code for the description of the personality types. The code RAI, for example, describes a person who is realistic, artistic and investigative (Holland, 1985, p. 27-35).

Super (1963, p. 51) defined the concept of self-esteem. Super (1963) states that the formation of self-esteem is carried out in several phases: (a) research; (b) interpretation; (c) implementation and (d) actualisation. When individuals finish their education, they move into their chosen profession, for which they have studied and trained. Nevertheless, in the case of individuals who did not manage to prepare themselves for the career, the insufficient care for their self-esteem will often be accompanied by low paid jobs or the loss of a job (Super, 1963, pp. 121-178). Super's proposals (1963, pp. 199-203) are: people distinguish themselves through their abilities, personalities, needs, values, interests, characteristics, and self-esteem. The different life phases are marked as sequences of growth, research, introductions, maintenance, and diminishing. Career maturity is a hypothetical construct. Its operational definition is maybe so hard to determine, as is, for example, the concept of intelligence. Job satisfaction and life satisfaction both depend on the volume in which individuals find their own niches according to their abilities, needs, values, interests, personal characteristics, and self-esteem. Super (1963) first indicated the problems of elderly people, who actively respond to the world even after their retirement.

Career education is spreading, which again influences the formation of the attitude of individuals towards their career, which depends on their perception of the environment and their values. Generally, there is an increase in responsibility of individuals for their employability, and wider still, also for their career (Makuc, 2004).

Chaos theory within career development was established at the turn of the millennium, with the purpose of studying the complexities, changes and opportunities in the development of a career. To a large extent, existing career theories do not account for these factors, or do so only with limited insight into their activities and organisation, and into the opportunities that they represent (Savickas et al., 2009, pp. 749-751). Chaos theory within career development claims that it is more probable to find satisfaction at work as a result of coincidental events, as opposed to strict career planning (Prior and Bright,

2007, p.165). This tries to express the scientific importance of self-organisation and changes. This arises because in the 21st century, great changes have occurred on the work place, through the rapid development of the use of new technologies that demand constant learning and faster and more frequent communication.

2.3 The building of personal excellence

2.3.1 The path of positive development of the own-self

To have a positive model of personal excellence there is the need for (Hammet, 2011):
(1) Exact knowledge, understanding and evaluation of the own-self;
(2) Development of positive, healthy and effective mutual relations;
(3) Work well with others during the achievement of good results;
(4) Manage the stress of everyday life and work (Hammett, 2011, p. 299).

Now let us connect the personal excellence with the business excellence. Excellent people create excellent partnerships, which in the business field, create excellent processes and products that together determine the characteristic of excellent organisations.

2.3.2 The role of neurolinguistic programming for the development of personal excellence

People are inclined towards empathy, cooperation and philanthropy under conditions that we develop our possibilities and capabilities for a change in our own life for the better. Excellence grows through careful, subtle cultivation. Neurolinguistic programming (NLP) is the art and knowledge of personal excellence based on the study of successful communication and exceptional success, which has been achieved by people in different fields. The basic starting points of NLP are the set of technologies of excellence and success in life and work.

To achieve this we need:
(1) To be focussed, to be successful, and to get what we want;
(2) Good contacts, to establish and maintain intrapersonal relations with mutual trust and support;
(3) Understanding and emotional sharpness, to know where we are and what is happening;
(4) Behavioural flexibility, to be able to adapt to different and unpredictable life circumstances.

Bandler and Grinder (1975, 1976) were the fathers of NLP, and they found out as early as the beginning of the 1970's that if we change our beliefs, we also change our behaviour. They were especially interested in the beliefs of the most successful people. They showed (and this was also confirmed later by others) that if we accept for our beliefs these beliefs of successful people and if we use them through our own behaviour, we can experience an 80% change in behav-

iour. There is no failure, only feed-back information. When we treat and experience all that is happening to us in our life as feed-back information, this represents a good signpost as to which path we need to take to achieve success.

Earlier, Huxley (1942) claimed that our senses (sight, hearing, emotions, touch, smell, taste) are the doorway of our perception of the world. These are our connection with the external world. The more open our senses are, the more we can see and understand other people and everything that the surroundings are communicating to us (Huxley, 1942, p. 36). With this we are able to see small details of and small changes (for NLP, this is known as calibrating) in other people (e.g., partners, family members, co-workers, friends, neighbours), and so we can more rapidly adapt our communication with the world. Through matching with other people we can achieve what we want, which can be through words, through non-words (e.g., body language, mimicking, breathing) and through para-words (e.g., colour and tone of a voice). Through matching ourselves such as to 'step into the shoes of other people', we can understand them on the same wavelength, and we can support them, thus communicating with them easily. We get what we have focussed on.

After life-long research in the field of leadership, team-work, cooperation, communication, and learning, as a psychologist, Csikszentmihalyi and Nakamura used modelling to determine the inner state of flow (Csikszentmihalyi and Nakamura, 2011). The successful state of flow comes if there is equilibrium achieved between abilities, demands and challenges.

In communication, we take three perceptive positions: empathy, association and disassociation (Bandler and Grinder, 1975, 1976; Batson, 2009). These are distinguished among themselves according to the way we perceive the world and the current situation. They enable us to see the situation from different angles. In everyday life, we manage our feelings more easily. In conflict situations, we keep our head clear because we can make a wise decision.

According to the Pace, Report, Leading, Leading strategy, the most important aspect is good contact among the people who effectively and actively communicate, which is a pre-requisite for successful communication. To achieve this good contact, we need to use all of our senses (i.e., the sharpness of the senses) (Dilts, 2010).

2.3.3 Connections between the findings of neuroscience and neurolinguistic programming

The findings of neuroscience over some 90 years of the previous century spoke about 'the friendly brain', and again confirmed the advantages of NLP, which various authors put together in the 1970's (Gray, 2008).

The nerve bridge to the brain allows us to influence our brain, and through this, also our body. Each person we come into contact with, and also the brain of those people, has an effect on us. Even the most ordinary meetings work as regulators in the brain, and can elicit emotions; some of these are desired, and some of them are not. The more we are emotionally connected with someone, the stronger is the interpersonal interaction. The strongest interaction is achieved among peo-

ple with whom we spend most time together, every day, year after year, and especially those who are the most important to us (Skolnick et. al., 2008, p. 473).

Our social contacts work as our mutual thermostats. Until we manage our feelings, they constantly determine the common elements of our brain functions. The emotions that derive from this have significant influences, which we can feel through our whole body, in the same way as the waves of hormones that regulate the functioning of various biological systems, from the heart to the immune system (Panksepp, 1990, 2003). To a great extent, our connections to and relations with people shape not only our experience, but also our biology. This connection is a two-bladed sword: good relations have a beneficial effect on our health, whereas bad relations function as a poison, which can slowly poison our body.

The newly discovered class of neurons, the fusiform cells, function the fastest of all. They are typical for intuition. They manage social decisions, which we make in an instant (Lieberman, 2000). Fusiform cells regulate the functioning of the neuron network and are activated every time we choose the best answer among many. Due to these properties, intuition is nowadays one of the most essential abilities when making business decisions, and indeed, all other decisions. The condition we can strive for is to actually detect these messages, to be in close contact with ourselves (Goleman, Boyatzis, and McKee, 2002, p. 43).

Another type of brain cell, the mirror neurons (Iacoboni, 2009), predict not only the movements of other people, but also their feelings, and these cells prepare us at the same time to mimic those movements, to express our empathy. Mirror neurons allow the very effective transfer of knowledge. In society, these neurons create the feeling of mutual experience. This biological change is believed to be the one that created a tremendous break in human history some 50,000 years ago, which has been referred to as the beginning of a sudden extremely high intensity, non-biological transfer of skills and other information among people (Chiao and Ambady, 2007). The mirror neurons are the cells that allow us to feel the emotions of others. They are sort of 'mind readers of the people in our surroundings', and if they do not work properly, we function very poorly in society.

Social interactions have important roles in the restructuring of our brain through 'neuroplasticity', which means that repeated experiences determine the shape, size and number of neurons, and their synaptic connections (Song, et al., 2007, pp. 3407-3412). The social reactivity of the brain demands that we are wise, that we understand that other people in our lives can shape and influence our feelings, and also our biology, which demands us to question ourselves in terms of how we influence the feelings and biology of other people (Panksepp, 2003). This biological influence that is being transferred from one person to the other demonstrates a new dimension to our life, and shows us how to live it well (Panksepp, 2003, p. 7).

Our brain carries out automatic scanning to determine if there are any signs that might predict imminent danger. This state of hyper-caution is being managed in its biggest part by the amygdala, an almond-shaped part of our brain that promotes a caution sign for danger, for the 'fight, flight or freeze' response. Of all of our feelings, the feeling of fear is the one

that influences the functioning of the amygdala the most. The emphasised caution that leads to signalling from the amygdala strengthens our sensitiveness to emotional schemes we receive from other people. They can strongly influence our feelings, and the road towards our emotional infection is ready. These moments of fear and caution mean that we become more sensitive to other people's feelings (Wright, 2007).

This emotional infection travels over the so-called 'low road' of our brain (Pessoa and Adolphs, 2010). The low road is the connections that function below the level of consciousness: automatically, and with high speed. The great majority of all that we do is regulated by a large neural network that functions through this low road, especially in terms of our emotional life. On the contrary, the 'high road' runs through the nerve structures, which function more systematically, and gradually, and with conscious endeavour. The low road uses the nerve ganglia that travel through the amygdala and similar automatic ganglia, whereas the high road sends its information into the prefrontal cortex, the executive centre of the human brain, which contains our abilities for intention, and in which we can think about what is happening to us (Pessoa and Adolphs, 2010, p. 773-778).

3 Methods

3.1 Qualitative analysis

This study used a qualitative research approach in order to develop a theoretical framework for the exploration, interpretation and identification of the impact of education on career plans, on changing attitudes towards careers, the raising of self-esteem and perception of personal excellence. Merriam (1998) says that "often carried out qualitative studies because there is not enough theory or because existing theory does not adequately explain the phenomenon. Thus, qualitative researchers build theory from observations and intuitive responses obtained in the field of study questions." Since the design of specific education using the tools of Neuro linguistic programming has not been studied and is a novelty, it is important for future studies that first appear to explore the theoretical foundation, which broadly explains the importance of concepts, definitions, characterisation and descriptions of things. The qualitative approach is an effective way to gain a deeper understanding of the relationship between the introductory organised career education, thereby providing the greatest opportunity to build a theoretical framework that is used to conduct research on matters such as the education Career Plan as element of personal excellence.

The basic experience documentation was collected through the educational process, with descriptions in words and narratives in the form of essays. The documentation was processed and analysed through the words. The qualitative research ended with the formulation of a justified theory.

We had four focus groups of five people involved here. Qualitative research uses the words of a limited sample of study participants to explore the "whys" of a research question. Focus groups have become a valued and frequently used tool for collecting qualitative data. Focus groups gather infor-

mation and insight on a predetermined subject from a small group of participants using a trained facilitator. The interaction between group members becomes an explicit part of the method. Focus groups usually are conducted with groups of six to 12 individuals who share similarities but who do not know each other personally. They are chosen because they can speak confidently about their personal experiences with the research topic. (Gibbs, 1997; Stewart et al., 2007).

The procedure of the qualitative analysis was divided into six steps: (1) editing of the documentation; (2) determination of the units for coding; (3) open coding; (4) selection and definition of the relevant concepts and categories; (5) relational coding; and (6) formulation of the final theoretical premise. Using this, we based our findings mainly on the procedure described by Glaser and Strauss (1967, 2005), and afterwards summarised by Strauss and Corbin (1990, 1998), Corbin and Strauss (2007), and Morse, et al. (2009). For the implementation of the qualitative research, we carried out the data processing using the ATLAS.SI programme.

The purpose of ATLAS.ti (http://www.atlasti.com/index.html) is to help researchers uncover and systematically analyze complex phenomena hidden in unstructured data (text, multimedia, geospatial). The program provides tools that let the user locate, code, and annotate findings in primary data material, to weigh and evaluate their importance, and to visualize the often complex relations between them.

The first steps of theory building take place much earlier, often already during coding. Ideas are developed further during the process of querying the data. Visualization and theory-building tools encompass predominantly the various network view functions. One of the most attractive properties of graphs is their intuitive graphical presentation, mostly in form of two-dimensional layouts of labeled nodes and links. In contrast with linear, sequential representations (e. g., text), presentations of knowledge in networks resemble more closely the way human memory and thought is structured. Cognitive "load" in handling complex relationships is reduced with the aid of spatial representation techniques. ATLAS.ti uses (Friese, 2011) networks to help represent and explore conceptual structures. Networks add a heuristic "right brain" approach to qualitative analysis.

The study uses a qualitative research approach to develop a theoretical framework for the study, with explanation and determination of the influence of career education on the changes in the attitudes towards career, increase self-esteem, and perception of personal excellence. Merriam (1998) said that "qualitative studies are frequently carried out because there is not enough theory or because the existing theory has not appropriately explained the phenomenon. The qualitative researchers therefore base their theory on observations and intuitive answers, collected from the field of research questions." As the concepts of concrete education through the means of the tools of NLP have not been studied and represent a novelty, it is important for all future studies that a theoretical premise is first established that broadly explains the importance, concepts, definitions, characterisation, and descriptions. The credibility, transferability, and reliability of this qualitative research can be determined using 'triangulation'. Triangulation refers to the use of several sources and meth-

ods for data collection (Creswell, 1998; Leedy and Ormrod, 2001, Merriam, 1998). The data sources for triangulation included interviews, essays, articles, and questionnaires. With triangulation, we use several sources and methods (Creswell, 1998) and strengthen the reliability and credibility of the data (Merriam, 1998).

3.2 Quantitative analysis

With the questionnaire, we collected data according to the occasional samples where the condition was generalisation: the units of the sample do not differentiate according to any relevant characteristics from the units of the population (the partial population, which is typically taken as representative for the whole population): regarding gender, age, education, employment status, number of years of service (SI-Stat Data Portal 2013).

We analysed the data from 547 participants who completed the questionnaire, of which 273 were participants in the career-education course, about the making of personal career plans and their influence on their career, and their achieving of high levels of self-esteem and self-confidence, with the perception of personal excellence. Then, 274 people comprised Non-participants, who were people who had not attended the course, but who responded to our request to fill in the questionnaire.

We pre-tested our questionnaire on a smaller sample of 50 participants and non-participants and we tested the internal consistency or homogeneity of the questionnaire and its validity of. The analyses has shown that for both groups the measurement instrument is reliable, consistent and homogeneous (Cronbach alpha coefficient $0.7 \leq \alpha < 0.9$). The questionnaire measured with validity the views of participants (The value of the Spearman-Brown coefficient for both groups was higher than 0.8).

While studying the influences of the career plans, we worked with this questionnaire that we developed ourselves, based on our experience in the education of the course participants and the results of the qualitative analyses. After the questionnaire data had been collected, we carried out an analysis for the internal consistency, to exclude all claims that there was a low level of consistency. In our study we could not find claims with low level of consistency, therefore we didn't exclude any claim. We carried out these tests of the internal consistency of the questionnaire as a whole, and within the individual factors. As a measure, we used the Cronbach alpha coefficient for each variable separately. Furthermore, we used a method to divide the questionnaire into two halves. Then we tested for three variables: the impact of the relation with the career (K); the increase in self-confidence and self-esteem (L); and the perception of personal excellence (M). The questionnaire was divided according to the principle of odd and even numbers, and a Spearman-Brown coefficient was calculated for every variable in both of the participant groups (participants, non-participants).

The questionnaire consisted of general demographic questions and questions regarding the samples of behaviour after the educational course was finishing. The individual dimensions of different samples of behaviour were expressed by the participants using a scale from 1 to 5, where 1 represented the lowest level of agreement with the question, and 5, the highest.

We researched the frequency distribution of the structure of the participants according to various dimensions. For the analysis of the individual claims, which refer to different dimensions of behaviour and the determination of the satisfaction of the participants, we used a descriptive statistical method with frequency distributions. For each dimension and claim, we used variance analysis, with which we tested the significant differences among the mean values of the populations in both groups (participants and non-participants).

At the recruitment of the participants according to their participation in the career education, we tested the differences between the arithmetical means with t-tests for independent samples. This was intended as the comparison of two independent groups. With the t-test, we tested if the two arithmetical means of groups participants (course) and non-participants (no course) were statistically significantly distinguishable between them. For all of the tests, we used a 5% level of significance.

We also used factor analysis, which studies the connections among the variables, so that we could find and construct a new set of variables (less than the measured variables) that represented what was common to all of the observed variables. We determined whether the connections among the observed variables (covariance and correlation) can be explained by a smaller number of indirectly observed variables or factors. Adequacy of the data for factor analysis was checked by the Kaiser-Meyer-Olkin test (KMO) and Bartlett's test. The KMO test tells us whether the data is suitable for analysis. The higher the rate of the KMO test (the test range of 0 to 1), the more suitable the data is for analysis. If the rate of the KMO test is greater than 0.8, the adequacy of the date can be considered optimal.

4   Results

4.1 Qualitative analysis

4.1.1 Survey of contents in the Atlas.si programme

Rudimentarily empirical material was gathered during the educational process (participants), and is presented as word descriptions and narratives. At the end of the educational process the participant wrote five essays:
(1) Five provocative questions to myself.
(2) Bright avenue of my future.
(3) Life-line.
(4) My dream professions.
(5) My sub-personalities.

Essays are one of the types of instruments to carry out qualitative research, which is characterised by a direct approach (the purpose of the research participants found or it is evident from the agreed content of the essay). Its content and form are unidentifiable or arbitrary. Can essayists write about everything. Even the style and technique of writing not specified.

Analysis of essays is concrete, detailed and colourful. Qualitative research is clearly evident and procedures describing reasoning and gradual abstracting concepts of different levels of abstraction from the empirical material. Every concept, form and decision can be seen in the elements of the empirical material. This is intended for the qualitative analysis of different techniques that are illustrations (tables) of both the relationship between empirical and theoretical concepts.

4.1.2 Network survey of the effects of the career education

Impact of relation with career (K). Qualitative analysis and interpretations: we analysed the characteristics of concepts, selected the most relevant concepts, defined them, searched for relations among them, and finally formulated corrections, formularies and theoretical explanations. Figure 1 shows the network display of effects of the career education for the dependent variable 'relation with career'.

In a network view editor we are linking all objects to each other. Code-code and quotation-quotation links are named and commented. A network is defined as a set of nodes and links. A node in a network are linked to an arbitrary number of other nodes.

Formal property of a network is its order: the number of its nodes. We make practical use of the degree of nodes by using it as a sorting criterion in the codes list window.

'The impact of relationship with career' has been formed to the participants of education, who expressed their relation by a written essay by 'changes of relation with career', which was determined by 'open way to my dream professions' and on this road they were lead by 'thinking about career with a new approach to life' and 'own priorities'.

Transitive relation is the is-cause-of relation: if C1 is-cause-of C2 and C2 is-cause-of C3, C3 is-cause-of C4, it follows that C1 is-cause-of C4. C5 is-cause-of C4.

Legend: C1 = 'My relation with career' (supercode)
C2 = 'The changes in their relation with their career' (one link to a node)

C3 = 'Open the way to my dream professions' (24 link to a node)
C4 = 'Thinking about my career with a new approach to life' (9 link to a node)
C5 = 'My own priorities '(5 link to a node).

The network survey of the effects of the career education for the dependant variable 'the increase in self-confidence and self-esteem' (L) is shown in Figure 2.

Increase in self-confidence and self-esteem (L) of the participants in the career-education course who expressed their attitudes in a written essay, basing the form on 'The increase in self-esteem and self-confidence' when they 'Listened to their intuition' and 'Trusted in their abilities', with a view to 'My bright avenue of for the future'.

Transitive relation is the is-cause-of relation: if C1 is-cause-of C2 and

C2 is-cause-of C3, C3 is-cause-of C4, C5 is-cause-of C4, it follows that C1 is-cause-of C5.

Legend: C1 = 'High degree of self-confidence' (super code)
C2 = 'Increase of self-confidence' (one link to a node)
C3 = 'I listen my intuition' (7 link to a node)
C4 = 'I trust my capabilities' (13 link to a node)
C5 = 'Along splendid avenue of my life grow big trees'(11 link to a node)

The network survey of the effects of the career education course for the dependant variable of the perception of personal excellence (M) is shown in Figure 3.

Perception of personal excellence (M) was expressed by the participants in the career-education course who wrote about their relation in an essay and found out with the analyses of the 'Life line' that they are 'Encouraged by the opportunities for change'. 'The opportunities for change' also influenced the process 'I nurture personal excellence' and 'I am satisfied with my career plans'. A feeling that further contributes to the 'Perception of personal excellence' relates to 'I feel abundance of love and want to share it', the process 'If I don't take care
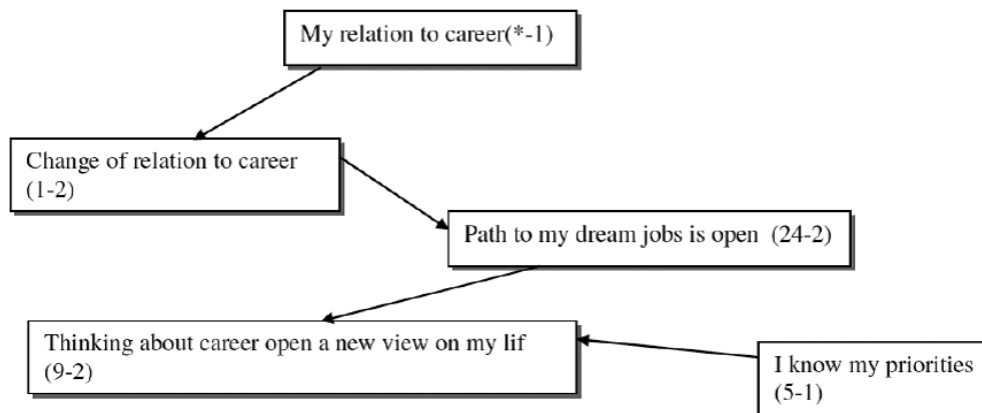
Figure 1. Network for the evaluation of the impact of the career education: impact of relation with career (K).
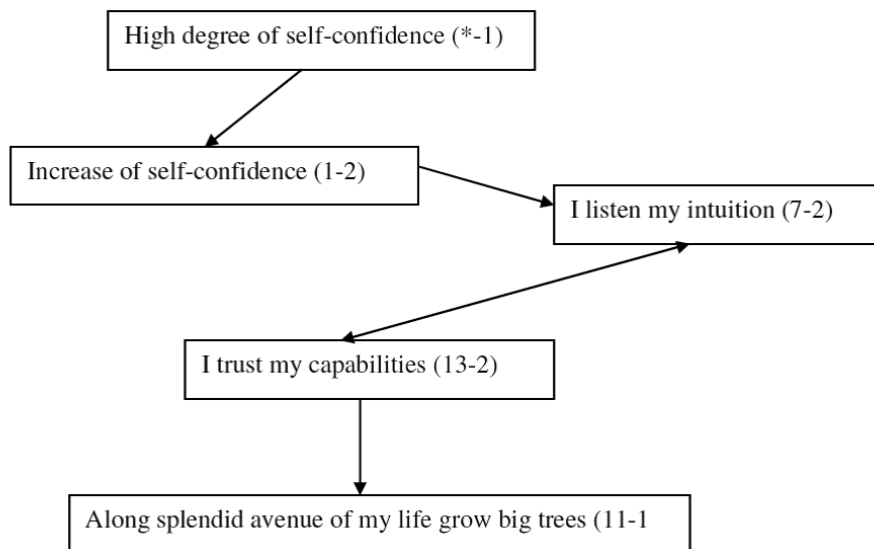
Figure 2. Network for the evaluation of the impact of the career education: increase in self-confidence and self-esteem (L).

of myself, I cannot take care of others' and to this also: 'I take care of my health'.

Transitive relation is the is-cause-of relation: if C1 is-cause-of C2 and C2 is-cause-of C3, C3 is-cause-of C4, C5 is-cause-of C4, it follows that C1 is-cause-of C5.

Simetric relation is C5 is-condition-for relation: the C5 is-condition-for C1, C5 is-condition-for C2, C5 is-condition-for C3, Transitive relation is-part-of relation: C6 is-part-of C1, Transitive relation is-a relation: C7 is-a C1, Transitive relation is-property-of relation: C8 is-property-of C7

Legend: C1 = 'Perception of personal excellence' (super code)

C2 = 'Lifeline' (8 link to a node)

C3 = 'I care for my personal excellence' (19 link to a node)

C4 = 'I am satisfied with my career goals' (7 link to a node)

C5 = 'Opportunity for change, stimulate me'(21 link to a node)

C6 = 'I am full of love and I want to share it'(11 link to a node)

C7 = 'If I don't care for my self, I can't care for others' (5 link to a node)

C8 = 'I take care for my health' (1 link to a node)

4.2 Quantitative analysis

4.2.1. The course of the analysis

For the implementation of the quantitative analysis, we chose a web questionnaire with the tool FluidSurveys (http://fluid-surveys.si/). We chose a panel who were all participants in the career-education course. For the panel of non-participants

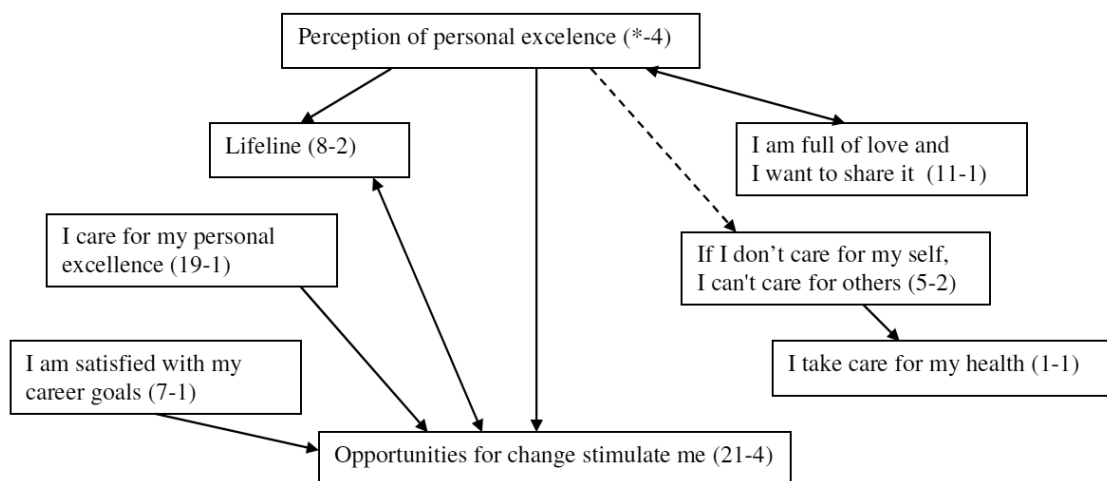*Figure 3: Network for the evaluation of the impact of the career education: perception of personal excellence (M).*

in the career-education course, we had an address list that was provided by the participants and included their friends, co-workers and acquaintances who did not participate in the career-education course.

4.2.2 The testing of the questionnaire

Internal consistency test, or homogeneity: to what extent does the questionnaire measure the attributes in a systematically and repeatable way. Here, the Cronbach alpha coefficients were calculated, with the data given in Table 1.

Table 1. The internal consistency test for the Cronbach alpha coefficients.

Variable	Cronbach alpha coefficient	
	Participants	**Non-participants**
Impact of relation with career (K)	0.85	0.90
Increased self-confidence and self-esteem (L)	0.87	0.91
Perception of personal excellence (M)	0.89	0.90

The analyses showed that for both of these two groups, the measurement instrument is reliable, in that it measures the attributes in a systematic and repeatable way. The value of the Cronbach alpha should be >0.5, and for the participants it was >0.8, and for the non-participants it was >0.9 (Table 1). The questionnaire is therefore consistent and homogeneous.

Criteria for evaluation of the results: Cronbach and Shavelson determine (Cronbach and Shavelson, 2004):

Cronbach's alpha	Internal consistency
$\alpha \geq 0.9$	Excellent
$0.7 \leq \alpha < 0.9$	Good
$0.6 \leq \alpha < 0.7$	Acceptable
$0.5 \leq \alpha < 0.6$	Poor
$\alpha < 0.5$	Unacceptable

The validity of the questionnaire test: to what extend do the received results correspond to the intention, and does the questionnaire measures what it is supposed to measure. The method looked at the distribution of the questionnaire, in two halves. The questionnaires were halved using the principle of odd and even numbers, and the Spearman-Brown coefficients for each variable of each of the groups were calculated, as given in Table 2.

Table 2. The validity of the questionnaire test.

Variable	Spearman-Brown coefficient	
	Participants	**Non-participants**
Impact of relation with career (K)	0.73	0.81
Increased self-confidence and self-esteem (L)	0.72	0.80
Perception of personal excellence (M)	0.81	0.83

The analysis showed that with both groups the questionnaire measured the valid views of the participants (Table 2). The value of the Spearman-Brown coefficient should be >0.5. For the participants it was >0.7, and for the non-participants it was >0.8.

4.2.3 Statistical data processing

The questionnaire data were collected from a dedicated sample of 320 participants in the career-education course, where there was a choice for certain individuals who had characteristics that were relevant to the study (from whom we were able to get useful information to reach the goal). We obtained the questionnaire answers from 273 of them, which represents 85%. The non-participants sample included 420 non-participants, from whom we obtained 274 questionnaires answered, as 61%. Sample units for each of the relevant properties did not differ from the units of the population (partial population of the typical, average and representative economically active population).

Based on this analysis, participants and non-participants were well matched by gender, age, education, employment status and number of years of employment (Table 3). The standard deviation shows a slightly higher distribution for non-participants. Compared to the average working population in Slovenia, these surveyed groups were older and slightly higher educated.

4.2.4 Impact of the three tested variables: K, L and M.

The questionnaire included questions that concerned the patterns of behaviour after the end of their education, to the experience of any changed attitude towards career (K), self-esteem and self-confidence (L), and the perception of personal excellence (M). For the various dimensions of these samples of behaviour, the participants expressed these through a five-level scale, where they had the following options: Not at all (1); Agree partially (2); Partially yes, partially no (3); This is true for me (4); This is absolutely true for me (5).

4.2.5 Mean and standard deviation

The group of participants from the career-education course had higher means for all of the indicators of the variable 'Impact of relation with career', compared to the non-participants in the career-education course (Table 4). The standard deviation shows a greater distribution among these non-participants.

Affirmations: 'When you think about your career, do something for yourself' achieves M = 4.37 in participants and M = 2.79 in non-participants; 'I think about my career' achieves M = 4.27 in participants and M = 2.91 in non-participants. Such relations are achieved in all 13 affirmations which

Table 3. Sample descriptions for the career-education participants and non-participants

Variables		Participants		Non-participants
	n	**Mean**	**n**	**Mean**
Gender	272	35 % M 65 % F	273	34 % M 70 % F
Age (average)	272	49 years	273	50 years
Education (average)	272	52.2 % College-Faculty	273	54.3 % College-Faculty
Employment status	271	61.8 % Employees	273	58.2% Employees
Number of years of service	272	30 years	273	33 years
Involvement in education	272	45.2 %	273	33 %
Computer course	272	30.1 %	273	32.2 %
Language course	272	29.4 %	273	33.3 %
Course effective communication	272	55.9 %	273	24.2 %
Personal career plan	272	79.8 %	273	NA
Education of management	272	29.8 %	273	20.1 %
Education Business Plan	272	39 %	273	NA
Education Career Planning	272	68.8 %	273	50.9%
Europass	272	76.1 %	273	45.1 %
Workshop personal development plan	272	82 %	273	40 %

confirms our first hypothesis: Individuals who have made a personal career plan and after the act, change their attitude towards their career and take control of their life to a greater extent than individuals who are not career educated and didn't finish the career plan.

The standard deviation shows higher distribution among the non-participants of education. A large standard deviation $\sigma = 1.219$ ('I think about my career') indicates a high dispersion of units in the non-participants, i.e. units are arranged on a large scale around the arithmetic mean. A smaller standard deviation $\sigma = .778$ ('I think about my career') in participants represents a large concentration of statistical units around the arithmetic mean.

The group of participants in the career-education course had higher means for all of the indicators of the variable 'Increased self-confidence and self-esteem', compared to the group of non-participants in the career education (Table 5). The standard deviation shows a greater distribution among these non-participants. Affirmations: 'I live in the inner abundance. My inner world is rich' achieves $M = 4.39$ in participants and $M = 3.1$ in non-participants; 'I'm responsible for my life and happiness.' achieves $M = 4.29$ in participants and $M = 3.00$ in non-participants. Such relations are achieved in all 16 affirmations which confirmed our second hypothesis: Individuals who have made a personal career plan and after the act, achieve a high level of self-confidence and self-esteem to a greater extent than individuals who are not career educated and did not finish the career plan.

The standard deviation shows higher distribution among the non-participants of education. A large standard deviation $\sigma = 1.027$ ('I'm responsible for my life and happiness') indicates

a high dispersion of units in the non-participants, i.e. units are arranged on a large scale around the arithmetic mean. A smaller standard deviation $\sigma = .730$ ('I'm responsible for my life and happiness') in the participants represents a large concentration of statistical units around the arithmetic mean.

Participants also had higher means for all of the indicators of the variable 'Perception of personal excellence', compared to non-participants (Table 6). The standard deviation shows greater distribution among the non-participants in the career education.

Affirmations: 'I make part of myself in everything I do' achieves $M = 4.53$ in participants and $M = 3.31$ in non-participants; 'Help others' achieves $M = 4.51$ in participants and $M = 3.38$ in non-participants. Such relations are achieved in all 23 affirmations which confirmed the third hypothesis: Individuals who have made a personal career plan and after the act, achieve personal excellence to a greater extent than individuals who are not career educated and didn't finish the career plan.

The standard deviation shows higher distribution among the non-participants of education. A large standard deviation $\sigma = 1.061$('There is no reason to anything or anyone in my life hated') indicates a high dispersion of units in non-participants, i.e. units are arranged on a large scale around the arithmetic mean. A smaller standard deviation $\sigma = .820$ ('There is no reason to anything or anyone in my life hated') in the participants represents a large concentration of statistical units around the arithmetic mean.

The arithmetical means of both of the independent variables differed statistically significantly.

Table 4. The 'attitude to career' for the career-education participants and non-participants

Variable	Participants			Non-participants		
	n	Mean score	SD	n	Mean score	SD
I think about my career	272	4.27	0.778	273	2.91	1.219
I have an idea about my different career paths	272	3.84	0.824	273	2.42	1.034
Thinking about a career, I open a new outlook on my life	272	3.96	0.743	273	2.44	1.045
The performance of my career makes me more confident	272	4.06	0.734	273	2.38	1.026
I feel more accepted	272	3.79	0.831	273	2.30	1.011
When thinking about my career, I feel that there is light at the end of the tunnel	272	3.67	0.969	273	2.23	1.007
I can feel my energy	272	4.12	0.730	273	2.45	1.080
I learn from others	272	4.20	0.727	273	2.84	1.102
The path to my dream professions is open to me	272	3.60	0.944	273	2.24	1.000
I know my own priorities	272	4.16	0.700	273	2.60	0.958
I know and appreciate my talents	272	4.09	0.784	273	2.70	1.011
When I think about my career, I do something for myself	272	4.37	0.701	273	2.79	1.067
I am aware of my responsibilities	272	4.32	0.674	273	2.79	1.050

SD, standard deviation.

Table 5. The 'increased self-confidence and self-esteem' for the career-education participants and non-participants

Variable	Participants			Non-participants		
	n	Mean score	SD	n	Mean score	SD
I am able to recognize my new personality	272	3.59	0.859	273	2.43	0.953
I have faith in the future, and I have faith in my abilities	272	3.97	0.721	273	2.69	0.982
My assertion is that life is made up of 10% of what happens to me, and 90% of how I react to it	272	4.24	0.557	273	2.92	0.984
I agree with: I am aware of the opportunities that are before me	272	4.04	0.710	273	2.62	0.990
I am following my intuition	272	4.28	0.680	273	3.06	1.000
Along my glittering avenue life path there are large green trees	272	3.95	0.820	273	2.60	1.013
I appreciate myself more	272	4.04	0.699	273	2.78	1.011
My life mantra is: "I am a happy, peaceful and prosperous person"	272	4.21	0.730	273	3.00	0.972
I am responsible for my own life and happiness	272	4.29	0.730	273	3.00	1.027
I am unreplaceable and valuable to myself and others	272	4.19	0.680	273	3.07	0.973
I am following myself and my needs	272	4.29	0.693	273	3.12	0.978
I agree with the statement: "If I do not let my dream come true, I will never reach it"	272	3.86	0.898	273	2.63	0.922
I live in inner abundance. My inner world is rich	272	4.39	0.689	273	3.10	1.083
The only source where I get advice, after which wonder is tracking my inner voice, is intuition	272	4.00	0.817	273	2.72	0.961
I am able to recognize my new personality	272	4.16	0.709	273	2.90	0.980
Valid n (listwise)	272			273		

SD, standard deviation.

Table 6. The 'perception of personal excellence' for the career-education participants and non-participants

Variable	Participants			Non-participants		
	N	Mean score	SD	N	Mean score	SD
I am unreplaceable and valuable, to myself and others	272	4.20	0.685	273	2.82	0.919
I am full of love and I want to give; give to my family, friends, the people who surround me	272	4.26	0.706	273	2.88	0.947
I am satisfied with my career goals	272	4.06	0.716	273	2.75	0.796
Every day I say thank you...	272	4.08	0.845	273	2.55	1.049
I can analyse and find solutions to difficult problems	272	3.55	1.044	273	2.29	0.975
I want to help others	272	4.51	0.643	273	3.38	0.997
I do not store useless stuff (e.g., unread mail, materials, newspapers)	272	3.86	0.945	273	2.66	0.966
If I cannot take care of myself, I cannot worry about others	272	4.34	0.737	273	3.08	0.958
I look at my exercise goals	272	4.26	0.687	273	2.95	0.887
I can step into the shoes of another person	272	4.20	0.795	273	2.88	0.993
I am responsible for my career	272	4.42	0.677	273	3.15	0.916
I nurture personal excellence	272	4.21	0.720	273	2.77	0.976
I put part of myself into everything I do	272	4.53	0.582	273	3.31	0.867
I care for my health	272	3.88	0.793	273	2.80	0.877
I know what I want	272	4.32	0.663	273	2.98	0.903
I use my time well	272	3.91	0.810	273	2.74	0.802
I make good use of my energy	272	3.96	0.777	273	2.76	0.803
I do not cultivate resentment	272	4.14	0.840	273	3.00	1.020
There is no reason for anything or anyone in my life to be hated	272	4.29	0.820	273	2.90	1.061
My mind is my most important tool	272	4.40	0.737	273	3.19	0.999
I encourage the opportunities for change	272	4.25	0.656	273	2.87	0.888
I have fast concentration	272	4.15	0.707	273	3.00	0.945
Valid n (listwise)	272			273		

SD, standard deviation.

4.2.6 Bivariate analyses

As the variables are numeric, we tested the linear correlation matrix between individual pairs of variables. The Spearman's correlation coefficients for each pair indicate whether there are any connections between them. This is defined as the interval from -1 to 1. A value of 0 means that there is no relationship, a value of -1 means the maximum inverted correlation, and a value of 1 means the maximum proportional relationship. Values from 0 to 0.3 represent weak linkage, from 0.3 to 0.6, medium linkage, and strong links above 0.6, to 1 as a very strong relationship.

In participants, with less than 0.1% of significance, we can claim that there is a medium to strong correlation between the attitude towards the career and the self-esteem, which show Spearman's correlation coefficients of 0.465. Better self-esteem leads to a better attitude towards the career, and *vice versa*.

With less than 0.1% of significance, we can argue that in participants there is a medium to strong correlation between the attitude towards the career and the perception of personal excellence, which show Spearman's correlation coefficients of 0.340. A better attitude towards the career leads to a better perception of personal excellence, and *vice versa*.

With less than 0.1% of significance, we can argue that in participants there is a very strong correlation between the self-esteem and the perception of personal excellence, which show Spearman's correlation coefficients of 0.652. So better self-esteem leads to a better perception of personal excellence. and *vice versa*.

4.2.7 T-test for independent variables

For the determination of the influence of the personal career plan and business plan together on the relation with career (K),

Table 7. Spearman's rho correlation for participant.

		K	L	M
K Impact of relation with career	Correlation coefficient	1.000	**0.465****	**0.340****
	Sig. (2-tailed)	.	0.000	0000
	N	272	272	272
L Increased self-confidence and self-esteem	Correlation coefficient	**0.465****	1.000	**0.652****
	Sig. (2-tailed)	0.000	.	0.000
	N	272	272	272
M Perception of personal excellence	Correlation coefficient	**0340****	**0.652****	1.000
	Sig. (2-tailed)	0.000	0.000	.
	N	272	272	272

**, Correlation is significant at the 0.01 level (2-tailed).

self-esteem (L) and the perception of personal excellence (M), t-tests for independent samples were used. The first group is the who attended the seminar of the personal career plan and business plan (participants of career education), and the second group is the participants who did not attend the mentioned seminar (non-participants of career education) . Between both groups we compared the average values of variables K, L and M.

With the t-tests, we determined whether the arithmetical means of both of the groups for all three of the variables (K, L, M) differ statistically significantly. With all of these tests we used a 5% level of significance. From Table 8 we can see that in non-participants and for the variable K, the mean is 2.55, while for the variable L the mean is 2.84, and for the variable M the mean is 2.90. In participants, for the variable K the mean is 4.03, for the variable L the mean is 4.10, and for the variable M the mean is 4.17.

The group of participants in the career education (OKN+PN) has on average higher values of the variables K, L and M (Table 8). These differences are statistically significant, with Sig, <0.005, so we can conclude that the attending of the career-education course has a highly positive influence on the relation with career, on the self-esteem, and on the perception of personal excellence.

4.2.8 Factor analysis

With the factor analysis of the variable 'Relation with career', the connections among the observed variables (the correlations) can be explained by three common factors. With the identification of the common factors we can explain 44.9% of the total variability of the observed phenomenon. The biggest load lies with the first factor, which has the highest value in explaining the variable, which is then follow by the second and third factors, with each of these in order explaining a smaller part of common variance. Factor 1, which has a highest value, can be named as 'Relation with career', and it is marked by the variables 'I recognise my own priorities', 'There is light at the end of the tunnel' and 'The career plan has made me more confident'.

With the factor analysis of the variable 'Increased self-confidence and self-esteem', the connections among the observed variables (the correlations) can be explained by three common factors. With the identification of these common factors, we can explain 42.7% of the total variability of the observed phenomenon. Factor 1, which has the highest value, can be named as 'Increased self-confidence and self-esteem' and is represented by the variables 'I learned to listen to myself and to my needs', 'I have changed for the better, I

Table 8. T-test group statistics for both groups and all three variables.

	Career_business_plan	n	Mean	SD	SEM
K Impact of relation with career	OKN+PN total	272	4.0348	0.46595	0.02825
	without OKN+PN	273	2.5449	0.72953	0.04415
L Increased self-confidence and self-esteem	OKN+PN total	272	4.1000	0.43583	0.02643
	without OKN+PN	273	2.8425	0.63667	0.03853
M Perception of personal excellence	OKN+PN total	272	4.1715	0.41185	0.02497
	without OKN+PN	273	2.8956	0.53982	0.03267

SD, standard deviation; SEM, standard error of the mean
OKN + PN = Participants
without OKN + PN = Non-participants

value myself better, I am playful and responsible' and 'I have started to trust in the future'.

With the factor analyses of the variable 'Perception of personal excellence', the observed variables (the correlations) can be explained by six indirectly observed variables. With the identification of the common factors, we can explain 60.6% of the total variability of the observed phenomenon. Factor 1, which has the highest value, can be named as 'Perception of personal excellence', and it is represented the variables 'I put part of myself into everything I do', 'I nurture personal excellence', 'I know what I want', 'I manage my energy well' and 'I use my time well'.

4.3 Model of a career plan as a building block for personal excellence

The conceptual model for making career plan derives from Kolb's model of experiential learning (Kolb, 1985, p. 57). Contains tools we have tested and developed for education in the context of four activities: a) concrete experience, b) reflection on experience, c) abstract conceptualization, and d) active experimentation. Model of experiential knowledge is a spiral, which means that knowledge builds.

As Parsons three-level model speaks for personal analyses, where the individuals recognise their advantages and disadvantages, characteristic or features Parsons (1909), The ideal model for the definition of a career plan (Figure 4) consists of the recognition of one's own potentials (e.g., European, curriculum vitae, portfolio, competence). Then there follows a deepening understanding of the own-self (e.g., wheel of equilibrium, analysis of lifeline, Myers-Briggs indicator of personality). The participants in this career education determine what they really want to do (Table 9), and what job makes them happy and is at the same time in agreement with their personal values. They make measurable and very concrete goals for themselves in connection with their career (e.g., career goals, career anchors, SWOT analyses), they define their own career portfolio, and they make out a personal career plan. They train themselves on how to act in public (self-promotion) and how to present their own marketing brand (self-branding).

5 Discussion

5.1 Key findings from the qualitative analysis

For the qualitative approach, we focus on getting insider views of the phenomena that require a deeper understanding.
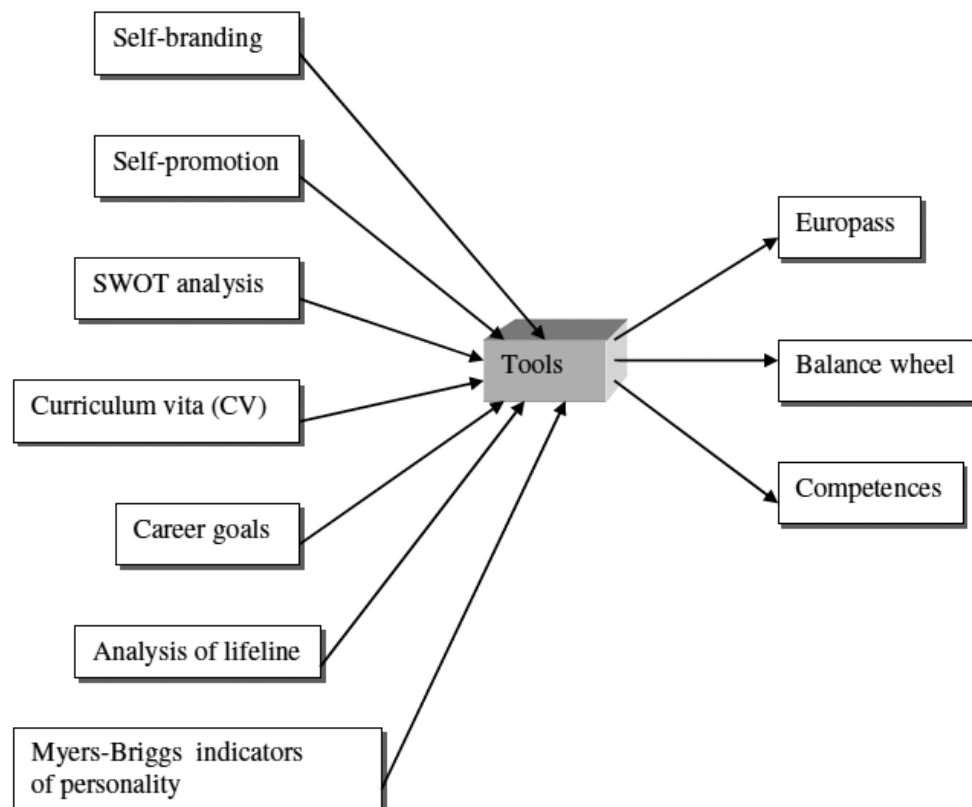

Figure 4. Model of a career plan as a building block for personal excellence.

Table 9: Didactic model specification

Informative objectives	Formative objectives
Participant:	**Participant**
Define the concepts of careers, career development, planning and career management	(1) Critically analyse the concept of a career in modern society.
Distinguishes the newest career theories	(2) In practical situations justifying the essential social factors that have influenced the development of career theories.
Used career tools: Introduction to careers, career transition and career break, career goals, career anchors, competencies, career portfolio, SWOT analysis, self-promotion, career coaching, career development within the organisation, Networking, Career trademark, Personal Career Plan, Career Management	(3) Analyses the necessary skills for different jobs. (4) Analyses best practice enforcement systems for employee career development.
Learning takes place in the classroom and in the e-classroom, participants at the end of the seminar work individually to create a theoretical practical collection of case studies - Study Guide, which contains the following units: My personal career plan. The determination (identification) of personal skills for career development. Needs assessment of lifestyle (work and lifestyle). Explore interesting careers Construction of career skills. Career Network and the preparation and implementation for a job interview. Selection of target career and a personal education plan (mission statement). Development of long-term career plans and education / training	

We have tried to identify the essence of the research, which is closely linked to its source, so as to identify the most relevant information. Because the study focuses on learning and self-regulation, the qualitative approach is essential for understanding the perspective of individual learners. For qualitative research, we started with a theoretical framework and then use the lens to create additional concepts and theories. "It is important to note that qualitative methods are very systematic". (Berg, 2001, p. 7).

Using qualitative analysis, we identify the elements of design criteria for the construction of the questionnaire; we measured the effect of education on career plans. We found three important areas, and a series of questions: attitudes towards career, degree of self-confidence and perception of personal excellence; they have already been presented in this article in the tables: table 4, table 5, table 6 in the column 'Variable'.

5.2　Key findings of the quantitative analysis

We formed a paradigmatic model with the final theory, based on which we created a questionnaire. Individuals who have made out a personal career plan and then act accordingly, change their attitude towards their career and take better con-trol of their life, achieve a high degree of self-confidence and self-esteem, and achieve personal excellence perception to a greater extent than individuals who are not career educated and who have not made a career plan. People can speak confidently about their personal experiences with the research topic (Gibbs, 1997 and Stewart et al., 2007). The final theory is an integral element of the questionnaire.

Participants has a higher average values for all variables that indicate the attitude to career than non-participants. Participants are better prepared for the challenges of the 21st century and great changes occurred on the working place: the fast development with the use of new technologies, which demand constant learning and faster and more frequent communication.

With the statistical analyses of data, we used the bivariate analysis to test the linear connection of individual pairs of variables. With less than 1 % level of significance can be argued that there is a medium strong to very strong correlation between all tree variables. Spearman's coefficient r> 3 between K and L and > 6.5 between L and M indicates a very strong positive correlation self-esteem and perception of personal excellence, that confirms the idea Lipsey and Wilson to career planning provides a good mental state of people (Lipsey & Wilson, 2001).

While searching for the differences between both group: participants and non-participants we used t-test for independent samples. Between both groups we compared the average values of variables K, L and M. The group of participants of education with (OKN+PN) has in average higher values of variables K, L and M. Those differences are statistically significant, with Sig, < ,005, So we can conclude that the attending of education influences highly positive the relation towards career, self-esteem and perception of personal excellence.

With factor analysis, we tried to find out weather the relations among the examined variables can be explained with the smaller number of indirectly examined variables. In variable 'Relation to career', we found out that connections among the observed variables can be explained by three common factors: 'I recognised my own priorities', 'The light in the tunnel switched on' and 'Career plan made me more confident'. In variable 'Increase self-confidence and self-esteem', we found out that connections among the observed variables can be explained by three common factors 'I learned to listen to myself and my needs', 'I changed to better, I value myself better, am playful and responsible' and 'I started to trust the future'. In variable 'Perception of personal excellence', we found out that the relations among the observed variables (correlations) can be explained with six indirectly observed variables: 'Part of myself I put into everything I do', 'I nurture personal excellence', 'I know what I wish', 'I manage my energy well' and 'I use my time well'.

6 Conclusions

Personal career plan is based on own characteristic, experiences, tasks, knowledge, trainings, skills, goals and the philosophy of each individual. Career planning is intended for the improvement of the ability of the individuals to make career decisions.

The research of career education based on the ideal model of a career plan as a building block of personal excellence has shown that individuals who have defined a personal career plan and afterwards have act accordingly, change their attitude towards their career, take over the control over their lives, achieve a high level of self-esteem and self-confidence, and achieve a higher perception of personal excellence, than individuals who did not attend career education and did not make out a career plan.

A career plan as a building block of personal excellence, based on the model of career education with the in-built elements and tools of NLP, which has been confirmed by the most recent studies in neuroscience. This represents a novelty, and therefore this study offers a genuine contribution and is an indicator of contemporary knowledge, and is based on the results of research.

The findings of this study will be practically useful for solving social problems for people, and for the rationalisation of costs of public institutions and employment agencies. Above all, this is useful for individuals, to avoid a career break, which is represented by unemployment, and replace it with career transition, which offers different samples of different careers. These findings will also be useful in career management, as a process of planning and formation of promotion

of individuals within an organisation in accordance with the needs of the organisation and the wishes, options, knowledge, skills, and capabilities of the individuals. With career education of individuals, these findings show that this will contribute to the success of an organisation, as individuals will strengthen their self-confidence and goal orientation, and thus enable themselves to be promoted within the organisation. On the other hand, the managers and the organisations will recognise the advantages of individuals (e.g., their knowledge, skills), and can coordinate and bring together the wishes of the individuals and the needs of the organisation, thus to develop new roads for promotion of individuals and to help them to prosper again when signs of their stagnation appear.

Our society, which will in a broad sense stimulate the definition of career plans within companies, will avoid numerous inconsistencies among the unemployed and the compensation they get in certain periods. Instead of facing a career break when becoming unemployed, and to be under constant stress, they can instead take more care, with the help of a career plan, of their smooth transition from one career to another.

Slovenia has been investing large amounts of resources for a long time for the sanitation of companies, but thousands of workers stay on the roads. All of the capital invested to help the owners will be usefully spent on the employees, who will in times before the crisis develop new knowledge and new skills, and learn how to lead new projects and be able and financially well equipped to start new activities and new projects of marketing.

The model of career education and the results of this study open new directions for further research of the influence of career planning on the organisation of companies and their success, which in this phase of the study was not investigated.

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Karierni načrt kot gradnik osebne odličnosti

Ozko področje raziskave je zgraditi model model gradnje osebne odličnosti s pomočjo kariernega načrta, ki je kvantitativno in kvalitativno empirično preverjen. Namen raziskave je določiti faktorje, ki vplivajo na občutek osebne odličnosti udeležencev izobraževanja in izdelave kariernega načrta v primerjavi s tistimi, ki se niso karierno izobraževali. Pri kvalitativni analizi je osnovno izkustveno gradivo zbrano med izobraževalnim procesom v 20 esejih in oblikovan paradigmatski model s končno teorijo, na podlagi katere smo izdelali vprašalnik. Kvantitativna raziskava je izvedena s 547 udeleženci in neudeleženci izobraževanja. S statistično analizo podatkov smo z bivariantno analizo testirali linearno povezanost posameznih parov spremenljivk. Pri preverjanju razlik med obema skupinama smo uporabili t-test za neodvisne vzorce. S faktorsko analizo smo ugotavljali, ali se zveze med opazovanimi spremenljivkami lahko pojasnijo z manjšim številom posredno opazovanih spremenljivk ali kazalnikov. Končni model vsebuje tri elemente: (1) odnos do kariere, (2) samopodobo in (3) zaznavanje osebne odličnosti. Vodstvo lahko takoj uporabi rezultate te raziskave pri odločanju. Povečana uspešnost vsake posamezne organizacije je v korist celotne družbe. Raziskava predstavlja izvirni prispevek in daje nova spoznanja, temelječa na paradigmi razumevanja kariere in pomenu njenega načrtovanja, kot motiva odličnosti.

Ključne besede: karierno načrtovanje, osebna odličnost, karierni prelom, kvalitativna analiza, kvantitativna analiza, nevrolingvistično programiranje.

Competency based Training Need Assessment – Approach in Indian companies

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Training is a usual formula for organisations through which employees are introduced to learning, but the challenge lies in identifying the appropriate training needs of employees. The success of a training program depends primarily on the need assessment. The paper discusses the process of competency mapping and focuses on how competency mapping can be used for conducting training need assessment. The paper is an empirical research based on both public and private manufacturing units in India. Primary and secondary data was collected using number of techniques. Gap analysis has been performed for employees and it has also been aimed to verify the changes in competency gaps on applying need based training. On providing need based training, significant difference was measured in the level of competencies of employees. The paper shares a practical insight on the implementation of competency mapping for training need analysis. The research is focused on manufacturing units only, whereas there is a huge scope for it to be implemented in service industries also. The paper is an original piece of research where a model has been designed to resolve training issues of manufacturing industries.

Keywords: Competency, Competency Mapping, Training, Training Need Assessment, Manufacturing

1 Introduction

The state of economy of India during the yester years of independence reveals that India has always been an agrarian country. It had weak industrial background, low level of savings, investments and near absence of infrastructure facilities. With the fast growing world, the growth of manufacturing organisations has become indispensable for India to keep up with the pace of the rest of the world. Growing population has led the organisations to experience the pleasant task and tension of a four-fold increase in the demand for their products and services. Consequently, the emphasis has shifted to the ultimate and inevitable goal of growth and performance; which can exist only if the employees are focused to the goals of the organisation.

Haygroup, (2004) pointed out that an organisation's best source of competitive advantage lies with its employees. Vathanophas & Thai-ngam, (2007) have mentioned in their earlier work that the demand for effective and competent employees is continuously increasing in both public and private organisations. The employee competence and commitment largely determines the objectives that an organisation can set for itself. It also determines the success in achieving the set objectives. Training is an appropriate tool which enhances employee competence ensuring achievement of organisational goals and objectives.

A number of Indian organisations have attempted to use competency modelling as a part of human resource management function in the last three decades. Many organisations were successful in implementing competency based system yet, others were unable to relate it to the existing operations and scenario for training and development. Several researches highlights the problems in developing competency models as identified by Esque and Gilbert, (1995); Marrelli, (1998); Thomas, (2000); Langdon and Marrelli, (2002) have questioned the applicability of competency models as these models are based on behaviours, not accomplishments. There is often disagreement between the process and the terms used to define competencies. Practitioners have referred competencies being broadly defined, ambiguous and subjective. In spite of criticisms researchers like Byham, (2002) expressed that the first and most important step in designing the management development programmes is 'determining the competency model of managers'. This acts as a base for the paper in identifying

the employee competencies required for achieving the performance goals of the organisation. Competency based training and development is one such means to initiate a performance driven focus.

The objectives of the paper are:

1. To elaborate the existing training scenario of organisations in India
2. To describe how a tool of competency mapping is applied for training purposes.
3. To conduct gap analysis for identifying training needs.

The study is an attempt to design a model based on competency mapping for identifying training needs. The explorative research design of the study involves both primary and secondary data.

2 Training in Manufacturing Organisations in India

In India, many smaller organisations are unable to focus on the defining the job competencies. Even on attempting the usage of job competences, some organisations are unable to relate it with the training needs of employees. The inability of relating it to the individual development needs may cause training, performance consulting, career development, and other activities to fall considerably short of what could have been achieved. Many organisations neither have job analysis nor are competencies have ever been defined. The employers typically feel that the job descriptions are not essential for training activity. The typical job description does not contain a list of job competencies, though some specification might contain a list of basic skills, knowledge, or job activities. In most cases the job specifications emphasize on the type of experience or education needed for the job. In a few organisations basic skills or traits are also defined and used in conducting interviews. In many surveyed organisations observations reveal that there is no emphasis on the importance of defined job competencies. The training function at large number of organisations with an existing need assessment procedure was nothing more than holding conversations with managers to find out the requirement of training. Though, these organisa-

tions in India have worked and implemented many techniques which are highly performance driven, yet, the acceptance of the newer techniques by small manufacturing organisations is quite low. Many remain unaware to the various efficient HR practice in today's world. There are organisations which still follows traditional systems and do not wish to invest time and money in training their employees. In many cases it was observed that the training departments and other HR functions at times have separate ways in analysing jobs and determining what is important. Most departments including line operating departments have their own set of standards and their measuring techniques vary for different departments. Such situations are very common in many manufacturing organisations in India resulting in separate, independent efforts leading to shattered organizational goals. Differing activities leads to perplexities in all dimensions of HRD. In order to understand the process competency mapping, there is a need for understanding the relation between performance and competency.

3 Need for Competencies in Organizations

An article published in Times of India, (2007), expresses the Christmas wishes of HR professionals. Mr. Surendra Jeet Raj, Sr. VP, HR, Newgen Software expressed, "I wished I could make a concoction using a fine blend of 10 granules of 'Customer Focus, 2 table spoon of Syrup 'Attention to details', 3mg powder of 'Ontime service delivery', 5 cubes of 'After sales service'." It is not only specific competencies that are required but a desired level of competencies is also what the organizations are focusing on for its employees. Competencies are highly organization as well as role specific, i.e. they may not be of any use in other sectors or companies or job roles. The biggest advantage of competencies is that they help creating job awareness not only for the employer but also for the employee too.

'Competency-based' approach to human resource management has become integral during the last thirty years, with 'Competency' concept involving knowledge, skills, attitude, traits and behaviours that allow an individual to perform a task within a specific function or job (Boyatzis, 1982). In the
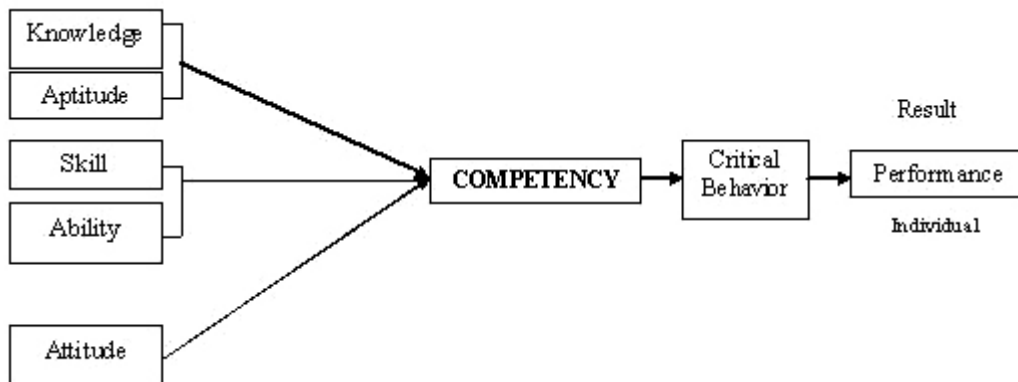

Figure 1. - Concept of competency

present scenario where job availability is at a very crucial state with elevated need for effective low cost employees, organizations are unsuccessful in finding capable employees. As the level of competency in a person affects ones behaviour which leads to incongruity of performance, the organizations desire a certain level of required competency in its employees for specified job posts.

The resultant of a critical behaviour is higher performance. The level of performance (low, moderate or high) is always determined by the level of knowledge, skill and attitude. (Figure 1).

The term 'Competency map' has gained a wide recognition in the business field (Brožová & Šubrt, 2008). Garrett, (2007) has explained competency map as a tool which defines the job demands. A competency map is a list of an individual's competencies that represent the factors most critical to success in given jobs, departments, organizations or industries that are part of the individual's current career plan (DACEE, 2008). Competency mapping is a process an individual uses to identify and describe competencies that are critical to success in a work situation or work role.

4   Literature Review

Managers prescribe 'training programs' as a drug to all employee related problems in organizations. Goldstein, (1993) defined training as the systematic acquisition of skills, rules, concepts, or attitudes that result in improved performance in another environment. Therefore, training programs are planned to churn more responsible supervisors, competent technicians or influential managers and leaders in complex organizations. However, the question that arises is, how relevant is mere conducting training programs for the employees, without a systematic need assessment aligned to achievement of organizational goals?

It is vital to understand the fact that the credit of a successful training program half lies with a systematic and operationally useful training need assessment. Even though the terminologies have changed over the years, the three-level framework followed today remains the same as conceptualised by (McGehee and Thayer 1961). They emphasized on three levels of analysis: organization analysis, operations analysis, and man analysis. The key of a need assessment lies in identifying the right techniques and methods of data collection. The formal needs assessment methods often used to identify group needs are including critical incident techniques, gap analysis, knowledge and skills tests, observation, revalidation, self assessment, video assessment and peer review (Grant, 2002). As emphasised by several researchers like Kochhar et al. (1991), Khan and Hafiz, (1999) on the gap analysis as a technique has been used in this research too as it is a widely used tool to assess 'What is' in reality and 'What is intended to be'. Tao (2006) has elaborated that a gap analysis is usually administered via a survey type questionnaire to the employee, manager and other personnel. This has been considered as the base for the data collection for the research.

A few researches have been conducted on identifying the competency based training needs. Yeh (2000) developed a comprehensive needs assessment process for competency-based training. The framework adopted for the research is the three staged competency-based training assessment as proposed by Yeh, (2000). The framework contains three processes with specific output items signifying each stage of competency identification, gap identification and training curriculum preparation. Palan, (2003) has explained the various types of competencies through the Roman Pavilion framework. He has also explained that the framework is a term given to the complete collection of clusters and competencies with performance indicators. Corrall, and O'Brien (2011) investigated broad range of competency requirements using pragmatic mixed-methods approach, including a mainly quantitative questionnaire, administered online to 64 legal information professionals, followed by eight semi-structured interviews and a focus group with four participants.

A competency model is a behavioral job description that must be defined by each occupational function and each job (Fogg, 1999). Depending on the work and organizational environment, a group of 7 to 9 total competencies are usually required of a particular job and depicted in a competency model (Shippman, et. al., 2000).

The competency models can be used for assessing the training needs and is useful in many ways like:

- Assess individual needs without any biased external decisions
- Measures individual needs on the grounds of the organizational goals and not on the basis of the superiors decisions to depute the individuals for training
- Training needs identified on the individual's current performance.
- Reduces cost for the smaller organizations where yearly compliance for training requires every individual to be trained. Competency model ensures need based trainings for individuals.

The competency definition and model presented as a part of the paper reflects a consensus of what the leading companies and consultants in the field are talking about when they use the term 'competency modelling'. The various models that have been referred for working on the research were the MACH (Miner, Alperin, Cioffi, and Hunt) model, OCSC (Office of Civil Service Commission) model and Lancaster model. Miner, K. et al, (2005) mentioned that the competencies can be used to fulfil both the infrastructure and the workforce needs in MACH's model. Burgoyne and Stuart, (1976) have explained that the Lancaster Model of managerial competencies is a universal management competency framework. Vathanophas and Thai-ngam, (2007) worked on OCSC model an identified an extensive list of 23 competencies in Thai public sector, Thailand Office of Civil Service Commission. The WACOM project focused on the identification competence models and competences for professionals in the water sector, enhancing the improvement of professional training and workplace training (Stracke, 2011).

Defining competency models is the initiation of competency based training and competency modelling helps in elaborating and defining training objectives. Emad and Roth, (2008) highlighted the contradictions in the education and training system that do not allow the targeted objectives to

be fulfilled. The research elaborates that how the competency assessment system has changed the objectives of the education and training practices from learning skills and knowledge required on-board ships to passing competency examinations.

Competency based training and development is no more related to more and more paper work. More technology and web based processes are used to make the competency based training more effective with increased reach. Thanopoulos, Protonotarios. and Stoitsis (2012) worked on presenting Information and Communication Technology (ICT) tools such as web portals, learning portals and course management platforms that have been developed and used in order to support EU-funded research and training projects in the area of organic agriculture. The paper discusses the case of the CerOrganic company which is used for providing access to

resources related to competence based vocational education and training in the context of organic agriculture. Pollit, (2011) has discussed the case of Eurostar, the high-speed passenger-train service that connects the UK to France and Belgium introducing robust, online competency-assessment system and how it increased training and coaching opportunities for key personnel among its 1,200 employees. The article concluded that ongoing training opportunities increased by automating and speeding up elements of the assessment process.

5   Research Methodology: The Model

Designing the competency mapping based model has always been a challenging task as there are numerous options available in choosing the techniques involved in the process. There
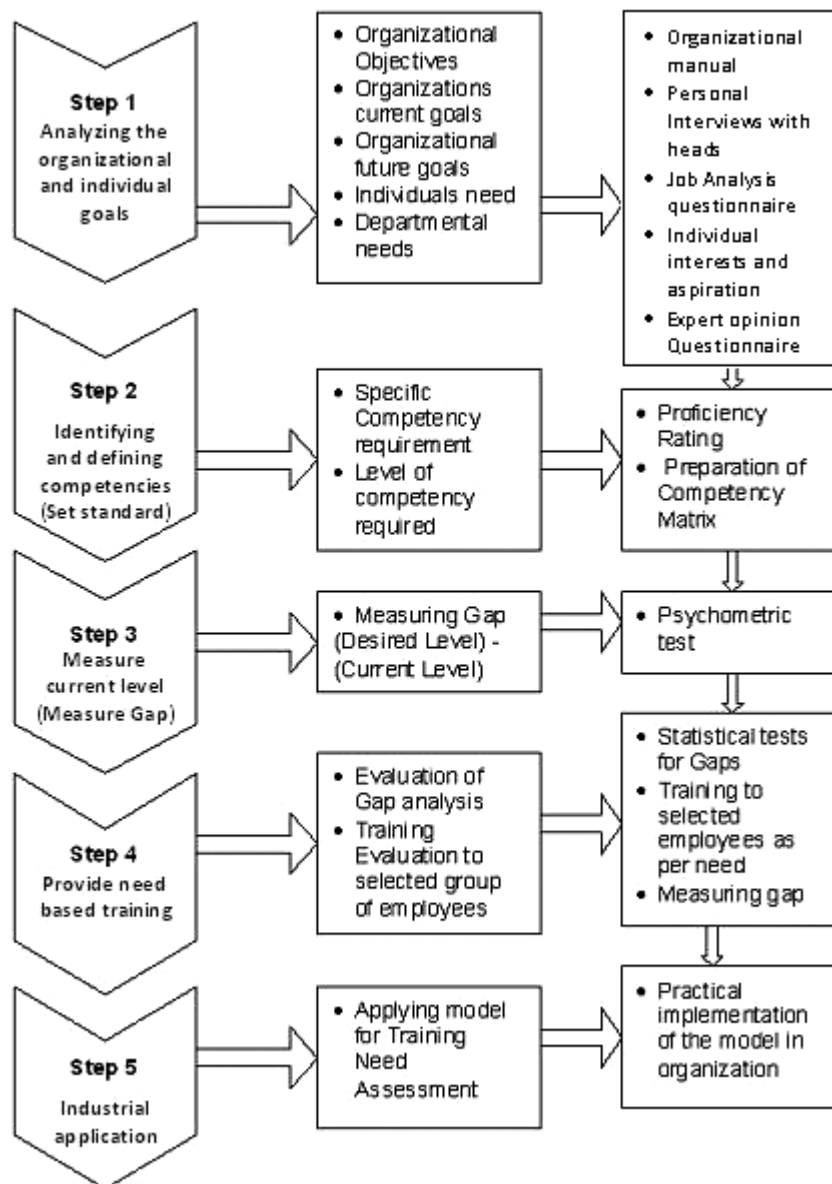

Figure 1. Process of Competency

are various models developed for performing competency mapping in an organization. There is no one specific form of conducting competency mapping. Thus, the success or the failure of the model lies with the fact of choice of technique and the application of the techniques based on the nature of the organization. Most manufacturing organisations have a continuous work process and every individual employee has a leading role in the process. As a result, the organizations do not appreciate a technique which is expensive, time consuming and is not accurate. The process involved in the research for data collection is as given in Figure 1.

Referring to the previous work of Harzallah & Berio, (2004), competencies for individuals in organizations has only been focused. Group and core competence as described by (Hamel & Prahalad, 1994), has not been approached as it is a complete process by itself for structuring organizational strategy. On having a close observation and on initial interactions with various HR officials from the surveyed organisations, few hidden facts were revealed. Out of the 17 surveyed organizations, 12 did not have any defined process for conducting training need assessment. The initial interaction with the employees revealed that for the employees 'Training' seemed to be a celebratory experience considering it as an official rest day. Some organizations also organize out bound training for their employees. Such out bound programs are presumed to be an excursion. Challenge for companies lies in engaging employees in the trainings conducted. Definitely, lack of interest is one such reason at the employee's end. The flaw at times lies with the employers, as the trainings conducted are not effective due to various other procedural issues. The ROI on trainings conducted is not met. This lowers the organizations interest in conducting training for its employees. This is not only the case of surveyed organizations but with many such other smaller organisations.

The process involves interview of the head officials of the surveyed organizations to understand the current and future goals of the organization. The organizational goals have been thoroughly assessed before identifying the competency needs of employees. It is also attempted to understand the difficulties and challenges of the existing training and development practices of the organisations. The individual tasks with special reference to specific jobs have also been studied.

Most of the technical competencies can be enhanced in employees with an emphasis on behavioural competencies. An employee, who is required a technical competence of operating a CNC machine should have behavioural competencies like learning ability, self management, quality consciousness etc. Thus, as a part of this research, initially the technical competencies have been identified and based on which the behavioural competencies were established for a particular job post. It has been ensured that the behavioural competencies are not restricted to the technical competencies and also completely encircles the purpose of the job post. Proficiency rating was prepared for the identified set of competencies. The proficiency rating supports in defining the level of competencies. Frequency charts have been prepared to show the distribution of gap levels of the individual competencies for each employee.

An 80 item psychometric test was designed on the grounds of the competencies identified which was pre-administered and tested for reliability and validity. Each competency was measured by 5 items out of which 3:2 ratio has been maintained for positive: negative questions. The questionnaire leads to identify the current state of an individual. The gap of an individual was measured based on 'required level' and 'current level'. The required level of competencies was identified on the grounds of the initial mapping exercise. The current level was measured on the scores of psychometric test.

The gap level can also be utilised for recruitment and selection of new individuals, performance appraisal, promotion, in-house hiring etc. These gap levels have been utilized for designing need based training programs. The research focused on providing training based on the gap identified. The research has been conducted based on a survey of 111 employees (supervisor and above level) of seventeen different manufacturing organisations in India. Convenient sampling was used to choose the sample organizations. Manufacturing organisations in India do not easily permit externals to conduct research. Public organizations are traditional and have loads of paper work. They are rigid in sharing information. There are numerous manufacturing organisations in India yet the sample size was only 17 based on the convenience and permission received from different organizations. The names of the companies have not been disclosed as the companies were reluctant to disclose their current HR practices. Eighteen different jobs were analysed. Besides using direct observation and interview with the employees as a technique, a questionnaire was incorporated to the head of the organization to define the performance standards and the competencies that are expected from a superior performer for specific job post. Job analysis questionnaire was incorporated to understand the various job profiles in depth also to identify the required competencies. Based on which the job description and specification has been prepared. The existing job description used by the company was also compared with the newly prepared one so as to ensure that the description contained every small task.

The research identified a primary set of 16 competencies which are as Initiativeness, Innovativeness, Effective Communication, Stress Management, Conflict Management, Openness to Change, decision Making, Effective planning, Creativity, Self Management, Proactive, Learning Ability, Quality Consciousness, Resource Orientation, Positive thinking and Team Building. The secondary set of competencies being Presentation skills, Negotiation, Effective networking, Customer Service Orientation, Leadership, Problem solving ability, Building sustaining team, handling employees, Financial analysis, Supervision, Goal Setting, Risk taking, Organizational development, Handling stress, Process improvement , Group facilitation, Adaptability, Performance development.

The various tools used in the research to collect data from sample organizations and others have been tabulated in Table 1. The model designed for the research is as given in Figure 2.

The psychometric test was initially applied on 21 people who have direct interaction with researcher for more than 15 years e.g. Parents, husband and cousins. Initial marks were assigned by the researcher based on the observation made

Table 1- Tools and Statistics Used in the Research

Tools Used	Sample Size	Description of the Sample	Objectives of using the tool	Statistical Tests
Job Analysis Questionnaire	111	Employees from surveyed organisations	For a better understanding of the profile. To identify the required competencies for the jobs studied.	Nil
Psychometric Test Questionnaire	111	Employees from surveyed organisations	To measure the current level of competencies among individual employees. To signify the difference in identified competencies	Reliability Test- (Time Sampling)- Test-retest method (Content Sampling)- Split-Half method and Cronbach's Alpha Validity Test- Content Validity Discriminate Validity ANOVA- (F value)
Direct Observation	111	Employees from surveyed organisations	For a better understanding of the job for identifying the level of competencies.	Correlation Coefficient (between ratings of expert and direct observation rating by the researcher)
Checklist Method	111	Employees from surveyed organisations	To identify the required competencies. Identify the required level of competencies among individual employees at particular job posts.	Nil
Questionnaire for Expert Opinion	17	Experts from the organizations	To identify the required competencies. Define the required level of competencies among individual employees at particular job posts.	Correlation Coefficient (between ratings of expert and direct observation rating by the researcher)
Psychometric Test Questionnaire	21	People with direct interaction with researcher for more than 15 years	To check whether the test measures the level of competencies of an individual as observed by the researcher.	Correlation Coefficient (between psychometric scores of the individuals and direct observation rating by the researcher) Reliability Test- (Time Sampling)- Test-retest Method
Direct Observation rating	21	People with direct interaction with researcher for more than 15 years	To have a thorough understanding of the individuals and their behaviour	Correlation Coefficient (between psychometric scores of the individuals and direct observation rating by the researcher)
Psychometric Test Questionnaire	11	Employees provided need based training	To measure the difference in gap level of competencies among individual employees after training.	Sign test (Non Parametric Test)
Training Feedback Questionnaire	11	Employees provided need based training	Receive an opinion on the training imparted.	Descriptive statistics

over the years and experiences; with the individual's ability in handling situations. The psychometric test was administered on the individuals and then tested for reliability and validity. Based on the initial test reliability and validity result, the test was modified and retested for reliability and validity. The modified test was administered on employees of the surveyed organisations. The various tools used for data collection are as mentioned in the Table 1. Secondary data was collected from company manuals, previous training lists of the organization, existing job description of employees, books, published papers, articles, websites and online databases.
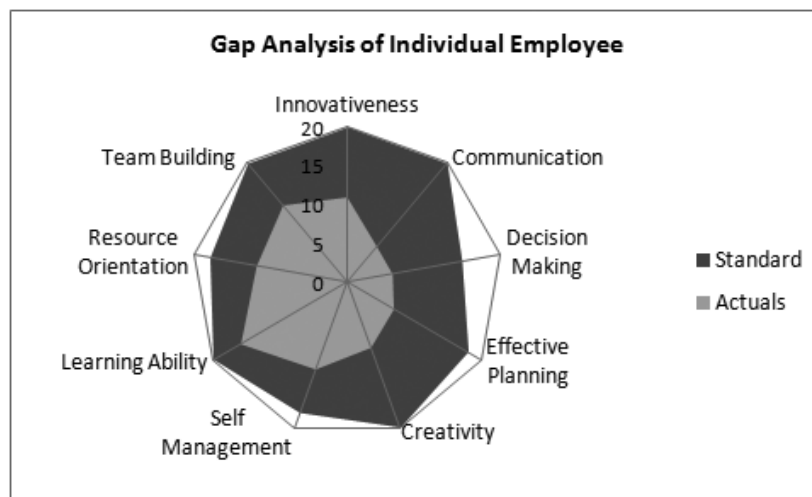
Figure 2: Gap analysis of an individual employee for the Job post (Manager -Training and Development).

A gap analysis chart has been shown in the figure 2. which clearly indicates the competency gaps of an employee.

Figure 2 elucidates the gap for (Manager - Training and Development). The required competencies have been indicated for the employee's job. It clearly shows that there is high gap for competency - 'Communication', 'Effective planning' and 'Decision Making' whereas a low gap exists for 'Learning ability'. Thus, training is must for the individual in the areas identified and the training content will differ as it will be based on the gap that exists. Similarly gap analyses have been done for all 111 employees. Such diagrammatic representation with report has been provided for each job. This gives an easy interpretation for managers to understand the need for development. The organization on conducting such individual training need assessment can form various groups of employees who has same gap levels of individual competencies and can be trained together.

Hypothesis I
- Null Hypothesis → (H_0) Competency mapping model is not able to identify training needs of individual employees with significant difference
- Alternative Hypothesis → (H_1) Competency mapping model is able to identify training needs of individual employees with significant difference

Hypothesis II
- Null Hypothesis → (H_0) There is no significant difference in the median of gap level of competencies after a need based training
- Alternative Hypothesis → (H_1) There is significant difference in the median of gap level of competencies after a need based training

Practical Difficulties Confronted
- The organizations do not disclose information to external. A number of organizations do not disclose information of one department to another.

- The HR mangers believed that any external measuring the employees may have negative impact on the employees. This was even observed while incorporating questionnaires where the employees themselves came up with questions like, "Is our scores to be disclosed to our departmental head?" and "What kind of action will be taken if we have low scores?"
- The HR officers in many cases believe that whatever measures are followed is satisfactory and do not intend to attempt any new methodology.
- A number of HR managers face resistance from employees in introducing a new technique.
- Few organizations that do not have any systematized training need assessment do not maintain records for the trainings conducted.

Limitations of the Research
- Though the psychometric test is validated and reliability tested yet it is based on psychology of the person at the particular time when he has been approached to answer the questionnaire designed.
- A limited number of tools have been used to identify the competencies and level of competencies indentified.
- Only a single type of industrial sector (Manufacturing) has been taken into consideration for the research.

The objective to measure the competency gap of the individual employees in different organizations is met as it distinguishes various competencies for different job requirements for different organizations. It is concluded that training needs of individual employees were identified with significant difference. This was concluded by hypothesis testing with Anova, (F-value) as a tool. (Table 3.)

It was observed that the gap level reduced on providing a need based training. This was concluded by the hypothesis testing through Sign test (a non-parametric test), Table 4. The concept was adopted from Aczel & Sounderpandian, (2002). Significant difference in the median of gap level of employees was observed on providing need based training to employees.

Table 2. Reliability Test

	Time Sampling	Content Sampling	Time Sampling	Content Sampling	Time Sampling	Time Sampling
	Test Retest-C	Alfa =	Test Retest-C	Split Half method	Test Retest-C	Test Retest-R
N	88	111	21	111	111	21
				0.90	0.94	0.875
Initiativeness	0.84	0.89	0.93			
Innovativeness	0.86	0.83	0.92			
Effective Communication	0.76	0.69	0.79			
Stress Management	0.82	0.86	0.77			
Conflict Management	0.78	0.78	0.65			
Change management	0.86	0.75	0.62			
Decision Making	0.65	0.93	0.78			
Effective Planning	0.79	0.71	0.85			
Creativity	0.79	0.82	0.85			
Self Management	0.73	0.71	0.75			
Proactive	0.66	0.75	0.9			
Learning Ability	0.8	0.72	0.82			
Quality Consciousness	0.82	0.85	0.87			
Resource Orientation	0.76	0.67	0.79			
Positive Thinking	0.84	0.74	0.86			
Team Building	0.74	0.82	0.85			

Table 3. Summary of Analysis of Variance

S No.	Competencies	F
1	Initiativeness	2.63*
2	Innovativeness	1.47
3	Effective Communication	1.59
4	Stress Management	3.16*
5	Conflict Management	9.63*
6	Change Management	5.20*
7	Decision Making	0.99
8	Effective Planning	2.09
9	Creativity	0.79
10	Self Management	1.55
11	Proactive	3.33*
12	Learning Ability	6.46*
13	Quality Consciousness	2.30*
14	Resource Orientation	4.14*
15	Positivity	2.52*
16	Team Building	1.92

*- denotes significant at 0.05 level

6   Discussion

For testing Hypothesis I, Analysis of Variance was worked to establish the F- value. This was done to identify the variation in gap of individuals in different organization. This was also done to signify that the test measures the gap of an individual in varied post and in different organization as per the need of the organization. This shows that the competencies measured relates a notable difference in the gap measured for different individuals in different organizations. In the case of the competencies; Initiativeness, Quality Consciousness, Positivity Stress Management, Conflict Management, Change Management, Proactive, Learning Ability and Resource Orientation the F value is significant at 0.05 level. Competencies like Innovativeness, Communication, Decision Making, Effective Planning, Creativity, Self Management, Team Building failed to be significant at 0.05 level. (Table 3.)

Table 4. Sign Test for Two Medians (Paired Observation)

S No.	Median - Sign test	Median of (Gap before training) GB	Median of (Gap after training) GA	GB- GA	Sign	Interpretation
1	Initiativeness	1	-1	2	+	Gap reduced
2	Innovativeness	-12	-14	2	+	Gap reduced
3	Communication	7	1	6	+	Gap reduced
4	Stress Management	-13	-13	0	0	No change
5	Conflict Management	-10	-13	3	+	Gap reduced
6	Change Management	-11	-13	2	+	Gap reduced
7	Decision Making	-9	-10	1	+	Gap reduced
8	Effective Planning	0	-1	1	+	Gap reduced
9	Creativity	-13	-13	0	0	No change
10	Self Management	-10	-12	2	+	Gap reduced
11	Proactive	4	3	1	+	Gap reduced
12	Learning Ability	-13	-14	1	+	Gap reduced
13	Quality Consciousness	2	1	1	+	Gap reduced
14	Resource Orientation	1	-1	2	+	Gap reduced
15	Positivity	-11	-11	0	0	No change
16	Team Building	-12	-15	3	+	Gap reduced

Out of 16 identified competencies, 9 competencies were able to identify the training needs of individual employees with significant difference. As maximum numbers of competencies are able to identify training needs of individual employees with significant difference, thus under hypothesis I, the null hypothesis (H_0) gets rejected proving that the competency mapping model identifies training needs of individual employees with significant difference. The model identifies these competencies to be crucial and is more often suggested for maximum number of job post in the sample organizations. This is as the sample organizations are from the same sector.

Out of 111 employees only 11 employees of one organization was allowed to be trained. For testing Hypothesis II, training was provided based on the training needs identified. The training objectives were set and the content was solely prepared based on need assessment model used as a part of the research. The content was delivered by reputed trainers from the industries. n = 11, T = 8 (Number of + ve sign), C = 0 (Number of - ve sign), p = 0.50, Since 8 is more than 5.5 (= np = 11* 0.5), the tail area is to the right of 11. On carrying out the statistical hypothesis test, the binomial table is used. It is found that for p = 0.5, n =11 that the point corresponds to a tail probability of 0.004. The tail area is binomial probability P (T ≥ 8) with n = 11, p = 0.5. From the binomial template, this probability is 0.004. The p- value is twice the tail area and therefore equal to (2 * 0.004) = 0.008. Since this p value is very small, we reject the null hypothesis (Hypothesis II). After a close observation of Table 4, it can be concluded that there is a significant difference between the median of gap level of employees on providing need based training.

7   Conclusion

All organizations must focus on conducting training need assessment before deputing any employee for training. Though most of the organizations are aware of the fact of conducting a need assessment for training their employees; yet most of the organizations fail to practice it. In a large number of the smaller organizations, attending training is merely a luck factor where individuals are nominated for trainings only by the seniors. The individuals suffer from biased decision making. Thus the training of an employee fails to achieve the desired result. The described technique has been a solution to the sample organizations. As out of the seventeen sample organizations, only nine were following a systematic form of training need assessment whereas others were fully concentrating on training as a tool for motivation and fulfilling the industrial norms of 48 hours training for each employee.

Further Scope of Research

■ The model designed here in this research can further be researched on various other sectors.

■ A cost benefit analysis can also be done for the model developed. This may help to confirm whether applying the model reduces cost in traditional training system in organizations or not.

Employees can be a part of the organization only if they are ensured growth and growth lies in the 'Performance' of an individual in an organization. Human resources management adds value to the organization when it helps employees and organizations to do better than their present level of performance. Identifying the training needs and providing adequate training to employees leads to performance which ensures growth to the employee. The competency method described in the research focuses on identifying those measurable and developable human characteristics that lead to (good job - person matches) predict superior job performance and satisfaction - without race, age, gender, culture, or credential biases. The competency approach is fairer, freer, and more effective. The tool of competency mapping is convincing but is a lengthy procedure in identifying the required competencies. This technique is successful only if it is implemented properly. The contributions of McClelland, Boyatzis, Spencer & Spencer and many others have supported organizations to administer the technique. Competency mapping is a gem of techniques as it not only focuses on the needs of the organization but it also provides a base to many other HR approaches and functions of the organization.

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Ocenjevanje potreb po usposabljanju na osnovi kompetenc – pristop v indijskih podjetjih

Usposabljanje je običajni način kako organizacije uvedejo svoje zaposlene v učenje, izziv pa je ugotoviti ustrezne potrebe po usposabljanju. Uspeh programa usposabljanja temelji v prvi vrsti na oceni potreb za usposabljanjem. V članku je prikazan postopek preslikavanja kompetenc, predvsem kako preslikavanje kompetenc lahko uporabimo pri oceni potreb po usposabljanju. Članek predstavi empirično raziskavo v proizvodnih organizacijah v privatni in javni lasti v Indiji. Uporabljena je bila vrsta tehnik za zbiranje primarnih in sekundarnih podatkov. Izvedena je bila analiza razlik pri zaposlenih z namenom ugotoviti spremembe po usposabljanju in identificirati razlike v kompetentnosti pred usposabljanjem in po njem. Po usposabljanju na osnovi ugotovljenih potreb se je pokazala signifikantna razlika v nivoju kompetenc zaposlenih. Članek poda praktičen vpogled v izvedbo preslikavanja potreb za namen analize usposabljanja. Raziskava se omejuje le na proizvodne firme, čeprav bi se pristop v malo prilagojeni obliki lahko uporabil tudi pri storitvenih organizacijah. Originalni prispevek članka je predlagani model za razreševanje zadev v zvezi z usposabljanjem v proizvodnih organizacijah.

Ključne besede: Kompetenca, Preslikavanje kompetenc, Usposabljanje, potrebe po usposabljanju, proizvodnja

Relation between Entrepreneurial Curiosity and Entrepreneurial Self-efficacy: a Multi-Country Empirical Validation

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The main purpose of this paper is to present empirical analysis of the relation between entrepreneurial curiosity and entrepreneurial self-efficacy. A detailed literature review in a broad field of entrepreneurship, narrow field of entrepreneurship psychology, and organizational sciences revealed, at one hand different connections between determinants influencing entrepreneurs, and latest scientific research trends on the other hand. Although the significance of curiosity in motivating and learning has received expressive scholarly support, like also entrepreneurial self-efficacy as one of the most studied personal attributes among entrepreneurs, no study to our knowledge existed in relation to entrepreneurial curiosity connected with entrepreneurial self-efficacy. An online multi-country survey was conducted in Slovenia and USA among entrepreneurs and results of structural equation modelling showed that entrepreneurial curiosity and entrepreneurial self-efficacy are related. Entrepreneurial curiosity has a positive impact on entrepreneurial self-efficacy of running entrepreneurial tasks. The findings of this research have both theoretical and practical implications.

Keywords: Entrepreneurial Curiosity; Entrepreneurial Self-Efficacy; Entrepreneurship; Entrepreneur.

1　Introduction

According to Frydman et al. (1999) entrepreneurship is clearly in part a matter of human ability. To become an entrepreneur, an individual needs to take action in identifying opportunities, deriving a plan to take advantage of the opportunity, executing the plan, and constantly monitoring and adjusting the plan (Farmer et al., 2009). In behavioral approaches to the study of entrepreneurship an entrepreneur is seen as a set of activities involved in organization creation, while in trait approaches an entrepreneur is a set of personality traits and characteristics (Gartner 1988). This research followed the presumption on the second part of Garner's statement. The entrepreneur is assumed to behave as if he maximizes utility including his value and desire to succeed, subject to an income constraint, of which his physical effort in subsistent production and entrepreneurial production generate this income (Lowrey, 2003). Entrepreneurs create new businesses, and new businesses in turn create jobs, intensify competition, and may even increase productivity through technological change (Acs, 2006). According to Audretsch and Keilbach (2004) entrepreneurship has typically been referred to as an action,

process, or activity. Based on predisposition that the first and the last element of every action, process, or activity is a human and on the finding of Lazear (2002) that the entrepreneur is the single most important player in a modern economy we presume that entrepreneur is the most important factor for success of enterprise.

Entrepreneurs have their own life style and look on everyday things different like non entrepreneurs. According to Ward (2004) entrepreneurs face many significant challenges and tend to think in non-conventional ways and after Kirby (2004) they try to challenge existing assumptions and to be flexible and adaptable in their problem-solving. Entrepreneurs impact positively on enterprise performances (Adam, 2004) and draw upon their human capital (knowledge, skills, and values) to advance the interests of their organizations (Ruzzier, 2007). Further Venkataraman (2004) claimed that very important is a change in the set of interrelated intangibles that allow the development of the kind of entrepreneurs who are, as Joseph Schumpeter described them, agents of profound economic and social change.

Shane et al. (2003) assumed that entrepreneurship is not solely the result of external factors (e.g. the status of the

economy, the availability of venture capital, the actions of competitors, and government regulations). They argue that human motivation plays a critical role in the entrepreneurial process. Entrepreneurs are educated, experienced and competent figures at the certain field. The entrepreneurial process occurs because people are motivated to pursue and exploit perceived opportunities (Hechavarria et al., 2012). For example let us look technological entrepreneurship and technological entrepreneurs. Previous research (Venkataraman, 1997; Shane and Venkataraman, 2000; Antoncic et al., 2004) showed that technological entrepreneurs are known on the one hand for having extremely good expert knowledge, especially regarding science and technology, whereas on the other hand they often lack solid business knowledge and a business vision (strategy). Jack and Anderson (1999) established time shortage is the most frequently cited reason that entrepreneurs do not invest more personal resources into knowledge acquisition processes. According to that knowledge we presume that entrepreneurs must often make choices based on psychology determinants, emotions and feelings.

The question here is what influence the entrepreneur, how can we define that one have a good potential for successful enterprise and carrier and the other not? In line with our research question also Baron (1998) wonders himself: Why do some people, but not others, recognize or create new opportunities? Why do some, but not others, try to convert their ideas and dreams into business ventures? And why, ultimately, are some entrepreneurs successful and others not?

In the current paper, we tried to partly answer these questions with focus on two entrepreneurial-psychological related constructs; entrepreneurial curiosity and entrepreneurial self-efficacy and show the relation between these two important components of entrepreneurial psychology and their impact on entrepreneurs. We made a multi-country research in Slovenia and USA among entrepreneurs and come to interesting findings. The purpose of this paper was to fill the gap in the literature with connection of the entrepreneurial curiosity construct and entrepreneurial self-efficacy and to show, that entrepreneurial curiosity is related to entrepreneurial self-efficacy. Another aim of research was also to show the positive consequences of these two constructs among entrepreneurs and necessity to identify level of them among individuals.

Hayward et al. (2009) summarized that emotions and certain behavior contribute to entrepreneurial resilience. Also other entrepreneurship scholars have begun to recognize the potential power of a self-concept based approach for predicting entrepreneurial action and outcomes (e.g. Hoang and Gimeno, 2010; Krueger, 2007; Shepherd and Haynie, 2009; Farmer et al., 2009).

In scientific literature scholars have researched phenomena related to managerial behavior, managerial cognition, and directly to entrepreneurship (Krueger and Brazeal, 1994). A growing number of studies on entrepreneurial motivation, intentions, and behavior include entrepreneurial self-efficacy as an explanatory variable (McGee et al., 2009). Current research develops further in understanding how certain determinants influence entrepreneurs and more specifically, how does entrepreneurial self-efficacy, beside entrepreneurial curiosity influence entrepreneurs and performance of their compa-

nies. According to our literature review self-efficacy has been linked theoretically and empirically with other constructs.

On one hand literature review has revealed a great interest in researching entrepreneurial self-efficacy with other important determinants of entrepreneurs. There is the fact that entrepreneurs are the first and cardinal division in establishing new businesses. Entrepreneurial self-efficacy appears to be a particularly important antecedent to new venture intentions (e.g. Barbosa et al., 2007; McGee et al., 2009; Zhao et al., 2005), and on the other hand many scholars argue (e.g. Krueger and Brazeal, 1994; Markman et al., 2003; Zhao et al., 2005; Hmieleski and Baron, 2008) that without minimal levels of entrepreneurial self-efficacy, it is unlikely that potential entrepreneurs would be sufficiently motivated to engage in the new venture creation process.

In the entrepreneurship literature we distinguished that entrepreneurial self-efficacy reflects the confidence to individuals so they can successfully complete a series of entrepreneurial tasks (Chen et al., 1998; De Noble et al., 1999; Douglas, 2012). For instance, Forbes (2005) developed a measure of entrepreneurial self-efficacy based on one's confidence in his/her ability to perform activities related to financial, marketing, management, and risk-taking aspects of entrepreneurship. Another interesting study was made by Hmieleski and Baron (2008) who researched the interaction between entrepreneurial self-efficacy, optimism, environmental dynamism, and firm performance.

Further interesting study was conducted by Zhao et al. (2005) who studied connection between entrepreneurial self-efficacy and entrepreneurial education. While research in other fields suggests that different connections between entrepreneurial self-efficacy and other determinants exist no research has yet been done in the field of entrepreneurial curiosity connected to entrepreneurial self-efficacy. With this study we filled a literature gap in this scientific field.

2 Entrepreneurial curiosity

»Curiosity and wonder is the mother of all science.« (Dewey, 1910).

According to Berlyne (1960) curiosity is often considered to be the desire to gain information, which, in turn, results in exploratory behavior and knowledge acquisition. One of the newest definitions of curiosity from Kashdan et al. (2012) in other words explains that curiosity is the propensity to recognize and seek out new information and experience, including an intrinsic interest in learning and developing one's knowledge. Since entrepreneurs need knowledge in order to act appropriate in the market entrepreneurial curiosity seems to be as one of the strongest determinants that influence them.

There are many entrepreneurial – psychology related constructs beside entrepreneurial self-efficacy as entrepreneurial intentions (e.g. Krueger et al., 2000), entrepreneurial motivation (Shane et al. 2003), entrepreneurial creativity (Amabile, 1997), and others, while entrepreneurial curiosity till recently remained unexplored. Since results of a research suggests that different types of curiosity exists; e.g. interpersonal curiosity (Litman and Pezzo, 2007), epistemic curiosity (Loewenstein,

1994), social curiosity (Renner, 2006), etc. there was till recently a gap in the entrepreneurship literature regarding the conceptualization and measurement of entrepreneurial curiosity. Entrepreneurial curiosity was developed according to the recommendations of several experts from construct development field (e.g. Churchill, 1979; Dawis, 1987; DeVellis, 2003; Hinkin, 1995). Entrepreneurial curiosity is determinant influencing entrepreneurs and has impact on their activities, thinking and strategic planning (Jeraj, 2012).

Based on literature review and interviews with entrepreneurs and experts from entrepreneurial field a distinction between entrepreneurial curiosity and other different types of curiosity were shown and parts of other types of curiosity were put in to the entrepreneurial frame (Jeraj, 2012). The theory for the entrepreneurial curiosity construct development based on: literature review - interviews with professors of entrepreneurship, entrepreneurs, and other experts from entrepreneurial field; directions from scale development experts; and further consisted of collecting data with the use of a preliminary form and analyzing the data in order to select items for more final form (Jeraj and Prodan, 2010).

Entrepreneurial curiosity is a positive emotional/motivational system oriented to investigation in the entrepreneurial framework, to learn tasks related to entrepreneurship and to incorporate new experiences to improve business. Entrepreneurial curiosity is awakened when an entrepreneur faces different stimuli related to entrepreneurship in the environment (Jeraj and Antoncic. 2013). Entrepreneurial curiosity is an interest in novelties or observations of society and a tendency to search for answers that indicate which demands should be met. It also represents guidance and competitive advantages for entrepreneurs relative to the competition.

3   Entrepreneurial self – efficacy

Self-efficacy refers to an individual's belief in their personal capability to accomplish a job or a specific set of tasks (Bandura, 1997). Further self-efficacy is an important construct that affects entrepreneurs that is why it is a good measure to compare it with entrepreneurial curiosity. The self-efficacy perspective is highly appropriate for the study of the entrepreneur because of the following (Chen et al., 1998):

- as a task-specific construct rather than a global disposition, self-efficacy theory helps address the problem of lack of specificity in previous entrepreneurial personality research;
- as a belief of one's vocational capabilities, entrepreneurial self-efficacy is relatively more general than task self-efficacy;
- as self-efficacy is closest to action and action intentionality, it can be used to predict and study entrepreneurs' behavior choice, persistence, and effectiveness;
- and the relationship between self-efficacy and behavior is best demonstrated in challenging situations of risk and uncertainty, which are believed to typify entrepreneurship.

Chen et al. (2001) found self-efficacy predicts several important work-related outcomes, including job attitudes

(Saks 1995), training proficiency (Martocchio and Judge, 1997), and job performance (Stajkovic and Luthans, 1998). Simply stated, individuals with high self-efficacy for a certain task are more likely to pursue and then persist in that task than those individuals who possess low self-efficacy (Bandura, 1997) or with other words, self-efficacy affects the perception that the individual can achieve his or her goals (Kasouf et al., 2013).

Self-efficacy affects performance through interest, motivation, and perseverance, whereas performance provides feedback information, on the basis of which self-efficacy is further evaluated and modified (Chen et al., 1998). Individuals with higher levels of entrepreneurial self-efficacy believe that they "have what it takes" to successfully engage in entrepreneurship (Mitchell and Shepherd, 2010). Entrepreneurial self-efficacy thus refers to the strength of an individual's belief that he or she is capable of successfully performing the roles and tasks of an entrepreneur (Chen et al., 1998).

Ozgen and Baron (2007) showed that self-efficacy is significantly related to the opportunity recognition so that means that people with higher level of self-efficacy will probably be more efficient in the entrepreneurship. In other words, self-efficacy, a construct which strongly hinges on judgments of personal capability, has been defined as the belief in one's ability to perform a task or to execute a specified behavior successfully (Bandura, 1997).

Bandura (1989) find out that acting on one's self-efficacy judgment brings successes or missteps requiring further self - reappraisals of operative competencies. According to Bandura's other work (2006) author stressed that self-efficacy beliefs influence whether people think erratically or strategically, optimistically or pessimistically. They also influence the courses of action people choose to pursue, the challenges and goals they set for themselves and their commitment to them, how much effort they put forth in given endeavors, the outcomes they expect their efforts to produce, how long they persevere in the face of obstacles, their resilience to adversity, the quality of their emotional life and how much stress and depression they experience in coping with taxing environmental demands, and the life choices they make and the accomplishments they realize (Bandura, 2006). The last statement is in line with entrepreneurial curiosity concept because entrepreneurs high on entrepreneurial curiosity level are ready to observe and change things, to gather capital and to invest it, and the most important thing is that entrepreneurial curiosity show that being an entrepreneur is not just a job but it is a way of life.

Literature review showed entrepreneurial-self efficacy is very important for firm performance (Pintrich and Schunk, 1996) and it has been linked to entrepreneurial outcomes (e.g. Baron and Markman, 2003). Another study undertaken by Hmieleski and Baron (2008) suggested that the interaction between entrepreneurial self-efficacy, optimism, and environmental dynamism is significant for firm performance. Baum (1994) found in a LISREL model that self-efficacy (measured as the self-efficacy to grow the company) had a strong positive relationship with realized growth. In that research self-efficacy was the best predictor of many variables.

Higher levels of entrepreneurial self-efficacy were positively associated with entrepreneurial education which provides opportunities for students to interact with entrepreneurial-mined people who socially support and encourage students to establish their own venture (Pittaway and Cope, 2007; Zhao et al., 2005; Pihie and Bagheri, 2011). Other researches showed that entrepreneurial self-efficacy impact also outcomes as action (e.g. Boyd and Vozikis, 1994), risk taking (e.g. Krueger and Dickson, 1994), success (e.g. Markman and Baron, 2003), and new venture intentions (e.g. Barbosa et al., 2007).

According to written above firm performance is associated with entrepreneurial self-efficacy, which may, as we claim in this study, be in part dependent on entrepreneurial curiosity. The goal of our study is to find out the relationship between entrepreneurial curiosity and entrepreneurial self-efficacy.

4　Entrepreneurial curiosity and entrepreneurial self – efficacy

Literature review revealed indirect relations that could be grounded between entrepreneurial curiosity and entrepreneurial self-efficacy. One of such an example could be knowledge. Many authors claim that curiosity refers to knowledge gathering (e.g. Schneider et al., 2013; Litman and Jimerson, 2004; Harrison, 2001). More specifically, on the field of entrepreneurship an entrepreneur with a high level of entrepreneurial curiosity wants to know how certain system works; wants to know how his business, economy works… and use all available parameters thus convert them into knowledge in order to improve his/her business (Jeraj, 2012).

In order to achieve previously defined aims from entrepreneurial self-efficacy measure, we estimate that entrepreneur have to have certain specific and broad knowledge about entrepreneurship. This statement is not surprising since already (Gartner et al., 1999) argued the chances of venture survival would be improved if:

- entrepreneurs had substantial knowledge and ability at the beginning of the start-up story;
- entrepreneurs gained knowledge and ability during the start-up process;
- and entrepreneurs continued to demonstrate substantial knowledge and ability at the end of the start-up story.

Secondly, curious individuals engage in novel and challenging activities which enable them to build personal resources (Silvia, 2006), like self-efficacy and resilience, leading to greater well-being (Jovanovic and Brdaric, 2012). A growing number of recent findings (e.g. Gallagher and Lopez, 2007; Kashdan and Steger, 2007; Kashdan et al., 2009) demonstrated that curiosity was positively associated with various measures of subjective, psychological and social well-being (Jovanovic and Brdaric, 2012).

Further Chen et al. (1998) discovered in their research that business founders had higher self-efficacy in innovation and risk-taking than did non-founders, and thus here is another similarity with entrepreneurial curiosity construct. In a scale development process of entrepreneurial curiosity it

was found that innovativeness is one of the essential parts of entrepreneurial curiosity construct (Jeraj, 2012) so the relation between entrepreneurial curiosity and entrepreneurial self-efficacy should be researched among entrepreneurs.

On the basis of the above research we propose the following hypothesis:

Hypothesis 1: Entrepreneurial curiosity is positively related to entrepreneurial self-efficacy.

5　Method

5.1　Sample and data collection process

For the purposes of cross-cultural validation of structural equation model, the surveys were sent by mail to entrepreneurs in Slovenia and the USA. The participants were entrepreneurs (i.e., founders or owners who have participated in the startup process of their businesses (Baron and Tang, 2011). E-mail addresses were selected randomly from public registers in both countries. For the Slovenian sample, the survey was administered in Slovene and for the USA sample, the survey was administered in English. Translate and back-translate technique (Brislin, 1970, 1980; Hambleton, 1993) and methodology suggested by Craig and Douglas (2005) were used.

First a personal e-mail with name and surname of potential responder was send with link to the survey and with specific token for each responder. Verma et al. (2011) suggest that web personalization is the process of customizing the content and structure of a web site to the specific and individual needs of each user taking advantage of the user's navigational behavior. Personalization can also help to raise the response rate. After two weeks the first personalized remind letter was sent and then after one month the second remind letter to urge a response from those who had not responded yet.

To complete the survey the entrepreneurs needed approximately 12 minutes. The survey contained a total of 6 control variables included. Invitations were sent to 4,000 entrepreneurs in Slovenia and to 9,679 entrepreneurs in USA. 642 questionnaires were returned but only 636 mail surveys were completed fully and returned in Slovenia. From USA sample 218 questionnaires were returned but only 214 of them were useable completed enough for their applicability in the statistical analysis. That represents 15.9% return rate for Slovenian sample and 2.2% return rate for surveys made in USA. Other returned questionnaires had to high part of missing data (above 20%) thus were excluded. After analysis no pattern was found regarding to missing data. In case that there were one or two missing data in a construct, the mean value of certain construct was used as the imputation value; otherwise the mean of all constructs, that were on the scale from 1 to 5 was used.

Analysis showed that there were 30.1% female and 69.9% male respondents. Slovenian sample showed that there was 30.7% female in the sample and 69.3% male while in USA there were 28.4% female respondents and 71.6% male responders. Entrepreneur's ages were from 22 to 77 years in Slovenia while in the USA entrepreneurs were from 28 to 81 years of age. Further the comparison of results from studies in Slovenia and the USA showed that 70.4% Slovenian entre-

preneurs were younger than 50 years while in USA that share was 33.8%.

The respondents had different average degree of education. In Slovenian sample the most frequent education was less than Bachelor's education (55.7%), the second most frequent education was Bachelor's degree (35.7%), and then Master's or Doctorate degree (8.6 %). In USA entrepreneurs had mostly Master's or Doctorate degree (45.8%), second most frequent education was Bachelor's degree (32.7%), and then less than Bachelor's degree education (21.5%).

5.2 Description of measures

In responding to each scale, the entrepreneurs were instructed to report how they "generally perceive themselves" on two 7 - point scales ranging from 1 (never / strongly disagree) to 7 (always / strongly agree) for entrepreneurial curiosity (Jeraj, 2012) and on 5 - point scales from 1 (strongly disagree) to 5 (strongly agree) items for entrepreneurial self-efficacy. Prodan and Drnovsek (2010) adapted items for entrepreneurial self-efficacy scale used in this research from Chen et al.'s (1998) entrepreneurial self-efficacy scale.

The first part of entrepreneurial curiosity measure consisted from items on a scale with potential answer based on frequency of occurrence. In the first part of the entrepreneurial curiosity measure were 5 items.

Table 1: Entrepreneurial curiosity measure 1

1.1	While doing market research, I focus on the work so much that I lose track of time
1.2	When I notice an abandoned building, I think about what business potential it represents for me
1.3	It bores me to always watch the same products - therefore, I think about improving and offering them to the market
1.4	I enjoy conversations about obtaining capital for the firm
1.5	I spend hours working on a business-related problem as I am not at ease without an answer.
1.6	Conceptual problems related to entrepreneurship encourage me to look for solutions.
1.7	When I have some free time, I spend it researching new markets.

The second part of entrepreneurial curiosity measure consisted from items on a scale with potential answer based on level of agreement. In the second part of the entrepreneurial curiosity measure were 9 items.

Table 2: Entrepreneurial curiosity measure 2

2.1	I explore new things that could create additional profit
2.2	I am interested in other entrepreneurs' interests
2.3	In entrepreneurial work, I am mostly interested in competition
2.4	In my business, I must have information about marketing that is as complete as possible
2.5	I am very interested in knowing the needs I can meet in society
2.6	I simply must know how a certain business system works
2.7	I am able to create added value from my observations of the environment
2.8	I continuously delve into entrepreneurship matters
2.9	I spend most of my time thinking about company improvements

The instrument of entrepreneurial self-efficacy used to measure the level of entrepreneurial self-efficacy among entrepreneurs contained 11 items. These items were:

Table 3. Entrepreneurial self-efficacy measure

3.1	I am able to control costs
3.2	I am able to define organizational roles
3.3	I am able to define responsibilities
3.4	I am able to develop new ideas
3.5	I am able to develop new products
3.6	I am able to develop new services
3.7	I am able to establish position in product market
3.8	I am able to expand business
3.9	I am able to set and attain profit goals
3.10	I am able to set and attain market share goals
3.11	I am able to set and attain sales goals

These two constructs were analyzed by using the Cronbach alpha reliability analysis and confirmatory factor analysis. Cronbach Alpha Reliability was found very good for entrepreneurial curiosity (Slovenia 0.88, the USA 0.85) and entrepreneurial self-efficacy (Slovenia 0.88, the USA 0.84). Results of the confirmatory factor analyses were also very good. The hypothesis was tested by using structural equation modelling; results are presented in the next section.

6 Results

Results of structural equation modelling on the basis of the whole sample (n=850) are displayed in Figure 1. Model fit indices indicated a very good model fit (NFI 0.86, CFI 0.87, RMSEA 0.098). Hypothesis 1 predicted a positive association between entrepreneurial curiosity and entrepreneurial self-efficacy.

The relationship was found positive, high and significant (stand. coefficient 0.53), with variance explained of 27.8%. This finding is in support of Hypothesis 1. Results were also very similar and in support of Hypothesis 1, when the
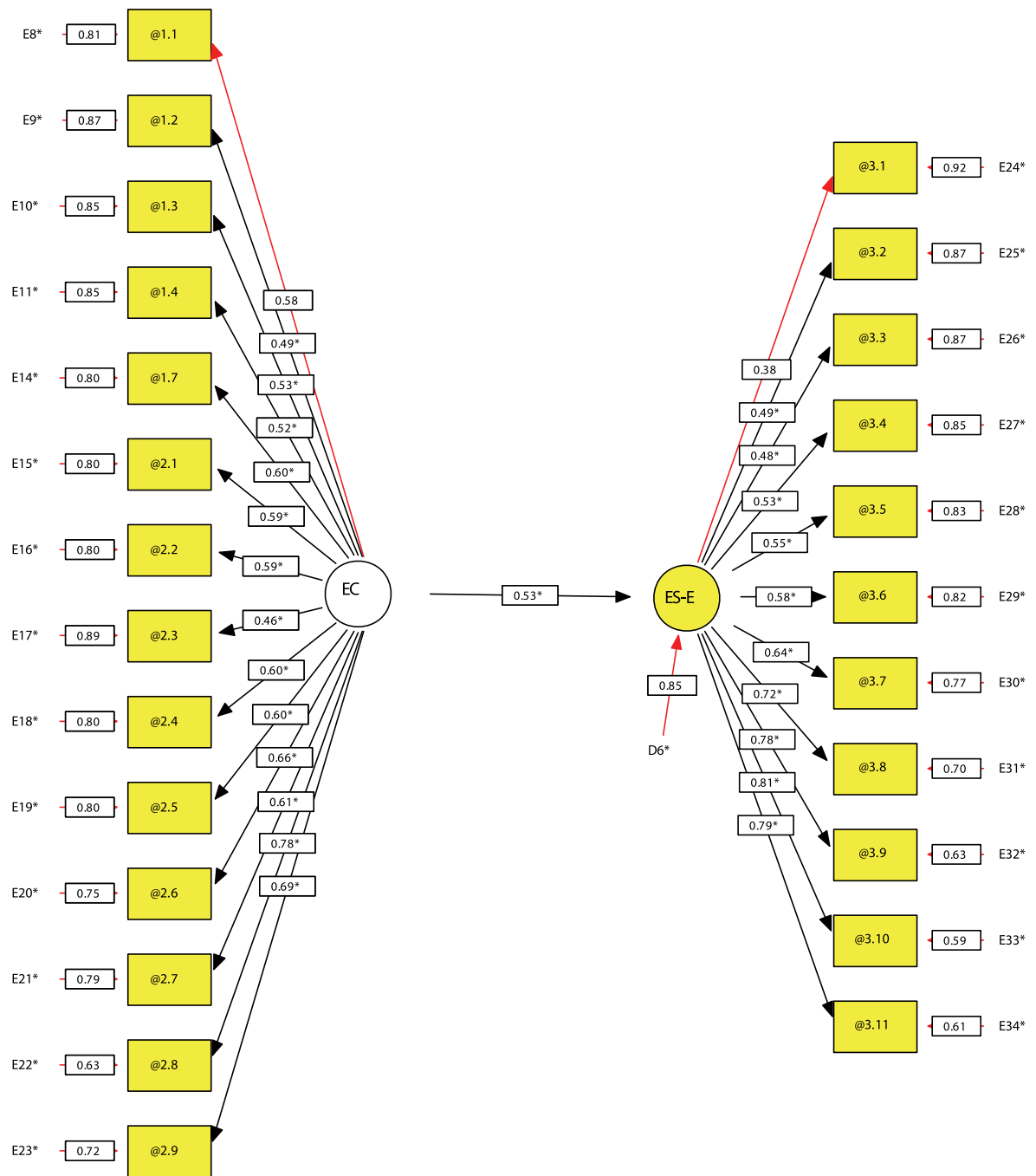
Fig. 1 The model entrepreneurial curiosity (EC) and entrepreneurial self-efficacy (ES-E), structural equation model with standardized coefficients
* sig. < 0.05.

model was estimated on both sub-samples (Slovenia, n=636, NFI 0.87, CFI 0.89, RMSEA 0.097, stand. coefficient 0.53, variance explained 28.7%; USA, n=214, NFI 0.79, CFI 0.85, RMSEA 0.093, stand. coefficient 0.52, variance explained 27.1%).

7   Discussion

Results of our analysis indicate that entrepreneurial curiosity is awake, when an entrepreneur is facing different stimulus related to the entrepreneurship in the environment (Jeraj and Prodan, 2010) while self-efficacy is a useful concept for explaining human behavior that plays an influential role in determining an individual's choice, level of effort, and perseverance (Chen et al., 2004). Based on written above we claim that results of this study should be applied in to the entrepreneurial context, and these two constructs are one of the most important determinants in decision making process by entrepreneurs.

Results of this study indicate relationship between entrepreneurial curiosity and entrepreneurial self-efficacy.

Consistent with the theory above we assume that entrepreneurial curiosity is, as also entrepreneurial self-efficacy a good predictor for entrepreneurial intentions. For example, one of the items in entrepreneurial curiosity measure is: "When I notice an abandoned building, I think about what business potential it represents for me", and it indicates a clear entrepreneurial tendency even if it is treated among non-entrepreneurs.

Entrepreneurial self-efficacy reflects the confidence to individuals and allows them to successfully complete a series of entrepreneurial tasks. Since entrepreneurial curiosity is about exploring new things that could create additional profit, about interest for a competition, about company improvements, and about others it is a clear inference that without entrepreneurial curiosity also entrepreneurial self-efficacy cannot impact entrepreneurs to that level as they create good entrepreneurial results.

Self-efficacy predicts several important work-related outcomes as job attitudes, training proficiency, job performance, and others. Entrepreneurial curiosity deals with market discovering in order to spread business, observing the environment in order to distinguish market niches, delving into entrepreneurship matters, etc. so we claim that entrepreneurial self-efficacy and entrepreneurial curiosity together motivate individuals to invest time to entrepreneurial tasks and to optimize working time to come to good results. We could conclude that these two related determinants establish a platform for the optimal decision making of entrepreneurs for their enterprises.

8 Contribution, implications for theory, research, practice and economic policy

The present findings have both theoretical and practical implications. The scientific contribution of this paper is a filled literature gap in the relation of entrepreneurial curiosity and entrepreneurial self-efficacy. From a theoretical perspective, they contributed to ongoing efforts to connect entrepreneurial curiosity with entrepreneurial self-efficacy among entrepreneurs and to define this connection. With our paper we proved that entrepreneurial curiosity is related to entrepreneurial self-efficacy. We established a platform where both, entrepreneurial curiosity and entrepreneurial self-efficacy together could contribute to entrepreneurial intentions, allow entrepreneurs to successfully complete a series of entrepreneurial tasks, and predict several important work-related outcomes.

From a practical perspective, the present findings suggest that individuals with high level of entrepreneurial curiosity will probably have greater interest in entrepreneurship. The higher level of entrepreneurial curiosity and entrepreneurial self-efficacy entrepreneur has the better will be results in the company. In line with that it is an opportunity to identify individuals with higher entrepreneurial curiosity and entrepreneurial self-efficacy levels and assure them entrepreneurial friendly climate in order to start their own venture. In bigger organizations managers should test employees in order to distinguish more entrepreneurial motivated individuals and stimulate them to become active in intrepreneurship.

Entrepreneurship is believed to contribute to economic development because entrepreneurs create new businesses, and new businesses create jobs, intensify competition, and may even increase productivity through technological change (Bosma, 2012). From this point of view policy makers should consider that entrepreneurial curiosity and entrepreneurial self-efficacy can be measured among people and that those with higher levels should be oriented toward entrepreneurship. The policy system should stimulate them to become entrepreneurs with different approaches as free training, income tax relief in a first year, free or co-financed accounting services in first year, and others.

9 Limitations and future research opportunities

As an exploratory study with multi-country empirical survey and statistical proven results, also this research is not without limitations. At the beginning it is important to stress that survey was performed only in two countries where entrepreneurship is well developed: Slovenia and USA. Similar study should be done in more countries, also in those from the third world where entrepreneurship is not developed well and the climate is not encouraging for private own business ventures.

In this research we investigated how entrepreneurial curiosity is related to entrepreneurial self-efficacy. Beside entrepreneurial curiosity also other determinants could be connected to entrepreneurial self-efficacy and vice versa. In line with that future research opportunity could be connection of additional determinants, such as optimism, openness, creativity, innovativeness, and other measures, such as company's growth. Also these determinants may be worth investigating in combination with entrepreneurial curiosity and entrepreneurial self-efficacy.

Several other limitations to the current study suggest opportunities for further research. First, although our sample was consisted from online public available resources in two countries it would be interesting to collect contacts from entrepreneurs also from other bases. Therefore future research could address entrepreneurs from other bases and further compare them within type of their business (e.g. banking, investment, insurance; manufacturing industrial goods; retail or wholesale trade; construction; engineering, research and development; transportation or public utilities; consumer services; and others).

10 Conclusion

For a long time, entrepreneurship scholars have been searching for constructs of individual characteristics that are unique to entrepreneurs (Chen et al., 1998). This study revealed that entrepreneurial curiosity can be important for entrepreneurial characteristics, as an extension of these characteristics and as a predictor of entrepreneurial self-efficacy. Entrepreneurial curiosity becomes, beside already well-established research con-

struct of entrepreneurial self-efficacy, an interesting research discipline.

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Razmerje med podjetniško radovednostjo in podjetniško samoučinkovitostjo: empirična preverba večih držav

Poglavitni namen tega članka je predstaviti empirično analizo razmerja med podjtniško radovednostjo in podjetniško samoučinkovitostjo. Podroben pregled literature širokega področja podjetništva, ozkega področja podjetniške psihologije in organizacijskih ved razkriva po eni strani različne povezave med determinantami, ki vplivajo na podjetnike in po drugi strani najnovejše znanstveno-raziskovalne trende. Čeprav je pomen radovednosti v motiviranju in učenju dobil izjemno akademsko podporo, kakor tudi podjetniška samoučinkovitost kot eden izmed najbolj proučevanih osebnostnih atributov med podjetniki, pa vsaj po našem vedenju ne obstaja nobena študija, ki bi proučevala povezavo podjetniške radovednosti v odnosu na podjetniško samoučinkovitost. Spletna anketa večih držav je bila opravljena v Sloveniji in Združenih državah Amerike med podjetniki in rezultati modeliranja strukturnih enačb pokažejo, da sta podjetniška radovednost in podjetniška samoučinkovitost povezani. Podjetniška radovednost ima pozitiven vpliv na podjetniško samoučinkovitost pri izvajanju podjetniških nalog. Ugotovitve te raziskave imajo tako teoretične kot praktične implikacije.

Ključne besede: podjetniška radovednost, podjetniška samoučinkovitost, podjetništvo, podjetnik, SEM.

Importance of Motivating Factors for International Mobility of Students: Empirical Findings on Selected Higher Education Institutions in Europe

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This article explores the importance of motivating factors for the international mobility of undergraduate students who participated in a mobility programme and completed part of their studies at selected higher education institutions. The empirical research was conducted on a population of 3,539 mobile undergraduate students, who took part in mobility programmes between 2006 and 2011 at three selected higher education institutions in three different European countries (1 – Germany: Duale Hochschule Baden-Württemberg Karlsruhe, 2 – Norway: University of Tromsø, 3 – Slovenia: University of Primorska, Faculty of Management). The purpose of this article is to present the underlying motivating factors in relation to the selected institution on a sample of 288 undergraduate students during the period studied. On the basis of these findings, we came to the conclusion that most of the students participated in students' mobility programmes especially to gain international study and life experiences. Furthermore, we established a statistically significant difference in the duration of a mobility period in connection with gender and the satisfaction with the mobility programme.

Key words: international mobility, mobility motivating factors, higher education institution

1   Introduction

In recent times, many Slovenian and foreign employers have given consideration and priority to graduates with international experience when it comes to employing them in their companies. During the time that students live abroad, they enrich their academic and professional lives and improve other personal competencies such as language, intercultural skills, confidence and self-awareness. In 2004 more than 2 million students were mobile worldwide (Altbach, 2004), and researchers predict (Guruz, 2008; Macready and Tucker, 2011) that by 2025 the number of mobile students will reach 8 million. This was also confirmed by a study entitled *Education at a Glance 2013: OECD indicators* (2013). OECD (2013) notes that Australia, Canada, France, Germany, United Kingdom and United States together receive more than 50% of all foreign students worldwide. Guruz (2008) points out that global mobility is expanding very quickly and that more

and more countries are becoming important destinations for international students. Komljenovič (2012) defines mobility as one of the best ways to open up institutions and facilities of higher education internationally.

Based on these findings, Dessoff (2010) asserts that mobility promotes better employability. He also predicts that the countries which host the highest numbers of international students will stay in the foreground of progress and will compete aggressively in the future as well. Another researcher, Guruz (2008), finds that international academic mobility has greatly contributed to the formation of both the worldwide education and labour markets. Čepar (2010) draws attention to the enormous impact education has had on development, progress and prosperity, which is not limited to the educational sphere, and cannot be overlooked. Altbach and Teichler (2001) point out the fact that methods of exchange, university connections, mobility patterns, and international as well as regional arrangements between universities are changing.

According to data acquired by Bhandari et al. (2011) in 2009, six countries hosted over 60% of worldwide student mobility at the tertiary level: the USA (20%), Great Britain (13%), France (8%) and Australia, Germany and China (7% each). The United States has hosted the largest share and the largest number of international students who completed part of their higher education outside their home country (690,923 students in the 2009 academic year), followed by Great Britain (415,585 students in the 2009 academic year). More recent host countries, such as China, show rapid growth in the number of international students. Some other countries, including Japan, Malaysia, New Zealand, Singapore, South Korea and Thailand, have also increased their endeavours to attract as many international students as possible (adapted from Bray in Kwo, 2003; Drago, 2003; Chen, 2004; Ninnes and Hellsten, 2005). Students' mobility in EU countries was also examined by Wolfeil (2009), whose research concentrated on return migration of international students and in the determinants of return and what professional value the experience of studying abroad has for students.

In this article the authors present empirical findings from research dealing with the importance of motivational factors in relation to international mobility of undergraduate students who were internationally mobile and completed part of their studies in three different countries and were or still are part of a six year mobility programme in the period between 2006 and 2011: 1 – Germany: Duale Hochschule Baden-Württemberg Karlsruhe; 2 – Norway: University of Tromsø; 3 – Slovenia: University of Primorska, Faculty of Management. These are countries or faculties which mostly receive mobile students. According to OECD data (2013), these countries, except Slovenia, are above the OECD student mobility average in tertiary education. The reason that these countries were compared in the research, was based on the fact that the authors themselves took part in the exchange programme at one of the universities and also because the International Office at the Faculty of Management, University of Primorska gave them access to data for these universities. We present the underlying motivating factors (some other authors use the term "rationales of internationalisation" – e. g. Garrett, 2004; Teichler, 2004; Knight, 2006; Altbach in Knight, 2007) that led mobile students to choose their international mobility destination, and their expectations of what they would find there. Further on, we describe theoretical definitions of the fundamental concepts which are discussed in the article.

2 Literature review

2.1 International Students' Mobility

According to some international researchers (Altbach and Teichler, 2001; Mokyr, 2002; Davis, 2003; Koh, 2003; Postiglione, 2005; Brooks and Waters, 2009, 2010), worldwide mobility in the field of higher education is a fast growing phenomenon that influences resource and student management of institutions and nations around the globe. Bhandari (2011) states that after 2000 the number of students traveling to another country for higher education increased by 65%.

In their research on student mobility, Kumpikaite and Duoba (2010) concluded that the most valuable advantages students gain abroad are cultural experience, individual growth and academic knowledge. Certainly, these competencies have a great influence on finding a job in the labour market. Similar findings can be found in Reisberg (2004). As stated by Macready and Tucker (2011), Anglophone and Western European countries have historically attracted the largest number of international students. Nye (2004) states that most countries perceive international academic mobility and student exchange as a key factor in the exchange of knowledge, creation of intellectual capital and competitiveness in the globalised world. Guruz (2008) points out that global mobility is expanding very quickly and that more and more countries are becoming important destinations for international students. Braček (2007) claims that the environment in which a higher education system functions needs to be taken into account when addressing the process of mobility. The effects of international mobility on students are usually examined using self-evaluations made by students. Most studies have concentrated on only one dimension of international educational mobility (e.g. improving foreign language skills, learning about the international environment, boosting self-confidence and self-awareness, personal and cognitive development, or intercultural and global competencies).

According to the UNESCO Institute of Statistics (UIS), the number of globally mobile students increased from 2.1 million in 2002 to 3.4 million in 2009 (OECD, 2013). Choudaha et al. (2013) define global student mobility as a constant flux which higher education institutions often cannot control. Choudaha et al. (2013) also state that in 2010, the international student population reached nearly 3.6 million worldwide, soaring by almost 50% over the previous six years (2.5 million in 2004). In general, the competition for international students is becoming more intense and complex, as reflected by the diminishing global market share (Teichler, 2012). What is also of interest is that the overarching mobility trend of the new millennium has been the increase in international students at the undergraduate level (Gonzalez et al., 2001). According to Knight (2003 and 2004), the existing forms of international mobility are: 1 – international students' mobility, 2 – international mobility of pedagogic staff and researchers, 3 – international programme mobility and 4 – international mobility of higher education institutions. International students' mobility can be further divided into (as stated in Cross-border tertiary education, 2007): 1 – long-term mobility and 2 – mobility to gain ECTS points (Erasmus, CEEPUS and bilateral agreements).

2.2 Student Mobility and the Labour Market

Slatinšek (2011) emphasises that many traditional host countries have formalised the relationship between higher education and the qualified labour market by implementing a policy encouraging international graduates, especially in scientific and technical fields, to enter the labour market of the host country. Scotland, for example, published a Post Study Work scheme with the aim of attracting 8,000 foreign experts per year by 2009. The scheme gives international students who

graduated from Scottish universities the opportunity to work there for up to two years. To support the efforts of individual host countries in Europe, the EU also launched an initiative to employ researchers in the fields of science and technology from all over the world. In this way, EU countries are competing with well-financed research universities and laboratories in the United States, which are famous for attracting the best scientific and technological talents from all over the world. The United States has also expanded employment opportunities for foreign graduates of science and technology programmes by extending the period of the "supplementary practical training programme" from the initial 12 to 29 months.

Parey and Waldinger (2011) emphasise that students who take part in mobility programmes gain many new experiences with which they: 1 – stand out in the labour market, 2 – acquire new language skills, 3 – broaden their horizons. Important factors influencing the decision of Slovenian students to study abroad include financing their studies, their socio-economic background, their command of foreign languages, and support from their families. If a student decides to take part in a mobility programme, he or she has an opportunity to receive a scholarship which, however, does not cover all the expenses of studying abroad. Because students from lower social strata cannot afford to pay for international mobility exchange, they can be discouraged from going abroad. Therefore, the number of students from families with an above-average income is much higher than the number of students from families with a below-average income (West and Barham, 2009). Although 6.5 million new jobs were created in 2011, young people are still faced with unemployment. The European commission has announced that 17.4% of all young EU citizens between the ages of 18 and 25 years are unemployed, despite the creation of many new jobs (Findlay, 2011).

3   Methodology

3.1   Purpose, Aim and Research Question

In 2012, we analysed the situation of international student exchange in three European countries at three selected institutions of higher education based on a population of 3,539 undergraduate students. Our analysis of the importance of motivating factors on students' decisions regarding international mobility and the selection of destination countries and institutions is based on a sample of 288 mobile undergraduate students. The central aim of our study is to find the reasons or the factors that influence the decisions connected with students' mobility. Our final aim is to present an insight into statistical findings regarding mobility of students involved in the study and the main motivating factors that influence their decision. Our point of departure was an initially set basic hypothesis, which is, motivating factors of mobile students differ in terms of the chosen destination.

3.2   Population and the Study Sample

Our study was conducted on a population of undergraduate students who participated in higher education mobility pro-

grammes at higher education institutions in three different countries, Slovenia, Germany and Norway, between 2006 and 2011. The data was collected using an online questionnaire which was sent to students by e-mail via individual international offices at the three institutions. The international office at the University of Primorska, Faculty of Management (Slovenia) sent the e-mail to 139 students who completed part of their studies there; the international office at the University of Tromsø (Norway) to 1,800 international students; and the Duale Hochschule Baden-Württemberg Karlsruhe (Germany) to 1,600 international students. Altogether, the questionnaire was sent to 3,539 undergraduate students who completed part of their studies at the selected institutions during the period studied. Because the survey was conducted online, the expected response rate was relatively low, between 4 and 6%. Nonetheless, we received 288 properly filled in questionnaires, with a response rate of over 8%, which comprised the sample for further research.

3.3   Data Gathering

The data was collected using an online questionnaire that was initially written in Slovenian and later translated into English (Slatinšek, 2012). The survey period was limited to 30 days. We sent two reminders 14 days and 20 days after the beginning of the survey. The questionnaire was divided into six main sets of questions, each composed of individual sub-questions. In all, the questionnaire contained 18 detailed questions on student mobility (open and closed types). The first set of questions related to the respondents' personal data, the second to mobility duration and motivation, the third to information and help available, the fourth to accommodation and infrastructure, the fifth to costs, and the sixth to personal impressions regarding mobility. The questionnaire was comprised of clear and short questions, most of which were closed-ended. In most cases, the questions were presented as a five point Likert scale.

3.4   Statistical Data Analysis

In the first step, the data acquired was described with basic descriptive statistics and frequency distribution. In addition, the data was processed with the objective of testing the initially set hypothesis. For this purpose the t-test, the Pearson correlation coefficient and the analysis of variance (ANOVA test) were used. When analysing the differences between motivating factors in relation to the chosen study destination, the analysis of variance (ANOVA test) was employed.

4   General Characteristics of Mobile Students

4.1   Student Demographics

When analysing the data from our sample, we noticed that most students come from Germany, followed by students

from Russia, Poland, France, Spain, Italy, Denmark, the Czech Republic, USA, Slovakia and the Netherlands. Our sample has shown that on average, women decide to take advantage of mobility programmes more often then men.

Table 1: Sample description

Socio-demographic characteristics of the respondents	Subgroup	Percentage
Country of origin	Germany	17.36
	Russia	14.93
	Poland	10.42
	France	5.90
	Spain	4.86
	Italy	4.17
	Denmark	3.13
	Czech Republic	2.78
	USA	2.43
	Slovakia	2.08
	Netherlands	2.08
	Other	29.86
Country of the host institution	Norway	74.81
	Germany	13.91
	Slovenia	11.28
Gender	Male	34.15
	Female	65.85
Age	From 19 to 24	48.78
	From 25 to 30	41.11
	From 31 to 45	10.11

The surveyed students were aged between 19 to 45 years and the average age was 25. As to the duration of the stay, over half of the students surveyed (51.2%) studied at a host university for between three and six months.

4.2 Destination Choice Factors

We determined that the country's standard of living is the factor which, on average, had the greatest influence on deciding for a host country. The second most important factor was language. The status of the university and climate followed. The one factor which did not noticeably influence the destination choice was recommendations by friends. A relatively low standard deviation shows that the students surveyed were relatively uniform in the factors that influenced their decision about the mobility destination.

4.3 Source of Information for Decision-making

In most cases, the Internet was identified as the most important information source that influenced the respondent's deci-

sion about mobility (over 65%). Furthermore, on average, a majority of students (over 73%) had an opportunity to participate at least in an information meeting after their arrival at the host university. Almost four-fifths of the respondents had an opportunity to participate in a variety of events during their stay abroad, from parties, excursions, cultural and sport events to visits to museums and other sights of the host country etc. For most students (78%), the international experience was the most decisive factor in deciding to take part in a mobility programme. Other motivating factors, such as improving foreign language skills, academic reasons, career opportunities and new acquaintances, were also important in the decision to take part in a mobility programme.

4.4 Mobility Costs

Most respondents had relatively high mobility costs. Almost half indicated that their mobility costs amounted to more than 400 EUR per month. Concerning accommodation costs, we found that one-fifth did not receive any grants for mobility and that they had to finance their stay from their own resources. A good quarter received mobility grants in the amount of more than 300 EUR per month. Moreover, we wanted to find out whether the students surveyed had higher expenses during their mobility period compared to the expenses they would have had if they stayed at home. The results showed that most students had additional expenses for private purposes in the amount of 100 EUR to 300 EUR per month. Most students surveyed financed their mobility with their own savings or with the help of their parents. To a lesser extent they financed their mobility with a partner's or grandparents' contributions, university scholarships, etc.

5 Analysis of the Importance of Motivating Factors in Choice of Destination

In our analysis of the motivating factors' mean values, we determined the importance of individual motivating factors in mobile students' choice of destinations. Table 1 shows that on average, for mobile students who chose a higher education institution in Norway, the international experience was the most important factor. Other important factors that influenced the decision to choose Norway were improving foreign language skills, academic reasons and the country's standard of living. For students who chose Slovenia, the most important factors were academic reasons, the country's living standard, improving foreign language skills, career opportunities and the university's status. For those who chose Germany, the most important motivating factors were: international exchange, improving foreign language skills, academic reasons, the country's living standard and career opportunities.

Furthermore, we examined a variety of motivating factors for mobile students with respect to the chosen destination with the analysis of variance, or in other words, with the simple (one-way) ANOVA. The idea behind the analysis of variance is to prove that the variability among groups is larger than the

Table 2: Mean values of motivating factors

	Norway			Slovenia			Germany		
	AM	N	SD	AM	N	SD	AM	N	SD
Language	3.58	177	1.409	3.24	25	1.589	3.43	35	1.539
Climate	3.12	177	1.52	3.12	25	1.364	2.89	35	1.549
Friends' recommendations	2.53	173	1.383	2.52	25	1.503	2.77	35	1.61
University's status	3.21	176	1.268	3.64	25	1.469	3.06	35	1.327
Country's status of living	3.76	177	1.212	3.92	25	1.187	3.71	35	1.202
Academic reasons	3.83	178	1.234	3.8	25	1.354	3.8	35	1.302
Improving foreign language skills	3.85	178	1.363	3.8	25	1.5	3.8	35	1.451
New acquaintances	3.47	177	1.257	3.72	25	1.308	3.34	35	1.392
Career opportunities	3.69	178	1.311	3.56	25	1.417	3.71	35	1.447
International experience	4.72	178	0.629	4.64	25	0.49	4.14	35	1.264
Professors at the home university	2.39	166	1.369	2.82	22	1.68	2.47	34	1.562
Parents	2.41	168	1.364	2.64	22	1.217	2.18	34	1.359
Mobility coordinator	2.49	168	1.389	2.59	22	1.221	2.09	33	1.071
Friends	2.94	167	1.413	2.86	22	1.39	3.09	33	1.355
Nobody	2.33	100	1.747	2.15	13	1.676	1.93	15	1.486

Note: AM - arithmetic mean, SD - standard deviation, n - valid answers.

variability within these groups. In this way, we can prove that our groups are indeed those groups that do not belong to the same population or who belong to different populations which have the same arithmetic mean. We set the threshold chosen for statistical significance at 0.05; this is the threshold set in most social surveys. We found that the international experience is the most statistically significant motivating factor with a significance level of less than 5 per cent. As stated by Cramer (2000), the F-test calculated in the framework of the analysis of variance shows only whether statistically signifi-

cant differences between the surveyed variables exist, and not where these differences actually are. At the second level of testing with the ANOVA test we used different post-hoc tests. The Bonferroni correction, which is an often used post-hoc method in the framework of the analysis of variance, showed precise differences between individual classes (in our case destinations).

The Bonferroni test shows exact differences between individual categories (in our case destinations). As a motivational factor, the international experience factor has been

Table 3: Examining the differences between the destinations (Bonferroni correction)

Motivating factors	(I) Host country	(J) Host country				95% trust interval	
			Average difference (I-J)	SD	Sig.	Lower limit	Upper limit
International experience	Norway	Slovenia	0.079	0.159	1	-0.3	0.46
		Germany	0.576*	0.138	0	0.24	0.91
	Slovenia	Norway	-0.079	0.159	1	-0.46	0.3
		Germany	0.497*	0.195	0.034	0.03	0.97
	Germany	Norway	-0.576*	0.138	0	-0.91	-0.24
		Slovenia	-0.497*	0.195	0.034	-0.97	-0.03

Note: *The difference of arithmetic means is statistically significant with a significance level of less than 5 per cent.

found to be statistically significant with a significance rate of less than 5% in regard to a host institution's country. The test has shown a statistically significant difference for the factor international experience: as regards the decision regarding destination selection, this factor played a more important role for the surveyed students who went to Germany as compared to those who went to Norway or Slovenia. The analysis shows that according to the opinion of the students surveyed, the international experience motivational factor is statistically different with regard to the destination chosen.

6   Conclusions

Student mobility is becoming increasingly important in international higher education. Each year more and more educational institutions admit new foreign students into their programmes. The trend of growing numbers of students, countries and host institutions – at the moment over 3 million mobile students per year – shows the importance of student mobility in the current academic environment. Mobile students are an ever more important factor on the labour market.

To examine the initial hypothesis in this article, we conducted a statistical test analysis of variance (ANOVA), which showed a significant difference for the factors involved in international exchange. For students who went to Germany, the international experience factor played a more important role in their decision than for students who went to Norway or Slovenia. On the basis of our analysis, we found that according to the surveyed students' opinion, the motivating factor of destination choice statistically differs. Our hypothesis was partially corroborated. The other motivating factors did not show a statistically significant influence on the destination choice.

As a point of interest, we can present our findings concerning the mobility period and the general satisfaction of students. We examined the correlation between satisfaction and mobility period with Pearson's correlation coefficient. More precisely, we examined the correlation between the length of the mobility period and satisfaction with some individual factors (studying at the host institution, information during mobility, accommodation during mobility, support of the host institution, support of the institution of origin and mobility as a whole). We found that satisfaction and length of the mobility period are correlated; in other words, the longer the mobility period lasted, the more satisfied the students were.

In general, it can be said that the international mobility of students in higher education has great potential for further growth. This also holds true for the Slovenian higher education environment. Nevertheless, there are some grounds for caution, especially in terms of further expansion and growth. In our view, a large percentage of the surveyed students will have better chances for finding work abroad after completing a mobility programme. It would be interesting to study the employability level of mobility students at home and abroad in the future. Further research should examine the employment rate of mobile students in Slovenia as well as abroad. For further research, the authors recommend the use of even more closed-ended question or questions on a numeric scale when preparing the questionnaire. There is also a lack of studies that analyse the integrated effect on the competencies of students and the effects related with labour market.

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Pomen motivacijskih dejavnikov za mednarodno mobilnost študentov: empirični izsledki za izbrane visokošolske institucije v Evropi

Prispevek obravnava pomen motivacijskih dejavnikov za mednarodno mobilnost dodiplomskih študentov, ki so bili mobilno aktivni in so del svojih študijskih obveznosti opravljali na izbranih visokošolskih institucijah. Empirična raziskava je bila izvedena na populaciji 3.539 mobilnih dodiplomskih študentov na treh izbranih visokošolskih institucijah v treh različnih evropskih državah, ki so bili mobilni v letih od 2006 do 2011 (1 – Nemčija: Duale Hochschule Baden-Württemberg Karlsruhe, 2 – Norveška: Univerza v Tromsu, 3 – Slovenija: Fakulteta za Management). Namen prispevka je na osnovi pridobljenega vzorca 288-ih mobilnih dodiplomskih študentov za preučevano obdobje prikazati osnovne motivacijske dejavnike glede na izbrano institucijo. Na osnovi empiričnih izsledkov je bilo ugotovljeno, da se je večina študentov na študijsko mobilnost odpravila predvsem zaradi pridobitve mednarodnih študijskih in življenjskih izkušenj. Prav tako pa obstajajo statistično značilne razlike v dolžini obdobja študentske mobilnosti glede na spol in zadovoljstva s programom mobilnosti.

Ključne besede: mednarodna mobilnost, motivacijski dejavniki mobilnosti, visokošolska institucija

A Review of Critical Success Factors for Offshore Software Development Projects

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Offshore project success is very much important to both customer and the vendor. Based on very less success rate of overall software projects globally, critical success factors (CSFs) for offshore software projects is gaining much importance. In the current study based on literature review, a total of 75 success factors for offshore software projects are identified. Further based on their appearance in literature 20 critical success factors from 10 CSF categories are identified. Finally top six most critical success factors for offshore software projects such as *trust, efficient communication, cultural understanding, relationship between client and vendor, contract type and efficient knowledge transfer* are identified. The CSFs categories are prioritized in the order of importance. The important CSF categories for offshore projects found are organizational factors (both client and vendor), project factors, cultural factors and environmental factors.

Keywords: Critical Success Factors, Software Projects, Project Success, Information Systems Projects, Offshore Software Projects

1 Introduction

According to Standish Group CHAOS Research report (2009), only 32% of the software projects are successful. 44% of the software projects are challenged by cost or schedule over-runs and 24% of the projects are failed and did not reach the project objective. That means overall 68% of the software projects are either failed or challenged. The success rate of the software projects is relatively less to compare with other industry projects. Because of the very less percentage of success rate in software projects, *Project Success* became a topic of research for many researchers across the world. There are many factors such as technical factors, cultural factors, environmental, legal and social factors affecting the success of offshore software projects in offshore provider countries such as India, China, Ireland, Philippines, Taiwan, Singapore, Hong Kong, Malaysia, Israel, Brazil, Russia, Mexico, South Africa, Hungary and Czech Republic. More than 50% of the Fortune 500 organizations are going for off-shoring their software projects (Hirschheim et al., 2004; Avison and Torkzadeh, 2009). GE, American Express, Walmart, and Kodak have benefited from offshoring their software projects (Avison and Torkzadeh, 2009).

The business of software development is becoming global in nature (Eberlein, 2008). For example, Boeing 787 Dreamliner project brings together 50 global partners work-ing in over 130 locations across the globe (Witthaus, 2008). Globalization and opening up of different global markets and the global dispersed nature of software work are increasing the offshore software market (Philip et al., 2010). According to McCarthy (2007), a Forrester research report, 65% of the US and European organizations have minimum of 1000 offshore project employees working for them in offshore providing countries (Philip et al., 2010). This indicates the growth of offshore industry.

IT organizations are using global human resources to reduce costs and for quality (Eberlein, 2008). Usually off-shore provider can be a wholly owned subsidiary, partially owned subsidiary or an entirely external service provider (Westner and Strahringer, 2008; Westner, 2009; Westner and Strahringer, 2010). According to Westner and Strahringer (2010), Offshoring happens from a physically dispersed geographical location, different time zone and different culture. IT offshore business is lead by India, followed by China and other near shore countries such as Eastern European countries. Indian offshore industry has maintained double digit growth rate for almost two decades. Russian offshore industry is also growing with strong technical skills, methodologies, and high education levels in Mathematics and Science backgrounds (Kolding and Kroa, 2007). With advancements in telecommunications infrastructure across the world, organizations are following the sun in their offshore software services delivery

(Jennex and Adelakun, 2003; Gengler, 2003; Hirschheim et al., 2004; Kolding and Kroa, 2007; Adelakun, 2008; Mechitov, 2008; Remus and Wiener, 2009). Organizations such as IBM, HP, Accenture, CapGemini, SAP, and Oracle have off-shored their work to many offshore service providers in Asia. The offshoring trend has increased since the Y2K and Euro currency transition (Adelakun, 2008).

The exhaustive literature for this current study was collected from journals such as *MIS Quarterly, MIS Quarterly Executive, International Journal of Project Management, Project Management Journal, Information & Management, Journal of Information Technology Management, Journal of Global Information Technology Management, Journal of Information Technology Cases and Applications, Communications of IBIMA, Information & Management, Sprouts: Working Papers on Information Systems, Journal of Information Technology Research, Indian Journal of Economics and Business, African Journal of Business Management, International Journal of Reviews in Computing, Journal of Universal Computer Science* and *Electronic Journal on Information Systems in Developing Countries.* The literature review was carried out during February 2012 and April 2012, research design/model was done during May 2012 and July 2012, analysis of success factors and finding the research results was done during August 2012 and September 2012 and report writing was carried out from October 2012 to November 2012.

This paper is organized as, next section deals with why organizations go for off-shoring?, section-3 deals with research question, section-4 has exhaustive literature review, section-5 draws the conceptual model, section-6 explains the research methodology followed, section-7 has analysis of success factors, section-8 analysis of findings, discussion and comparison with previous studies and section-9 deals with limitations of current research, further research scope and implications for both industry and research community.

2   Why Organizations go for Off-shoring?

Organizations go for off-shoring because of cost reductions/ advantages (Jennex and Adelakun, 2003; Prikladnicki et al., 2004; Hirschheim et al., 2004; Amberg and Wiener, 2006, Beverakis et al., 2007; Adelakun, 2008; DeHondt and Knapp, 2008; Raisinghani et al., 2008; Remus and Wiener, 2009; Avison and Torkzadeh, 2009; Patel et al. 2009; Nassimbeni et al., 2010; Philip et al., 2010; Capatina et al., 2011; Gold, Undated, 1a), differentiation, availability of global talent pool (Gengler, 2003; Hirschheim et al., 2004; Amberg and Wiener, 2006; Raisinghani et al., 2008; Remus and Wiener, 2009; Avison and Torkzadeh, 2009; Patel et al., 2009), cheap labor in developing countries (Gengler, 2003; Hirschheim et al., 2004; Patel et al., 2009), reduced time to market (Raisinghani et al., 2008; Remus and Wiener, 2009), efficiencies, flexibility in product delivery(Kolding and Kroa, 2007; Nassimbeni et al., 2010), access to new technologies, resources and skills (Jennex and Adelakun, 2003; Hirschheim et al., 2004; Adelakun, 2008; Raisinghani et al., 2008), focus

on core competencies (Beverakis et al., 2007; Raisinghani et al., 2008; Avison and Torkzadeh, 2009), access to new markets (Prikladnicki et al., 2004), competitive advantage, operational reasons, economic reasons (Jennex and Adelakun, 2003; Adelakun, 2008; Avison and Torkzadeh, 2009; Nassimbeni et al., 2010), time zone advantages (Raisinghani et al., 2008), round the clock services (Hirschheim et al., 2004; Raisinghani et al., 2008) and in current days for the quality of work (Eberlein, 2008). The high labor costs in western countries and cost savings are also leading to offshoring the software projects to Asian and Eastern European countries where the development costs are relatively less (Westner, 2009; Westner and Strahringer, 2010). According to Westner and Strahringer (2010), German companies have faced difficulty in offshoring software projects because of language and cultural barriers. In the initial days of offshore industry growing number of global organizations have reported disappointments and failures of offshore projects (Ranganathan and Balaji, 2007). Thus, there is need for and importance of this area to be studied and researched. Current day organizations are looking in offshore providers not only cost advantages they are providing but also their stability and attrition rates (Kolding and Kroa, 2007). Offshoring has changed the way software products are designed, constructed, tested and deployed (Prikladnicki et al., 2004).

Organizations see for certain criteria in offshore service provider while going for offshoring such as their reputation, list of clients, CMM (Capability Maturity Model) level, references (Ranganathan and Balaji, 2007), information systems security (Nassimbeni et al., 2010), business strategies (Hirschheim et al., 2004; Beverakis et al., 2007), national culture, organizational culture, HR policies, quality initiatives and attrition rates (Witthaus, 2008). According to Westner and Strahringer (2008), organizations choose projects for offshoring based on the project size, codification, business criticality, project complexity, costs, intellectual property, labor intensity, requirements stability, strategic importance, technological availability and the language (Capatina et al., 2011) spoken at offshore service provider. The software projects to be offshored should have significant duration and significant size to offshore (Westner and Strahringer, 2008). Extensive coding prone projects are more suitable for off-shoring. Low complexity and highly modular projects are suitable for off-shoring (Westner and Strahringer, 2008).

Offshoring phenomenon has mixed response in the world (Marcon and Gopal, 2004). Offshore development is labor intensive, complex, technology intensive, knowledge intensive (Mathrani et al., 2005), multi disciplinary and requires lot of information flow (Dyrhaug et al., 2003). Risks are not removed totally when organizations go for off-shoring. There exists little empirical evidence in the literature which shows the cost reductions with offshoring (DeHondt and Knapp, 2008). In fact, new set of risks get added because of cultural, language and time zone issues requiring more rigorous risk managements for offshore software projects (Eberlein, 2008). The complexity of project work increases because the teams are geographically distributed in different parts of the world (Westner and Strahringer, 2010). Sometimes offshoring may lead to layoffs at client location (Remus and Wiener, 2009),

or transfer some of the employees to vendor organization and become contractors to the client organization. Overall it leads to lot of restructuring and change of roles and responsibilities at client location (Ranganathan and Outlay, 2009) and sometimes brings in lot of confusion and ambiguity in role and responsibilities because of introduction of vendor employees into the project. Other concerns of off-shoring include data thefts, cyber crimes, intellectual property issues, network security issues and political climate (Mechitov, 2008).

The IT offshoring leading to resizing the client staff may lead to low morale, stress, reduced commitment, loss of trust, anxiety and resentment in retained employees at client location (Ranganathan and Outlay, 2009). According to DeHondt and Knapp (2008), offshoring software work brings in additional costs such as lock-in, knowledge transfer costs,

technology transfer costs, transition costs, legal and liability costs, vendor management costs and cultural adaptation. Thus the CIOs (Chief Information Officers) and CTOs (Chief Technology Officers) have to make offshoring as a strategic long term plan rather than a tactical activity. They should very clearly communicate the roles and responsibilities of the individuals in the team (Ranganathan and Outlay, 2009). Also the customer organizations maintain a pool of offshore service providers to reduce the costs, and bring in competition among service providers and for high performance and high quality levels (DeHondt and Knapp, 2008). According to Hirschheim et al. (2004) the challenges of offshoring software projects include cultural factors, infrastructure and security issues, geographical distances, morale and public opinion. Overall

Table 1: Previous research studies on CSFs for Offshore Software Projects

Researcher(s)	Study Type (Literature Review/ Conceptual/ Empirical/Case Study)	Sample Size	Research Techniques Used (Questionnaire/Interviews/ Observation)	Number of CSFs Recommended
Jennex and Adelakun (2003)	Literature Review + Empirical study	210 respondents	Questionnaire	31 CSFs -> 6 Key CSFs
Dyrhaug et al. (2003)	Case study	2 projects	Semi-structured Interviews	11
Prikladnicki et al. (2004)	Case study	1 organization	Interviews	6
Mathrani et al. (2005)	Case study	3 organizations	Interviews	19
Amberg and Wiener (2006)	Literature review	22 interviews	Interviews	29
Huang and Trauth (2007)	Empirical study	12 Interviews	Semi-structured Interviews	3
Ranganathan and Balaji (2007)	Empirical study + Case study	18 companies	Focus Group Discussions+ Interviews	10
Adelakun(2008)	Conceptual	23 references	Literature Review	32
DeHondt and Knapp (2008)	Conceptual	41 references	Literature Review	8
Eberlein (2008)	Empirical study	15 Interviews	Semi-structured Interviews + Questionnaire	2
Raisinghani et al., 2008	Conceptual	47 references	Literature Review	5
Westner (2009)	Empirical/Quantitative research	47 Interviews	Questionnaire + Interviews	5
Rai et al. (2009)	Empirical study	155 projects	Field study + Project Database	15
Remus and Wiener (2009)	Literature Review + Case Study	103 respondents + 22 interviews	Questionnaire + Interviews	29
Westner and Strahringer (2010)	Empirical study	304 respondents	Questionnaire	5
Gold (Undated, 1a)	Conceptual	1 person + 9 references	Opinion based	6

offshore software development reduces the costs of software application development (Jennex and Adelakun, 2003).

3　Some Research Questions related to offshore software projects

The main research questions considered are:
- What are the critical success factors for offshore software projects?
- What are the categories of CSFs for offshore software projects?
- What is the conceptual model consisting of CSFs for offshore software projects and project success?

The objectives of current research include
- The research objective is to develop a conceptual model of critical success factors for offshore software development projects.
- The objective is to find the most critical success factors (CSFs) for offshore software development projects.

4　Previous Studies on Offshore Software Projects

There are very few research studies on critical success factors for offshore software projects with performing organizations perspective (Mathrani et al., 2005). One among them is the study of offshore projects from an Indian offshore service provider by Rai et.al. (2009). Another research study from outsourcer's perspective is Mathrani et al. (2005). The active research on critical success factors for offshore software projects has started after 1990 even though the off-shoring was there for the past 3 decades (DeHondt and Knapp, 2008). For example, Tata Consultancy Services (TCS) of India was the early entrant in 70's into the programmers supply to US customers and later to off-shoring. There are very limited empirical studies in this area (Mathrani et al., 2005; Amberg and Wiener, 2006) and majority are opinion/practice based (Remus and Wiener, 2009) or conceptual studies (See Table 1). The research on offshoring is still in initial or theory building stage (Westner, 2009).

Carmel (2003) has suggested an "Oval model" comprising success factors for offshore software industries of different counties. Those factors are government vision, policies, technological capabilities and infrastructure, human capital, wages, industry characteristics, needed capital, quality of life and international linkages between different groups, firms and organizations. According to him, India, Ireland and Israel have already succeeded in this industry. Having internationally recognized quality certifications such as CMMi (Capability Maturity Model Integrated) and ISO (International Organization for Standards) are important for the success of offshore software industries.

Jennex and Adelakun (2003) have done an empirical study and found 31 CSFs for offshore software projects with both client and performing organization perspective. Based on the literature review five success factor groups such as people

factors, business infrastructure, technical infrastructure, regulatory interface and client interface with 31 CSFs are identified. Among these 31 factors, six factors known as telecommunications infrastructure, outsource workers technical skills, outsource workers general knowledge, client knowledge, trust, and intellectual property rights are identified as most critical success factors for offshore software projects based on empirical study. They used statistical techniques such as mean, standard deviation and ANOVA for the data analysis purpose.

Dyrhaug et al. (2003) has taken multiple case study approach with semi structured interviews to find out the critical success factors of managing offshore software projects in Norway. They have identified 11 CSF categories such as Global/Industry related, internal influences, temporal and enduring, risk abatement, performance/quality, macro environment, senior management in the company, between project organization and supporting organization, current and future, special monitoring and modification management. They ignored the project characteristics, knowledge transfer and technology transfer issues in their CSFs model.

An early study Prikladnicki et al. (2004) have done an empirical study of a Brazilian offshore software development center to find out the difficulties, solutions and critical success factors of offshore insourcing of the projects. They suggested the critical success factors such as software development process, infrastructure, training, planning and engagement, team integration, and communication for offshore projects which are insourced; that is, executed in wholly owned subsidiary in a foreign country. Sundberg and Sandberg (2004) have studied the critical success factors for an insurance project of national importance in Sweden using interviewing techniques.

Mathrani et al. (2005) have given an outsources perspective on critical success factors for offshore projects by a study based on case study approach on organizations from New Zealand and India. Amberg and Wiener (2006) have studied the critical success factors for offshore software development projects in Germany from Client organization perspective using a web based survey and interviews. They found 29 CSFs for offshore projects from customer perspective. Those CSFs come under categories such as internal suitability factors, internal management factors, external suitability factors and external management factors.

Huang and Trauth (2007) have interviewed 12 information systems professionals involved in software development work which is distributed between US and China. They observed that culture has impact on communication styles, task related conflicts are looked as opportunity for learning in information systems projects, language skills are very much important in the time of conflicts, shared corporate culture reduces team conflicts and improves team efficiency and they highlighted the importance of national culture, organizational culture and professional culture. The ambiguity and uncertain nature of software development requires informal communication in the project teams (Huang and Trauth, 2007).

Ranganathan and Balaji (2007) have done a research study on 18 companies and found 10 critical capabilities for software projects off-shoring which come under the categories such as systems thinking, global IS resource management, vendor management and IS change management. According to

them, it is best practice to execute a pilot project with offshore vendor before having a full fledged long term contract. The ratio between onsite-offshore manpower is to be maintained as 1:3 to get the cost advantages (Ranganathan and Balaji, 2007). According to Eberlein (2008), cultural awareness and management of cultural differences are critical success factors for projects of international nature. Eberlein (2008) has done an exploratory research with semi-structured interviews of experts from onshore, near-shore and offshore locations such as US, UK, India, China, Japan, Australia and Europe.

Beverakis et al. (2007) have done a case study on an MNC (Multinational Company) and identified eight categories of driving factors and challenges of offshoring IS business processes. Those categories of factors include reduce costs, become more competitive, challenges/risks, establish a global capability, skills and type of work available and targeted, location choice, management's decision and research. They observed that the organizations go for offshoring primarily to become more competitive in the market.

Adelakun (2008) has given 32 CSFs for offshore software projects and has grouped them into five groups based on literature review. He identified technical infrastructure and business infrastructure groups as offshore readiness factors and societal interface, regulatory interface and people factors as offshore attractiveness factors for software projects. Raisinghani et al. (2008) based on literature review have identified five CSFs for offshore software projects such as risk analysis; relationship management and cultural understanding; cost/benefit analysis; implementing risk controls; and understanding legal issues and contracts.

Rai et al. (2009) have done an empirical study of 155 offshore software projects from an Indian offshore provider working for US clients. They found that the organizational and interpersonal cultural differences are critical success factors for offshore software projects. They gave a offshore project success model which consists of the factors such as project leader cultural values, relational factors, vendor-client work practices, offshore leader-client cultural difference and used project characteristics as control variables. This model ignored the time zone difference factors, language factors, technology transfer factors, knowledge transfer factors and offshore team factors at large. They used customer satisfaction and cost overruns as project success measures. They observed that there is a relationship between cultural differences and offshore IS project success and also relational factors impact the offshore software project success. Cultural understanding and intelligence of offshore leader have significant impact on offshore project success.

Remus and Wiener (2009) have done a study of CSFs for offshore projects from US clients and Indian and European service providers' perspective. They have identified 29 CSFs with a CSF model having CSF categories such as internal suitability factors, internal management factors, external suitability factors and external management factors. After literature review, they have used questionnaire, interviews and case study approach to arrive at CSFs. They observed that external management factors are more important than the internal management factors for the success of offshore software projects. They identified *clear project goal* as most important CSF.

Other CSFs among most relevant CSFs are good language skills, controlling project results, appropriate project team, communication flow, high quality of offshore staff, and preparation of detailed project specification.

Westner and Strahringer (2010) have done an empirical study of 304 experts from Germany using questionnaires who is availing offshore software services. They found that the offshoring expertise, trust, project suitability, knowledge transfer, and liaison quality as critical success factors for offshore software projects. According to them, it is best practice to conduct cross cultural training programs, which will facilitate open and frequent communication before starting of real offshore projects. Westner in his (2009) paper has given a model of antecedents of offshore project success which consists of the components such as offshore expertise, trust, impacting project suitability, knowledge transfer and liaison quality in turn impacting the offshore project success. In this model communication factors are not highlighted much. However he has highlighted the knowledge transfer factors. This is purely customer perspective.

According to Philip et al. (2010), offshore software projects are more prone to fail because of risks in culture, language, time zone differences, communication, and knowledge transfer. Capatina et al. (2011) have done a research study using a web based platform on a Romanian software company to link the cultural intelligence with global IT projects to offshore the projects to countries such as India and Nigeria. According to Gold (Undated, 1b), the client organizations should understand the complex relationship between vendor management, contract negotiations and risk management. Project manager's leadership style and competence are important for project success (Turner and Müller, 2005).

Shahzad et al. (2011) have done a literature review and suggested a framework for offshore project success. They have identified communication, coordination, architecture, feedback as critical to offshore project success. Mathrani et al. (2012) have done research on 10 case studies in New Zealand and India to find out the impact of knowledge management initiatives and the offshore project success. In this study they found that the New Zealand managers were contributing towards project and product management and the Indian counterparts were contributing towards software construction. They found that knowledge management is also a success factor for offshore software projects.

Bapna et al. (2012) have tried to find the impact of 3rd party advisors on the relationship between contract type and outsourcing project success. They have also identified trust, interpersonal relationships and contract type impact on outsourcing project success.

5 The Proposed CSFs model for Offshore Projects

Proposed conceptual model is a multi level model as shown in Figure 1 and Figure 2. The proposed model consists of 10 CSF categories for offshore software projects. The relationships between these categories of factors are as shown in Figure

1. Cultural, language, time zone, organizational (both client and vendor) and environmental factors are connected to other CSF factors such as technology transfer, knowledge transfer, project and team factors via communication factors. All these factors in turn are connected to offshore software project success (Figure 2). The relationships between different CSF categories may be correlation, regression or just information flow as well.

The *offshore project success* is very tricky because the processes, resources, roles and responsibilities are divided between customer and the service provider (Ranganathan and Balaji, 2007). Project success is measured in terms of the triple factors of the project such as time, cost and quality (Dyrhaug et al., 2003; Eberlein, 2008; Witthaus, 2008; Westner, 2009). According to Westner and Strahringer (2010), offshore project success can be measured in terms of cost/ benefit (Mathrani et al., 2005; Westner, 2009), customer satisfaction (Dyrhaug et al., 2003; Rai et al., 2009), meeting expectations and fulfillment of psychological obligations. They also measured the offshore project success in terms of schedules, functionality, budget and quality (Mathrani et al., 2005; Westner, 2009). Researchers like Baccarini (1999) expressed that *project success* is a combination of *product success* and *project management success*. Munns and Bjeirmi (1996) expressed that the project success is the ability to satisfy the needs of the users. Selection of a suitable project, project definition and early decision making are crucial to project success.

6   Research Methodology

The current research has stages such as literature review, draw the conceptual model, analyze the identified success factors, and discuss findings and conclusions. Based on the literature review and based on number of citations of each success factor in literature, success factors for offshore software projects are gathered. These factors are further segregated into 10 different CSF categories. Under each category of CSFs, top two most cited success factor is identified as CSFs for offshore software projects. So, total 20 CSFs (10 x 2 = 20) are tabulated. Later the top-6 most important CSFs for offshore software projects are identified based on their number of citations in literature irrespective of CSF category. Further, the CSF categories are prioritized to identify which CSF categories are important for offshore software projects. This prioritization of CSF categories is done based on the sub total of all occurrences of success factors in literature specific to respective CSF category. These categories of factors impact the success of offshore software projects. Prioritizations CSFs and CSF categories is done based on the number of citations in literature.

7   Analysis of Success Factors

Belassi and Tukel (1996) have done an empirical study to find the CSFs and their impact on project performance across multiple industries. They grouped factors into four areas such as factors related to project, project management and team
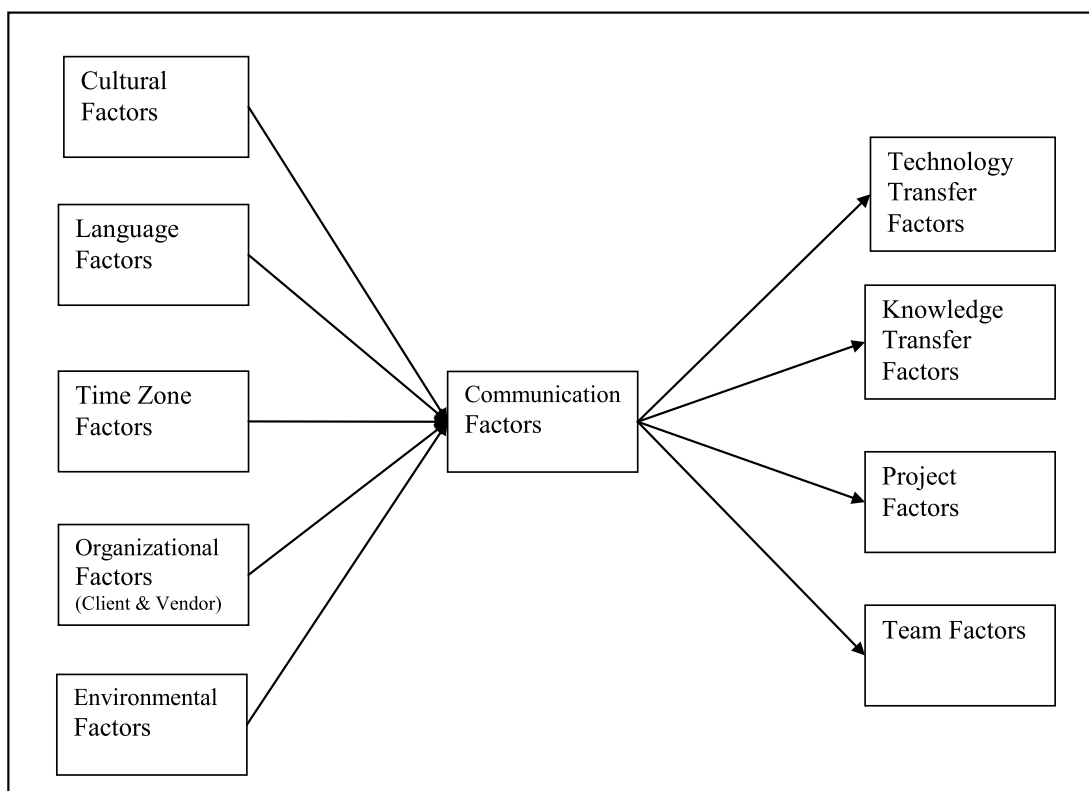

Figure 1: Relationship between CSF categories of Offshore Software Projects
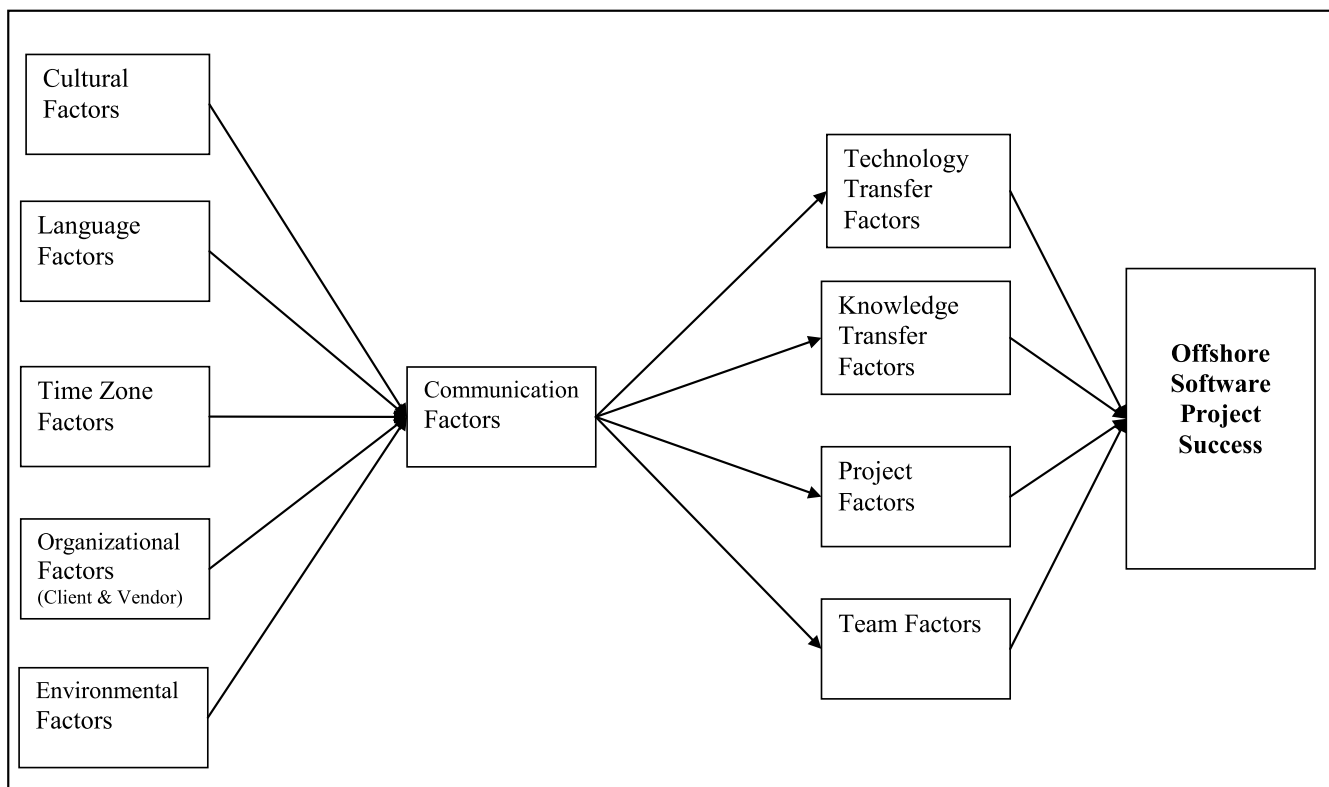
Figure 2: CSFs of Offshore Software Projects and Offshore Project Success.

members, organization and external environment. They identified the CSFs for MIS (Management Information Systems) projects as top management support, client consultation, availability of resources, initial estimates, and PM (Project Manager) performance. The CSFs groups in the order of importance for MIS projects identified were project management, environment, project, team and organization.

The critical success factor method has been used across industries and functions (Dyrhaug et al., 2003). For example, it was used in project/program management, MIS planning, MIS implementation and materials planning and management. According to Prikladnicki et al.(2004), offshoring software project work has impact on strategic, technical, knowledge management, and cultural issues. According to them the difficulties found while offshoring include language barriers, communication and cultural differences. Seventy percent of the software project requirements are difficult to identify and 54% are not well organized or clear (Prikladnicki et al., 2004). This indicates the importance of avoidance of requirements uncertainty as CSF for offshore software projects.

Offshore project success depends on the quality of relationship between client and vender (Eberlein, 2008). Accroding to Westner and Strahringer (2010), high level of offshore expertise, trust between vendor and offshore service provider and knowledge transfer are positively related to offshore software project success. Project characteristics such as project size, duration, programming language, degree of

coding and suitability of project for offshoring have a positive impact on offshore project success (Westner and Strahringer, 2010).

Lack of sufficient language skills leads to misunderstandings, reduced productivity, reduced quality, and increases risks of the offshore projects (Westner and Strahringer, 2008). According to Kolding and Kroa (2007), the key success factor for any offshore provider is having a list of referenced customers. The research studies on cross-cultural impact on information systems projects are very limited (Huang and Trauth, 2007). According to Huang and Trauth (2007), Cultural diversity is good for *innovation* and *creativity* which is very much required in knowledge based work such as software development. Client participation and involvement are very much needed for the success of offshore software projects (Rai et al., 2009). According to Westner (2009), trust between client and service provider influences the knowledge transfer which in turn impacts the offshore project success.

According to Gengler (2003), the success factors for software exports include national vision and strategy, international linkages and trust, project management, English language skills, and factors such as people, technology, research and development and finance. Westerveld (2003) has identified the need for linkage between project success criteria and critical success factors. He has given a project excellence model with critical success factors such as policy and strategy, stakeholder management, leadership and team, contracting, resources, and

project management factors such as schedule, organization, quality, budget, risks and project information.

Sangwan et al. (2006) based on literature review have identified five critical success factors for global software projects. They are reduce ambiguity, facilitate coordination, maximize stability, balance between flexibility and rigidity; and understand dependencies. According to Mechitov (2008), the success factors for Russian offshore software industry include cultural and political environment, local business climate, security and privacy. Schott (2011) stressed that the knowledge transfer is crucial for project success in offshore software projects. Organizational factors such as trust, risk, power relations and knowledge factors such as ambiguity, complexity and tacitness impact the knowledge transfer between organizations (Schott, 2011). According to Avison and Torkzadeh (2009), offshore information systems success depends on communication and cultural understanding.

Table 2: Identified Success factors of offshore software projects

CSF Category	Success Factor	References	Citations in Literature
1. Cultural Factors (6 factors)	Cultural Understanding	Jennex and Adelakun (2003), Amberg and Wiener (2006), Ranganathan and Balaji (2007), Huang and Trauth (2007), Adelakun (2008), Raisinghani et al. (2008); Avison and Torkzadeh (2009), Patel et al. (2009)	8
	Management of Cultural Differences	Mathrani et al. (2005), Ranganathan and Balaji (2007), Huang and Trauth (2007), Eberlein (2008), Witthaus(2008), Patel et al. (2009)	6
	Cultural Intelligence	Amberg and Wiener (2006), Huang and Trauth (2007), Philip et al. (2010), Capatina (2011)	4
	Shared Values and Norms	Huang and Trauth (2007), Ranganathan and Balaji (2007), Rai et al. (2009)	3
	Offshore Leader Cultural awareness	Eberlein (2008), Adelakun (2008)	2
	Behaviors and attitudes	Huang and Trauth (2007), Eberlein (2008),	2
		Sub-Total	**25**
2. Language Factors (4 factors)	Overcome language barriers	Carmel (2003), Ranganathan and Balaji (2007), Eberlein (2008), DeHondt and Knapp (2008)	4
	Language skills	Jennex and Adelakun (2003), Adelakun (2008)	2
	Common Language	Philip et al. (2010)	1
	Complexity of Language	Huang and Trauth (2007)	1
		Sub-Total	**8**
3. Time Zone Factors (3 factors)	Managing Different time zones	Jennex and Adelakun (2003), Witthaus(2008), Adelakun (2008)	3
	Time zone multiplicities	Ranganathan and Balaji (2007)	1
	Time differences	Patel et al. (2009)	1
		Sub-Total	**5**
4. Organizational Factors (both Client & Vendor Factors) (14 factors)	Trust	Jennex and Adelakun (2003), Mathrani et al. (2005), Kolding and Kroa(2007), Ranganathan and Balaji (2007), Adelakun (2008), Witthaus(2008), Rai et al. (2009), Westner (2009), Westner and Strahringer (2010)	9

CSF Category	Success Factor	References	Citations in Literature
4. Organizational Factors (both Client & Vendor Factors) (14 factors)	Relationship between Client and Vendor	Dyrhaug et al. (2003), Mathrani et al. (2005), DeHondt and Knapp (2008), Eberlein (2008), Raisinghani et al. (2008), Rai et al. (2009), Avison and Torkzadeh (2009), Gold (Undated, 1a)	**8**
	Contract Type	Jennex and Adelakun (2003), Mathrani et al. (2005), Amberg and Wiener (2006), Ranganathan and Balaji (2007), DeHondt and Knapp (2008), Adelakun (2008), Raisinghani et al. (2008), Avison and Torkzadeh (2009)	**8**
	Off-shoring expertise	Jennex and Adelakun (2003), Amberg and Wiener (2006), DeHondt and Knapp (2008), Adelakun (2008), Westner (2009), Westner and Strahringer (2010)	**6**
	Intellectual property rights	Jennex and Adelakun (2003), Ranganathan and Balaji (2007), Adelakun (2008), Avison and Torkzadeh (2009), Nassimbeni et al.(2010)	**5**
	Costs	Jennex and Adelakun (2003), Adelakun (2008), Raisinghani et al. (2008), Gold (Undated, 1a)	**4**
	Client Participation	Amberg and Wiener (2006), DeHondt and Knapp (2008), Rai et al. (2009)	**3**
	Business Processes	Jennex and Adelakun (2003), Adelakun (2008), Avison and Torkzadeh (2009)	**3**
	Liaison Quality	Mathrani et al. (2005), Amberg and Wiener (2006), Westner (2009)	**3**
	Offshore Senior management commitment	Dyrhaug et al. (2003), Gold (Undated, 1a)	**2**
	Payment Processes	Jennex and Adelakun (2003), Adelakun (2008)	**2**
	Organizational structures	Amberg and Wiener (2006), Eberlein (2008),	**2**
	Onsite/offshore Travels	Jennex and Adelakun (2003), Adelakun (2008)	**2**
	Vendor financial stability	Amberg and Wiener (2006)	**1**
		Sub-Total	**58**
5. Environmental Factors (9 factors)	Legal Environment	Jennex and Adelakun (2003), Amberg and Wiener (2006), Ranganathan and Balaji (2007), Adelakun (2008), Raisinghani et al. (2008)	**5**
	Telecom Infrastructure	Jennex and Adelakun (2003), Prikladnicki et al.(2004), Adelakun (2008)	**3**
	Political environment	Amberg and Wiener (2006), Ranganathan and Balaji (2007), Avison and Torkzadeh (2009)	**3**
	Physical Security	Avison and Torkzadeh (2009), Nassimbeni et al.(2010)	**2**
	Currency Exchange Rates	Jennex and Adelakun (2003), Adelakun (2008)	**2**

CSF Category	Success Factor	References	Citations in Literature
5. Environmental Factors (9 factors)	Visa Regulations	Jennex and Adelakun (2003), Adelakun (2008)	**2**
	Customs and Tax Laws	Jennex and Adelakun (2003), Adelakun (2008)	**2**
	Economic Environment	Dyrhaug et al. (2003)	**1**
	International Linkages	Carmel (2003)	**1**
		Sub-Total	**21**
6. Communication Factors (4 factors)	Efficient Communication	Dyrhaug et al. (2003), Prikladnicki et al.(2004), Mathrani et al. (2005), Amberg and Wiener (2006), Kolding and Kroa(2007), Eberlein (2008), Witthaus(2008), Avison and Torkzadeh (2009), Gold (Undated, 1a)	**9**
	Communication technologies	Carmel (2003), Ranganathan and Balaji (2007), Witthaus(2008)	**3**
	Communication Protocols	Witthaus(2008)	**1**
	Communication styles	Huang and Trauth (2007)	**1**
		Sub-Total	**14**
7. Technology Transfer Factors (5 factors)	Technical Skills	Amberg and Wiener (2006), Adelakun (2008)	**2**
	Data Privacy and Security	Ranganathan and Balaji (2007), Nassimbeni et al.(2010)	**2**
	Training	Prikladnicki et al.(2004), Mathrani et al. (2005)	**2**
	Network Security	Avison and Torkzadeh (2009), Gold (Undated, 1a)	**2**
	Documentation	Mathrani et al. (2005)	**1**
		Sub-Total	**9**
8. Knowledge Transfer Factors (6 factors)	Efficient knowledge transfer	Ranganathan and Balaji (2007), Kolding and Kroa (2007), DeHondt and Knapp (2008), Westner (2009), Patel et al. (2009), Westner and Strahringer (2010), Philip et al. (2010), Gold (Undated, 1a)	**8**
	Domain knowledge	Mathrani et al. (2005), Westner and Strahringer (2008), Philip et al. (2010)	**3**
	Time for Knowledge Transfer	Kolding and Kroa (2007)	**1**
	Absorptive capacity	Ganesh and Moitra (2004)	**1**
	Knowledge Management	Ranganathan and Balaji (2007)	**1**
	Knowledge Protection	Nassimbeni et al.(2010)	**1**
		Sub-Total	**15**
9. Project Factors (16 factors)	Project Planning/ Management	Jennex and Adelakun (2003), Prikladnicki et al.(2004), Mathrani et al. (2005), Adelakun (2008), Avison and Torkzadeh (2009)	**5**
	Risk Sharing/Management	Dyrhaug et al. (2003), Raisinghani et al. (2008); Rai et al. (2009), Avison and Torkzadeh (2009), Gold (Undated, 1a)	**5**
	Requirements Uncertainty	Dyrhaug et al. (2003), Mathrani et al. (2005), Amberg and Wiener (2006), Rai et al. (2009)	**4**

CSF Category	Success Factor	References	Citations in Literature
9. Project Factors (16 factors)	Development Process	Prikladnicki et al.(2004), Amberg and Wiener (2006), Westner (2009)	**3**
	Quality	Dyrhaug et al. (2003), Mathrani et al. (2005), Westner and Strahringer (2010)	**3**
	Project Goal	Amberg and Wiener (2006), Witthaus(2008)	**2**
	PM Methodology/Standards	Amberg and Wiener (2006), Eberlein (2008),	**2**
	Project Suitability	Westner (2009), Westner and Strahringer (2010)	**2**
	Project Understanding	Eberlein (2008)	**1**
	Project Complexity	Rai et al. (2009)	**1**
	Project Size	Rai et al. (2009)	**1**
	Project Duration	Rai et al. (2009)	**1**
	Attrition Rate	Mathrani et al. (2005)	**1**
	Test Environment	Mathrani et al. (2005)	**1**
	Release Management	Mathrani et al. (2005)	**1**
	Configuration Management	Mathrani et al. (2005)	**1**
		Sub-Total	**34**
10. Team Factors (8 factors)	Team Competencies	Jennex and Adelakun (2003), Amberg and Wiener (2006), DeHondt and Knapp (2008)	**3**
	Change Management	Dyrhaug et al. (2003), Amberg and Wiener (2006), Ranganathan and Balaji (2007)	**3**
	Team cooperation	Prikladnicki et al.(2004), Ranganathan and Balaji (2007)	**2**
	Team Leader Competencies & Experience	Rai et al. (2009)	**1**
	Conflict Management	Ranganathan and Balaji (2007)	**1**
	Offshore Team Climate	Mathrani et al. (2005)	**1**
	Team Size		**0**
	Team cohesion		**0**
		Sub-Total	**11**

Based on literature review, total of 75 factors are considered as success factors for offshore software projects. Each of these factors comes under specific CSF category based on its meaning and applicability. The identified success factor, CSF category, references and the number of citations of that specific factor in considered literature are tabulated in Table 2. For the purpose of prioritizing the CSFs categories sub totals of number of citations of all factors come under each CSF category are also calculated.

One major finding of this current research is, the most important factor for project success, that is, the *team size* was not identified as CSFs in any of the earlier studies in the literature on offshore software projects. Also the factor *team cohesion* was not highlighted in earlier offshore team studies.

8   Final CSFs for offshore software projects

The critical success factors affecting the offshore project success will be prioritized and classified. The top priority CSFs will be found for offshore providers so that the software service providers can concentrate on them in their organizational development activities to increase the project success rate.

The critical success factors (20 factors) are identified from top two factors from each CSF category for offshore software projects which were frequently cited in the literature (Table 3).

Based on the number of citations, the top most 6 (six) critical success factors for offshore software projects in

Table 3: Critical Success Factors for Offshore Software Projects

Sl. No.	CSF Category	Critical Success Factor
1.	**Cultural Factors**	Cultural Understanding
2.		Management of Cultural Differences
3.	**Language Factors**	Overcome language barriers
4.		Language skills
5.	**Time Zone Factors**	Managing Different time zones
6.		Time zone multiplicities
7.	**Organizational Factors**	Trust
8.		Relationship between Client and Vendor
9.	**Environmental Factors**	Legal Environment
10.		Telecom Infrastructure
11.	**Communication Factors**	Efficient Communication
12.		Communication technologies
13.	**Technology Transfer Factors**	Technical Skills
14.		Data Privacy and Security
15.	**Knowledge Transfer Factors**	Efficient knowledge transfer
16.		Domain knowledge
17.	**Project Factors**	Project Planning/Management
18.		Risk Sharing/Management
19.	**Team Factors**	Team Competencies
20.		Change Management

Table 4: Top Most Critical Success Factors for Offshore Software Projects

Sl. No.	Most Critical Success Factor	Number of Citations in Literature
1.	**Trust**	**9**
2.	**Efficient Communication**	**9**
3.	Cultural Understanding	8
4.	Relationship between Client and Vendor	8
5.	Contract Type	8
6.	Efficient knowledge transfer	8

decreasing order of importance irrespective of CSF category are as shown in Table 4.

This indicates that the *trust* between client and vendor is more important than *technology transfer*, *costs* or *payment processes*. Similarly, *efficient communication, cultural understanding, relationship between client and vendor, contract type* and *efficient knowledge transfer* are most important CSFs for offshore software projects.

Trust is also identified as most CSF by Jennex and Adelakun (2003). *Contracting* is also identified as CSF in another study done by Westerveld (2003). The factors *relationship between client and vendor* and the *cultural understanding* are also identified as CSFs for offshore software projects in a study done by Raisinghani et al. (2008). *Efficient*

knowledge transfer, cultural understanding and *effective communication* (Prikladnicki et al., 2004) are also identified as CSFs in Remus and Wiener (2009).

The current research findings are in sync with the findings of an empirical study done by Rai et al. (2009). They have also identified information exchange, trust, cultural differences and relationship between client and vendor as CSFs for offshore software projects. The objective of current research has been achieved by finding the most CSFs for offshore software projects.

CSF Categories Prioritization

Similarly the most important CSF categories identified based on their sum of frequency of factor citations (sub totals)

specific to each category for offshore software projects are organizational factors (both client and vendor) (citations: 58), project factors (citations: 34), cultural factors (citations: 25), environmental factors (citations: 21), knowledge transfer factors (citations: 15), communication factors (citations: 14), team factors (citations: 11), technology transfer factors (citations: 9), language factors (citations: 8), and time zone factors (citations: 5). These findings indicate that for the success of offshore projects organizational, project and cultural factors are very much important and the lease important are the time zone factors. This indicates that in the past as well, time zone differences were not barriers for the success of offshore software projects. The software engineers across the globe understand these time zone differences and they are not a constraint for them while working on offshore projects. They are least important for them. That is the reason time zone differences became an advantage for the global IT industry and they are following the sun in their project work.

9　Further Research

Limitations of Current Research
Current research has considered the cultural aspects, however the demographic variables of team members, project managers and customers such as education, age, gender, experience, etc were not considered in the current study. Considering these variables can give some new dimensions and research implications. Research on offshore software projects is very niche area in research because there are very limited empirical studies available in this area. Literature on empirical studies of offshore software projects is very limited.

Further Research Scope
Based on the identified most CSFs, hypotheses relating to project success can be drawn. The same can be proved using empirical study. This can be the further extension of the current research. Also using the 20 CSFs as an instrument, data can be collected and further CSFs can be narrowed down based on empirical study on offshore software projects. Similar research can be done to different projects in different industries because off-shoring is done in many industries such as manufacturing, engineering, and automobiles. The offshoring was started in other industries before the software industry. Further research can be done based on the impact of offshore project leader and client manager, their skills, behavior and competencies and their relationship to offshore software project success.

Implications for Research Community
The current research is applicable to research community in many ways. The factors such as *contract type* has been identified as most CSFs for offshore software projects. In this which type of contracts make the offshore projects success can be further researched. That is, the relationship between different contract types and project success can be researched. The CSFs given in this current study have considered the prominent studies in the area. Hence, the CSFs identified in current study can be used for further research on offshore software

projects. The researchers can extend this study further in the above mentioned directions.

Implications for Industry
The CSFs identified in this study are very much applicable to the software project managers both offshore leaders and customer managers. As there is no single factor which drives to the project success, the project managers have to concentrate on the combination of these CSFs and increase the probability of project success. As the current research emphases *trust* between offshore team and customer has to be established for making project success; followed by the efficient communication before any other factor.

10　Conclusion

To succeed in the global offshore market, offshore providers have to develop practices and models which are rare, valuable and difficult to copy (Carmel, 2003). It is best practice to have *exit strategies* as well while offshoring projects and products. Critical success factors are matter of senior management. They are to be continuously monitored and effectively managed (Dyrhaug et al., 2003) for offshore project success. Basically, CSFs for projects vary from industry to industry and country to country. Hence, similar research can be customized to different industries in different countries.

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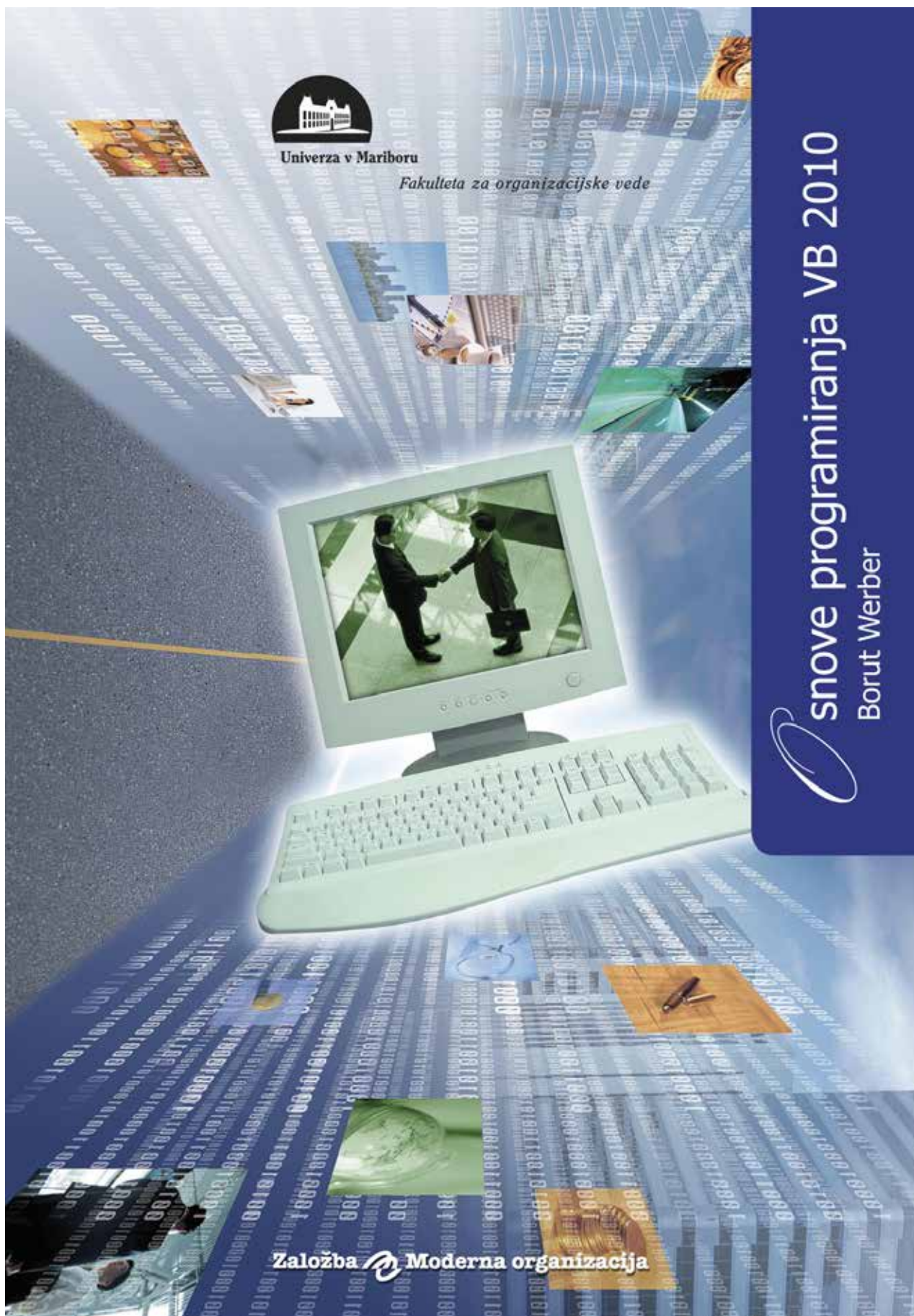
Ocena kritičnih dejavnikov uspeha za "offshore" programske razvojne projekte

Uspešnost "offshore" projektov je zelo pomembna tako za kupca kot za prodajalca. Glede na mnogo nižji delež uspešnosti "offshore" programskih projektov v primerjavi z drugimi projekti s področja razvoja programske opreme, je kritičnim dejavnikom uspeha za "offshore" programske projekte namenjeno veliko pozornosti. Naša raziskava je na podlagi pregleda literature identificirala petinsedemdeset dejavnikov uspeha za te projekte. Nadalje je bilo glede na pogostost pojavljanja v literaturi opredeljenih dvajset kritičnih dejavnikov uspeha iz desetih kategorij dejavnikov. Raziskava je izpostavila kot šest najpomembnejših kritičnih dejavnikov uspeha zaupanje, učinkovito komunikacijo, kulturno razumevanje, odnos med kupcem in prodajalcem, tip pogodbe in učinkovit prenos znanja. Kot pomembne kategorije kritičnih dejavnikov uspeha za "offshore" projekte (KDU) je raziskava ugotovila organizacijske dejavnike (tako kupca kot prodajalca), projektne dejavnike, kulturne dejavnike in okoljske dejavnike.

Ključne besede: Kritični dejavniki uspeha, Programski projekti, Uspeh projekta, informacijski sistemi, "Offshore" razvojni projekti

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