DO PERSONAL TRAITS, CREATIVITY AND ORGANIZATIONAL TRUST INFLUENCE THE INNOVATIVE SKILLS OF TECHNICAL STUDENTS EVIDENCE FROM A PRIVATE UNIVERSITY ?

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ABSTRACT

Technical course students adopt methodical, rational strategies for Engineering Problem Solving (EPS) skills as their curriculum are ingrained with analytical thinking abilities in solving the problems innovatively. Thus, innovative skills are determined by personal traits such as self-confidence, self-determination, risk-taking, tolerance of ambiguity, the achievement motive of a person, creativity and trust in the organization. This empirical research identifies the relationship between innovative skills of technical students by developing a causal model that measures their personal traits, creativity and the trust in the organization. The methodology adopted is a survey data from technical course students in a Private University, India. The printed questionnaire was administered to students and their responses are analysed. The findings of this research study reveal that the personal traits of self-confidence and risk-taking have a significant influence on the innovative skills but lack of organizational trust does not support. The significance of this research recommends that Private University incubation centre must plan to develop awareness, conduct workshops on creativity and thus build a strong organizational trust in students, to enhance the innovative skills.

Keywords: Innovative Skills, Technical Students, Personal Traits, Creativity, Organizational Trust.

INTRODUCTION

In creating a desire for the innovation in the young technical students, there is a focus on the establishing an innovation centre for the development of personal skills. Once the innovation centers are established and are visible it is pertinent to encourage them to know their personal traits, creativity and trust in the organization all these play a significant role in nurturing their innovative abilities. Engineering students adopt methodical, rational strategies for Engineering Problem Solving (EPS) skills as their curriculum are ingrained with analytical thinking abilities in solving technical problems (Jonassen et al., 2006). Still, many technical students lack in exhibiting their innovative skills, even while infrastructures are visible on their campus. Moreover, it emanates as a natural phenomenon from the educational sector that plays the key role in fostering the innovation abilities of the technical students. Universities nurture and feature the innovative abilities of the students through business incubators. Worldwide universities are

providing the required infrastructure for the young technical students to foster the innovation at an early age through incubators.

The objective of this research is to find whether personal traits, creativity or the organizational trust influence the innovation skills of the technical students with the incubator centre in their vicinity. To test this assumption, an exploratory study is carried. It measured personal traits would significantly influence their innovativeness such as self-confidence, self-determination, achievement motivation, risk-taking and tolerance of ambiguity while an opportunity is seen as an incubator. The constructs are measured by creativity as well as the awareness of the innovation centre at the university to measure the organizational trust.

Literature Review

There is sufficient research evidence on innovative skills that are identified as personal traits (Amiable, 1988; Kirton and De Ciantis, 1986; Martelaro et al., 2015), personality traits (see example, Anderson et al., 2014; Howell and Higgins, 1990; Oldham and Cummings, 1996), the individual confidence level (Waychal et al., 2011a) and other researcher like Yesil and Sozbilir (2013) have tried with internal competencies constructs to assess the innovative skills. Most of the Meta-analytic data published reveal the self-rated assessment of innovative skills rather than leader assessing the member's skills.

Prior studies on innovation often focus on the organization as the unit of study, few literature support the measure of innovation as a competence that is generated by innovative individuals (Waychal et al., 2011b). Competencies are universal acquired unique skills needs to upgrade with time. Hence skill sets are measured. Boyatzis give the construct to measure innovation competencies (1982) having 19 generic competencies, other competencies are required for one to become successful in a given job. Some of these competencies are focused on becoming entrepreneurial competencies (see, e.g. Raven and Stephenson, 2001). This paper aims to investigate the technical student's innovation skills with internal factors such as personality, creativity, and organizational trust. A model was developed with personal traits, creativity and organizational trust as independent variables. The innovative skills are the dependent variable.

Innovative skills are very complex, and it depends on many variables. In the modern society value is created through innovation and productivity (Kairisto-Mertanen et al., 2011). Many researchers aim to find out the characteristics of an innovative person, environment and organization. Innovation in research has attempted distinctive work of Entrepreneurship studies. Academic Institutions are the sources of scientific novelty and technological breakthroughs that fuel the innovation process (Prasad et al., 2004).

As the main contextual innovation characteristics strategy, culture, leadership, organizational structure, resources/skills and links with outside the organization are identified (Eveleens, 2010). The research of Waychal et al. (2011a) point out the factors that influence the innovation competence are creativity-visioning and the ability to generate ideas; entrepreneurial leadership-networking relationships and ownership to the organization and achievement orientation-stretch mindset and decision making. These constructs are empirically tested and validated. In their research male, the manager has a broader external network than the female manager.

Research regarding personal trait with the aid of state of the art methods has been studied in the field of entrepreneurship abilities. The research regarding innovation capabilities are focused on creativity and the authors claim: (1) diversity in knowledge and *"thinking outside the box"* as well as networking and relationships (Hargdon, 2003); (2) Age: there is a more

significant share of innovation by young academics than older ones (Frosch and Thusnelda, 2007); (3) Gender: innovative solutions are attributed more often to male managers than to female (Millward & Freemann, 2002); (4) Innovation diffusion: the shift from controlling management to more facilitation and leadership (Hipple et al., 2001).

In an empirical study by Waychal et al. (2011b) they have claimed in their research on innovation is generated from innovative competencies of the individuals and their organizational environment. They argued on the gender, age, background and their reading habits as determinants. The majority of researchers have focused on innovation and creativity deals with individual competencies (e.g. Pallas et al., 2013). In similar research by Stein (1968) research findings that four personal traits related to innovativeness influence on the environment and the identified variables are: (1) need for clarity; (2) intolerance of ambiguity; (3) self-esteem; (4) locus of control. These constructs are verified by researcher like Keller and Holland (1978). According to Heydari et al. (2013) them it was found that among the university students having innovative and creative competencies is a much higher chance of becoming successful entrepreneurs. The entrepreneurship orientation itself is dependent on the achievement motive, the ambiguity for tolerance self-honour, self-actualization, self-efficacy, and innovation. Halim et al. (2012) have argued and emphasized the personal characteristics of entrepreneurship play a dominant role in a successful business venture. The assumptions about personal traits, including the need for achievement, the locus of control, risk-taking propensity, tolerance for ambiguity, self-confidence and innovativeness (Gurol and Atsan, 2006) have a much significant influence on developing an innovative product and becoming a successful entrepreneur.

Innovative competencies are influenced by knowledge, skill, self- concept, traits, motives, values (Spencer and Spencer, 1993). Research revealed that characteristics of a people are linked to their innovation competencies as a curiosity, autonomy, flexibility, ability to perceive, motivation, ambitiousness, creativity, self- confidence and entrepreneurship (Cerinsek and Dolinsek, 2009). Thus, the innovation capability is understood from the earlier literature and drawing parallels to the college students; it is formulated as an additive factor's of creativity components and skills (Chen et al., 2013) as given (Eq. 1). In this equation, the constant '*K*' depends on cultural context. To promote higher innovative capabilities, an eco-system need to be maintained and thus ushering constant cultural influence the higher propensity of developing innovative skills.

$$\textit{Innovation capability} = K \times (\textit{creative personality} + \textit{creative thinking} + \textit{creative techniques}) \times \textit{knowledge \& skills} \quad (1)$$

Creativity itself is defined as a new and valuable creation that is determined by professional knowledge, innovative thinking skills and motivation (Amiable, 1988). Many different aspects influence innovation. Krot and Lewicka (2011) found a positive relationship between organizational trust in supervisors and innovation. Connell and Mannion (2006) state that there is heterogeneity measure of trust in an organizational concept as vulnerability, reliance, and risk. There are strong links between trust and knowledge creation, transfer and innovativeness (Sankowska, 2013). Trust is best built by open communication in any organizational setup (Savolainen, 2011). There is research that supports the innovation directly enacts the climate and support for innovation (Anderson and West, 1998) through trust.

Model of Study

This paper is built on the theoretical frame of innovative skills are influenced by an individual personality traits, creativity and Organizational trust. The model is tested in the technical students of a private university, in India. Innovative skills are abilities that a person possesses regarding innovation. To access these, it is necessary to perceive the innovation ability in the technical students and find out whether the institution fosters innovation. In this context, it has become imperative that a model is developed to test through hypothesis building and it is the operationalized goal was achieved through a conducted survey with the constructs of different personal traits, creativity and in the first step institutional awareness. If the students were aware of the organization, the organizational trust was measured.

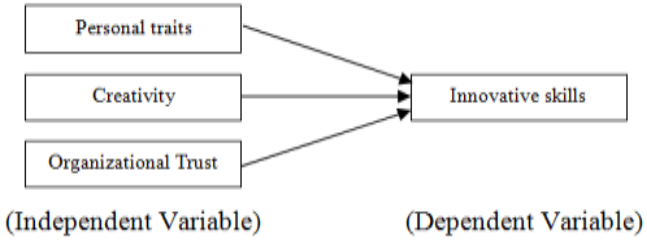

FIGURE 1
CONCEPTUAL FRAMEWORK

Prior research on innovation focuses on the innovative organization itself without considering that innovation is a competency that is generated by innovative individuals (Waychal et al., 2011a).

Hypotheses

The literature review and the model of the study lead to the following hypotheses:

H_1 : Personal traits have a significant influence on the innovative skills.
H_{1a} : The achievement motive has a significant influence on the innovative skills.
H_{1b} : Risk-taking has a significant influence on the innovative skills.
H_{1c} : Self-confidence has a significant influence on the innovative skills.
H_{1d} : Self-determination has a significant influence on the innovative skills.
H_{1e} : Tolerance for ambiguity has a significant influence on the innovative skills.
H_2 : Creativity has a significant influence on the innovative skills.
H_3 : Trust in the business incubator has a significant influence on the innovative skills.

METHODOLOGY

To test the hypothesis and the research design, the research path diagram was plotted to start identifying the problems and variables influencing the causation through theoretical framework to draw a conceptual model to collect the data, analyze the data to interpret the results obtained. The questionnaire was administered to engineering students at a Private University during their free time. The random sampling is chosen. They were asked to

fill out a survey named "*Survey questionnaire about improvement options for the innovativeness support at Private University*".

The data was collected at the campus of the university. The participants were shortly briefed about the study and were asked to fill out the questionnaire on the spot. Every participant needed around 15 minutes to answer all the questions carefully. With a response rate of 100%, all asked students agreed to take part in the research. The total number of participants was N=118, within 92 male students and 26 female students. The number of female and male participants reflects the gender ratio of the Private University as a technical college. The questionnaire was structured in different parts. In the first part, personal traits of the participants were measured such as risk-taking, tolerance ambiguity, achievement motivation, self-confidence, and self-determination. Friedman Self-Assessment test was used to measure the tolerance for ambiguity, risk-taking, self-confidence and self-determination items. To measure the achievement motivation validated items of former research by Prasad and Suar (2010) were used. All items had to be rated on a five-point Likert scale, with the options of 0=Strongly Disagree; 1=Disagree; 2=Uncertain; 3=Agree; 4=Strongly Agree and the respondent were instructed to choose only one option for each item.

The second part of the questionnaire measured the creativity of the participants by using items of Timpe (2002) on a bipolar scale. Example: I have always been a good reader. Yes/No. The third part examined the trust in the organization of Private business incubator. The measurement included two steps: Firstly, the participants were asked if they were aware of the centre. If the students were aware of the center, the trust in the innovation centre was measured as well. Therefore, they were asked about their impression of the business incubator, if they would present their innovative idea to the incubator or if they are afraid that their idea might get stolen. All items measuring trust had to be rated on a five-point Likert scale.

The demographic data of the participants were given such as gender, age, year of study, branch, membership in technical association (Table 2) and what innovation on their cell phone they were missing. The participants had the option to write down their name, contact number and/or e-mail address. The questions were jumbled up so that the participants could not identify the measured construct an answer in a socially accepted way.

Sample

The questionnaire was filled out by 118 students of the Private Engineering College Student (N=118). The majority of the respondents were male 78% (92), and 22% (26) were female. As the Private University is a technical college, the difference in numbers represents the gender ratio. The average age was 19.97 years, and it ranged from 17 to 26 years. The average GPA was 7.54, excluding first-year students because they had not received their grades at the time the survey took place (Table 1). The majority of participants with 32.8% are in their second year of study, followed by third-year students with 23.3%. First-year students participated with 19.1%, and 18% of the students were in their fourth year. The sample also includes 6.8% of students in their master's degree. Most of the respondents had joined and were a member of an innovative student association, few were running these student technical club. Most of the participants studied Computer Science Engineering (20.3%) and Electronics & Communication Engineering (17.8%).

Table 1
DEMOGRAPHIC PROFILE OF THE

PARTICIPANTS		
	Mean	**SD**
Age	19.97	1.66
Academic Year	2.68	1.34
CGPA	7.54	1.18

Table 2
STUDENT ENROLLED IN INNOVATIVE ASSOCIATION MEMBERSHIP

	Frequency	Percent
No	89	76.1
Yes	28	23.7

Tools Used

Descriptive statistical information was obtained using the statistical software package SPSS 20. Univariate analysis of frequency and percentages and bivariate analysis for correlation tests, t-tests for identifying differences in the mean values and regressions for hypothesis testing were used as quantitative techniques. The analyze and the discussion of the results are in the next chapter.

RESULT ANALYSIS

The demographic details of the participants such as gender, age, their average grade were analyzed with mean and standard deviation. Students from fourteen different branches took part in the research.

The results revealed that age has a significant influence on the innovative skills with a value of F=9.889 is significant at 0.002. Technical students that are 20 years and above had higher innovative skills than younger ones. They also have significantly different results in their personality traits (0.025), such as risk-taking (0.001) or self-confidence (0.034). Students that are older than 20 years are significantly more self-confident and willing to take risks than younger. Age does not have a significant influence on the creativity along with the organizational trust (Chen et al., 2011; Chou, 2004; Heunks, 1998; Gopnik and Griffiths, 2017)

The gender of the participants does not influence their innovative skills, if they are a member of an innovative club or if they have participated in an innovation competition. The gender of the participants did not significantly affect the academic performance measured by the average grade as well as the creativity and the personal traits such as the constructs of self-confidence and risk-taking along with the organizational trust.

The academic performance measured by the average grade of the student does not have a significant influence on their innovative skills: Students with better grades did not have a significantly higher score in their innovative skills. In the following section, the intercorrelations in the technical student studied variables was investigated by the Pearson correlation coefficient and with 5% sign (Table 3).

Table 3
CORRELATIONS COEFFICIENTS BETWEEN VARIABLES

	SC	SD	AM	AT	RT	C
Self-Confidence(SC)	1					
Self-Determination (SD)	0.102	1				
Achievement Motive(AM)	-0.192*	0.141	1			
Ambiguity Tolerance (AT)	0.203*	0.035	0.274**	1		
Risk Taking (RT)	0.009	-0.270**	-0.009	-0.067	1	
Creativity (C)	-0.008	-0.148	-0.163	0.032	0.209*	1
Organizational Trust (OT)	0.178	0.04	0.229*	-0.027	-0.007	-0.078
Notes: *p<0.05; **p<0.001						

The construct of self-confidence correlates significantly with the construct of tolerance of ambiguity and the achievement motive. The construct of self-determination has a highly significant correlation with the construct of risk-taking. The achievement motive has a highly significant correlation with the construct of tolerance of ambiguity and correlates significantly with the construct of trust. The construct of creativity correlates significantly with the construct of risk-taking.

The model including trust, creativity, personal traits as independent variables on innovative skills as the dependent variable could be confirmed with an F=2.461 and a significance level of 0.025 (Table 3). The hypothesis H_1 could be verified: Personal traits do have a significant influence on the innovative skills (0.022). A significant influence on the innovative skills have the constructs of risk-taking (H_{1b}) and self-confidence (H_{1c}). Influence of the constructs tolerance for ambiguity (H_{1e}), achievement motivation (H_{1a}) and self-determination (H_{1d}) on innovative skills could not be found, and the null hypothesis must be accepted. H_2 the null hypothesis is accpted and the alternative hypothesis is rejected: The study could not verify a significant influence of creativity on innovative skills. Similarly, H_3 null hypothesis accepted and alternate hypothesis could not be verified: Trust does not have a significant influence on the innovative skills. All constructs explained 18.1% coefficient (R^2=0.181) of the innovative skills.

DISCUSSION

The results reveal that the gender does not influence the innovative skills of the students. The business incubator should offer programs that are appealing to male and female students. If one might expect that the academic performance influences the innovative skills of a student is wrong. There could be no significant difference found between excellent students (CPGA>8.0) and students with lower grades. Personal traits, creativity and organizational trust did not have much effect on their academic performance. Age could be identified as a moderator for innovative abilities: Older students (>20years) scored higher in self-confidence, risk, taking and trust. Their age does not influence the creativity of the students. The correlation between the constructs is in many cases significant (Table 3). The research reveals that the major influences on innovative skills are the personal traits of risk-taking and self-confidence and this confirms with the findings of Gurol and Atsan (2006).

The significant correlation of self-confidence and tolerance of ambiguity can be explained by the importance of the self-confidence for handling stress. So if students are comfortable in a stressful situation, they are more confident with themselves. The achievement motive correlates significantly negative with the self-confidence. Students that are not confident with themselves do not believe that they can do best and have a low achievement motive. The construct of self-determination and the construct of risk-taking have one of the highest negative inter-correlation of all studied variables (-0.27). It can be explained by the phenomena that people who are scared to take risks do not believe in their self-determination. They tend to believe they are determined by other people, luck or fortune. The achievement motive has a highly significant correlation with the construct of tolerance of ambiguity because people that have ambitious aims need to be able to handle stress, hurdles and react reflected in difficult situations. The construct of creativity correlates significantly with the construct of risk-taking: If students take risks, they need a good imagination to think the situation through and be able to react creatively to new and unpredictable situations (Adil, 2018; Anas, 2017).

The other measured personal constructs such as achievement motive, tolerance of ambiguity and self-determination did not have a significant influence on the innovative competencies. This was unexpected as the construct of self-confidence correlates with almost all variables but only 0.009 with the construct of risk-taking. The two constructs do not influence each other. The young age of the students might cause this. Even though they are confident in themselves, they are not willing to take risks yet.

CONCLUSION

The research investigated the innovative skills of technical students as the dependent variable. The following dimensions were included in the model of the study as independent variables: (1) Personal traits as self-confidence, risk-taking, self-determination, achievement motive, tolerance of ambiguity; (2) creativity and (3) organizational trust.

The age of the students influences the constructs and the innovative skills: Older students are more self-confident and willing to take risks than younger students. The gender or the academic performance of the students do not influence their innovative skills: Innovative programs should be appealing to female and male students. The study revealed that personal traits have a significant influence on the innovative skills of the students. As the significant significant personal traits, the constructs of self-confidence and risk-taking could be identified. To support the innovative skills of the student's universities should try to support the self-confidence of their students as well as emphasizing that taking a risk with an innovative idea is something valuable. The theme of this paper was to question the do personal traits, creativity and organisational trust influence the innovative skills of technical students in a private university.

Future Scope and Limitation of Work

As the study has been carried out with small sample size, further research by collecting larger sample could strengthen the validity of the model of the study. Furthermore, it would be interesting if the model of the study fit to technical students from other countries and continents.

A structural equation model can be used to develop a complex model. The model of the study can be improved by examining the path coefficients along with the moderators.

As there was almost 20% of first year students participating in the research, there could have been some difficulties in understanding all English vocabularies, because some students might not be confident with the English language at the beginning of their studies. Testing the regression model on the constructs on the innovation skills, it was found to 18.1% explained by other constructs. This number reveals that not all influences are captured in this research. The remaining amount can be captured through further research and the strength of the relationship may be tested with organizational trust as moderator.

REFERENCES

Bakheet, A.H. (2018). Student perceptions on business opportunities and barriers for business start-up in oman. *International Journal of Entrepreneurship, 22*(1), 1-8.

Bakri, A.A. & Mehrez, A. (2017). Factors influencing entrepreneurial intentions among Arab students. *International Journal of Entrepreneurship, 21*(3), 1-17.

Amiable, T.M. (1988). A model of creativity and innovation in organizations. *Research in Organizational Behaviour, 10*(1), 123-167.

Anderson, N.R. & West, M.A. (1998). Measuring climate for work group innovation: Development and validation of the team climate inventory. *Journal of Organizational Behaviour, 19*(3), 235-258.

Anderson, N.R., Potocnik, K. & Zhou, J. (2014). Innovation and creativity in organizations: A state-of-the-science review and prospective commentary. *Journal of Management, 40*(5), 1297-1333.

Boyatzis, R.E. (1982). *The competent manager: A model for effective performance*. New York, NY: John Wiley & Sons.

Cerinsek, G. & Dolinsek, S. (2009). Identifying employees' innovation competency in organisations. *International Journal of Innovation and Learning, 6*(2), 164-177.

Chen, A., Li. L., Li, X., Zhang, J. & Dong, L. (2013). Study on innovative capabilities of college students based on extenics and theory of creativity. *First International Conference on Information Technology and Quantitative Management, Procedia Computer Science, 17,* 1194-1201.

Chen, K.H., Yien, J.M. & Huang, C.J. (2011). The perceived leader support behavior for subordinate's creativity: The moderating effect of trust. *Journal of Social Sciences, 7*(2), 257-264.

Chou, K.T. (2011). The perceived leader support behavior for subordinate's creativity: The moderating effect of trust. *Journal of Social Sciences*, *7*(2), 257-264.

Connell, N.A.D. & Mannion, R. (2006). Conceptualizations of trust in the organizational literature: Some indicators from a complementary perspective. *Journal of Health Organization and Management, 20*(5), 417-433.

Eveleens, C. (2010). Innovation management: A literature review of innovation process models and their implications.

Frosch, K. & Thusnelda, T. (2007). Age, human capital and the geography of innovation. Conference on Patent and Innovations, Ecometrics Studies Strasbourg, FR.

Gopnik, A. & Griffiths, T. (2017). What happens to creativity as we age?

Gurol, Y. & Atsan, N. (2006). Entrepreneurial characteristics amongst university students: Some insights for entrepreneurship education and training in Turkey. *Journal of Education and Training, 48*(1), 25-38.

Halim, M.A.S.A., Aziz, W.A.W.A. & Zakaria, Z. (2012). Entrepreneurial characteristics and commitment in heritage industry. *JM International Journal of Management Research*.

Hargdon, A. (2003). *How breakthroughs happen: The surprising truth about how companies innovate*. Boston, MA: Harvard Business Review Press.

Heunks, F.J. (1998). Innovation, creativity and success. *Small Business Economics*, *10*(3), 263-272.

Heydari, H., Madani, D. & Rostami, M. (2013). The study of the relationships between achievement motive, innovation, ambiguity tolerance, self-efficacy, self-esteem and self-actualization, with the orientation of entrepreneurship in the Islamic Azad University of Khomeini. *Procedia-Social and Behavioural Sciences, 84*(9), 820-826.

Hipple, J., Hardy, D., Wilson, S.A. & Michalski, J. (2001). Can corporate innovation champions survive? *Chemical Innovation, 31*(11), 14-22.

Howell, J.M. & Higgins, C.A. (1990). Champions of technological innovation. *Administrative Science Quarterly, 35*(2), 317-341.

Jonassen, D., Strobel, J. & Lee, C.B. (2006). Everyday problem solving in engineering: Lessons for engineering educators. *Journal of Engineering Education, 95*(2), 139-151.

Kairisto-Mertanen, L., Penttilä, T. & Nuotio, J. (2011). On the definition of innovation competencies. Innovations for Competence Management, Conference proceedings, eds. Torniainen; Ilona, Mahlamäki-Kultanen, Seija, Nokelainen Petri & Paul Ilsley; Series C, reports and other current publications, part 83, Lahti University of Applied Sciences, Esa print Oy.

Keller, R.T. & Holland W.E. (1978). A cross validation study of the Kirton Adaption-innovation inventory in three research and development organizations. *Applied Psychological Measurement, 2*(4), 563-570.

Kirton, M.J. & De Ciantis, S.M. (1986). Cognitive style and personality: The Kirton adaption innovation and Cattell's sixteen personality factor inventories. *Personality and Individual Differences, 7*(2), 141-146.

Krot, K. & Lewicka, D. (2011). Innovation and organizational trust: Study of firms in Poland. *International Journal of Innovation and Learning, 10*(1), 43-59.

Millward, L.J. & Freeman, H. (2002). Role expectations as constraints to innovation: The case of female managers. *Creativity Research Journal, 14*(1), 93-109.

Martelaro, N., Ganguly, S., Steinert, M. & Jung, M. (2015). The personal trait myth: A comparative analysis of the innovation impact of design thinking tools and personal traits. In Plattner, H., Meinel, C. & Leifer, L. (Eds.). Design Thinking Research, Part of the series Understanding Innovation. Switzerland: Springer International Publishing. 41-57.

Oldham, G.R. & Cummings, A. (1996). Employee creativity: Personal and contextual factors at work. *Academy of management journal, 39*(3), 607-634.

Pallas, F., Böckermann, F., Goetz, O. & Tecklenburg, K. (2013). Investigating organizational innovativeness: Developing a multidimensional formative measure. *International Journal of Innovation Management, 17*(4), 1-14.

Prasad, H.C.S., Sharma, Y.N. & Gopalkrishna, B. (2004). The scope of academic institutions in spawning new-age technologies for building young entrepreneurial society. In FDP programme, Reading in Entrepreneurship Education, Part I, complied by Sareen, S. B. (2008) Ahmadabad, Gujarat: EDI of India.

Prasad, H.C.S. & Suar, D. (2010). Performance assessment of Indian software professionals. *Journal of Advances in Management Research, 7*(2), 176-193.

Raven, J. & Stephenson, J. (Eds.) (2001). *Competence in the Learning Society*. New York: Peter Lang, 225-235.

Sankowska, A. (2013). Relationships between organizational trust, knowledge transfer, knowledge creation and firm's innovativeness. *The Learning Organization, 20*(1), 85-100.

Savolainen, T. (2008). Organizational trust and leadership as driving forces for innovativeness. Keynote paper presented at and published in the Proceedings of the 13-ICIT. *International Conference on ISO9000 & TQM in Malaysia*, Kuala Lumpur.

Spencer, L. & Spencer, S. (1993). *Competence at work: Models for superior performance*. New York: John Wiley & Sons.

Stein, M.I. (1968). Creativity. In E.F. Borgatta, & W.W. Lambert (Eds.), *Handbook of personality theory and research*. Chicago, IL: Rand McNally, 900-942.

Timpe, A.D. (1987). *Creativity: The art and science of business management*. Mumbai: Jaico Publishing House, 13-17.

Waychal, P., Mohanty, R.P. & Verma, A. (2011a). Leading indicators of innovation as a competence for individuals: An empirical study. *Journal of Advances in Management Research, 8*(2), 301-322.

Waychal, P., Mohanty, R.P. & Verma, A. (2011b). Determinants of innovation as a competence: An empirical study. *International Journal of Business Innovation and Research, 5*(2), 192-211.

Weisburg, R.W. (1999). Creativity and knowledge: A challenge to theories. In R. J. Sternberg (Ed.), *Handbook of creativity*. Cambridge, England: Cambridge Univ. Press. 226-250.

Yesil, S. & Sozbilir, F. (2013). An empirical investigation into the impact of personality on individual innovation behaviour in the workplace. *Procedia-Social and Behavioral Sciences, 81*, 540-551.