Understanding the Preferences of Creative & Non-creative Employees

Bindu Gupta

More than ever, today, organizations are pressured to innovate and adapt. Highly creative employees are the building block for developing novel ideas and producing useful products and effective procedures as well as their implementation. Organizations need to focus on attracting and motivating creative employees. To attract and retain creative employees, organizations need to know what they seek. This study attempts to understand the preferences of creative employees in terms of motivators. It also examines the differences in the preferences of creative and non-creative employees. The findings of the study indicate that there are significant differences between creative and non-creative employees in terms of their preferences of job motivators.

Bindu Gupta is Associate Professor, Institute of Management Technology, Gaziabad.
E-mail: bgupta@imt.edu

Organizational Creativity

Organizations always look for better ways of conducting business in order to cope with the competitors. Industrial organizations are knowledge-based and their success and survival depend on creativity, innovation, discovery and inventiveness. An effective reaction to these demands leads to ensuring their existence. The rate of change is fast as new knowledge, idea generation and global diffusion increase. Creativity and innovation have a role to play in this change process for survival and these have to be the key to market success and improved operating efficiencies. Organizational creativity is an important element of organizational innovation and change (Woodman et al. 1993). Creativity can lead to new and better solutions to business and customer problems. Creativity can be the key ingredient for success in area such as product development, product marketing and sales.

Creativity can lead to new and better solutions to business and customer problems.

Numerous commentators have argued that enhancing the creative performance of employees is a necessary step if organizations are to achieve competitive advantage (Amabile 1988, Devanna & Tichy 1990, Kanter 1993, Shalley 1995). Creativity has been identified as a key managerial character-istic that enhances employee innovation, which is the successful implementation of the novel, appropriate ideas. All creative ideas originate from human minds (Ford 1996), and individual creativity is a crucial component of organizational creativity (Woodman et al. 1993). Highly creative employees are the building block for developing novel ideas and producing useful products and effective procedures as well as their implementation (Oldham &Cummings 1996). A company's most important asset isn't raw materials, transportation systems, or political influence. Its creative capital - an arsenal of creative thinkers whose ideas can be turned into valuable products and services (Richard & Jim 2005). Organizations need to focus attracting and motivating creative employees. It is difficult for businesses to stimulate, attract, and retain qualified and talented employees (American Society of Interior Designer 2002, Grossmann 2002). This research is an attempt to identify the factors that attract, stimulate and retain creative employees in organizations. The goal is to identify elements that could be manipulated to improve the level of individual job satisfaction in the work place. There is as yet no research directly addressing the differences between creative and non-creative employees in terms of their preferences.

Highly creative employees are the building block for developing novel ideas and producing useful products and effective procedures as well as their implementation

What is Creativity?

Creativity is a complex and not fully understood process and there is no universal agreement on the definition of creativity (Getzel 1975, Mumford & Gustafson 1988). Creativity represents a highly complex and diffused construct like intelligence (Stenberg 1985). Torrance (1979) defined creativity in terms of an interaction of skills, motivation, and abilities. Brown (1989) proposed that creativity consists of four components: the creative processes, the creative product, the creative person, and the creative situation. The study of creativity has generated a wide-ranging variety of definitions of the concept, some of which treat it as a characteristic of a person and others as a process (Amabile 1988). However, recent definitions of creativity seem to have converged on emphasizing the product of creative efforts. Amabile et al (1996) defined creativity as "the production of novel and useful ideas in any domain" and defined innovation as "the success-ful implementation of creative ideas within an organization". The present study adopts Amabile's definition of creativity which is practical, unique and outcome oriented.

Creative Style Preference

Researches in creativity have focused on understanding and determining personal characteristics and attributes associated with creative achievement. While some of the researches about creativity have focused on behaviour and personality (e.g. Amabile 1983, 1996, Guildford 1968), others have focused on intelligence and cognition (e.g. Gardner et al 1996, Sternberg 1997). These studies have demonstrated that personal-ity characteristics such as broad inter-ests, attraction to complexity, intuition, aesthetic sensitivity, tolerance of ambi-guity, and self-confidence, relate positi-vely and consistently to measures of creative performance across a variety of domains (Barron & Harrington 1981, Gough 1979, Martindale 1989).

There are many different methods for measuring creativity. The concept of Creative Style Preference is one measure that can be used to help understand creativity in individuals. This concept is based on studies by Kirton (1976, 1984, 1989) that identify adaptation and innovation as general approaches to styles of decision making. Kirton (1976) defines cognitive style as a natural orientation or preferred means of problem solving which can range from innovative to adaptive. An 'innovator' (someone with an innovative cognitive style) will seek and integrate diverse information, redefine posed problems, and generate ideas likely to deviate from the norm. An 'adaptor' (someone with an adaptive cognitive style) will tend to utilize data within a well-established domain, accept problems as defined, and generate ideas consistent with accepted convention.

Theory has stated that individuals may differ in their preferred ways of dealing with change, creativity, decision making, and problem solving (Sandler-Smith & Badger 1998). Certain cognitive style may also be more appropriate than the others in different work situations and work environments. Typically, adaptors have been characterized by precision, reliability, efficiency, disci-pline and conformity. On the other hand, innovators have been characterized by indisciplined thinking and have been identified as more likely to develop a plethora of novel ideas to solve problems. Organizations should recognize that people who vary along the dimensions of creative thinking are different and that it may be necessary to use different strategy to maximize the potential of both adaptor and innovators.

People who vary along the dimensions of creative thinking are different and that it may be necessary to use different strategy to maximize the potential of both adaptor and innovators.

As used in this study creative style preference (CSP) referred to a person's degree of preference for being either an adaptor or an innovator. CSP was measured by using the creative style preference scale developed by Phelan (2001), which provided a continuous variable. The term adaptor referred to an

individual whose score tended towards the adaptor end of the scale. On the other hand, the term innovator referred to an individual whose score tended towards the innovator end of the scale. People with lower on CSP (adaptors) typically worked within the existing problem paradigm and did not usually challenge the basic assumption implicit in the problems they faced (Kirton 1989, Sim & Wright 2002). Adaptors tended to adapt the existing processes or products to achieve new solutions. People with higher scores CSP (innovators) were apt to challenge the basic assumptions and paradigms in which their problems were embedded (Kirton 1989, Sim & Wright 2002). Innovators liked to start from scratch and come up with brand new ideas.

What Creative Employees Prefer?

Employee creativity is one of the major elements that differentiate an organization from its competitor. To foster creativity, it is critical that organizations understand the difference in individuals' needs in the workplace and consider how they can accommodate these individual differences in order to encourage desired behaviour. Job satisfaction is also critically important for organizations to ensure that valuable employees are happy and motivated to stay for the long-term. Woodman et al (1993) argued that to understand organizational creativity we must understand how the creative process, the creative product, the creative person, and the creative situation interact with one another. This study conjectures that the preferences of creative and non-creative employees will significantly vary with respect to work place motivators.

Creative employees like scientists, inventors, and designers are not always attracted by traditional incentives as titles and promotion.

Creative employees like scientists, inventors, and designers are not always attracted by traditional incentives as titles and promotion. They seek creativity, freedom to innovate, and recognition for their breakthrough innovation. Furthermore, they are apt to be more committed to their particular discipline than to any particular firm. Given the right enticement, they will move to other companies, taking their talents with them and leaving half-completed research projects behind. To recruit and retain creative employees, companies need to understand the way to reward and recognize them and meet their expectations. Annual employee turnover rates for professional service firms including architects and interior designers hover around 15 percent, according to a 2004 study by Zweig. "Employment is about relationships," says Janice Marko, a recruiter whose Atlanta firm, Marko International, specializes in the design industry. "To maintain the employment relationship, employers have a huge responsibility. First of all, they need to clearly know who their best employees are." Beyond that, Marko points to three key steps employers must take to promote employee satisfaction: keep employees

informed, help them maintain and develop skills, and encourage them to build networks and internal relationships (Long 2005).

Employees' creative behaviour can be extrinsically and /or intrinsically motivated. Extrinsic motivation emphasizes the value an individual places on the ends of an action. It is "the motivation to work primarily in response to something apart from the work itself (Amabile, Hennesy & Tighe 1994: 950) and extrinsic reward systems are mainly tangible rewards obtained from external sources such as salary, perks and physical conditions (Sonesh-Kedar & Geirland 1998). Intrinsic motivation is "the motivation to engage in work primarily for its own sake (Amabile, Hennesy & Tighe 1994:950) and refers to the pleasure or the personal fulfilment from performing the activity itself (Sonesh-Kedar & Geirland 1998). Individuals are intrinsically motivated when they seek enjoyment, interest, satisfaction of curiosity, self-expression, or personal challenge in the work (Amabile 1997: 211). Intrinsic motivation has found to be conducive to creativity, but extrinsic motivation may be detrimental to creative thoughts unless initial levels of intrinsic moti-vation are high and extrinsic motivation is informational or enabling (Amabile 2003). Research has found that R&D professionals believe that intrinsic motivation is critical for creativity (e.g., Amabile & Gryskiewicz 1987). Amabile (1996) found that a creative person must have passion, interest, devotion and love for what one is doing, as well as being in the right environment to foster creativity. Florida (2002) supported the notion that motivation of creative people comes from within. Relationships with co-workers, supervisors and management, the intrinsic interest of the job itself, and the individuals' feelings about the job, contribute to overall job satis-faction (Canter 1983).

A creative person must have passion, interest, devotion and love for what one is doing, as well as being in the right environment to foster creativity.

Earlier researches suggested that extrinsic motivation works in opposition to intrinsic motivation on creative behaviour (Deci 1972, Deci & Ryan 1985, Lepper & Greene 1978). According to cognitive evaluation theory (Deci & Ryan 1980), the presence of salient extrinsic constraints on performance shifts an individual's perceived locus of causality from an internal to an external one. According to McGraw's proposition (1978), extrinsic motivation enhances performance on algorithmic tasks (simple, straightforward task) but undermines performance on heuristics tasks (open-ended, complex tasks where some search is required). Given that creativity tasks are heuristic, they show adverse performance from extrinsic motivation.

Even though these researches have found that intrinsic motivation has been more important than extrinsic motivation for creativity, Amabile (1997) has

suggested that intrinsic and extrinsic motivation will have synergistic effects on creative behaviour. Amabile (1996) has discovered that certain forms of extrinsic motivation do not necessarily detract from intrinsic motivation and creativity. Rather, these motivators, such as rewards that enable the individual to undertake an exciting project, may actually increase creativity. In some cases external factors such as fear, completion, jealousy and pressure have found to be triggers for creativity. Some people have been found very creative under pressure while for others high pressure situations have been found to stifle creativity. According to Amabile (1997) creative process is assumed to have four basic stages (problem identification, preparation, response generation, and validation and commu-nication) and that creativity requires novelty and appropriateness. Intrinsic and extrinsic motivation will be different in their contribution to creative effort process. Intrinsic motivation might be more effective in the process of novelty requiring processes (problem identification and response generation), extrinsic motivators will serve to focus and energize the individual toward getting the job done, in an appropriate, feasible way.

Further, Amabile (1983,1996) identified a set of conditions under which rewards might be expected to have a positive or at least natural effect on creativity : (a) the reward is not salient relative to self perceived intrinsic motivation, because the rewards is very small, or cognitive distance techniques are used, or the salience of intrinsic motivation is increased ; (b) the reward is perceived as more enabling than controlling (where enabling refers to the degree to which the reward and contract enables the individual to something interesting or personally challenging); c) the reward is perceived as more infor-mational about competence than con-trolling; d) the reward leads to positive effect in the absence of controlling im-plications (such as bonus), or (e) the reward is perceived as equitable com-pensation for one's work in general (such as being paid salary for one's job) rather than as reward for a particular task. The literature has suggested that both intrinsic and extrinsic elements may have an impact on creativity

Thus there have been controversial evidences related to impact of intrinsic and extrinsic motivators on creative behaviour, which indicate the need to explore more the effect of intrinsic and extrinsic motivator on creativity. This study intends to examine the impact of extrinsic and intrinsic factors of motivation in culture context which is high achievement orientation (Hofstede 1991) and value assertiveness, competitiveness and materialism. It appreciates people who are tough and favour the acquisition of money and material goods. We measure both intrinsic and extrinsic motivators and also include the perspectives of both creative and non-creative employees. This comparison will help us understand if there is difference between the expectations of creative and non-creative employees. In turn it will give insight to organizations to meet the diverse expectations of creative and non-

creative employees. Following hypotheses were proposed:

H1: There will be significant difference between creative and non-employees for job motivators.

H1a: Non-creative employees are motivated by extrinsic motivators.

H1b: Creative employees are motivated by intrinsic motivators

Sample

The study utilized a convenience sample consisting of individuals from various organizations who were available and who agreed to participate. Data were obtained from 138 full-time managers/supervisors from mainly six types of industries: design, marketing, IT, ITES, manufacturing, consulting, and others. The average age of the respondents was 30.8 years (SD. = .8) and their average work experience was 11.65years (SD. = 3.4).

Instruments

Creative Style Preference: The instrument constructed by Phelan (2001) used by the present study adapted the creative style preference from Kirton's (1979) Adaptation-Innovation creative style. It measures stable preferences for creative style on a continuum of extreme adaptor to extreme innovator. Three criteria are used to measure preference; (a) generating a sufficiency of sound, useful and relevant ideas versus a proliferation of original ideas from which to choose; (b) efficiency, precision and reliability versus discontinuity, which is rarely efficient at first; and (c) group conformity. Higher scores indicate a preference towards the innovator extreme, while lower scores indicate a preference towards the adaptor extreme. There are 18 questions in Phelan's (2001) study. The scale shows reliability coefficients of .87.

Intrinsic and Extrinsic Motivation - Udai Pareek (1997) developed this instrument to help participants become aware of their motivational profile. Respondents are asked to rank order the fourteen items depending on their importance to them: from1 (highest rank) to 14 (lowest rank). The participants were told to give their individual preferences, not what they believed other things are important.

Results

Creative Style Preference: The first objective of the study was to assess the creative style preference of respondents and its differences. The individuals' item scores were summed and totals divided at the mean to convert into high and low category on CSP scale. The mean score was 2.75, with high scores indicating innovators, creative employees (n= 70) and low score indicating adaptor, non-creative employees (n = 68). The results of one way analysis of variance indicated significant differences between these two groups of respondents ($F(1,136) = 329.24$, $p < .000$).

Job Motivators: The other objectives of the study were to identify the job motivators for Indian professionals and the differences between creative and non-creative employees in job motivators. The Friedman's Rank Test found a significant difference in the distribution of ranks (c^2 = 758.56, df = 13, p = .000) for 14 job motivators. The mean ranking for each of the 14 job motivators are shown in Table 1. Adequate earning and interesting work, and respect and recognition were ranked higher in importance by all the respondents. The least preferred job motivators were restricted work hour, technically competent supervisor and considerate and sympathetic supervisor.

Table 1: Mean Rankings for all 14 Motivators

Job Motivators	Intrinsic and Extrinsic Motivators	Mean Ranking
Adequate Earning	Extrinsic	3.07
Interesting work	Intrinsic	3.74
Respect and Recognition	Intrinsic	4.06
Comfortable Working Conditions	Extrinsic	5.58
Independence and Responsibility	Intrinsic	6.25
Advancement	Intrinsic	6.89
Security	Extrinsic	7.29
Sound Company policies	Extrinsic	8.19
Achievement	Intrinsic	8.22
Equitable Pay	Intrinsic	9.33
Fringe Benefits	Extrinsic	9.36
Technically competent Supervisor	Intrinsic	10.69
Considerate and Sympathetic Supervisor	Extrinsic	11.06
Restricted work hour	Extrinsic	11.28

Mean ranking for each of the 14 job motivators for creative and non-creative employees are reported in Table 2. The results of Mann-Whitney U test indicate significant differences between creative and non-creative employees for job security, adequate earnings, fringe benefits, advancement, comfortable working conditions, independence and responsibility, interesting work, respect and recognition, achievement, restricted work hours and equitable pay. The differences between the creative and non creative employees were not significant for sound company policies, considerate and sympathetic supervisor, and technically competent supervisor (Appendix A).

Table 2: Mean Rankings' Comparing Creative and Non-Creative Employees

Job Motivators	Mean Ranking (Innovators)(N=70)	Rank	Mean Ranking (Adaptor)(N=68)	Rank
Security	84.95	12	53.60	3
Adequate Earning	80.38	11	58.30	4
Advancement	87.20	13	51.28	2
Comfortable Working Conditions	88.61	14	49.83	1
Interesting Work	55.76	3	83.65	12
Sound Company Policies	67.10	7	71.97	8
Respect and Recognition	80.26	10	58.42	5
Independence and Responsibility	58.52	4	80.80	11
Achievement	63.41	5	75.77	10
Considerate and Sympathetic Supervisor	74.23	8	64.63	7
Technically Competent Supervisor	65.80	6	73.31	9
Restricted Work Hour	48.29	1	91.33	14
Equitable Pay	53.33	2	86.15	13
Fringe Benefits	77.04	9	61.74	6

The five most important motivators reported by creative employees are, restricted work hour, equitable pay, interesting work, independence and responsibility and achievement. Non-creative employees gave more import-ance to comfortable working conditions, advancement, security, adequate earning, and respect and recognition. The results support the hypotheses that there will be significant differences in expectations of creative and non-creative employees. Further findings also indicate that creative employees are motivated by intrinsic motivators and non-creative employees are motivated by both intrinsic and extrinsic motivators.

Discussion & Conclusion

The increasing chaos of organizational environment, the pace of technological advances, the change in society, and the work force expectations, needs and attitudes require the organizations adapt a creative philosophy (Woodman, Sawyer & Griffen 1993). Enhancing employee creativity is considered a necessity for any organi-zation in order to achieve competitive advantage (Amabile 1998, Kanter 1983, Shalley 1995). This study attempted to identify what differentiate creative and non-creative employees and how to motivate creative employees. The major contribution of the study lies in identifying the differences in the preferences of creative employees and non-creative employees. These differences suggest that organization needs to customize the motivational strategies which meet the expectations of each group.

The findings of the study suggest that employees produce the most creative work when they have appro-

Creative employees are more motivated by intrinsic motivators such as interesting work, equitable pay, independence and responsi-bility and achievement.

priate creativity-relevant personal characteristics (high CSP), and work environment provides more intrinsic motivators which increase the pro-bability that these employees give more creative performance and likely to stay with the organization. Non-creative employees are motivated by motivators such as comfortable working conditions, advancement, security, adequate earn-ings and respect and recognition. Creative employees are more motivated by intrinsic motivators such as interest-ing work, equitable pay, independence and responsibility and achievement. These findings are congruent with those of earlier studies which reported intrinsic motivators such as degree of autonomy in work, work that the individual perceives as challenging and important, and a sense of interest and excitement in the work itself motivate individuals to engage in creative behaviour (Amabile et al. 1996, Amabile & Gryskiewicz 1987, Amabile & Gryskiewicz 1989). Intrinsic motivation is the motivation to work on something because it is interesting, involving, exciting, satisfying, or personally challenging. The evidences indicate that people will be most creative when they are primarily intrinsically motivated, rather than extrinsically motivated by expected evaluation or the promise of rewards.

This study has implications for both the researchers and practitioners. Specifically, the results suggest that if creativity at work is to be enhanced, an individualized or selective approach to management may be warranted. Identification of relevant factors permits organizations to reinforce those that enhance creativity and eliminate those that impede its emergence. Our findings regarding employee characteristics and their connection with creativity have implications for areas such as selection, assignment, and training. For example, given that cognitive style is a relatively stable characteristics (Kirton 1976), that can be determined by tests such as CSP, it may serve as a useful selection tool (Keller 1984) or in guiding tasks or work group assignment (Kirton 1989). Identification and assignment of emplo-yees with the appropriate motivational orientation for jobs involving creativity is likely to enhance the emergence of innovative ideas. Individuals demon-strating high CSP might be placed in jobs and managed in ways that support intrinsic motivation. However, for employees with low CSP, enriching jobs may have few beneficial effects or may actually have adverse effects on creative achievement. This study suggests that even if employees have the ability to be creative at work, they may not necessarily be inclined to do so. Managers must also account for employees' motivation to be creative. Further, today's organizations need to be efficient as well as creative and require employees both creative and who can perform repetitive tasks as well as implement the innovation brought by

creative employees. Organizations face challenge to create conditions which meet the needs of both types of employees. The findings of the study suggest that needs of creative and non-creative employees are different and organizations need to design different motivational strategies for these two sets of employees.

The present study has limitations that need to be addressed in future research. First, the sample size was not large enough to generalize the findings; therefore, the study needs to be replicated using a larger sample of employees. Further, this study examined what motivate the creative and non-creative employees, future study can examine what different strategies organizations use to motivate the employees. It will help to understand the gap in actual vs. preferred motivational strategies used by organizations and design the motivational program to minimize the gap between employees' expectations and realizations.

References

Amabile, T.A. & Gryskiewicz, N. (1987), Creativity in the R & D Laboratory, Technical Report no. 30, Center for Creative Leadership Greensboro. NC.

Amabile, T.A. & Gryskiewicz, N. (1989), "The Creative Work Environment Scales: The Work Environment Inventory", *Creativity Research Journal*, 2: 231-54.

Amabile, T.A., Conti, R., Coon. H., Lazenby, J., Herron, M. (1996), "Assessing the Work Environment for Creativity", *Academy of Management Journal,* 39 (5): 1154-84.

Amabile, T.A., Hill, K.G., Hennessey, B.A., & Tighe, E.M. (1994), "The Work Preference Inventory: Assessing Intrinsic and Extrinsic Motivational Orientations", *Journal of Personality and Social Psycho-logy*, 66(5): 950-67.

Amabile, T.M. (1983), The Social Psychology of Creativity, Springer-Verlag, New York, NY

Amabile, T.M. (1996), Creativity in Context: Update to the Social Psychology of Creativity, Boulder, CO: Westview Press.

Amabile, T.M. (1997), ''Motivating Creativity in Organizations: On Doing What You Love and Loving What You Do'', *California Management Review*,40(1):39-58.

Amabile, T.M. (1998), How to Kill Creativity: "Keep Doing What You're Doing. Or, If You Want to Spark Innovation, Rethink How You Motivate, Reward, and Assign Work to People", *Harvard Business Review*, 76: 77-87.

American Society of Interior Designers (2002), Workplace Values: How Employees Want to Work, Washington, DC.

Barron, F.B., & Harrington, D.M. (1981), "Creativity, Intelligence, and Personality", In M.R. Rosenzwerg & L.W. Porter (Eds.), *Annual Review of Psychology,* 32: 439-76, Palo Alto, CA

Brown, R.A. (1989), Creativity: What Are we measuring? In J.A. Glover, R. R. Ronning, & C.R. Reynold (Eds.), *Handbook of Creativity*, New York: Plenum.

Canter, D. (1983). The physical context of work. In D.J. Oborne & M.M. Gruneberg (Eds.), *The physical environement at work.* New York: John Wiley & Sons Ltd.

Deci, E.L. & Ryan, E.M. (1985). *Intrinsic motivation and self-determination in human behavior.* New York: Plenum Press.

Deci, E.L. & Ryan, R.M. (1980), The empirical exploration of intrinsic motivational processes. In L. Berkowitz (Ed.), *Advance in experimental social psycholgy,* Vol. 13. New York: Academic Press.

Deci, E.L. (1972), "The Effects of Contingent and Non-contingent Rewards and Controls on Intrinsic Motivation", *Organizational Behavior and Human Performance*, 8: 217-29.

Devanna, M. A., & Tichy, N. (1990), "Creating the Competitive Organization of the 21st Century" in Florida, R.(2002), The Rise of the Creative Class: And How It' Transforming Work, Leisure, Community and Everyday Life, New York, NY: Basic Books.

Ford, C.M. (1996), "A Theory of Individual Creative Action in Multiple Social Domains", *Academy of Management Review*, 21(4): 1112-42.

Garner, H, Kornhaber, M.L. &Wake, W. K. (1996), Intelligence: Multiple Perspectives, Orlando, FL: Harcourt Brace & Company.

Getzels, J.W. (1975), "Creativity: Prospects and Issues", In I.A. Taylor & J.W. Getzels (Eds.) Perspectives in Creativity, Chicago: Aldine.

Gough, H.G. (1979), "A Creative Personality Scales for the Adjective Check List", *Journal of Personality and Social Psychology*, 32: 1398-1405.

Grossmann, R. J.(2002), "Space: Another HR Frontier", *HR Magazine*, 47: 28-34

Guildford, J. P.(1968), Intelligence, Creativity, and Their Educational Implications, San Diego, CA: Knapp.

Hofstede, G. (1991), Cultures and Organizations: Software of the Mind, New York, NY: McGraw-Hill.

Kanter, R.M. (1983), The Change Masters, New York: Simon & Schuster.

Keller, R.T. (1984), "A Cross-Validation Study toward the Development of a Selection Battery for Research and Development Professional Employees", *IEEE Trans-actions on Engineering Management, EM -31:* 162-65.

Kirton, M. J. (1984), "Adaptors and Innovators-Why New Initiative Get Blocked", *Long Range Planning*, 17: 137-44.

Kirton, M. J., & de Ciantis, S. (1989), "Cognitive Style in Organizational Climate", In M.J. Kirton (Ed.), Adaptors and Innovators: Styles of Creativity and Problem solving, London, Routledge.

Kirton, M. J. (1976), Adopters and Innovators: A Description and Measure, *Journal of Applied Psychology*, 61: 622-29.

Kirton, M. J. (1989), Adaptors and Innovators at Work, In Kirton MJ (Ed.), Adaptors and innovators: Styles of creativity and problem solving:56-78), New York: Routledge.

Lepper, M. & Greene, D. (1975), "Turning Play into Work: Effects of Adult Surveillance and Extrinsic Rewards on Children's Intrinsic Motivation", *Journal of Personality and Social Psychology***,** 31: 479-86.

Long, Rachel (2005), "Treasuring Talent", *Hospitality Design*, 27(1), Jan/Feb

Martindale, C. (1989), "Personality, Situation and Creativity", In J. A. Glover, R.R. Ronnings, & C.R. Reynolds (Eds.), *Handbook of Creativity*, New York: Plenum.

McGraw, K. (1978), "The Detrimental Effects of Reward on Performance: A Literature Review on Prediction Model", In Lepper, M., & Greene, D. (Eds.), The Hidden Costs of Reward, Hillsdale, NJ, Lawrence Erlbaum.

Mumford, M.D., & Gustfson, S.B. (1988), Creativity Syndrome: Integration, Application, and Motivation, *Psycho-logical Bulletin*, 103 (1): 27-43.

Oldham, G.R. & Cummings, A. (1996), ''Employee Creativity: Personal and Contextual Factors at Work', *Academy of Management Journal*, 39 (3): 607-34

Phelan, S.G. (2001), Developing Creative Competence at Work: the Reciprocal Effects of Creative Thinking, Self-efficacy and Organizational Culture on Creative Perfor-

mance, Unpublished doctoral dissertation, California School of Professional Psychology, Los Angeles, California

Sandler-Smith, E., & Badger, B. (1998), "Cognitive Style, Learning and Inno-vation", *Technology Analysis and Strategic Management,* 10: 247-65

Shalley, C.E., Oldham, G.R., & Porac, J.F. (1987), "Effects of Goal Difficulty, Goal-Setting Method and Expected External Evaluation on Intrinsic Motivation", *Academy of Management Journal*, 30(3): 553-63.

Sim, E.R., & Wright, G. (2002), "A Comparison of Adaptation-Innovation Styles Between Information System Majors and Computer Science Major", *Journal of Information System Education*, 13: 29-35.

Sonesh-Kedar, E., & Geirland, J.(1998), "Developing More Creative Organization: A Model for Consultants". *The Pfeiffer Library CD-ROM. San Francisco*, CA: Jossey-Bass/Pfeiffer.

Sternberg, R.J. (1985), "Implicit Theories of Intelligence, Creativity and Wisdom", *Journal of Personality and Social Psycho-logy*, 49: 607-27

Torrance, E.R. (1979), The Search for Safori and Creativity, Buffalo, *NY;* Creative Education Foundation.

Udai Pareek (1997), Training Instrument in HRD, Tata McGraw-Hill Publishing Company Limited.

Woodman, R.W., Sawyer, J.E. & Griffin, R.W. (1993), Toward a Theory of Organizational Creativity, *Academy of Management Review*, 18: 293-321

Richard, F., & Goodnight, J. (2005), "Managing for Creativity", *Harvard Business Review*, Jul/Aug, 83 (7/8).

Appendix A: Results of Mann-Whitney U test for Creative and Non-creative Employees

Job Motivators	Mann-Whitney U	Asymp. Sig. (2-tailed)
Security	1298.50	.000
Adequate Earning	1618.500	.001
Advancement	1141.50	.000
Comfortable Working Conditions	1042.50	.000
Interesting work	1418.00	.000
Sound Company policies	2212.00	.464
Respect and Recognition	1626.50	.001
Independence and Responsibility	1611.50	.001
Achievement	1953.50	.054
Considerate and Sympathetic Supervisor	2049.00	.133
Technically competent Supervisor	2121.00	.248
Restricted work hour	895.50	.000
Equitable Pay	1248.00	.000
Fringe Benefits	1852.00	.021