THE INFLUENCE OF INDIVIDUAL CHARACTERISTICS ON EMPLOYEE CREATIVE PARTICIPATION

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In a knowledge-based economy and dynamic work environment retaining competitiveness is increasingly dependent on creativity, skills, individual abilities and appropriate motivation. For instance, the UK government explicitly stated in the recent "Review of Employee Engagement and Investment" report that new ways are required through which British companies could boost employee engagement at work, improving staff commitment and, thereby, increase workplace productivity. Although creativity and innovation have been studied extensively, little is known about employees' intrinsic willingness to contribute novel ideas and solutions (defined here as creative participation). For instance, the same individual can thrive in one organisation but be completely isolated in another and the question is to what extent this depends on individual characteristics and organisational settings. The main aim of this research is, therefore, to provide a conceptual framework for identification of individual characteristics that influence employees' willingness to contribute new ideas. In order to achieve this aim the investigation will be based on a developed psychological experiment, and will include personal-profiling inventory and a questionnaire. Understanding how these parameters influence willingness of an individual to put forward created ideas would offer an opportunity for companies to improve motivation practices and team efficiency, and can consequently lead to better overall performance.

Keywords: creative participation, creativity, innovation, motivation.

INTRODUCTION

To improve competitiveness organisations must continuously develop innovations emphasising individual employees, who alone or in a team, generate, promote, discuss, modify and implement their creative ideas. On its way to the viable innovation, creative idea must be identified and converted into a product, process or service (Roffe 1999). The process of innovation can be considered as overlapping constructs between two stages: idea generation and implementation (Zaltman *et al.* 1973, West 2004).

Recently some researchers have, however, distinguished additional stages in this process (Dorenbosch *et al.* 2005, Janssen 2003, Jong and Kemp 2003, Mostert 2007, Rank *et al.* 2004, Scott and Bruce 1994, Van der Meer 2007). They examined the connection between creativity and innovation and found that these two stages do not fully describe innovative process since it also includes idea development process through involvement of employees and organisational support. Thus, before idea is

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implemented, it needs to be contributed and shared with other co-workers. Although, people may come up with novel ideas or problem solutions, they for various reasons do not necessarily contribute them. For example, in construction industry there are many new ideas which are not developed (Winch 1998).

In order to understand the process connecting ideas generation and their implementation (defined here as creative participation), current study has reviewed past work on creativity, innovation and employees' innovative behaviour. The specific question has been addressed to the influence of individual characteristics on creativity and innovation. From this information a new concept of innovation process (as an overlapping process of creativity, creative participation and innovation) has been drawn. Factors which influence creative participation were also identified. This research is a conceptual stage in exploration of creative participation phenomenon.

CREATIVE PARTICIPATION: FROM CREATIVE IDEAS TO INNOVATION

Creativity

There is no agreement between researchers about the exact definition of creativity. In general there are three approaches to describe this term. According to Amabile (1996), Sternberg (1999) and Weisberg (1993) creativity has been defined as the process of production of novel, useful and appropriate ideas or problem solutions. Other researchers (Boden 2004, Heilman 2005), in contrast, have considered creativity as the human ability to generate novel and useful ideas and thoughts. Glover *et al.* (1989) has defined creativity as:

- A parameter of intelligence;
- An unconscious process;
- A parameter of problem solving;
- A social process.

The definition of creativity as nobly human ability is problematic, because the ability is just a mental state that in a way isolates creativity from the social process. However, the definition of creativity as a social and unconscious process is insufficient, because creativity is also about a mental state. In this research creativity will, therefore, be considered as a human activity based on a specific mental state and social influence that leads to the generation of novel, useful and appropriate ideas.

Creativity phenomenon has a long history of studying (Barron and Harrington 1981, Glover *et al.* 1989, Stein and Heinze 1960). However, in recent years a strong demand for the fundamental research of parameters that influence creativity has appeared due to the inspiring achievements in the commercial world (Kanter 1983). Two types of factors that influence human creativity have been considered in literature (Amabile 1996, Ahmed 1998, Glover *et al.* 1989, Oldham and Cummings 1996, Shalley *et al.* 2004). The organisational factors are parameters which influence creativity through organisation (e.g. organisational culture, rewards, resources, strategy, focus on technology etc.). The individual factors are the parameters which influence, on the other hand, creativity through individual traits (e.g. intelligence, curiosity, emotions, motivation etc.). Amabile (1996), Csikszentimihaly (1992), Barron and Harrington (1981), Glover *et al.* (1989), Guilford (1968), Stein and Heinze (1960), Sternberg (1999), Torrance (1963) and Weisberg (1993) have found positive influence of following personal characteristics on employees' creativity: knowledge, intrinsic motivation, curiosity, self-confidence, openness, positive emotions, mood and

intuition. In the case of intelligence there are contradictory reports. Sternberg (1999) found positive influence of intelligence on creativity. Torrance (1963), in contrast, emphasised only moderate correlation between them. Negative mood has been considered to positively influence creativity during creative problem solving processes or in the case of high rewards. In all other cases, negative influence has, however, been found. Personal freedom has also been found to positively influence creativity but this factor is influenced by the organisational settings whereas the perception of freedom can be considered as an individual factor.

There have been various studies examining the correlation between creativity and personality types. Myers-Briggs Type Indicator (MBTI) - a Jungian based inventory that uses self-report format is one such well known attempt. It constitutes four scales: Introversion-Extraversion, Sensing-Intuition, Thinking-Feeling and Judging-Perceiving. Respondents can be categorised into one of the 16 personality types. On average creative people are more:

- Intuitive rather than Sensing (N>S);
- Perceiving rather than Judging (P>F);
- Extraverted rather than Introverted (E>I);
- Thinking rather than Feeling (T>F) (Furnham *et al.* 2009).

Creativity has been associated with a wide range of personality characteristics. The understanding of their influence on creativity would help companies to engage people with varying characteristics leading to a potential mass customisation of knowledge management.

Innovation

Successful innovation and the ability of companies to improve their activities, to participate in innovative processes, to produce high-quality products are the essential requirements of competitive advantage of construction, manufacturing, and other industries (Roffe 1999).

In general, innovation has been considered as one of the key drivers of organisational success. It has been defined as the process of bringing new products or services into the market (Hauser *et al.* 2006). Kanter (1983) has considered innovation as generation, acceptance and implementation of ideas into the product, process or service where the last two processes are the central in this definition. According to Rogers (2004) innovation has been defined as "an idea, practice, or object that is perceived as new by an individual or other unit of adoption… An innovation results from a process in which a need or problem is identified, research is conducted to invent a solution, and this invention is then developed and commercialised into a product or service that is sold in the marketplace". Amabile (1996) has defined innovation as a key factor of successful implementation of creative ideas into new products, processes or services within organisation. In addition, Van de Ven *et al.* (2008) have considered innovation as the process of development and implementation of new ideas. Although there are many other definitions of innovation, there seems to be an overall agreement between researchers that innovation means implementation of new ideas into a product, process or service. Once new idea is generated, contributed (communicated) and implemented, it becomes an innovation. In this research, thereby, innovation will be defined as implementation of already generated and contributed ideas or solutions.

Human aspect plays an important role for organisations on its way to viable innovations, increasing competitive advantage and improving overall performance. Consideration of various types of personalities that can most efficiently drive innovations in organisations has become a significant issue for achieving success (Ahmed 1998). Part of the literature on innovation focuses on the employees' innovative behaviour, human's attitude and personal characteristics (Burns 2007, Janssen 2003, Galende and de la Fuente 2003). Innovative behaviour has been defined as generation, developing and realisation of new ideas at work within organisation in order to benefit overall performance (Scott and Bruce 1994). Like for creativity factors which influence innovation have been divided into two groups: organisational and individual (Janssen 2003, Jong and Kemp 2003). The organisational factors are those that influence innovation through organisation (e.g. job challenge, autonomy, strategic attention, supportive environment, differentiation, variation in demand, external contracts etc.). The individual factors are those that influence innovation through personal characteristics (e.g. motivation, self-confidence, curiosity, flexibility etc.). Adair (1990), Glynn (1996), Quinn (1985) and West (2004) have found positive correlation between innovation and the following set of personal characteristics: knowledge, intrinsic motivation, curiosity, intelligence, self-confidence and flexibility.

From these investigations it has been found that a core of personality traits characterise innovative individuals who can most effectively drive organisations. The knowledge of how these characteristics influence innovation would offer organisations opportunity to build effective teams and improve managerial practices.

From idea generation to implementation through creative participation

As it was mentioned in the introduction most of the researchers consider two stages in the innovative process: idea generation and implementation. Creativity is referred to the fist stage where novel ideas are produced. Innovation is related to the second stage where ideas are implemented. First two parts of current literature review explored personal characteristics which influence their efficiency. However, recent studies have concluded that this mechanism is not full and more stages need to be established in order to have better understanding of the connection between creativity and innovation and to describe this process in more details (fig. 1). These studies will be considered in more details below.

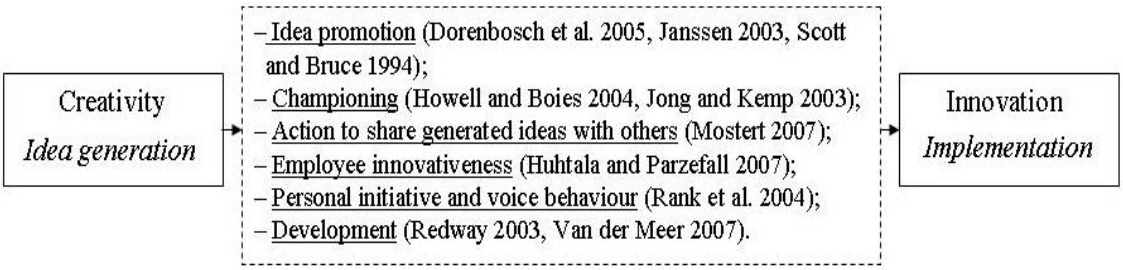

Figure 1: Additional stages between idea generation and implementation

Group of researchers (Dorenbosch *et al.* 2005, Janssen 2003, Howell and Boies 2004, Scott and Bruce 1994) called this stage "idea promotion" – when individuals are seeking and trying to find support for the implementation of their generated ideas. These studies considered this phase as the promotion of novel ideas to potential manager and colleagues following by realising actual ideas that can be applied within the organisation. For example, Howell and Boies (2004) called individuals who are

informally involved in the work and enthusiastically promote new ideas - champions. They demonstrate personal commitment to the idea; promote this idea through active engagement and willingness to take risks of their position or reputation on its way to success. Moreover, Jong and Kemp (2003) have studied so-called phase "championing" individuals (compare with Howell and Boies's champions) - employees who strongly feel committed to organisations and are often appointed by employers to practice and put effort into creative ideas in order to bring them into the market. As companies are willing to be more innovative, they are more likely to keep and motivate champions who put forward generated ideas. This stage is characterised by interaction between co-workers, including negotiations and pushing new ideas. They have, however, attributed this phase to innovation process per se whereas the process of putting forward created ideas and bringing them into life occurs before innovation even starts to be recognised. Furthermore, they only emphasised the role of "champions", i.e. solving particular problems occurring in certain place in an organisation. Creative participation, on the other hand, relates to every day problems in all parts of the organisation and often requiring quick solutions and involvement of all involved employees not merely champions. In addition, Mostert (2007) has distinguished between idea generation and their implementation, the "action to share generated ideas with others". After the identification of a problem or potentials for improvement, and thinking about solution, people generate novel ideas. After the ideas are generated employees may or may not participate and share these ideas with other co-workers. Although Mostert emphasised this phase as part of creativity, in reality, the process of sharing generated ideas with others is actually the process of employees' participation between creativity (i.e. generation of ideas) and innovation (i.e. implementation of already contributed ideas) which cannot be attributed to creativity, nor can be referred to innovation.

Huhtala and Parzefall (2007) stated that between creativity and innovation there is "employee innovativeness" – employees' involvement in an innovative process as complex behaviour consisting of idea generation, idea promotion and realisation. In addition, Rank *et al.* (2004) postulated that between creativity and innovation there is "personal initiative and voice behaviour" – promotion of generated ideas, communicative and innovative behaviour that emphasise expression of constructive challenge for improvement. At this stage individuals have to speak up with suggestions for changes or improvements in organisations. The problem is that employees have different personal characteristics that play a crucial role in their willingness to contribute new ideas.

Redway (2003) further called the phase between creativity and innovation as "development" of generated ideas into implementation via following five sub-stages:

1. Enthusiasm. At this stage employees are highly confident in success of idea. The progress is fast;
2. Struggle. Morally employees are still willing to participate, however it is more difficult to put forward generated ideas;
3. Disaster. At this stage something unexpected can happen. Thus, confidence in success is low. To solve this situation manager should help employees to put forward their ideas;
4. Recovery. This stage started when customers and experts have been consulted and their advice is received. The progress is slow at this stage;
5. Negotiation. Struggle and disaster might change the original generated idea. It can be less as employee expected or it can exceed that.

Within these five stages of idea development process, creative participation is attributed to first two – enthusiasm and struggle – when employees are enthusiastic, confident in the progress and success, struggle about putting forward generated ideas, but are still willing to participate and contribute them. On the other hand, negative experience in the past may lead to significantly reduced enthusiasm in future situations and the question is whether employees will still be willing to suggest new ideas. Furthermore, different personal characteristics may be manifested by potentially different levels of enthusiasm and what might be a struggle for some employees may be a normal process for others. The other three stages are related to implementation of generated and contributed ideas. Similarly to Redway (2003), Van der Meer (2007) also called this phase a "development" – when ideas are transformed into the projects – the stage between the concept (when ideas are found) and the business (when ideas are applied into the business). However, this stage is more likely to be attributed to the business (idea implementation stage) in the innovative process, whereas the concept stage is more likely to be related to the idea generation – the stage of "free" creativity and invention. Therefore, "development" phase can not be attributed to creative participation since the latter rests between the concept and development stage – when employees are willing to put forward their generated ideas. This study is limited because it has focused only on the organisational level (managing innovation) whereas current research focuses on the individual level (creating innovation).

Although some attempts to study innovative process are clearly seen in recent years, the knowledge of the connection between creativity and innovation is still very limited and purely narrative in nature. Many investigations emphasise a separate stage between creative and innovative processes and connect this stage to the process of idea developing through sharing, discussion and participation. However, there is no agreement between researchers about definition and role of this stage. In this research the stage that focuses on the interface between creativity and innovation is defined as creative participation - an employees' intrinsic willingness to contribute already generated ideas and solutions (fig. 2).

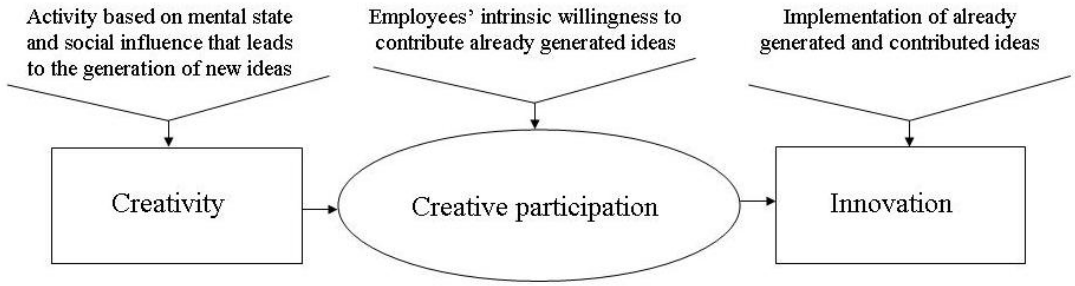

Figure 2: Creative participation as the crucial interface between creativity and innovation

In the organisational practices retaining competitiveness is increasingly dependent on creativity, individual abilities, skills and motivation practices. The most successful companies recognise that employees are the most valuable asset and try to find and keep the "right" people with the "right" skills and abilities (Meisinger 2008). Indeed, engaging these people in the process of participation and contribution of creative ideas becomes a key organisational strategy. The active and willing participation of workforce is an essential condition on its way to achieve a success. For example, employees might have creative ideas but because of mistrust, personal differences and other organisationally induced problems may not wish to contribute them. In this case, these ideas are lost resulting in reduced competitiveness against more successful

organisations. Thus, it becomes important for companies to pay more attention to idea contribution process since not all employees are naturally self-driven or self-motivated. For example, managers can not force employees to contribute generated ideas but they can influence employees in such way that they will be intrinsically willing to contribute ideas.

Understanding of creative participation and personal characteristics that influence this stage is thus important for organisations in order to be able to build effective teams and improve motivation. All these improvements can, consequently, lead to better overall performance. The main aim of this study is therefore to provide a conceptual framework for understanding creative participation as an interface between creativity and innovation. The study thus builds on two key assumptions:

- There are some personal characteristics which influence creative participation as well as creativity and innovation but there are, however, also other characteristics which only influence creative participation;
- Various personality types of individuals lead to different creative participation.

RESEARCH METHODS

Although there are many investigations in the field of creativity, innovation and innovative behaviour, most of them are based on statistical methods - questionnaires and interviews. These methods are often overly subjective snapshots in time, depend on self-reports of behaviour and provide the investigator with less control over the situation. Psychological experiment, on the other hand, assists observations of the human behaviour itself, gives an ability to control independent and dependent variables and could include questionnaires and/or interviews (McGuigan 1978, Furnham 2005). However, only very few of these studies included any form of psychological experiments. This research will be based on the psychological experimentation using the following elements: experimental tasks, personal-profiling inventory and questionnaire (fig. 3).

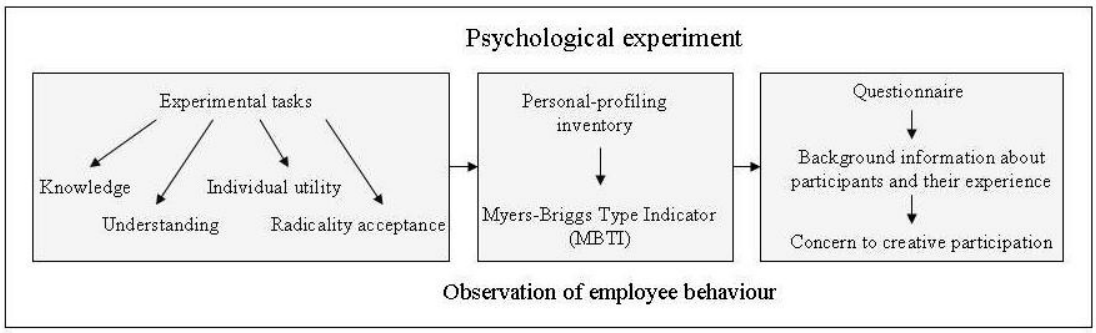

Figure 3: The diagram demonstrating chosen methods

Psychological experiment will be run to investigate which personal characteristics most profoundly impact creative participation. During the experiment behaviour of participants will also be observed. Recorded observations are normally used to give an opportunity to notice people actions subjected to controlled conditions (Harris 2002). Observations could also potentially provide new insights and steer future research. For instance, experimental studies may reveal different and yet unobserved behavioural patterns. In order to create personal profiles for each participant and examine the effect of various different personalities on creative participation, personal-profiling inventory (Myers-Briggs Type Indicator) will be used in the experiment. Although

there are other psychological tests and inventories, MBTI is chosen as most studied and appropriate to measure personality types. This part will be conducted after the experimental tasks in order to avoid the influence of employees' perception from the personal-profiling inventory on the experiment. The last part of the experiment will involve a questionnaire designed to address some of the assumed behavioural patterns. The questions will include background information about participants, their experience and questions specifically related to links between individual characteristics and creative participation.

Thus, using the above methods the expected results of this study include answers to the following questions:

- What individual characteristics influence employees' willingness to contribute new ideas?
- How individual characteristics and various personality types influence employees' creative participation?
- How employees perceive levels of radicality of ideas and how such perceptions shape creative participation?

Based on the literature review the study so far identifies knowledge and understanding, individual utility and radicality acceptance as main individual characteristics that profoundly influence employees' creative participation. In the proposed model these parameters are the four independent variables. Dependent variable is creative participation (i.e. willingness to contribute new ideas). Controlled variables are location, light, temperature and time. The location for all experiments is the same for all participants. Light and temperature are at standard levels and equal for all participants. The time when experiments take place will be the same for all participants.

CONCLUSIONS

Existing studies on creativity and innovation are clearly separated and have led to many more or less varying definitions of creativity and innovation. Recently some studies have suggested some additional stages between idea generation and implementation with little reference to what these stages are. This study suggests that the process that actually focuses on interface between creativity and innovation is creative participation – employees' intrinsic willingness to contribute generated ideas. In order to understand the nature and properties of this process, the factors and their influence on creativity and innovation were identified. Although organisational and individual factors are generally considered in the literature, the latter are the subject of current study. Without isolating individual parameters from organisational it will be impossible to examine whether organisational or individual parameters affect the employees' willingness to contribute new ideas. Most researchers have included surveys (questionnaires and interviews) as the main method of investigating the influence of individual parameters on creativity and innovation but there are not many studies that involve experimental investigations. This research will thus include psychological experiment, observation, personal-profiling inventory and a questionnaire in order to test the effect of personal characteristics on employees' creative participation. The understanding of how these parameters influence employees' intrinsic willingness to put forward generated ideas would give an opportunity for organisations to assign employees to most appropriate tasks or positions, motivate them to take initiatives, work effectively in their teams and can consequently lead to better overall performance.

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