CHAPTER 2

2. LITERATURE REVIEW

This chapter discusses the importance of innovative behaviour in an organization and how organizational climate influence innovative behaviour. Besides providing a literature review pertaining to the relationhship between organizational climate and innovative behaviour, it also reviews past research findings on the relationships between knowledge transfer and innovative behaviour. The chapter ends with a discussion about the role of demographic factors in influencing the relationship between organizational climate and innovative behaviour.

2.1 The importance of innovation

Today, innovation has been found as one of the top agendas in both corporate and public organizations. Innovation capability is seemed as a key factor in attaining competitive advantage (Wang and Ahmed, 2004). Innovation is necessary for maintaining market share, enhancing product range, improving efficiency and reducing cost (Flynn *et al*. 2003).

On the other hand, lack of creativity and innovation can be one of the factors that lead to the failure in manufacturing performance, consequently is a factor for failure in economic performance

(Carayannis and Gonzales, 2003). Carayannis and Gonzales pointed out that those countries which innovation is applied effectively; globalization can be an engine of beneficial and sustainable economic integration. Market innovativeness for example, has positive relationship with business performance *(*Hult *et al.*, 2004*).*

Thus today, many executives in many organizations have shown great interest in innovation (Davenport, 1993). In Malaysia, the Prime Minister, Dato' Seri Najib Tun Abd. Razak has also emphasized the importance of innovative behaviour among the public servants.

Innovation can be simply defined as the introduction of something new (Davenport, 1993). Amabile *et.al* (1996) defined innovation as the successful implementation of creative ideas within an organisation. According to Tang (2005, pg. 68), "Innovation is about turning knowledge into economic activity. It is a process of discovery, learning, and application of new technologies and techniques from many sources. It is an important driver of economic and productivity growth, and ultimately of the improvement in living standards".

The category of innovation is complex and diverse (Edquist *et al.,* 2001). In fact, dimensions of innovativeness are still lacking in clarity (Ellonen *et al.,* 2008). Wang and Ahmed (2004, pg 304) have defined organisational innovativeness as "an organisation's overall innovative capability of introducing new products to the market, or

opening up new markets, through combining strategic orientation with innovative behaviour and process". West (2002) defined innovation as the introduction of new and improved way of doing things at work. He also perceived innovation as intentional attempts to bring about benefits from new changes such as economic benefits, personal growth, increased satisfaction, improved group cohesiveness and better organizational communication. Besides that, technological change such as new products and introduction of new processes can also be considered as innovation.

For the purpose of this study, focus is given to the innovative behaviour as it is fundamental for other innovation to take place. Innovative behaviour can be defined as "all individual actions directed at the generation, introduction and application of beneficial novelty at any organizational level" (West and Farr, 1989). It can be demonstrated through individuals, teams and management which enable the formation of an innovative culture, the overall internal receptivity to new ideas and innovation (Wang and Ahmed, 2004). It is also a fundamental factor that underlines innovative outcomes. Innovative performance outcomes are more likely to occur when innovative behaviour is rewarded, and when the organizational culture supports innovation (Wang and Ahmed, 2004; West, 2002). The next section discusses the relevance of organizational climate in fostering the innovative behaviour.

2.2 Organizational climate influencing innovativeness in organizations.

Previous researches have generally demonstrated that innovation is influenced by the organizational climate (Amabile *et.al* 1996; Ahmed, 2003; Ekvall, 1996; Isaken and Lauer 2002). Ekvall (1991) has defined climate as the observed and recurring patterns of behaviour, attitudes, and feelings that characterise life in the organization. Thus, climate – or more appropriately psychological climate – is "A set of attributes specific to a particular organization that may be induced from the way the organization deals with its members and its environment. For the individual member within an organization, climate takes the form of a set of attitudes and expectations, which describe the organization in terms of static characteristics . . . and behaviour-outcome and outcome contingencies" (Campbell *et al.,* 1970, p. 390).

Kanter (1988) asserted that the culture which supports innovation is most likely to occur in organizations that emphasize collaboration, team work, collective pride and faith in people's talent. Besides that Kanter also viewed these organizations as having integrative structures, emphasized diversity, and multiple structure linkages inside and outside the organizations. Martins and Terblanche (2003), looking specifically at factors which stimulate innovation and

creativity, suggested five factors: strategy, structure, support mechanisms, behaviour and communication.

There is a considerable amount of empirical work on organizational climates supportive of the innovation process, and several measurement instruments have been developed such as the KEYs instrument for assessing the work environment for creativity (Amabile *et.al*. 1996). Amabile *et.al* (1996) have identified six support scales that could stimulate creativity and innovation, including (a) organizational encouragement, (b) supervisory encouragement, (c) work group support, (d) freedom, (e) sufficient resources, and (f) challenge. They also found that work load pressure and organizational impediments as obstacles in creating creativity and innovation.

Besides Amabile *et.al*, Ekvall and his co-worker (1983) have also conducted rigorous research in this area where they have developed Creative Climate Questionnaire (CCQ). They defined organizational climate as "a conglomerate of the attitudes, feelings and behaviour which characterize life in an organization." They found that the organizational climate in departments which are categorized as innovative, is different significantly from departments which are categorized as stagnant. They identified the crucial factors in influencing creativity including challenge/motivation, freedom, idea support, liveliness/dynamism, playfulness/humour, debates, trust/openness, conflicts, risk taking, and idea time.

Carayannis and Gonzales (2003) have divided the factors into two categories which are called the catalyst and the inhibitor factors. Among the catalyst factors are leadership, strategic plan, protection of intellectual property, and sense of urgency, willingness of the government to innovate and support research and development (R&D), management support and their willingness to take risk. Besides that, the diversity of people and free flow of ideas can also stimulate the innovation behaviour in the organizations. On the other hand, lack of courage to take risk due to fear of losing support from stakeholders, resistance to change and sense of comfort are identified as inhibitor factors.

Miron *et.al* (2004) found that employees' innovative performance depends on the organizational culture in which they operate. They indicated that creative people implement their ideas and produce innovative products when working in an environment that supports innovation. They also believed that in the organizational culture which does not support innovation, creative people do not reach high levels of innovation.

For the purpose of this study, organizational climate measurement developed by Amabile *et.al* (1996) will be used as the independent variable. The scales, predicted to be positively related to innovativeness, are referred to as "stimulant scales" and those predicted to be negatively related, are referred to as "obstacle scales".

The stimulant scales include organizational encouragement, supervisory encouragement, work group supports, freedom, sufficient resources and challenging work. Workload pressure and organizational impediments are categorized under obstacle scales.

2.2.1 Organizational encouragement

According to Amabile *et al.* (1996), this scale is the most prominent factor that is constantly found in the literature. The "organizational encouragement" encompasses several aspects, including encouragement of risk taking and idea generation, supportive evaluation of ideas, collaborative idea flow, and participative management and decision making (Amabile *et al*., 1996). Top management support and encouragement of creativity, both financial and psychological are one of the main characteristics of a culture that can foster creativity and innovation (Flynn *et al*., 2003). King *et al* (2007) believed that managers who develop innovative climates for their teams can produce creative products and also innovative working methods and eventually allow employees to better cope with the demands of their jobs.

Amabile (1998) advised that organization's leaders to prioritize and encourage innovation, and that it must be communicated to the employees and included in organizational strategy. The employees should be rewarded for giving their good ideas to the management.

The top management needs to encourage organizational learning and support teamwork in order to obtain high level of innovation (Montes *et.al* 2005). Giving a letter of appreciation to the employee that produces creative work can stimulate the creativity amongst the employees Raudsepp (1987). According to him, excellent achievements both by groups or individuals deserve special recognition and publicity. He recommended that a company should also encourage recognition of creative performance through the well-established profit sharing or other similar programmes, such as deferred compensation plans, cash or stock bonuses for outstanding individual contributions, patents, and royalties of inventions.

The importance of this aspect has been proven by the study conducted by M. Zain Mohamed and Rickards (1996). They discovered that compared to the low innovative firms, firms which have been categorized as more innovative tend to organize more trainings, programmes or campaigns to encourage innovations and creativity within the company.

Scott and Bruce (1994) also found that leadership, support for innovation, managerial role expectations, career stage and systematic problem-solving style, to be significantly related to individual innovative behaviour.

2.2.2 Supervisory encouragement

Supervisory encouragement includes clarity of team goals, supervisory support of the team's work and ideas, and an environment where open interactions are supported (Amabile *et al*., 1996). Several studies have pointed out the importance of supervisor's role in inspiring team creativity or individual creativity. As an example, Oldham and Cummings (1996) found that employees exhibited higher performance when their jobs were complex and when their supervisors were supportive and less controlling. Indra Devi (2007) has revealed that the degree to which a supervisor expects a subordinate to be innovative is positively related to the subordinates' innovative behaviour. She also discovered that individuals who reported having relationships with their supervisor that was characterized by high levels of support, trust and autonomy also perceived the organization to be supportive of innovation and considered the resource supply to be high.

Similarly, the study conducted by Scott and Bruce (1994) also provided evidence that innovative behaviour is related to the quality of the supervisor-subordinate relationship. They also revealed that the role expectations of a supervisor influenced individual innovative behaviour among the technicians.

2.2.3 Group encouragement support

Pitta *et al.* (2008) recognised team management and control as vital for success. Creative teams are mutually supportive and created from people with diverse backgrounds and perspectives (Amabile *et.al* 1996). Isaken and Lauer (2002) have emphasized that the most creative team is the team which can recognise the diverse strength and talent and use them accordingly. Each team member shares his/her diverse experience and all of them strive to achieve their set goal. As stated by Isaken and Lauer (2002), the opposite characteristics can be seen in the lease creative team where they did not utilise their diversity of skills effectively.

Another interesting finding about the group support was revealed by Zhaou and George in 2001. Their study on 149 employees from manufactures of petroleum drilling equipment showed that employees who were dissatisfied with their jobs but were committed to remain in the organization because of necessity were more likely to be creative when their co-workers provided them with useful feedback that enabled them to make improvements on the job.

2.2.4 Challenging work

Setting the right challenges for employees is important so that the employees feel an increase in intrinsic motivation (Amabile, 1998).

When employees face challenges, they will be more intrinsically motivated. According to Amabile, co-workers can be motivated by both intrinsic and extrinsic factors. Extrinsic motivators include incentives based on pay increases, bonuses, etc. Intrinsic motivators include incentives received by participation (not directly related to performance, like perceiving a job as challenging) and are expected to have a more significant effect on making suggestions and putting effort into implementation.

Isaken and Lauer (2002) conveyed a similar view. They pointed out that when there is a high degree of challenge and involvement, team members feel motivated, energised, and committed to making contributions.

2.2.5 Freedom

Freedom as defined by Amabile *et al*. (1996) is the perception that teams have control over the work they perform. They believed that freedom in how employees approach their work will increase the intrinsic motivation. Amabile and Gitomer (1984) also discovered that individuals produce more creative work when they believe that they have more freedom in determining the way on how they want to accomplish the task assigned to them. The similar result discovered by Pearson *et.al* (2009) where they found the tendency of IT workers to innovate is positively related the autonomy level that the workers

perceived. This finding is in tandem with the opinion of Isaken and Lauer (2002). They asserted, teams need sufficient freedom to take initiative and make good use of their diversity.

Ahmed (1999) suggested, empowering people to innovate is one of the most effective ways for leaders to mobilise the energies of people to be creative. Empowerment, when combined with leadership support and commitment, gives people freedom to take responsibility for innovation.

Schepers and Berg (2006) also shared the same opinion. They pointed out that employees who can participate in setting goals, making decisions, and appraising results perceive higher levels of work-environment creativity. They believed that the freedom to choose and arrange one's work is important for creativity. They concluded that the work environment in research and development departments should be designed where employees have a greater say in their work. Innovation will flourish if the management practise a lower focus on command, control and segmentation (Pitta *et al*. , 2008)

2.2.6 Resources

Amabile *et.al* (1996) believed that providing just the right amount of time and money to a team or a project will support creativity and innovation. On the other hand, they believed creativity and innovation

will be disrupted if too little resources are allocated to the project teams. This belief is supported by many other researchers (eg: Damanpour, 1991; Tushman and Nelson, 1990).

This brief review makes it clear that organizational encouragement, supervisory encouragement, challenging work environment, work support, sufficient resources, and freedom dimensions have a positive influence on creativity.

Thus this study formulates the following hypothesis:-

- H1: Stimulant Scales have a positive relationship with innovative behaviour.

2.2.7 Workload pressure

The influence of this aspect is still indistinguishable. Amabile (1988) found that to some degree the workload pressures can lead to creativity and innovation. However in 1993, she found that excessive work load pressure and challenge have a negative influence on creativity and innovation. Thus, in this study further exploration is needed so that the impact of this dimension can be clearly determined.

2.2.8 Organizational impediments

Impediments refer to political problems, harsh criticism of new ideas, destructive internal competition, neglecting of risks and over emphasis on the status-quo. In the area of studying creativity and innovation, obstacles for fostering creativity and innovation are still lacking (Amabile *et.al*, 1996). Therefore, this study is expected to give more information about this dimension.

A culture that supports and encourages control will result in diminished creativity and innovation (Oldham and Cummings, 1996). The primary reason for this is that control negatively affects intrinsic motivation.

As mentioned by Amabile *et.al* (1996) workload pressure and organizational impediments are predicted to have negative influence on creativity. These two variables are known as “obstacle scales” when fostering innovative behaviour. Based on the above understanding, thus the second hypothesis for this study is:-

H2: Obstacle Scales have a negative relationship with innovative behaviour.

2.3 Knowledge transfer

Companies rely on their ability to create new techniques or improve their business processes in order to be successful in the market. These efforts must be supported by a good knowledge management system (Howells, 2002). This is because the innovative efforts will keep looking for a new discovery, experimentation, and development of new technologies, new products and/or services, new production processes, and new organizational structures.

Howells (2002, pg 872) defines knowledge “as a dynamic framework or structure from which information can be stored, processed and understood”. Knowledge can be divided into two categories which are known as explicit knowledge and tacit knowledge (Nonaka, 1994). Explicit knowledge is based on universally accepted and objective criteria and therefore it could be easily transferred and coded. On the other hand, tacit knowledge is encoded knowledge and resides in the firm’s system. It is difficult to be interpreted and transferred from one to another.

The efficiency of knowledge management is becoming crucial because the innovation highway depends on the knowledge evolution (Carneiro, 2000). Some of the knowledge can be captured easily because it can be written down in detail in procedures manuals and use

instructions. However tacit knowledge can on be transmitted and learned through practical knowledge.

Organizations should realise the importance of managing knowledge effectively as the success of technological modifications depends on it. In a rapidly changing industry environment, knowledge transfer in organizations is becoming a crucial activity (Liao and Hu, 2007). Knowledge transfer in organizations can be defined as a process through which one unit is affected by the experience of another (Argote and Ingram, 2000). The unit can be at a group, department or division level. One unit or department can learn from another unit in order to get a better knowledge or skills. Example, one manufacturing team can learn a different approach to assemble a product so that the team can come up with a better way of doing it. As Argote and Ingram mentioned, since knowledge transfer in organizations can be observed through changes in the knowledge or performance of the recipient units, therefore knowledge transfer can be measured by measuring changes in knowledge or changes in performance. Besides that knowledge transfer can also be assessed through measuring changes in the knowledge of the recipient units.

According to Argote and Ingram (2000), knowledge can be transferred by moving a knowledge reservoir from one unit to another or by modifying reservoir at a recipient site. It can also be transferred if a member is moved from one unit to another unit. Similarly,

technology can be moved and routines can be transported from one organization to another. The reservoirs at the recipient unit can also be modified through communication and training.

In order to help the occurrence of learning process in organizations, the experienced employees should transfer their knowledge to new comers. Besides that combination of specialized knowledge inputs from many different areas is also required in order to develop a new innovative product (Yli-Renko *et al*., 2001). Schepers and Berg (2006) revealed that knowledge sharing mediates the relationships between cooperative team perceptions and procedural justice and work-environment creativity.

The study conducted by Cheng and Huang (2009) on 146 firms discovered that knowledge management capacity plays a mediating role between strategic human resource practices and innovation performance. Rhodes *et.al* (2008) found personalized knowledge transfer (tacit knowledge) had a significant and positive correlation with innovation capability; and innovation capability had a significant and positive correlation with organizational performance.

Taylor and Greve (2006) concluded, the real driver of innovation is combining diverse knowledge. They found that genre experience

among the team member had a significant and positive effect on the level of performance and creativity.

Alwis and Hartmann (2008) also concluded that tacit knowledge plays an important role in all stages of the innovation process and therefore it must be transferred from one to another. Effectively transferring the tacit knowledge will help companies to speed up the innovation process.

- H3: Knowledge Transfer mediates the relationship between organizational climate and innovative behaviour.

2.4 Demographic variables

Demographic variables that observed in this study are age, working experience and level of education completed. Findings of the previous studies pertaining to this construct and innovative behaviour are mixed. Examples, the study conducted by Indra Devi (2007) found there was no significant relationship between demographic variables of age, career stage and academic qualification with innovative behaviour. This result is consistent with the finding revealed by Ahmad Badrul Shah *et.al* (2009). Their study on 272 lecturers from two polytechnics in Malaysia, disclosed that age, and teaching experience has no influence over innovative behaviour. The similar results also observed by Ng and Feldman (2008) where they found that age was not

significantly related to creativity performance. In contrast, the study conducted by Scott and Bruce (1994) revealed that career stage has a significant influence on individual innovative behaviour.

The current study provides more information about the influence of these demographic constructs on the relationship between innovative behaviour and organizational climate. The forth hypothesis for the current study is formulated as below:-

- H4a: Age has a moderating effect on the relationship between organizational climate and innovative behaviour.
- H4b: Working experience has a moderating effect on the relationship between organizational climate and innovative behaviour.
- H4c: Level of education has a moderating effect on the relationship between organizational climate and innovative behaviour