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ASSESSING THE ORGANIZATIONAL CLIMATE TOWARDS DEVELOPING INNOVATIVE WORK BEHAVIOR: A LITERATURE REVIEW

Bari'ah Dzulkifli & Haris Md Noor
Faculty of Technology Management, Business & Entrepreneurship
Universiti Tun Hussein Onn Malaysia
bariahdzulkifli@yahoo.com
harisn@uthm.edu.my

ABSTRACT

Agricultural sector has drawn a huge attention from many scholars regarding to the issues it holds towards human necessity. While innovation is essential to ensure the agricultural sector grows steadily to meet human needs on food, there is still a lack of study on organizational climate significance in the agricultural sector. Therefore, this study aims to examine the variables of organizational climate in assisting innovative work behavior as its pertaining to innovation. This study will specifically performs a comparative analysis on organizational climate models and their variables in the literature review and explores the most frequent variables that created organizational climate towards developing innovative work behavior. The discussion and analysis of the literature will able to develop components of variables required in organizational climate to develop innovative work behavior. Indeed, this paper puts some theoretical meanings as well as the direction of future research in this area.

Field of Research: *Innovative work behavior,* organizational climate.

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1. Introduction

The vitalities of agriculture to serve for human needs especially on providing food to the world's population are undeniable. Besides serving for human needs, agricultural sector's position is also essential in contributing to the Gross Domestic Product (GDP) and socio-economic development of Malaysia (Abd Rahim, 2006). However, according to Malaysia Productivity Council report 2010/2011 and Quah (2011) the agricultural sector productivity grows at 1.82%, is still lower as compared to the nation's aggregate productivity growth such as manufacturing productivity which grows at 9.42% in 2010. In regard to the report by MPC, the productivity growth of agricultural sector after industrialization era is still considered sluggish.

Due to the economic development by sectors is vital, most of the developed and advanced countries today have achieved their economic growth and technological success by relentless efforts in R&D (Rukunudin, 2009). However, although the government of Malaysia had invested vast amount of money on research and development in agriculture integrated with socio-economic program through agricultural public agencies, there are still enormous problems encountered by agricultural sector. For instance, the total imported food is still considered high at RM26 billion in 2009 which would increase the chance of inflation that will affect economy. Several issues and challenges faced by Malaysian agricultural sector were discussed in every policy making. According to the Third National Agricultural Policy (1998-2010), several major issues and challenges faced by Malaysian agricultural sector are ; (1)

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to supply safe, nutritious and high quality food at affordable price, (2) shortage of land and labor, (3) competitiveness and productivity and (4) strengthening industrialization in agriculture. Hence, does the efficiency of public agriculture agencies insufficient to overcome the challenges?

Therefore, innovation is the answer on behalf of discussing the issues and challenges as mentioned above. Moreover, R&D is part of the overall process of innovation where the idea is transformed into tangible output and being utilized by many users (Rukunudin, 2009). Prior to that, the ability to constantly innovate products, services and work processes is crucial for organization (De Jong & Den Hartog, 2010, Reuvers, *et.al*, 2008). Many technological innovations in agriculture and elsewhere could not have occurred without innovations in institutional and organizational arrangements (Van De Ven, 1986). Hence, one way for organizations to become more innovative is to capitalize on their employees' ability to innovate. To facilitate the innovation to transpire in an organization, scholars had empirically proven the capability of organizational climate to develop innovative work *behavior* of employees (Amabile, 1996 & Montes *et.al*, 2003, Hunter *et.al*, 2007). However, The public agriculture agencies which are important organization in the forefront of agriculture development in the state, quite surprisingly has not been studied scientifically and systematically with a focus on its extension personnel and human factors having lot of bearing on the very success of this department.

2. Innovative work behavior

The epistemology of innovative work *behavior* was derived from the term innovation. The innovation as has been defined generally by scholars comprised both ideation and the application of new ideas, whereas the ideation originated from creativity component (Shalley & Zhou, 2008 & Mc Lean 2005). In extent, Shalley & Zhou (2008) added creativity as an iterative process that involve reflection and action, seeking feedback, experimenting, and discussing new ways to do things rather than just relying on habit or automatic behavior.

According to McLean (2005) the terms of creativity and innovation are often used interchangeably in research studies. Creativity has to do with the production of novel and useful ideas while innovation has to do with the production or adoption of useful ideas and idea implementation (Khan *et.al*,2009 & Amabile *et.al*, 2005).

Upon the diversification of judgment, scholars have agreed that creativity is closely related to innovative *behavior* (Ayranci, 2011, De Jong *et.al*, 2007 & Morales *et.al*, 2008). Creativity is intended to produce some kind of benefits and has clearer applied component since it is expected to result in innovative output (De Jong *et.al,* 2007). De Jong & Den Hartog (2008) conclude that innovative work *behavior* does not only require the generation of idea but also requires *behavior*s to implement the ideas that ultimately achieve improvement for business performance.

However, the innovative work *behavior* measurement to date has focused on generation of new ideas (creativity) rather than the *behavior*s involved in implementing these creative ideas (De Jong *et.al*, 2008 & Carmeli *et.al*, 2006). Furthermore, previous researches only focus on innovative work *behavior* measurement which is mostly short and resort to one dimensional that only depending on single source data and yet has limited measure validity. Hence, De Jong & Den Hartog (2008) formulate four dimensions of innovative *behavior*; (1) Opportunity exploration,(2) Idea generation, (3) Championing, and (4) Application.

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3. Organizational Climate

3.1 Definition

The organizational climate theory was first introduced by Kurt Lewin in 1930 in psychological climate study. There are proliferations of meanings regarding to the organizational climate definition. According to Litwin, the climate itself is powerful, as it can influence the *behavior* of those who experienced the climate (Stringer, 2002). Ekvall (1996) who had intensively done research for creativity and innovation climate defines climate as an organization attribution, a conglomerate of attitudes, feelings, and *behavior*s which characterizes life in the organization and exist independently of the perception and understandings of the organization's members. As stated by West & Ritcher (2008) climate refers to the perceptions of the work environment and the term climate can designate description and perception at the individual, group or organizational level of analysis.

As the organizational climate can designate the individuals, it is also believed to increase intrinsic motivation of the employees. (Goepel, 2011, Ayranci, 2011, De Jong & Den Hartog, 2003 & Ahmed, 1998). According to Vallerand(1997) intrinsic motivation relates to the pleasure perception of doing *behavior*. Meanwhile, intrinsic motivation is believed to be the most crucial factor to develop innovative work *behavior* within employees (Amabile, 1996, Patterson,2005, Hunter *et.al*, 2007,Ekvall, 2010). This finding also supported by Amabile (2008) who found that in the componential theory, creativity or innovativeness is influenced by three components within the individual; 1) domain relevant skills, 2) creativity relevant processes, 3) intrinsic motivation and one component outside the individual the work environment or organizational climate.

3.2 Organizational Climate Dimension

There are five organizational climate dimensions were analyzed consisted from organizational climate by Stringer, 1968 (Rogers, Miles & Biggs, 1980), Amabile (1996), Patterson (2005), Hunter *et.al* (2007) and Ekvall (2010). The similarities of the five dimensions are clustered and placed together. The table below indicates dimensions and taxonomies found by five scholars.

Table 1: Dimension and taxonomies of organizational climate

Scholars	Dimension and taxonomies of organizational climate
Stringer (1968)	Structure, responsibility, reward, risk, warmth, support, standard, conflict & identity
Amabile (1996)	Organizational encouragement, supervisory encouragement, work group support, freedom, sufficient resources, challenging work, workload pressure & organizational impediment to creativity
Patterson *et.al*(2005)	Human relation model, internal process model, open system model & rational goal model
Hunter *et.al* (2007)	Positive peer group, positive supervisor relations, resources, challenges, mission clarity, autonomy, positive interpersonal exchange, intellectual stimulation, top management support, reward orientation, flexibility & risk-taking, product emphasis participation & organizational integration
Ekvall (2010)	Challenge/involvement, freedom, trust & openness, idea time playfulness/humour, conflict ,idea support, debate & risk-taking

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However, Stringer (2002) has revised his first climate dimensions where he claims that reward, warmth and support are overlapping each other. Thus, Stringer had formulated new climate dimensions which tell all work environment aspects will likely have some influence over how people act. There are six distinct dimensions newly proposed by Stringer; 1) structure, 2) standards, 3) responsibility, 4) recognition, 5) support and 6) commitment. These entire six distinct dimensions would assists to increase intrinsic motivation among employees themselves. Subsequently, the successful dimensions in actual situation will help people to increase their performance by acting appropriate behavior.

All the dimensions and taxonomies are clustered as the table below. Several scholars did not attempt to cluster the dimension but tend to list the taxonomies. Meanwhile, several of them have clustered taxonomies into numerous dimensions. The overall conclusion when assessing the dimensions and taxonomies, all the scholars have agreed that certain behaviors of leader and work contact would have impact on organizational climate development.

Table 2: Cluster of organizational climate dimensions

	Dimensions	Variables
Stringer 1968		Structure
		Responsibility
		Risk
		Warmth
		Support
		Standard
		Conflict
		Identity
Amabile 1996	Organizational encouragement	Encourage to risk taking
		Fair
		Reward
		Collaborative idea
	Supervisory encouragement	Goal clarity
		Open interaction
		Supervisory support
	Work group support	Mutual openness to idea
		Constructive challenging ideas
		Shared commitment
	Freedom	Autonomy
	Sufficient Resources	Resources
	Challenging work	Challenge (Positive)
	Workload pressure	Workload (negative)
	Organizational impediment to creativity	Internal strife (conflict)
		Conservatism
		Rigid
		Formal management structures
Patterson (2005)	Human relation model	Integration welfare
		Autonomy
		Participation
		Communication
		Emphasis on training
		Supervisory support
	Internal process model	Formalization
		Tradition
	Open system model	Flexibility
		Innovation
		Outward focus
		Reflexivity
	Rational goal model	Clarity of organizational goals
		Effort
		Efficiency
		Quality
		Pressure to produce
		Performance feedback
Hunter *et.al* (2007)		Positive peer group
		Positive supervisor relations
		Resources
		Challenges
		Mission clarity
		Autonomy
		Positive interpersonal exchange
		Intellectual stimulation
		Top management support
		Reward orientation
		Flexibility & risk taking
		Product emphasis
		Participation
		Organizational integration
Ekvall (2010)		Challenge/involvement
		Freedom
		Trust & openness
		Idea time
		Playfulness/humor
		Conflict
		Idea support
		Debate
		Risk taking

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Through the dimension clustered above, the authors had analyzed certain variables in the taxonomies and have analyzed it accordingly. The most likely taxonomy is grouped together that is shown in a figure like below.

Bil	Taxonomies/items	Stringer (1968)	Amabile-KEYS (1996)	Patterson et.al (2005)	Hunter et.al (2007)	Ekval (2010)	Total
1	Autonomy/Responsibility/Freedom	✓	✓	✓	✓	✓	5
2	Challenge/involvement/Challenging works (Pressures)/Risk/Pressure to produce	✓	✓	✓	✓	✓	5
3	Clarity of organizational goals/Standard/Mission clarity	✓	✓	✓	✓		4
4	Supervisory encouragement/support/Positive supervisor relations	✓	✓	✓	✓		4
5	Flexibility (towards change)/risk taking	✓	✓	✓	✓		4
6	Idea-time/Reflexivity (work group encouragement)	✓	✓	✓		✓	4
7	Idea support/Innovation (Work Group encouragement)	✓	✓	✓	✓		4
8	Trust & Openness/participation / Work Group Support		✓	✓	✓	✓	4
9	Reward orientation/Reward/Tradition	✓	✓	✓	✓		4
10	Debate/Intellectual stimulation	✓			✓	✓	3
11	Org. Integration/communication		✓	✓	✓		3
12	Org. encouragement/Top management support	✓	✓		✓		3
13	Effort			✓		✓	2
14	Formalization/Structure	✓	☒	✓			2
15	Org. impediments (strife/conflict/conservative/ rigid / formal/conflict/workload pressures)	✓	☒			✓	2
16	Positive interpersonal exchange/Identity/Warmth/Positive peer group/cohesion	✓			✓		2
17	Playfulness/Humor	✓				✓	2
18	Quality/Product emphasis			✓	✓		2
19	Sufficient Resources/Resources		✓		✓		2
20	Outward Focus			✓			1
21	Performance feedback			✓			1
22	Pressure to Produce/Workloads pressures		☒	✓			1
23	Efficiency			✓			1
24	Training			✓			1

Figure 1: Clustered taxonomies

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3.3 Organizational Climate versus Culture

The similarity between organizational culture and organizational climate is that it has been considered in the literature as one of the factors that can most stimulate innovative *behavior* among members of the organization (Ahmed, 1998 &Montes, Moreno & Fernández, 2003). Organizational culture can be seen as its member's collective mental models (Senge, *et.al* 1994).

Mahal (2009) & McLean(2005) opine that the concepts of organizational culture and organizational climate have been used in a rather vague way and the definitions are almost as numerous as the researchers. Precise definitions are rare and in many cases 'organizational climate', 'organizational culture', 'managerial climate', 'organizational atmosphere', 'management culture' are accepted as interchangeable terms. However, other scholar's definition of organizational climate is not identical with organizational culture (Ekvall,1996 & De Jong *et.al*, 2007).

Scholars have debated, that there are distinction between organizational climate and culture, although culture can be seen as a reflection of climate (Yukl & Lepsinger, 2004). The terms "culture" and "climate" are frequently used mistakenly in the organizational literature. West *et.al* (2008) added that individual perception of the work environment are usually termed psychological climate, and when shared to a level sufficient for aggregation to the group or organizational level are labeled group or organizational climate. Kouzes and Posner (1993) had differentiated between culture and climate by this table:

Table 3: Climate and culture differences (Source: adapted from Kouzes&Posner, 1993)

CLIMATE	**CULTURE**
Meet expectations	Nature
Temperature	Pressure
Transactional	Transformational
Tactical	Strategic
Norms- *Behavior*	Values - Beliefs

4. Relationship of Organizational Climate and Innovative Work *Behavior*.

The framework proposed by Ekval, shows climate can be an intervention between resource and effect where it does indicate the climate is important determinant of creativity (Ekvall, 1996, Isaksen *et.al*l, 2010). The climate itself has been proven by recent empirical research is responsible for many job outcomes such as innovation (Paulsen *et.al*, 2009, Tierney,2008, Amabile *et.al*, 2008). Therefore, Ekvall had proposed a framework which illustrates how resources can be intervened by organizational climate to produce job outcomes.

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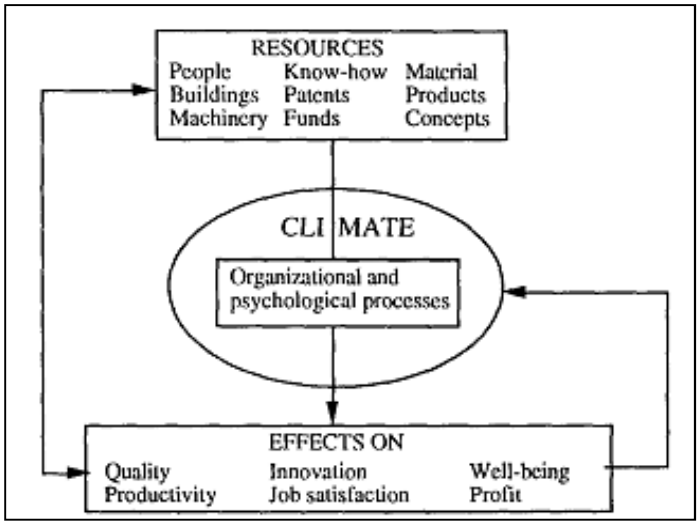

Figure 2: Climate serves as intervening variable (Ekval, 1996)

There are many dimensions for organizational climate have been proposed by several scholars. Among the dimensions are support, autonomy or freedom and participation, workload pressure and cohesion. Empirical studies have been done to measure the relation of organizational climate and innovative work *behavior*. There are evidence that shows the relationship between organizational climate and innovation that is moderated by organizational slack (Moreno, Morales & Montez, 2006).

Amabile (1996) found that the organizational climate is consisted from pressure and divided the dimensions into two; (1) Excessive workload pressure and (2) Challenge. The first one have negative impacts on creativity while the second one, challenge could assist employee to develop innovative work *behavior* (Ekvall,2010 & Hunter *et.al*, 2007). The climate dimensions have been able to discriminate between worst and best work environment such as creativity and job satisfaction, in fact level of growth in market capitalization, revenues and profitability (Ekvall, 2010 & Isaksen, *et.al*., 2001)

Although the ease of communication throughout the organization could promote individual's creativity (Patterson *et.al*, 2005) there is a contradiction found by De Dreu, et.al (1999) that the ease of communication will therefore increase chances of conflict. According to Amabile (1996) & Ekvall (2010) conflict or internal strife will impede creativity.

Perception of support from organization, supervisor and work group is the most frequent dimension discussed to have a positive relationship with innovative work *behavior*. However, there was a research that the supporting climate for innovation was not significant (Shalley & Zhou, 2008). Hence, future research should be done in order to validate the evidence of support for innovation.

5. Discussion and Analysis

The objective of this paper is to examine the variable of organizational climate in assisting innovative work *behavior* as its pertaining to innovation. There are various dimensions proposed by many scholars that have integrated all the factors exist in the organization. The important dimension that can create organizational climate for innovative work *behavior* is "support" (West *et.al,* 1998, Patterson, *et.al*,

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2005, Ekvall, 2010, Stringer, 2002). Support for innovation comes from the managerial or supervisory level, where the ideas thrown by employees are being accepted by appraising and giving rewards. Whereas, the *behavior* of giving appraisal and rewards may lead to innovative work *behavior* (De Jong & Den Hartog, 2007) as it increases intrinsic motivation of the employees (Montes, Moreno & Fernandez, 2003 & Amabile, 1996).

Despite the support from the top level of management, innovative work *behavior* also influenced by the challenge of the task. How employees perceive their task would increase their level of motivation by leading a thinking skill of how to solve the problems that helps to promote innovative work *behavior* among themselves. Positive conditions of the team also assist warmth within the group yet letting the intrinsic motivation to develop (Ekvall, 2010 & West, 2008). However, the interesting part among those dimensions, Patterson do mention in his study that the dimension he propose can be taken individually to measure the outcomes of the climate as it is more flexible (Patterson, 2005). In accordance to Patterson, he reported that, many scholars who were using Litwin & Stringer Organizational climate Questionnaire showed poor split half-reliabilities and lack of validity and was not a consistent measurement device.

Although the Stringer's climate questionnaire (1968) was reported to have lack of validity, the table shows, the climate items by Stringer are parable with other climate. Hence, the analysis of climate dimension will take the highest score to be included in conceptual framework in the conceptual framework. Moreover, Stringer had discussed back the variables of organizational climate and eliminates warmth in the dimension as it overlapped with support.

The author also had found that, certain taxonomies are difficult to be clustered due to the definition given by the developers are quite similar. For example, some developers of organizational climate are preferred to define support as general support. Some of them prefer to distinguish every level of support such as, support from organization, supervisory support and team support. The determination of climate should be studied deeply in order to overcome the overlaps.

6. Conceptual Framework

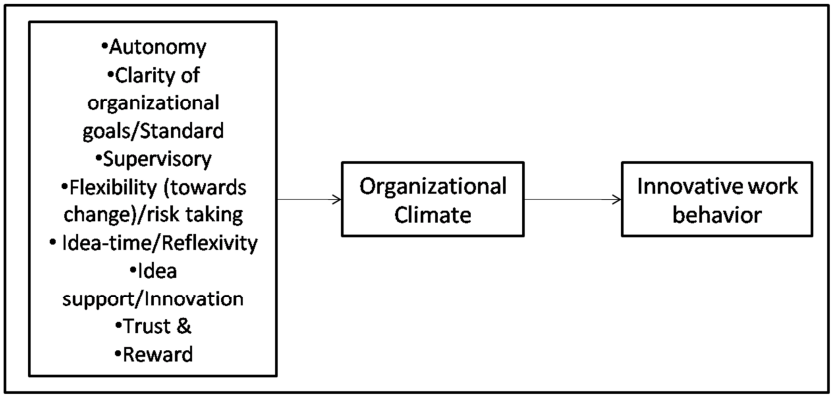

Figure 2: Framework of organizational climate and innovative work *behavior*

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7. Conclusion and Future Recommendation

While progress in understanding that dimensions of climate predict outcomes in a variety of studies, knowledge develops arbitrarily in this field in a way that appears not to be synergistic or to lead to theory development. This is partly because virtually every study referred to above uses a different measure of climate, each assessing rather different dimensions. The accruing knowledge is not cumulative, hence the study we describe here which seeks to develop an inclusive, robust and theoretically based approach to the measurement of climate. Moreover, many instruments are not validated, are poorly designed, and fail to specify the level of analysis.

The future research should be undertaken in determining the factor of organizational climate. It is also recommended to do empirical test in order to measure the relationship of organizational climate towards innovative work behavior.

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