ACCOUNTING FOR CHANGE AND INNOVATIVENESS: ORGANIZATIONAL CLIMATE CHANGE OR RENEWABLE ORGANIZATIONAL ENERGY?

Helen Black
School of Business,
Western Sydney University, Australia
E-mail: h.black@westernsydney.edu.au

ABSTRACT

This paper examines how understanding the current climate for change and innovativeness in an organisational unit can inform decision making, strategic management and future change initiatives to enhance innovativeness. Specifically, this study contributes to the growing literature with a focus on using management control systems in pursuit of innovation outcomes and assesses the current climate for change and innovativeness in three organisational units. Using the data collected from a quantitative survey, this study demonstrates that intangible elements that influence change and innovation initiatives can be measured, understood and managed through decision-making and strategy development to drive future outcomes. The results show that each of the sample organisations has different strengths and weaknesses, each individual unit is unique and analysis of the current climate highlights areas that may impede change and innovative processes. This is useful tool for managers and management accountants when interpreting performance results and/or developing strategies and future actions.

Keywords: organizational climate change, renewable organizational energy, innovativeness, management control system

ARTICLE INFO

Article History:
Received: 9 December 2017
Accepted: 16 February 2018
Published: 30 April 2018

INTRODUCTION

The role of management accountants and management accounting practices are evolving to assist in the management of change and promotion of innovativeness, however, the literature is scant about managing the organisational context in which change and innovativeness is expected to occur. In the transformation of resources, innovativeness is high on the strategic objectives in many organizations for competitive advantage and achieving these goals requires a holistic perspective of the organization. Nishimura (2012) argues that accounting information is largely irrelevant to decision making and planning for and controlling the long term future of organizations as business environments are characterized by strong uncertainty, complexity, and many uncontrollable factors. Understanding contextual factors that interact in the change and innovation processes provides a new perspective for managers to achieve strategic goals and competitive advantage. This paper examines how management control systems may include measures to monitor the organisational climate for change and innovativeness.

Chenhall and Moers (2015) examined how over the past 40 years, management control systems have advanced from relatively simple notions of control within formal closed systems, to encompass more open controls to cater for organizations in increasing uncertainty and pressure for innovativeness. They concluded a need for research in understanding how management control systems may relate to the mechanisms and processes where innovativeness occurs (Chenhall & Moers, 2015). With more complex management control systems and greater inclusion of controls relating to environment and organizational contexts, management accountants are well positioned to support strategies for enhancing goal congruence and innovation outcomes.

The role of management accountants is evolving to become the leaders of change in organisations. To fulfil this role effectively, accountants need more than technical skills as they need to engage more with relevant stakeholders in reinforcing the trust and integrity and help foster an organisational culture and promote a positive approach to change (Nga & Wai Mun, 2013). Management accountants assist in driving the organisational mission through risk assessment, strategy formulation and

implementation, goal alignment and reward, performance measurement and feedback (Nga & Wai Mun, 2013).

Management accountants are closely involved with the day to day operations and decision making functions of the organisation and are able to extend their role to leadership, strategic management, operational alignment and the facilitation of organisational learning (Brewer, 2008). Broadening the role of management accounting to include culture and operational aspects of the business will enable greater collaboration with non-accounting business partners in a continuous effort to improve operations and help management accountants view an organisation from a dynamic, process orientated standpoint rather than the static functionally orientated view point (Brewer, 2008). Epstein et al (2010) found leadership and organisational culture to be the most essential factors in balancing financial, social and environment performance and a key aspect of managing organisational change (Ogden & Anderson, 1999). Fauzi, Hussain, and Mahoney (2011) suggest that when the organizational culture maintains openness, transparency, equality, and sound values, there is more reliance on traditional management control systems, while organizations with highly unsettled cultures rely more on sophisticated management control systems. Achieving the required change to culture through management of the organisational climate is a departure from the traditional role of accounting as a formal control and towards a contemporary integrated role of accounting as strategy formation and implementation with feedback for planning and decision making.

Organizational climate is a set of properties of the work environment as perceived by organizational members. The climate literature (Ekvall, 1987, 1996; Glisson & James, 2002; L. R. James et al., 2007; Joyce & Slocum, 1984; Koys & Decotiis, 1991; McMurray, 2003; Riivari, Lamsa, Kujala, & Heiskana, 2012; G. I. Scott & Lauer, 2002) indicates that the psychological perceptions of organizational members, influence their behaviour and guide their effort towards organizational goals and objectives, which implies that organizational climate can influence outcomes of organizational activities such as innovativeness. In this paper, organizational climate is understood to be a collective and tangible attribute (B Schneider, Ehrhart, & Macey, 2011a) that is measured through the individual perceptions of members of the organizational unit.

Organizational climate is a valuable resource to be developed and protected and is constructed by the perceptions and experience of organisational members in their immediate work environment. Therefore, the psychological perceptions of organisational members, which guide their efforts in achieving organisational goals and objectives, are an important mediator in any change or innovative process. Understanding how organizational contextual attributes, such as different elements of climate, provides a new perspective to managing these important resources in changing environments. For example, in a manufacturing context, for machinery to produce an optimum output in quality and quantity, the machinery must be maintained, aligned, and fed quality inputs (Simões, Gomes, & Yasin, 2016). For an organization to achieve goals and reach optimum performance, the contextual attributes and processes must also be maintained, aligned and have quality inputs. Climate is an untapped resource in many organizations and is often a forgotten organizational attribute of consideration.

The management accountant assists management in all areas of the organization from production to sales and human resource management and this is an opportunity to assist in strategy design and implementation (Ho, Wu, & Wu, 2014). In addition, accounting may be used to guide organisational processes and influence organizational members' perceptions of what is important and what is not, thus aligning individual and organisational objectives. Management accounting has the potential to offer enhanced development in innovative processes through maintenance of the organizational climate as an essential input in innovation processes. Management control systems can gauge the success of an organization's strategy implementation, and this paper proposes that by integrating organizational climate measures into management control systems, accountants can monitor development and maintenance of their organization's climate for change and innovativeness.

In this research, climate for innovativeness and attitude toward change are regarded as similar with regard to the aspects of openness to doing things differently, accepting/embracing ideas from outside, risk taking, team spirit, and the effect of internal politics, motivation, and commitment to organizational goals. Therefore, whether change initiatives are introduced from outside or innovativeness initiated from within the organizational

unit, it is proposed that understanding the current organizational climate for change and innovativeness may assist with design and execution of change initiatives, decision making, and enhance innovative efforts.

Organizational Climate for Change and Innovativeness

This study is focused on managing an organizational climate that encourages innovativeness, freely shared information, and a learning orientation. The organizational climate for change and innovativeness influences the willingness of individuals to embrace change and to innovate and adopt innovations. An organizational climate that engenders innovativeness is open and encourages creativity and risk taking, with information flowing freely around the organization (Calantone, Cavusgil, & Zhao, 2002; Roffe, 1999). As the organizational climate may either hinder or help users to be innovative, climatic elements were identified in the literature as having an influence on organizational climate for change and innovativeness. In identifying with these attributes, this paper takes a multi-variable approach to exploring the construct of a climate for change and innovativeness using existing measures for established variables (Garcia-Goni, Maroto, & Rubalcaba, 2007); value of learning, openness, learning orientation, innovativeness, organisational commitment, team spirit, internal politics and job satisfaction.

These eight elements are categorised in two domains; the social domain and the organizational domain. The *organizational domain* includes characteristics of the innovative climate that are determined by the organization's behaviour and perceived attitudes. The *organizational domain* includes the elements of value of learning; openness; learning orientation; and organizational innovativeness.

Value of learning refers to the value that the organization holds for employee learning as perceived by organizational members. Employee learning in an organization is key to the knowledge absorptive capacity that enables development of new knowledge internally and to understand and develop external new knowledge for innovation (Lund Vinding, 2006). Value of learning also benefits employee relationships with other individuals with similar competencies outside the firm and facilitates access to external networks of knowledge. Arvanitis, Loukis, and Diamantopoulou (2013)

found that value of learning is positively correlated with an organization's ability to innovate.

Openness refers to flexibility, adaptability, and openness to change. Openness encourages new ideas and risk taking (Hurley & Hult, 1998; S. G. Scott & Bruce, 1994) promotes sharing of information (Damanpour, 1991; Love, Roper, & Bryson, 2011), and is essential for innovation. Organizational openness addresses whether organizational members are willing to consider the adoption of innovations or whether they resist them (Van de Ven, Polley, Garud, & Venkataraman, 1999; Wanberg & Banas, 2000), and as such open organizations are generally receptive to and pursue new ideas (Taggar, 2002). Recent literature (Chesbrough, 2006; Chesbrough & Davies, 2010; Hipp, 2010; Laursen & Salter, 2006; Love et al., 2011; Mansury & Love, 2008) stresses the importance of openness and receptiveness for innovativeness, particularly in the service sector. A wide and deep engagement by the organization with the external environment helps an organization to gain and exploit innovative opportunities.

Organizational learning is well recognised as an aspect of innovation (Argyris, 1977; Hurley & Hult, 1998; Senge, 1990; Tajeddini, 2009), while learning orientation refers to the organization-wide activity of creating and using knowledge to enhance performance (Calantone et al., 2002; Crossan, Lane, & White, 1999; Swart & Kinnie, 2010). An organization that encourages actively seeking new learning opportunities is described as having a *learning orientation* (Bates & Khasawneh, 2005; Bharadwaj & Menon, 2000; Brennan & Dooley, 2005; Calantone et al., 2002; Chanal, 2004; Glynn, 1996; Hult, Robert, & Gary, 2004; Merx-Chermin & Hijhof, 2005; Salavou, 2004).

The literature refers to *innovativeness* as part of an organizational climate, as a predisposition and a tendency (Lumpkin & Dess, 1996), and as an organizational trait (Shoham, Vigoda-Gadot, Ruvio, & Schwabsky, 2012). Shoham and colleagues (2012) suggest that innovativeness is a multi-dimensional attribute and this perspective is taken in this study to include factors of creativity, in addition to actual implementation of new processes, services and innovation. Therefore, innovativeness is an essential multifaceted element of the organizational climate for change and innovativeness.

The previous four climate elements - *value of learning, openness, learning orientation* and *innovativeness* relate to how the organizational members perceive organizational values and characteristics, and describe organization focused attributes. The following four elements - *organizational commitment, team spirit, internal politics* and *job satisfaction* relate to how the organizational members perceive their relationship with the organization and fellow organizational members, describing social aspects of the climate for change and innovativeness.

Organizational commitment refers to the commitment of the individual to the organization. Successful organizations hire, develop, and retain their human resource base promoting human affiliation, which produces positive affective employee attitudes toward the organization. Behaviours associated with these values include teamwork, participation, employee involvement, and open communication which facilitate outcomes of employee morale, satisfaction, and commitment. These attributes are found in previous research to promote commitment (Mowday et al, 1982) and innovativeness (Anderson & West, 1998; Calantone et al., 2002; Garcia-Morales, Moreno, & Llorens-Montes, 2006; Liu & Phillips, 2011; Martins & Terblanche, 2003; Zheng, 2010). Thus in this research, organizational commitment is an essential element of organizational climate for change and innovativeness.

Team spirit has been positively associated with innovation in many studies (Black & Fitzgerald, 2015; Greenhalgh, Robert, MacFarane, Bate, & Kyriakidou, 2004; Jaworski & Kohli, 1993; Shalley & Gilson, 2004; Valente, 2005; Van de Ven et al., 1999). Team spirit is suggested to enhance innovativeness as it increases team members' confidence in the ability to meet new challenges and overcome ambiguous and uncertain situations through developing innovative solutions. Team spirit has been found to reduce the focus on politics and status, which discourage engagement with innovation (Hurley & Hult, 1998; Thompson, 1965).

Choi et al (Choi, 2007; Choi, Anderson, & Veillette, 2009) suggest that some contextual attributes have a negative influence on innovativeness, such as *internal politics* (Gobble, 2014; Graham & Moore, 2016; Hurley & Hult, 1998; Thompson, 1965), and can actually have a stronger effect than positive influences in some cases. Internal political activities such as the use of power to influence others, secure interests, or avoid organizational

outcomes, are a way of exercising social influence and often designed to promote or protect one's own self-interests (Cropanzano, Kacmar, & Bozeman, 1995; Kacmar & Carlson, 1997; Kacmar & Ferris, 1991). The literature suggests that team based work design and collaboration between teams may instigate conflicts caused by structural organization within the team (Collin, Paloniemi, & Mecklin, 2010; Collins & Clark, 2003). Internal politics have a diminishing effect on creativity or innovativeness by decreasing intrinsic motivation at work (Rozin & Royzman, 2001). Therefore, internal politics is an important consideration when assessing the climate for change and innovativeness.

Previous research has found that *job satisfaction* enhances organizational innovation (Black & Fitzgerald, 2015; Shipton, West, Parkes, & Dawson, 2004). Amabile et al. (1996) suggests that satisfaction or positive feelings at work might be attributed to several mechanisms to encourage innovation. The relationship between job satisfaction and innovativeness may be reciprocal, as some studies (Sellgren, Ekvall, & Tomson, 2008; Shoham et al., 2012) have found an innovative climate to be positively related to job satisfaction. Therefore, job satisfaction is an important element to measure in the organizational climate for change and innovativeness.

Through assessing both organizational and social elements, this framework reveals the unique climate for change and innovativeness of an organization, providing opportunities for improvement by developing strategies to enhance the climate through addressing identified weaknesses.

Climate Strength

The relationship between organizational climate and the outcome of interest, in this case innovativeness, is measured by the strength of the organizational climate (Dawson, Gonzalez-Roma, Davis, & West, 2008; Gonzalez-Roma, Fortes-Ferreira, & Peira Josa, 2009; Riketta & Dick, 2005; B Schneider et al., 2011a; B Schneider, Salvaggio, & Subirats, 2002; Zohar & Luria, 2005). The strength of the organizational climate is the extent of agreement among organizational members' perceptions (Dawson et al., 2008; Gonzalez-Roma et al., 2009; Riketta & Dick, 2005; Schneider et al., 2011a; Schneider et al., 2002; Zohar & Luria, 2005). Therefore, the inference that can be drawn in predicting innovativeness outcomes is relative to the strength of agreement about an organizational climate.

RESEARCH METHOD

This study measured the current organizational climate for change and innovativeness in three organizational units using a quantitative survey questionnaire adapted from a study by Garcia-Goni, Maroto and Rubalcaba (2007). The survey questionnaire uses Likert scales for a series of statements for each of the eight climatic elements: value of learning, openness, learning orientation, innovativeness, organizational commitment, team spirit, internal politics, and job satisfaction. Based on a review of the literature, the statements are considered formative variables of innovativeness as a latent construct.

The sample organizational units are all within the acute health sector, perform the same procedures, and are identified as small, medium and large units. The results provide a measurement of the organizational climate for change and innovativeness at the macro level of each unit and as a basis for comparison of units by size. A response rate of approximately 32% was achieved in each site and equated to 133 valid surveys.

Table 1: Survey Participants by Organizational Unit

	Small	Medium	Large	Total
Population	79	147	185	411
Participants	31	50	52	133
Response Rate	39%	34%	28%	32%

Participation in the survey questionnaire was voluntary, anonymous and self-administered by participants and intended to record each participant's perspectives in a measurable, comparable form of data. The survey questions use a 1 to 5 Likert scale where 1 = 'Definitely disagree' and 5 = 'Definitely agree'. This assists in determining how strongly participants feel about the elements in the survey questionnaire and enables measurement of the degree of agreement or disagreement among participants.

The summated rating scales were used in the analysis by using multiple statements for each element of the organizational climate for change and innovativeness. Each participant's score for the individual statements was combined to create a new variable representing each element. The results

of the element variables created from summating individual responses all scored higher than .7 in the Cronbach's alpha coefficient analysis signifying a degree of internal consistency that is considered acceptable in social science research (George & Mallery, 2003; Hair, Black, Babib, Anderson, & Tatham, 2006; McIver & Carmines, 1981). The summated data was then analysed using ANOVA, and where ANOVA indicated significant differences between units, t-tests were used to discover where significant differences existed in the perceptions of each organizational climate element.

In addition to summating each participant's scores for each element, the strength of agreement for each element in each organizational unit was assessed using the Burke, Finkelstein, and Dusig's (1999) measure. The measure is the average deviation from the mean for all individuals in each organizational unit and is computed for each questionnaire statement item using the following formula:

$$AD_M = \frac{1}{N}\sum_{i=1}^{N} |x_i - \bar{x}|$$

Then, the values for each element were computed following Burke and Dunlap (2002) as an average of the item values using the following formula:

$$AD_{M(J)} = \frac{1}{J}\sum_{j=1}^{J} AD_{M(j)}$$

This is consistent with the use of other measures for estimating inter-rater agreement (Burke & Dunlap, 2002; Gonzalez-Roma et al., 2009; L. James, Demaree, & Wolf, 1984; Lindell, Brant, & Whitney, 1999). Further, the strength of each organizational unit climate for change and innovativeness was computed using the second equation to compute the average of the values for each element in each organizational unit.

The literature (Burke & Dunlap, 2002; Dawson et al., 2008; Gonzalez-Roma et al., 2009; Gonzalez-Roma, Peira, & Tordera, 2002; LeBreton & Senter, 2008) suggests that this measure has advantage over other measures of dispersion as it can be easily interpreted in the original response scales,

and does not require modelling the random or null response distribution. An = 1 can be interpreted that a group, on average, score exactly one response category point from the group mean.

Interpretations of the can be used for multiple purposes. As the measures dispersion of responses about the mean response, a lower score indicates greater agreement (Burke & Dunlap, 2002). The AD index can be used to indicate whether inter-rater agreement is sufficiently strong – that is, the disagreement is sufficiently weak – to trust that the average opinion of the group is representative (Dunlap, Burke, & Smith-Crowe, 2003) or in this case, that the opinion of the group is representative of the relevant climate or climate element. Additionally, the AD index has been used to determine if the apparent group agreement is sufficiently different from that which could be achieved by chance, to conclude that there is some agreement regardless of the magnitude (Dunlap et al., 2003). The measure results in a value with respect to the actual response options, or measurement scale, and are therefore interpretable within the context of the relevant study. Climate strength is the extent to which members of the organizational unit agree to the measure of the elements of the organizational climate. A strong climate suggests that the relationship between the climate and the outcome of interest will also be strong, whereas a weak climate indicates a weak relationship (Dawson et al., 2008; Gonzalez-Roma et al., 2009; Riketta & Dick, 2005; B Schneider, Ehrhart, & Macey, 2011b).

FINDINGS AND ANALYSIS

In this study, a sample of 134 usable quantitative survey questionnaires was collected from 3 organisational units. The Table 1 presents the descriptive statistics of the sample for eight organizational climate variables.

Table 2: Descriptive Statistics by Organisational Climate Variable

	Observations N	Number of Statements	Mean	Standard Deviation	Minimum	Maximum
Value of Learning	129	6	3.3097	0.7656	1.0000	5.0000
Openness	134	12	2.4799	0.8308	1.0000	5.0000
Learning Orientation	120	7	2.8976	0.8312	1.0000	5.0000
Innovativeness	132	12	2.8007	0.6886	1.0000	5.0000
Organizational Commitment	132	4	2.8170	.66908	1.0000	5.0000
Team Spirit	132	4	2.9874	0.8455	1.0000	5.0000
Internal Politics	132	3	3.2828	1.0438	1.0000	5.0000
Job satisfaction	128	5	3.0359	0.9084	1.0000	5.0000

The results in Table 3 indicate that although the organizational units are similar in many aspects, each organizational climate for change and innovativeness is unique. In the elements of openness, learning orientation, and innovativeness, the highest perceptions were in the small unit and the lowest in the large unit, although significant differences were only evident between the large unit and the small and medium units. Value of learning was perceived lowest in the large unit; however, the medium unit has the highest perceived value of learning. Significant differences were found in the value of learning element between the medium and large units only.

Table 3: Climate for Change and Innovativeness by Organizational Unit

Unit by Size	Value of Learning	Openness	Learning Orientation	Innovativeness	Organizational Commitment	Team Spirit	Internal Politics	Job Satisfaction	Overall Climate Strength
Small									.7829
Mean	3.3929	2.8587	3.3193	3.0793	3.9113	3.3889	2.8333	3.2952	
N	28	31	22	30	31	30	30	28	
SD	.73115	.60701	.51553	.52916	.71165	.71161	.84305	.87384	
	.8535	.7281	.6203	.6907	.7232	.8028	.9259	.9183	
Medium									.9732
Mean	3.5143	2.5706	2.9976	2.8657	3.7041	3.1733	3.1400	3.3415	
N	50	51	49	50	49	50	50	49	
SD	.7299	.93863	.95765	.77547	.95289	.91904	1.07558	.80169	
	1.0468	.9727	.9373	.9471	.8634	.9740	1.0805	.9638	
Large									.9109
Mean	3.0635	2.1652	2.6084	2.6189	3.1010	2.5769	3.6795	2.6000	
N	51	52	49	52	52	52	52	51	
SD	.76770	.72333	.70886	.57455	.82435	.66048	.99171	.86255	
	1.0189	.8474	.8557	.8626	.9051	.8051	.9740	.9968	

In the element of organizational commitment, significant differences were found between the medium and large units, and between the large and small units. Significant differences are evidenced in the perception of team spirit between all units, with the small unit reporting the highest level of team spirit and the large unit reporting the lowest level of team spirit, suggesting that size and perception of team spirit are inversely proportionate. Both the internal politics element and job satisfaction element displayed significant differences between the small and large units, and between the medium and large units.

The results for each measured element of the organizational climate for change and innovativeness are visually represented in the radar graph in Figure 1. The graph is designed to illustrate the organizational climate for change and innovativeness: the larger the radius, the stronger the perceptions in the organizational climate for change and innovativeness elements. A higher mean is interpreted as a positive outcome as these elements have been shown in the literature to be positively associated with innovativeness, with the exception of internal politics. However, as survey questionnaire statements for the internal politics element are negatively worded, the results were inverted prior to analysis. Therefore, a higher mean reflects less perceived internal politics in the unit. From the graph it is evident that the small unit is strongest in the perception of many elements of organizational climate for change and innovativeness. The large unit organizational climate for change and innovativeness is clearly weakest in all areas when compared to the small and medium units.

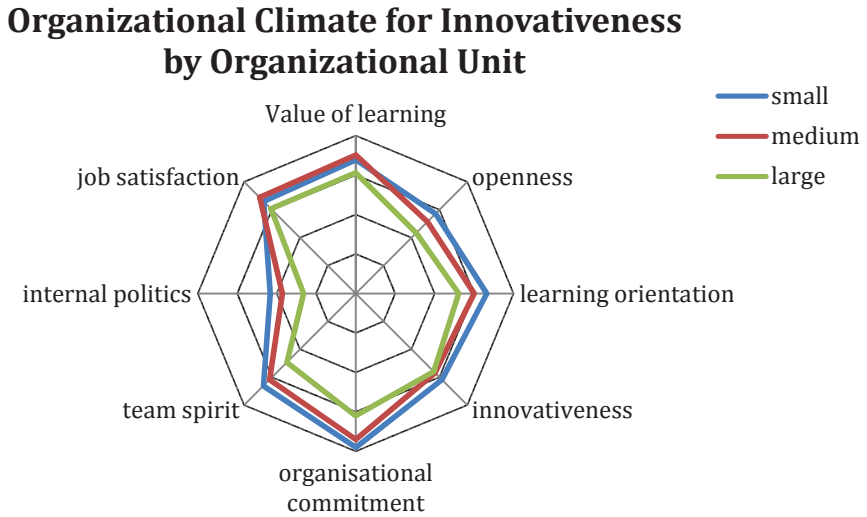

Figure 1: Mean Scores for Each Element by Organizational Unit

Although these results seem to indicate that small is good and large is weak, size is not consistently a factor, as the medium unit is strongest in the perception of value of learning and job satisfaction. Therefore, size cannot be assumed to influence organizational climate elements without consideration of other factors. Other factors to consider include organizational structure, team size, and staffing configuration. The current climate for change and innovativeness may also assist in decision making regarding these variable context factors.

Prior research (Camisón-Zornoza, Lapiedra-Alcamí, Segarra-Ciprés, & Boronat-Navarro, 2004) has found that size is usually more positively related with innovativenessas large organizations more readily adopt innovation in order to support or improve their activities and productivity. However, there are also characteristics of larger organizations that inhibit innovative behaviour, such as greater formalization and bureaucracy, which are found to have a negative effect on innovativeness. In contrast, smaller organizations are typically more flexible, which can result in increased interest and receptiveness towards new ideas. While most studies demonstrate a positive association between organisational size and innovation (e.g. Damanpour, 1992; Laforet, 2008, 2013; Camisón-Zornoza et al., 2004), Wakasugi and Koyata (1997) and Laforet and Tann (2006) reject

such a relationship and, Salavou et al. (2004) report a negative association. Mixed results in studies about the relationship between organizational size and innovativeness suggest that further research is warranted in this area.

Climate strength is an indication of the extent to which members of the unit agree on the score for each element of the climate measured. An =1 can be interpreted that a group, on average, score exactly one response category point for the group mean. A strong climate suggests that the relationship between the climate and the outcome of interest will also be strong, whereas a weak climate indicates a weak climate (Schneider et al., 2011; Gonsalez-Roma et al., 2009; Dawson et al., 2008). The overall climate strength for each unit provides an indication of the extent to which the climate relates to the outcome of innovativeness.

The climate strength of agreement for each element is strongest in the small unit. The large unit is next strongest in six of the eight climate elements measured, with the exclusion of organizational commitment and job satisfaction. In the medium unit, less inference can be drawn as there is greater disparity between perceptions of organizational members in all elements except organizational commitment and job satisfaction. These results provide a basis to quantitatively compare the three different sized units and their perceptions of their organizational climate through eight elements that have been identified as influencing innovativeness in previous research. Baregheh, Rowley, and Hemsworth (2016) suggests irrespective of size, organisational attitude and culture towards innovation are what differentiate organisations from one another.

DISCUSSION

Many organisations are enduring change and striving for innovativeness in pursuit of organisational goals. However, there is little in the literature about managing the context within which the change and innovativeness is expected to take place (Black, 2015).

This paper provides managers and management accountants a starting point to understanding the current climate for change and innovativeness in their organization. Inclusion of climate measures in the management control

system provides acknowledgement of the climate of the organization as a resource to be managed for best performance and interaction with change and innovative processes to optimize implementation outcomes.

The findings demonstrate that an understanding of the organisational climate for change and innovativeness highlights areas for improvement in the organisational climate that influence change and innovative processes. The results of the current climate for change and innovativeness of the sample organisations highlights that each organisation or organisational unit has different strengths and weaknesses. This is useful for managers and management accountants to consider when interpreting performance results and developing strategies and future actions.

Managers may analyse these results with their organizational unit to identify specific factors that may explain the perceptions of organizational members. For example, an interesting observation in this study is how team spirit and internal politics appear to be the weakest elements of all participating units. These elements are highly related and contribute to the social domain of organisational climate. This highlights areas for investigation in these units and potentially the acute health services sector. Managers in these organizational units may examine team structures, determine specific causes of internal politics and seek to resolve them. This may also be improved through actively addressing a perceived lack of team spirit through implementation of social development initiatives within the unit. Investment in team building and socialisation opportunities may improve the areas of the climate for change and innovativeness. Without attention, the perceived lack of team spirit and the presence of internal politics is most likely influencing the openness to change and knowledge from external sources and impeding innovativeness. Further examination into these areas may provide detailed insights that may then be improved through actively focusing strategies and policy changes to manage the highlighted climate weaknesses.

This indicates that understanding the current climate has the potential to assist in design and implementation of change initiatives and aid innovative efforts. Engaging organizational members in innovative processes may be improved by first engaging managerial focus on the uniqueness of the organizational context and the current climate for change and innovativeness to address any weaknesses perceived by organizational members.

CONCLUSION

Organizational competitiveness and survival relies on the design and operation of accounting systems and their capacity to deal with uncertainties and account for wider aspects of an organization's environment (Bianchi, Cosenz, & Marinković, 2015). Understanding the current climate for change and innovativeness provides a starting point for management to strategize for enhancing goal congruence, development and maintenance of a climate for change and innovativeness, and improved decision-making. Managing organizational climate is important as the organizational members are the medium between organizational factors and the innovation process, and play a central role in developing ideas that fuel innovative processes.

This paper demonstrates that an organizational climate for change and innovativeness can be measured to provide a greater understanding about how the organization and its members facilitate and interact with the innovative process. Through measuring each of the eight elements, managers may set benchmarks and targets to achieve optimal outcomes and formulate strategies to enhance the organizational climate for change and innovativeness through strengthening any weak elements to maximise innovative efforts.

By measuring how attributes affecting innovative processes are perceived in an organization, the current innovative climate can be understood and utilized to assist management in achieving organizational goals and decision-making. Any weaknesses in the climate can be addressed and improvements planned where interaction of these contextual attributes can influence outcomes.

As a practical implication of this study, management accountants can incorporate climate measures into their management control system as a gauge to monitor organizational climate for change and innovativeness to assist in making decisions relating to organizational contexts and strategies for the achievement of organizational goals. There is value in management accounting serving as a catalyst for managers to broaden the scope of understanding for decision making and strategy development. It was not an intention of this study to generalize about organizational climate elements in other organizations. The purpose of this study was to demonstrate that

management accountants may use these measures to evaluate the climate for change and innovativeness of their own unique organization and/or organizational units and interpret the strengths and weaknesses in relation to their relative organizational goals.

LIMITATIONS

There are several limitations that have an impact on this study, including the limitations of the quantitative methods, context, bias of both researcher and participants.

This study is time and situation specific and involves understanding potentially unique situations, rather than generating prediction and generalization of acute health service units. Another limitation of this research is the small sample of three organizational units; therefore, interpretations made are only applicable to the units investigated. Nevertheless, this study provides valuable insights into the possible relationships of organisational context and climate of change and innovativeness and has the potential application in other organizational units and contexts.

REFERENCES

Amabile, T., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal, 39*, 1154-1184.

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

Andriopoulos, C., & Lowe, A. (2000). Enhancing organisational creativity: The process of perpetual challenging. *Management Decision, 38*, 734-742.

Argyris, C. (1977). Double loop learning in organizations. *Harvard Business Review, 55*(Sept/Oct), 115-125.

Arvanitis, S., Loukis, E., & Diamantopoulou, V. (2013). Are ICT, workplace organization and human capital relevant for innovation? A comparative study based on Swiss and Greek micro data.

Bates, R., & Khasawneh, S. (2005). Organizational learning culture,learning transfer climate and perceived innovation in Jordanian organizations. *International Journal of Training & Development, 9*(2), 96-103.

Bharadwaj, S., & Menon, A. (2000). Making innovation happen in organizations: individual creativity mechanisms, organizational creativity mechanisms. *Journal of Product Innovation Management, 17*, 424-437.

Black, H. (2015). *Working together: Managing social capital to facilitate an organisational climate for innovativeness in an acute health service context.* (Doctor of Philosophy), Griffith University, Gold Coast, Australia.

Black, H., & Fitzgerald, A. (2015). *Understanding and using social capital to influence a climate of innovativeness in an operating suite environment.* Paper presented at the Managing for Peak Performance: Conference Program and Abstracts, 29th Australian and New Zealand Academy of Management Conference (ANZAM), 2nd-4th December, 2015, Millennium Hotel, Queenstown, New Zealand.

Brennan, A., & Dooley, L. (2005). Networked creativity: A structured management framework for stimulating innovation. *Technovation, 25*(12), 1388-1399.

Brewer, P. C. (2008). Redefining management accounting: Promoting the four pillars of our profession. *Strategic Finance*, 27-35.

Burke, M. J., & Dunlap, W. P. (2002). Estimating interrater agreement with the average deviation index: A user's guide. *Organizational Research Methods, 5*(2), 159-172.

Burke, M. J., Finkelstein, L. M., & Dusig, M. S. (1999). On average deviation indices for estimating interrater agreement. *Organizational Research Methods, 2*, 49-68.

Calantone, R. J., Cavusgil, S. T., & Zhao, Y. (2002). Learning orientation, firm innovation capability, and firm performance. *Industrial Marketing Management, 31*(6), 515-527.

Chanal, V. (2004). Innovation management and organisational learning: A discursive approach. *European Journal of Innovation Management, 7*(1), 56-64.

Chenhall, R. H., & Moers, F. (2015). The role of innovation in the evolution of management accounting and its integration into management control. *Accounting, Organizations and Society, 47*, 1-13.

Chesbrough, H. (2006). Open Innovation: A new paradigm for understanding Industrial Innovation. In H. Chesbrough, W. Vanhaverbeke, & J. West (Eds.), *Open Innovation: Researching a New Paradigm* (Vol. 1, pp. 1-12). New York: Oxford University Press.

Chesbrough, H., & Davies, A. (2010). Advancing service innovation. In P. Maglio, C. Kieliszewski, & J. Spohrer (Eds.), *Handbook of Service Science* (pp. 579-601). New York: Springer.

Choi, J. N. (2007). Change-orientated organizational citizen behaviour: Effects of work environment characteristics and intervening psychological processes. *Journal of Organizational Behaviour, 28*, 467-484.

Choi, J. N., Anderson, T. A., & Veillette, A. (2009). Contextual Inhibitors of Employee Creativity in Organizations: The Insulating Role of Creative Ability. *Group and Organization Management, 34*(3), 330-357.

Collin, K., Paloniemi, S., & Mecklin, J. P. (2010). Promoting interprofessional teamwork and learning: the case of a surgical operating theatre. *Journal of Education and Work, 23*(1), 43-63.

Collins, C. J., & Clark, K. D. (2003). Strategic human resource practices, top management team social networks, and firm performance: The role of human resource practices in creating organizational competitive advantage. *Academy of Management Journal, 46*(6), 740-751.

Cropanzano, R. S., Kacmar, K. M., & Bozeman, D. P. (1995). Organizational politics, justice, and support: Their differences and similarities. In R. S. Cropanzano & K. M. Kacmar (Eds.), *Organizational politics, justice, and support: Managing social climate at work* (pp. 1-18). Westport: Quorum Books.

Crossan, M., Lane, H., & White, R. (1999). An organizational learning framework: from intuition to institution. *Academy of Management Review, 24*(3), 522-537.

Damanpour, F. (1991). Organisational innovation: A meta analysis of effects of determinants and moderators. *Academy of Management Journal, 34*(3), 555-590.

Dawson, J. F., Gonzalez-Roma, V., Davis, A., & West, M. A. (2008). Organizational climate and climate strength in UK hospitals. *European Journal of Work and Organizational Psychology, 17*(1), 89-111.

Dunlap, W. P., Burke, M. J., & Smith-Crowe, K. (2003). Accurate tests of statistical significance for r [sub]WG[sub] and average deviation interrater agreement indexes. *Journal of Applied Psychology, 88*(2), 356-362.

Ekvall, G. (1987). The climate metaphor in organizational theory. In B. Bass & P. Drenth (Eds.), *Advances in organizational Psychology* (pp. 177-190). Beverly Hills: Sage.

Ekvall, G. (1996). Organizational climate for creativity and innovation. *European Journal of Work and Organizational Psychology, 5*, 205-123.

Epstein, M. J., Buhovac, A. R., & Yuthas, K. (2010). Implementing sustainability: The role of leadership and organizational culture. *Strategic finance, 91*(10), 41.

Fauzi, H., Hussain, M. M., & Mahoney, L. (2011). Management Control Systems and Contextual Variables in the Hospitality Industry. *Asia-Pacific Management Accounting Journal, 6*(2).

Garcia-Goni, M., Maroto, A., & Rubalcaba, L. (2007). Innovation and Motivation in public health professionals. *Health Policy, 84*, 344-358.

Garcia-Morales, V., Moreno, A., & Llorens-Montes, F. (2006). Strategic capabilities and their effects on performance: entrepreneurial, learning, innovator and problematic SMEs. *International Journal of Management and Enterprise Development, 3*(3), 191-211.

George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference11.0 update*. Boston: Allyn & Bacon.

Glisson, C., & James, L. R. (2002). The cross-level effects of culture and climate in human service teams. *Journal of Organizational Behavior, 23*, 767-794.

Glynn, M. A. (1996). Innovation Genius: A framework for relating individual and organizational intelligences to innovation. *Academy of Management Review, 21*(4), 1081-1111.

Gobble, M. M. (2014). Charting the innovation ecosystem. *Research-Technology Management, 57*(4), 55-59.

Gonzalez-Roma, V., Fortes-Ferreira, L., & Peira Josa, M. (2009). Team climate, climate strength and team performance. A longitudinal study. *Journal of Occupational & Organizational Psychology, 82*(3), 511-536.

Gonzalez-Roma, V., Peira, J. M., & Tordera, N. (2002). An examination of the antecedents and moderator influences of climate strength. *Journal of Applied Psychology, 87*(3), 465-473.

Graham, K. W., & Moore, R. S. (2016). The Influence of Absorptive Capacity and Micro-politics on Firm-Level Technology Adoption Decisions. *2016 SMA Proceedings*, 434.

Greenhalgh, T., Robert, G., MacFarane, F., Bate, P., & Kyriakidou, O. (2004). Diffusion of Innovations in Service Organizations: Systematic Review and Recommendations. *The Milbank Quarterly, 82*(4), 581-629.

Hair, J. F., Black, W. C., Babib, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate Data Analysis* (6th ed.). New Jersey: Pearson Prentice Hall.

Hipp, C. (2010). Collaborative innovation in services. In F. Gallouj & F. Djellal (Eds.), *The Handbook of Innovation and Services: A multi-disciplinary perspective* (pp. 318-341). Cheltenham: Edward Elgar.

Ho, J. L., Wu, A., & Wu, S. Y. (2014). Performance measures, consensus on strategy implementation, and performance: Evidence from the operational-level of organizations. *Accounting, Organizations and Society, 39*(1), 38-58.

Hult, G. T., Robert, F. H., & Gary, A. K. (2004). Innovativeness: Its antedents and impact on business performance. *Industrial Marketing Management, 33*(5), 429-436.

Hurley, R. F., & Hult, G. T. M. (1998). Innovation, Market Orientation, and Organizational Learning: An Integration and Empirical Examination. *Journal of Marketing, 62*, 42-54.

James, L., Demaree, R. G., & Wolf, G. (1984). Estimating within group interrater reliability with and without response bias. *Journal of Applied Psychology, 69*, 85-98.

James, L. R., Choi, C. C., Ko, C.-H. E., McNeil, P. K., Minton, M. K., & Wright, M., A. (2007). Organizational and psychological climate: A review of theory and research. *European Journal of Work and Organizational Psychology, 17*(1), 5-32.

Jaworski, B., & Kohli, A. K. (1993). Market orientation: Antecedents and consequences. *Journal of Marketing, 57*, 53-70.

Joyce, W. F., & Slocum, J. (1984). Collective climate: Agrrement as a basis for defining aggregate climate in organizations. *Academy of Management Journal, 27*, 721-742.

Kacmar, K. M., & Carlson, D. S. (1997). Further validation of perceptions of politics scale (POPS): A multiple sample investigation. *Journal of Management, 23*(5), 627-658.

Kacmar, K. M., & Ferris, G. R. (1991). Perceptions of Organizational Politics scale (POPS): Development and construct validition. *Educational and Psychological Measurement, 51*, 193-205.

Koys, D., & Decotiis, T. (1991). Inductive measures of psychological climate. *Human Relations, 44*, 265-285.

Laitinen, E. K. (2001). Management accounting change in small technology companies: towards a mathematical model of the technology firm. *Management Accounting Research, 12*(4), 507-541.

Laursen, K., & Salter, A. (2006). Open for Innovation: The role of openness in explaining innovation performance among UK Manufacturing firms. *Strategic Management Journal, 27*, 131-150.

LeBreton, J. M., & Senter, J. L. (2008). Answers to 20 Questions About Interrater Reliability and Interrater Agreement. *Organizational Research Methods, 11*(4), 815-852. doi:10.1177/1094428106296642

Lindell, M. K., Brant, C. J., & Whitney, D. J. (1999). A revised index of interrater agreement for multi-item ratings of a single target. *Applied Psychology Measurement, 23*, 127-135.

Liu, Y., & Phillips, J. S. (2011). Examining the antecedents of knowledge sharing in facilitating team innovativeness from a multilevel perspective. *International Journal of Information Management, 31*(1), 44-52.

Love, J. H., Roper, S., & Bryson, J. R. (2011). Openness, knowledge, innovation and growth in UK business services. *Research Policy, 40*(10), 1438-1452.

Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review, 21*(1), 135-172.

Lund Vinding, A. (2006). Absorptive capacity and innovative performance: A human capital approach. *Economics of innovation and New Technology, 15*(4-5), 507-517.

Mail, R., Mohamed, N., & Hj. Atan, R. (2006). Leadership Factors in Organizational Change Process: Observations from the Perspective of Management Accounting. *Journal of Financial Reporting and Accounting, 4*(1), 103-128.

Mansury, M., & Love, J. H. (2008). Innovation, productivity and growth in US business services: a firm-level analysis. *Technovation, 28*, 52-62.

Martins, E. C., & Terblanche, F. (2003). Building organisational culture that stimulates creativity and innovation. *European Journal of Innovation Management, 6*(1), 64-74.

McAdam, R., & McClelland, J. (2002). Individual and team based idea generation within innovation management: Organisational and research agendas. *European Journal of Innovation Management, 5*(2), 86-97.

McIver, J., & Carmines, E. (1981). *Unidimensional Scaling*. Thousand Oaks: Sage.

McMurray, A. J. (2003). The relationship between organizational climate and organizational culture.

Merx-Chermin, M., & Hijhof, W. (2005). Factors influencing knowledge creation and innovation in an organisation. *Journal of European Industrial Training, 29*(2), 135-147.

Nga, J. K., & Wai Mun, S. (2013). The perception of undergraduate students towards accountants and the role of accountants in driving organizational change: A case study of a Malaysian business school. *Education+ Training, 55*(6), 500-519.

Nishimura, A. (2012). Profit Opportunity, Strategic Innovations, and Management Accounting. *Asia-Pacific Management Accounting Journal, 7*(2), 65-98.

Ogden, S., & Anderson, F. (1999). The role of accounting in organisational change: promoting performance improvements in the privatised UK water industry. *Critical Perspectives on Accounting, 10*(1), 91-124.

Riivari, E., Lamsa, A.-M., Kujala, J., & Heiskana, E. (2012). The ethical culture of organisations and organisational innovativeness. *European Journal of Innovation Management, 15*(3), 310-331.

Riketta, M., & Dick, R. V. (2005). Foci of attachment in organizations: A meta-analytic comparison of the strength and correlates of workgroup versus organizational identification and commitment. *Journal of Vocational Behavior, 67*(3), 490-510.

Roffe, I. (1999). Innovation and creativity in organisations: A review of the implications for training and development. *Journal of European Industrial Training, 23*, 224-241.

Rozin, P., & Royzman, E. B. (2001). Negative bias, negativity dominance, and contagion. *Personality and Social Psychologocial Review, 5*, 296-320.

Salavou, H. (2004). The concept of innovativeness: Should we need to focus? *European Journal of Innovation Management, 7*(1), 33-42.

Schneider, B., Ehrhart, M. G., & Macey, W. A. (2011a). Organizational Climate Research: Achievements and the road ahead. In N. M. Ashkanasy, C. P. M. Wilderom, & M. F. Peterson (Eds.), *The Handbook of Organizational Culture and Climate* (2nd ed.). Thousand Oaks: Sage.

Schneider, B., Ehrhart, M. G., & Macey, W. A. (2011b). Perspectives on organisational climate and culture. In S. Zedeck (Ed.), *Handbook of organizational and industrial psychology*. Washington DC: APA.

Schneider, B., Ehrhart, M. G., & Macey, W. H. (2013). Organizational climate and culture. *Annual review of psychology, 64*, 361-388.

Schneider, B., Salvaggio, A. N., & Subirats, M. (2002). Climate strength: A new direction for climate research. *Journal of Applied Psychology, 87*, 220-229.

Scott, G. I., & Lauer, K. J. (2002). The climate for creativity and change in teams. *Creativity and Innovation Management, 11*(1), 74-86.

Scott, S. G., & Bruce, R. A. (1994). Determinants of innovative behaviour: A path model of individual innovation in the workplace. *Academy of Management Journal, 37*, 580-607.

Sellgren, S. F., Ekvall, G., & Tomson, G. (2008). Leadership behaviour of nurse managers in relation to job satisfaction and work climate. *Journal of Nursing Management, 16*(5), 578-587.

Senge, P. M. (1990). *The fifth discipline*. New York: Double Day.

Shalley, C. E., & Gilson, L. L. (2004). A little creativity goes a long way: An examination of team's engagement in creative processes. *Journal of Management, 30*, 453-470.

Shipton, H., West, M. A., Dawson, J., Birdi, K., & Patterson, M. (2006). HRM as a predictor of innovation. *Human Resource Management Journal, 16*, 3-14.

Shipton, H., West, M. A., Parkes, C., & Dawson, J. (2004). *Aggregate job satisfaction, HRM, and organizational innovation*. Birmingham: Aston Business School.

Shoham, A., Vigoda-Gadot, E., Ruvio, A., & Schwabsky, N. (2012). Testing an organizational innovativeness integrative model across cultures. *Journal of Engineering and Technology Management, 29*(2), 226-240.

Simões, J. M., Gomes, C. F., & Yasin, M. M. (2016). Changing role of maintenance in business organisations: measurement versus strategic orientation. *International Journal of Production Research, 54*(11), 3329-3346.

Swart, J., & Kinnie, N. (2010). Organisational learning, knowledge assets and HR practices in professional service firms. *Human Resource Management Journal, 20*(1), 64-79.

Taggar, S. (2002). Individual creativity and group ability to utilize individual creative resources: A multilevel model. *Academy of Management Journal, 45*(2), 315-330.

Tajeddini, K. (2009). Examining the effect of learning orientation on innovativeness. *International Journal of Collaborative Enterprise, 1*(1), 53-65.

Thompson, V. (1965). Bureaucracy and Innovation. *Administrative Science Quarterly, 10*, 1-20.

Valente, T. W. (2005). Network Models and Methods for Studying the Diffusion of Innovations. In P. J. Carrington, J. Scott, & S. Wasserman (Eds.), *Models and Methods in Social Network Analysis*. Cambridge: Cambridge University Press.

Valls, V., González Romá, V., & Tomás, I. (2016). Linking educational diversity and team performance: Team communication quality and innovation team climate matter. *Journal of Occupational and Organizational Psychology, 89*(4), 751-771.

Van de Ven, A. H., Polley, D. E., Garud, R., & Venkataraman, S. (1999). *The Innovation Journey*. Oxford: Oxford University Press.

Wanberg, C. R., & Banas, J. T. (2000). Predictors and outcomes of openness to change in a reorganizing workplace. *Journal of Applied Psychology, 85*(1), 132-142.

Zheng, W. (2010). A Social Capital Perspective of Innovation from Individuals to Nations: Where is Empirical Literature Directing Us? *International Journal of Management Reviews, 12*(2), 151-183.

Zohar, D., & Luria, G. (2005). A multi-level model of safety climate: Cross-level relationships between organization and group-level climates. *Journal of Applied Psychology, 90*, 616-628.