

Organisational Resilience: Testing the Interaction Effect of Knowledge Management and Creative Climate

Samuel Mafabi
Makerere University Business School

John C. Munene
Makerere University Business School

Augustine Ahiauzu
International Centre for Management Research and Training (CIMRAT)

Based on the premise that both knowledge management and creative climate influence the level of organizational resilience, this study examined the extent to which creative climate moderates the relationship between knowledge management and organizational resilience. Cross sectional data were collected from 51 parastatal organizations in Uganda to test the hypotheses. The study provides empirical evidence on the interaction effect of knowledge management and creative climate on organizational resilience in a public sector. The evidence shows that knowledge management does not interact with creative climate to influence the level of organizational resilience.

INTRODUCTION

Organisations operate under a dynamic environment that poses both threats and opportunities. The environment is quite turbulent that it requires organisational adaptation in order to cope with the dynamic stakeholder interests. There is need for organisations to cope with the threats and exploit opportunities based on useful knowledge subject to a creative climate (Nonaka, 2007; Amabile, 1997). The use of knowledge coupled with a conducive creative climate enables an organisation to adapt to a dynamic environment. This adaptation makes the organisation to become resilient. Organisational resilience is the capacity to respond to threats and opportunities in the environment order to prevent decay and disuse (Tarrant, 2010; McManus, 2008; Scott, 2007).

Organisational resilience can be examined in terms of organisational adaptation, organisational value and organisational competitiveness (Mafabi, Munene, Ntayi, 2012). Organisational resilience can be built based on Knowledge Management with the support of a creative climate (McManus, 2008; Weeks, 2008). The resource-based view that advocates for the accumulation of resources to enhance competitiveness (Barney, 1991) does not highlight the interplay between knowledge management and creative climate for influencing change. Some studies indicate that the creative climate is an important factor for enhancing change that leads to resilience (Weeks, 2008; Baer, Oldham & Cummings, 2003). These studies did not focus on the interaction effects of knowledge management and creative climate in a change program. Other studies by Mafabi et al. (2012), McManus (2008), Weeks (2008) have examined organisational

resilience without analysing the interaction effects of knowledge management and creative climate on building organisational resilience. This leaves a question of the extent to which creative climate moderates the relationship between Knowledge Management and organisational resilience.

Overall, organisational resilience is imperative for institutionalisation whereby society considers an organisation as valuable (Scott, 2007). However, Scott's (2007) review of institutional theory that advocates for continuous reforms to prevent decay is implicit, about building organisational resilience. Despite the contribution of some studies and theories, the extent to which knowledge management and creative climate interact to influence organisational resilience remains elusive. The main purpose of this paper is to examine the interaction effect of knowledge management and creative climate towards building organisational resilience.

THEORY AND HYPOTHESES

Organizational Resilience: Knowledge-Based View

The knowledge-based theory assumes that organizations have knowledge resources that are created by individuals and groups through flexible interactions for change (Grant, 1996). Knowledge resources are so strategic to be used in building organizational competitiveness that they should be rare, valuable, inimitable, and non-substitutable. Nonaka's (2007) knowledge-based theory which focuses mainly on knowledge creation assumes that an organization is an information processing entity for adaptation. The theory of knowledge creation views an organization as an organic change process of which Nonaka calls 'ba' meaning place, time, space, or relationship where there is dialogue and practice. From the concept of ba, we can deduce that knowledge for change can be created through work group support (Amabile, 1997). Organizations create knowledge based on values, context, and power all of which may require a creative climate.

Knowledge Management and Organisational Resilience

The transformation from the old economy to a new, knowledge-based economy is driven largely by the recognition that knowledge rather than financial capital, land or labour is the major source of continued economic growth, value and improved standards of living. Scholars have found out that organisations that disregard the tenets of the knowledge economy are unable to adapt in a timely manner hence likely to die in any form or become less competitive (e.g. Nonaka, 2007; Scott, 2007; Al-Hawamdeh, 2002).

In this era of global competition, organizations are knowledge organizations to the effect that they identify process, store, protect, and apply knowledge in their business strategies and operations – knowledge management. This has become imperative because of the fact that, it is now knowledge rather than any other resource that is of highest value to the organization (Warier, 2009, Al-Hawamdeh, 2002). To emphasise knowledge as a key resource, Seba and Rowley (2010) state that organizations in the public and private sectors are now focusing on knowledge management as part of their strategies to be competitive. The question that emerges from this focus is the extent to which knowledge management influences organizational resilience.

The focus on knowledge management by any organization is explained by globalisation with the increasing intensity of virtualisation or digitalisation, and the rise of the knowledge based economy which some scholars have referred to as third wave, information age, or knowledge society. Regardless of the terminology, the gist is that we now need knowledge workers and knowledge organizations to survive in the business environment (Warier, 2009).

As organisations become more knowledge-based, their success is dependent on how well knowledge workers develop and apply knowledge for organizational resilience. According to Warier (2009) and Al-Hawamdeh (2002), the knowledge economy demands that organisations integrate their goals, objectives, activities, processes and systems in order to exploit their resources more rationally in order to remain relevant to society especially the public sector organisations that seem to have lagged behind in the knowledge economy. The basic assumption of KM is that organisations that manage organisational and

individual knowledge better will deal more successfully with the challenges of the new business environment. The central task of those concerned with knowledge management is to determine ways to better cultivate, nurture and exploit knowledge at different levels and in different contexts for organizational competitiveness.

For the case of organizational competitiveness, scholars argue that, just like knowledge is accumulated over time, competitiveness is built over time (Leonard and Sensiper, 1998). In this vein, Bures (2008) asserts, though implicitly, that knowledge management if spread in a whole organization, can improve the competitiveness of an organization. This means that as organizations learn and accumulate knowledge, the individuals gain the ability to develop better or new ways of organizing business operations to improve competitiveness (Robinson, Anumba, Carrillo, & Al-Ghassani, 2006; Nelson, 2003; Ongaro, 2004), adaptation (Weeks, 2008), and value (Moore, 2003).

Bennet and Bennet (2003) found out that a successful knowledge organisation is characterized by: high performance, customer-driven, improvement-driven, high flexibility and adaptiveness, high levels of expertise and knowledge, high rates of learning and innovation. This finding does not clearly reveal the antecedent and criterion variables among the listed organizational practices despite the fact that these practices relate to knowledge management, creative climate, and organizational resilience.

Other studies have emphasized that building knowledge capability should be an investment of the organization with a focus to improve competitiveness (Stewart & O'Donnell, 2007; Dutrenit, 2004). Organizations should acquire, learn, and accumulate competences over time, and progressively use them to add value to business activities (Robinson, et al., 2006; Ongaro, 2004). The question that remains is how knowledge management like acquisition, learning, and accumulation of competences interact with the creative climate to influence organisational resilience.

Knowledge resources are accumulated through organizational routines that enhance organizational value, adaptation and competitiveness (Ongaro, 2004; Nelson, 2003). This enhancement is most likely dependent on the conditional effect of the creative climate (Amabile, 1997). Organizational routines are a form of learning which probably takes place through sharing information among organizational members and stakeholders like suppliers and customers. Knowledge sharing though is not as smooth as it should be due to certain challenges. For instance, Seba and Rowley's study (2010) found that most employees in the public sector consider that knowledge sharing may lead to loss of power and this belief makes it difficult to promote knowledge sharing amongst staff.

To mitigate knowledge sharing challenges, Elenurm (2003), Seba and Rowley (2010) found out that the readiness of employees to share their expert information with others, followed by trust between employees as a basis for knowledge sharing and recognizing the knowledge of employees via bonus schemes are some of the drivers for knowledge sharing in organizations. It appears that knowledge management practices like knowledge sharing require a good perception of organizational support and work group support to promote the exchange and transfer of knowledge (Warier, 2009).

Although Warier does not explicitly state the interaction of knowledge management and creative climate, he posits that for successful knowledge management practices in an organization, there is need for a supportive climate. In a related argument, Davenport (1998) found evidence for the role of organizational support for successful knowledge management outcomes which outcomes could be like organizational resilience. This can also imply that successful knowledge management outcomes interact with organizational support. The extant literature seems to be limited in as far as testing for interactions in organizational resilience studies is concerned.

This review reveals two hypotheses:

H₁: Knowledge management will be positively related to organizational resilience.

H₂: The relationship between knowledge management and organizational resilience will be moderated by creative climate.

Creative Climate and Organisational Resilience

The creative climate is imperative for providing a conducive environment for organisational renewals. There is need for organizational support that can facilitate sustainable organizational adaptation and competitiveness (Weeks, 2008; Amabile, 1997). This support may include provision of necessary facilities, supervisory support, and team support. Indeed Ensor, et al. (2006) found evidence in advertising agencies that work group support and lack of organisational impediments, enhance creativity and competitiveness in those firms. Scholars argue that an organization with a poor creative climate may be characterized with organizational dysfunctions (Panuwatwanich, et al., 2009). A poor creative climate may for instance constrain employee initiative (e.g. Muhairwe, 2010) who reports that corporation managers in Uganda have limited initiative to create value in service delivery as they are preoccupied with preordained statutory mandates of the corporation.

According to Martensen and Dahlgaard (1999), companies must continuously adapt, based on a creative climate. These scholars argue that, because of the need for business excellence, organizations must react quickly to new market conditions and customer needs using creative solutions. An organization with a creative climate encourages employees to have a positive mindset so that they can be creative and bring up new ideas during times of turbulence (Tarrant, 2010). Creative organisations develop new concepts that can be used to build adaptive capacity for organizational adaptation (Weeks, 2008).

Klijn and Tomic (2010) describe creative organizations as those that provide; time and resources for experimentation, competence-building opportunities, reward systems, cohesion, some discretion in job activities, clear vision and goals, and an atmosphere in which employees feel safe to share novel ideas. Furthermore, in a bid to promote a creativity stimulating climate, they call for open communication, sharing of knowledge, tolerance for failure, setting challenging targets, and allowing in-house entrepreneurship. Similarly, Amabile et al. (1996) developed a tool for assessing perceived stimulants and obstacles in organizational work environments that lead to organizational effectiveness and a necessity for long-term survival.

The climate for creativity depends on perceptions of the work environment measured as organizational and supervisory encouragement, work group support, freedom, sufficient resources, challenging work, workload pressure, and organizational impediments (Amabile, et al., 1996). However, Klijn and Tomic (2010) argue that these measures need further validation and probably reconceptualisation depending on the nature of the study. Nevertheless, organizations should adopt the various dimensions of a creative climate that can be relied on to contribute to organizational adaptation, organizational competitiveness, and organizational value which are indicators of organizational resilience (Mafabi, et al., 2012).

Cangemi and Miller (2007) warn of dire consequences of organisational dysfunctionality if management of the organization fails to provide a creative climate. For instance, these scholars argue that in an organization with a poor creative climate, people become closed and guarded, are reluctant to offer newer creative ideas because the ideas are disregarded, devalued, taken by management with no recognition to the originator. Therefore, Cangemi and Miller (2007) argue that a creative organization has a diverse workforce, fosters a sense of worker ownership in the company, builds organisational trust, considers problems as improvement opportunities. In such organizations, calmness and long-term orientation prevail in the face of adversity (Tarant, 2010). This makes people in such an organization feel comfortable in suggesting creative solutions to make the organization resilient. Such organizations possess true transparency, encourage employees to work beyond the basic job description, and operate out-of-the-box to adapt and survive in a dynamic environment (Weeks, 2008; Cangemi and Miller (2007).

Muhairwe (2010) reports a case of a public water corporation in Uganda which had lost value and was due for privatization, where management drew an organizational resilience 100 days change program that made the corporation a creative organisation and recovered the corporation to better service delivery and value. Similarly, Cangemi and Miller (2007) present an organizational recovery case based on a creative organization. According to Cangemi and Miller (2007), there was a plant in the USA that was restructured and operations became more efficient and cost-effective, costs were cut by 25 percent,

productivity improved by 15 percent, and production increased by more than 50 percent, inventories lower by 40 percent. It was a challenging but necessary transformation process which was facilitated by the wholehearted support and commitment of all employees. The company was destined to win the prestigious North American Best Plants Award, which is presented by the business magazine Industry Week. This review leads to a hypothesis that.

H₃: Creative climate will be positively related to organisational resilience.

METHOD

The population consisted of parastatal organisations in Uganda. Parastatal organisations are very important institutions charged with public service delivery. Parastatals are formed to improve service delivery on behalf of government yet reports seem to suggest that parastatals are not of much value to society (Rondinelli, 2008). Organisations should strive to remain useful to society by providing competitive services lest they lose their vision, mission, and mandate (Basu, 2008). In other words, they should be resilient enough to cope with certain challenges. Organisational resilience which has been qualitatively studied in private sector (McManus, 2008) appears to be the least explored in the public sector. This study focused on the public organisations, specifically parastatals in Uganda. The researchers randomly selected 62 out of 73 parastatal organizations that participated in the study. The researchers collected 235 usable questionnaires that were filled by managers. The results of the sample distribution show that majority (88.2%) of organisations were fully owned by the government with only 11.8% that were partially owned by government. Full ownership in this study refers to the organization where government has overall control of the functioning of that organization with exception of autonomous management and administration of the organization. Partial ownership describes those organizations where government has limited interest by some share holding in such organizations. For the case of age of the study organizations, majority (64.7%) had existed for over 15 fifteen years, followed by 21.6% which had been in existence between 11 – 14 years, 11.8% had served between 7 – 10 years with only 1.9% that had served between 3 – 6 years. The minimum age of the organizations studied was in line with the selection criterion of an organization of three and above years to have been chosen for the study. This was in view of the fact that within this time an organization is expected to be undergoing or should have undergone certain reforms like innovations which was of interest in this study. Results about the size of the organization reveal a fair distribution of the number of employees in different study organizations, that is; those that had less than 100 employees were 27.5%, 501 – 700 were 23.5%, 101 – 300 were 19.8 %, with 9.8% that had 301 – 500 employees. Generally, most of the organizations employed relatively large numbers of people which is one of the objectives of a parastatal.

In analyzing the sample distribution in the different sectors, we note that the majority of the organizations studied were in the finance sector (25.5%) and education sector (21.6%). This implies that most parastatals in Uganda are set up to pursue the finance and or economic objectives including education objectives. Another set of the organizations was from the energy sector (11.8%), with a relatively equal distribution of parastatals in health, environment, and agriculture (5.9%), tourism and telecommunication (3.9%), though those in the transport sector and miscellaneous were a little more (7.8%). Those in the miscellaneous sector category were cases of standardization and media, among others. Generally, we observe that the Government of Uganda has set up different parastatals in different sectors to provide specialized services despite the fact that majority are in the finance and education sectors. For the unit of inquiry, we selected members of the senior management team in each parastatal organization, because they occupy strategic positions (O'Regan & Ghobadian, 2004), to report about organizational resilience which is a strategic function. It is believed that managers are in position to truly respond to questions about organizational attributes (Baer & Frese, 2003). The researchers targeted seven managers to be given questionnaires with a minimum response expectation of three respondents per organization (Baer & Frese, 2003) and we actually got a total of 242 respondents who answered the questionnaires, though we found 235 usable questionnaires.

Measures

Through literature review and conceptualization, we identified certain measures of knowledge management, creative climate, and organisational resilience.

Knowledge Management

There seems to be little consensus about the general understanding and measure of knowledge management as the concept has a multidimensional interpretation (Nonaka, 2007). Nevertheless, knowledge management involves; knowledge creation, knowledge acquisition, knowledge sharing, and knowledge storage (Nonaka, 2007, Darroch, 2003), which we accordingly followed in developing our scales to suit the study context. While developing the scales, we made further reference to study of Lopez, et al. (2005) which highlights knowledge management behaviours. In the scales, we asked the respondents to indicate their level of agreement or disagreement with the behaviours of knowledge management prevailing in their organizations. We tested for reliability ($\alpha = .894$) and validity (total variance explained = 68.5%).

Creative Climate

The climate for creativity was used to investigate how the prevailing work environment supports creativity in parastatal organizations. To achieve this, we employed Amabile's (1997) KEYS research tool. The tool captures the perceptions managers have about their work environment. The instrument has various scales ranging from organizational encouragement, supervisory encouragement, work group support, freedom, sufficient resources, challenging work, workload pressure, and organizational impediments including criterion scales of creativity, and productivity. The first three scales are categorized as those of creativity encouragement as used by Ensor, et al. (2006) at organizational level and we accordingly adapted them for our study. We tested for reliability ($\alpha = .881$) and validity (total variance explained = 64.6%).

Organisational Resilience

There seems to be no universally accepted measure of organizational resilience (McManus, 2008). The researchers conceptualised and identified measures of organizational resilience with reference to the relevant theory and extant literature. In this study, we conceptualized organizational resilience to be measured in terms of: organizational adaptation (Weeks, 2008; Hamel and Valikangas, 2003); organisational competitiveness (Li-Hua, 2007); and organizational value (Moore, 2003). These scholars believe that a resilient organization is one that responds to the demands in the environment for survival (organisational adaptation), is efficient and effective at service delivery (organisational competitiveness), and makes itself reputable (organizational value). The scales of organizational resilience were developed on a Likert scale and tested for reliability ($\alpha = .893$) and validity (total variance explained by three convergent factors = 69.7%). In the scales, the researchers made statements that required the respondents to indicate the extent to which certain resilience behaviors occur in their organizations.

Data Management

We examined the pattern of the missing values and a few (07) cases that had missing values were discarded leaving 235 usable cases that were later on aggregated into 51 cases according to the unit of analysis which was parastatal organisation. We tested for common method bias using Harman's one factor test and found limited method variance because the test extracted 17 factors (eigenvalues > 1 , total variance = 85.1%) where the first factor did not explain majority of the variance (Podsakoff, et al., 2003).

An interaction is believed to occur if the effect of the independent variable on the dependent variable varies as a function of the changes in the moderator (Friedrich, 1982; Baron & Kenny, 1986; Preacher, Curran, & Bauer, 2006).

Jose (2008) states that researchers must test for interaction by; centering the predictor variables (subtracting the mean from all the scores to get marginal mean scores), getting a product of the centred variables to get the interaction term that is used to test for interaction through moderated hierarchical

regression. In this study, we centred the predictor variables, set the interaction term and ran the hierarchical regression. Scholars of interaction testing indicate that, if the beta coefficient of the interaction term is significant, then the researcher would have proved the occurrence of interaction in the model (Friedrich, 1982; Baron & Kenny, 1986; Preacher, et al., 2006; Jose, 2008). The analysis in this study revealed that the beta coefficient of the interaction term was not significant. According to Jose (2008), the researcher must further draw interaction graphs using the Modgraph to determine if the lines are not parallel in order to confirm interaction in the model. The researchers used hierarchical regression to test the hypotheses.

RESULTS AND DISCUSSION

The zero order correlation was used to establish whether or not there were associations between the study variables. The table below presents the results of the zero order correlation.

TABLE 1
RELATIONSHIP BETWEEN KNOWLEDGE MANAGEMENT, CREATIVE CLIMATE, AND ORGANIZATIONAL RESILIENCE

n = 51	Mean	SD	1	2	3
1 Organisational resilience	3.361	.376	_		
2 Creative climate	3.598	.409	.663**	_	
3 Knowledge management	3.857	.423	.464**	.787**	_

*** Correlation is significant at the 0.01 level (2-tailed)*

Creative Climate and Organizational Resilience

The results in table 1 above show that there is a strong and positive significant relationship between creative climate and organizational resilience ($r = .663$, $p < .05$). This finding implies that changes in the creative climate are associated with changes in the level of organizational resilience. In other words, the better the creative climate, the higher the level of organizational resilience (Weeks, 2008).

Knowledge Management and Organizational Resilience

The study further sought to examine the relationship between knowledge management and organizational resilience and the results indeed reveal that the relationship between knowledge management and organizational resilience is fairly strong, positive, and significant ($r = .464$, $p < .05$). This implies that, the management of knowledge in the organization is associated with the building of organizational resilience. This finding supports previous studies which state that when organizations improve their knowledge capability, this capability may be related to a higher level of organisational competitiveness (e.g Stewart & O'Donnell, 2007).

Having analysed the correlations between the variables, the explanatory power of knowledge management, creative climate, on organizational resilience and the interaction effects were tested using hierarchical regression. The results are presented in table 2 below.

TABLE 2
INTERACTION EFFECT OF KNOWLEDGE MANAGEMENT AND CREATIVE CLIMATE ON ORGANIZATIONAL RESILIENCE

n = 51	Dependent Variable Organisational Resilience			
Variables	Model 1	Model 2	Model 3	VIF
Constant	.020	.021	.014	
Knowledge management (Main effect)	.464**	.151	.123	2.6
Creative climate (Moderator)		.782**	.789**	2.6
Interaction term			.057	1.5
R ²	.215	.449	.451	
ΔR ²		.234	.002	
Δ F	13.445**	20.308**	.186	

** $p < .01$

The results in table 2 indicate an insignificant relationship between knowledge management and organizational resilience ($\beta = .123$, $p > .05$). This finding therefore does not lend further support for hypothesis H₁ which had been stated that knowledge management will be positively related to organizational resilience. The insignificant relationship between knowledge management and organizational resilience may presuppose an indirect relationship that requires a mediator like innovation. This assertion was tested by Mafabi, et al. (2012) using the mediation test and indeed their results confirm that the relationship between knowledge management and organizational resilience is indirect and the relationship is significant only through the mediation effect of innovation.

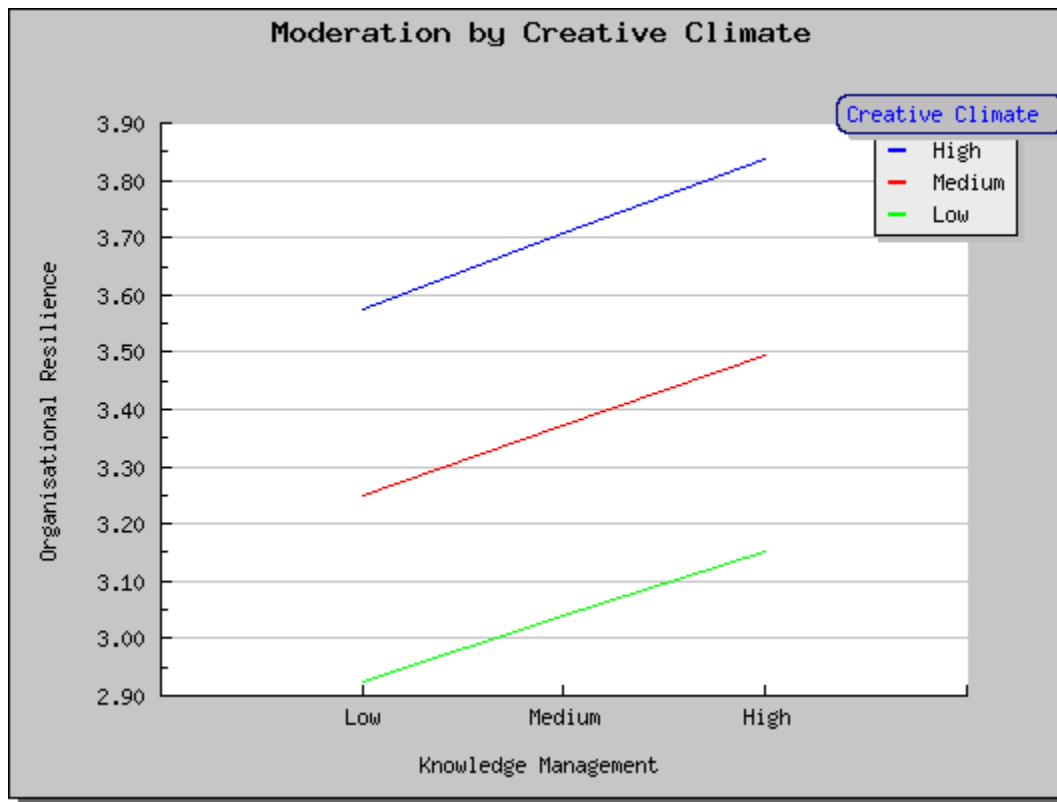
The results also revealed a significant relationship between creative climate and organizational resilience ($\beta = .782$, $p < .05$) providing support for H₃. This finding is line with Ensor, et al.'s (2006) study that provides evidence from advertising agencies that work group support and lack of organisational impediments, enhance creativity and competitiveness in those firms.

From the results obtained in table 2 above, we note that the interaction effect is not significant ($\beta = .057$, $p > .05$) with an insignificant and very small explained variance added to the model ($\Delta R^2 = .002$, $p > .05$). We also take cognizance of the fact that the main effects and the moderator account for 44.9% of the variance explained in the dependent variable out of the overall 45.1%. Since the interaction term is not significant in the third model, we can now state that hypothesis H₂ is not supported.

Therefore evidence suggests that there is no significant interaction effect of knowledge management and creative climate on organizational resilience. It appears then that, the regression model used to test for interaction remains additive in that the contribution of knowledge management is independent of the contribution of creative climate to building organizational resilience (Friedrich, 1982). This finding is contrary to the non-additive model that we anticipated through the belief that the contribution of knowledge management to organizational resilience varies as a function of creative climate.

According to Jose (2008), there is need to confirm the interaction or none by graphing the means and standard deviations with unstandardised regression coefficients of; knowledge management (main effects), creative climate (moderator), and the interaction term. The graphing was done and the results are presented in the figure 1 below.

FIGURE 1
A GRAPH SHOWING INTERACTION EFFECT OF KNOWLEDGE MANAGEMENT AND CREATIVE CLIMATE ON ORGANIZATIONAL RESILIENCE



The results in figure 1 above further indicate that there is no interaction effect of knowledge management and creative climate on organizational resilience since according to Jose (2008) the lines are parallel implying no interaction of the main effect with the moderator. What this means is that, the changes in the levels of creative climate do not significantly affect the variation in knowledge management in an attempt to influence organizational resilience. This finding still does not lend any support to hypothesis H₂. In any case we did not expect any change of the results after the hierarchical regression had showed non-significant interaction term.

Further interpretation of the graph in terms of low, medium, high levels of the main effects and the moderator (Jose, 2008) is that the levels vary from one standard deviation below the mean (low), the mean level (medium), one standard deviation above the mean (high). Following this interpretation, an interaction occurs if the variation in the levels of the main effects depends on the variation in the levels of the moderator (Jose, 2008). Again in this study, this conditional effect is not met since the lines are parallel suggesting non-interaction. This finding does not support the assertion that knowledge management practices like knowledge sharing require a good perception of organizational support and work group support to promote the exchange and transfer of knowledge for successful outcomes (e.g. Warier, 2009).

The main purpose of this paper is to examine the interaction effect of knowledge management and creative climate towards building organisational resilience. In essence, the study examined the moderation effect of the creative climate on the relationship between knowledge management and organisational resilience. The findings indicate that the creative climate does not significantly moderate the relationship

between knowledge management and organisational resilience. The reason for the non interaction of knowledge management with the creative climate could be that managers in Ugandan parastatals carry out knowledge management practices without due regard to the nature of the creative climate prevailing in the parastatal. Another plausible explanation may be that parastatal managers do not have specific organisational change objectives that aim at enhancing the creative climate in tandem with knowledge management practices in a bid to build organisational resilience. In other words, the organisational support in parastatal organisations may be general, not aligned specifically to build organisational resilience based on knowledge management practices.

The findings do not support extant literature where for instance Warier (2009) stated that, for successful knowledge management practices in an organization, there is need for a supportive climate. In the same vein, Davenport (1998) found evidence for the role of organizational support for successful knowledge management outcomes like organizational resilience. Despite the fact that Davenport's study did not test for interactions, it was implied that knowledge management interacts with organizational support to influence successful knowledge management outcomes.

CONCLUSION AND IMPLICATIONS

Arising out of the findings and discussion, there is no direct influence knowledge management on organisational resilience. Changes in the practices of knowledge management are not associated with the level of organisational resilience. It appears the management of knowledge requires a mediation mechanism to transform the effect of knowledge management practices onto the level of organisational resilience. The state of the creative climate has an influence on the level of organisational resilience. When the creative climate is favourable for staff to generate and execute novel ideas, such a practice is associated with higher organisational resilience. Knowledge management does not depend on the creative climate to influence the level of organizational resilience in the parastatal sector. This implies that managers in the parastatal sector in Uganda can carry out knowledge management activities to improve organizational resilience without necessarily relying on the contribution of the creative climate.

In this study, we draw human resource management policy implications. There is need for managers in parastatals to design attractive human resource management policies that are geared towards considering human resources as the engine for driving the value of parastatal organizations. The human resource management policy should emphasise the sourcing, attraction, development, and retention of human resources the parastatal considers critical for organizational value addition. Managers of parastatals should build resilience by providing a conducive climate where there is perceived organizational support and work group support for promoting organizational health. There is need for parastatals to become creative organizations by providing; time and resources for experimentation, competence-building opportunities, reward systems, cohesion, some discretion in job activities, clear vision and goals, and an atmosphere in which employees feel safe to share novel ideas. Furthermore, they should promote open communication, sharing of knowledge, tolerance for failure, setting challenging targets and allowing in-house entrepreneurship.

The study was limited by design. First, the study was cross sectional focusing on snapshot perceptions which could not provide longterm occurrences of study variables. This may necessitate follow up studies in a longitudinal design to capture the trend of results. Given the cross sectional nature of the study, we could neither discuss nor conclude causality of knowledge management, creative climate, and organizational resilience. Therefore the researchers could not claim that changes in knowledge management, and creative climate cause changes in organizational resilience. This is most suitable in longitudinal studies. Second, the sample for this study was small calling for an expanded public sector study or by comparison with the private sector.

REFERENCES

- Al-Hawamdeh, S. (2002). Knowledge management: re-thinking information management and facing the challenge of managing tacit knowledge, *Information Research*, 8 (1).
- Amabile, T.M. (1997). Motivating Creativity in Organisations: On doing what you love and loving what you do. *California Management Review*, 40 (1).
- Andriopoulos, C., & Lowe, A. (2000). Enhancing Organisational Creativity: The Process of Perpetual Challenging. *Management decision*, 38 (10), 734 - 742.
- Baer, M., Oldham, G.R., & Cummings, A. (2003). Rewarding Creativity: When does it really matter? *The Leadership Quarterly*, 14, 569 – 586.
- Baer, M., & Frese, M. (2003). Innovation is not enough: climates for initiative and psychological safety, process innovations, and firm performance, *Journal of Organizational Behaviour*, Vol. 24, pp 45 – 68.
- Barney, J.B. (1991). Firm resources and sustained competitive advantage, *Journal of Management* Vol. 17, 99– 120.
- Baron, R.M. & Kenny, D.A. (1986). The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations. *Journal of Personality and Social Psychology*, 51 (6), 1173 – 1182.
- Basu, P. K. (2008), Public Enterprises: Unresolved Challenges and New Opportunities. *Reinventing Public Enterprises and Their Management as the Engine of Development sand Growth*, United Nations, New York.
- Bennet, D. and Bennet, A. (2003), “The Rise of the Knowledge Organisation”, chapter 1 in Holsapple, C.W. (ed.), *Handbook on Knowledge Management*, Vol 1, Springer, Berlin, pp. 5–20.
- Bures, V. (2008). Knowledge Management: The Czech Situation and Approach, Proceedings of the International Conference and Exhibition.
- Cangemi, J., and Miller, R. (2007), "Breaking-out-of-the-box in organizations: Structuring a positive climate for the development of creativity in the workplace", *Journal of Management Development*, Vol. 26 (5) pp. 401 – 410.
- Darroch, J. (2003). Developing a measure of knowledge management behaviors and practices, *Journal of Knowledge Management*, 7 (5), 41 – 54.
- Elnurm, T. (2003). *Electronic Journal on Knowledge Management*, 1(2) 47-56.
- Ensor, J., Pirrie, A., & Band, C. (2006). Creativity work environment: do UK advertising agencies have one, *European Journal of Innovation Management*, Vol. 9, No. 3, pp 258 - 268.
- Friedrich, R., J. (1982). In Defense of Multiplicative Terms in Multiple Regression Equations. *American Journal of Political Science* 26(4), 797-833.
- Grant, R.M. (1996). Toward a knowledge-based theory of the firm, *Strategic Management Journal*, Vol. 17, pp. 109-22.

- Hamel, G., & Valikangas, L. (2003). The Quest for Resilience. *Harvard Business Review*.
- Ismael, M. (2005). Creative climate and learning organization factors: their contribution towards innovation, *Leadership & Organisation Development Journal*, Vol. 26, No. 8, pp 639 – 654.
- Jose, P. E. (2008), “*MedGraph-I: A programme to graphically depict mediation among three variables: The internet version, version 2.0*”. Available from: <http://www.victoria.ac.nz/staff/paul-jose-files/medgraph/medgraph.php>, (Accessed 20 October 2010).
- Kenny, D. A., Kashy, D., & Bolger, N. (1998). Data analysis in social psychology, in Gilbert, D., Fiske, S., and Lindzey, G. (Eds.), *Handbook of social psychology* (4th ed), McGraw-Hill, New York, pp. 233-265.
- Klijn, M., & Tomic, W. (2010). A review of creativity within organizations from a psychological perspective, *Journal of Management Development*, 29 (4),322 – 343.
- Leonard, D., & Sensiper, S. (1998). The Role of tacit Knowledge in Group Innovation. *California Management Review*, 40 (3).
- Li-Hua, R. (2007). Benchmarking China Firm Competitiveness: A Strategic Framework. *Journal of Technology Management in China*, 2 (2), 105 – 118.
- Lopez, S. P., Peon, J.M., & Ordas, C. J.V. (2005). Organisational Learning as a Determining Factor in Business Performance. *The Learning Organisation*, 12 (3), 227 – 245.
- Martensen, A. & Dahlgaard, J.J. (1999) Strategy and planning for innovation management-supported by creative and learning organisations, in: *International Journal of Quality and Reliability Management*, Vol.16, (9), 878-891.
- McManus, S.T. (2008). Organisational Resilience in New Zealand: PhD Thesis, University of Canterbury.
- Moore, M.H. (2003). Creating Public Value Through State Arts Agencies.
- Muhairwe, W.T. (2010). *Making Public Enterprises Work, From Despair to Promise: A Turn around Account*. Fountain Publishers, Kampala.
- Nonaka, I. (2007). Knowledge Management: Theoretical and Methodological Foundations. In K. G. Smith & M. A. Hitt (Eds). *Great Minds in Management: The process of Theory development* (pp 373 – 393). New York: Oxford.
- Panuwatwanich, K., Stewart, R.A., & Mohamed, S. (2009). Validation of an empirical model for innovation diffusion in Australian design firms, *Construction Innovation*, Vol. 9, No. 4, pp 449 – 467.
- Podsakoff, P.M., Mackenzie, S.B. & Lee, J.Y. (2003). Common method biases in behavioural research: a critical review of the literature and recommended remedies, *Journal of Applied Psychology*, 88 (5), 879-903.

Preacher, K.J., Curran, P.J., & Bauer, D.J. (2006). Computational Tool for Probing Interaction Effects in Multiple Linear Regression, Multilevel Modeling, and Latent Curve Analysis, *Journal of Educational and Behavioral Statistics*, 31, 437–448.

Rondinelli, D.A. (2008). Public Enterprises: Unresolved Challenges and New Opportunities *Can Public Enterprises Contribute to Development? A Critical Assessment and Alternatives for Management Improvement*. United Nations, New York.

Scott, W. R. (2007). Institutional Theory: Contributing to a Theoretical Research Programme. In K. G. Smith & M. A. Hitt (Eds). *Great Minds in Management: The process of Theory development* (pp 373 – 393). New York: Oxford.

Seba, I., & Rowley, J. (2010). Knowledge management in UK Police force, *Journal of Knowledge Management*, 14 (4), 611-626.

Stewart, J., & O'Donnell, M. (2007). Implementing Change in a Public Agency: Leadership, Learning and Organisational Resilience. *International Journal of Public Sector Management*, 20 (3), 239 – 251.

Tarrant, M. (2010), “ The Organisation: Risk, Resilience, and Governance”, *The Australian Journal of Emergency Management*, Vol. 25, pp 13 – 17.

Warrier, S. (2009). *Knowledge Management*, VIKAS, New Dehli.

Weeks, R. (2008). Nurturing a Culture and Climate of Resilience to Navigate the Whitewaters of the South African Dual Economy. *Journal of Contemporary Management*, 5, 123 - 136.