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www.msocsciences.com**Influence of Creative Climate, Knowledge Management Practices, and Organizational Innovation Towards Organizational Resilience: A Case Study of Malaysian Public Service Agencies****Abidah Harun Alias¹, Ismi Arif Ismail¹, Siti Noormi Alias¹, Zoharah Omar¹**¹Faculty of Educational Studies, University of Putra Malaysia (UPM)Correspondence: Abidah Harun Alias (abidah.harunalias@gmail.com)**Abstract**

Creative climate, knowledge management practices, and organizational innovation have been identified by previous researchers affect the organizational resilience. Nevertheless, a variety of results with regards to creative climate, knowledge management practices, and organizational innovation were reported in literatures. Thus, this study was conducted to investigate on creative climate, knowledge management practices, and organizational innovation model that affect organizational resilience in Malaysian public service agencies. A total of 359 respondents that consists of middle and senior public managers were involved encompassing 25 ministries in Malaysia. The final model derived from this study showed that seven dimensions of creative climate, three dimensions of knowledge management practices, and three dimensions of organizational innovation that fit into the organizational resilience model. It is hoped that the findings of this study would add a new insight in studying some complexities associated with organizational resilience in Malaysian public service agencies.

Keywords: creative climate, knowledge management practices, organizational innovation, organizational resilience, public service agencies

Introduction

At present, Malaysian government are buffeted by strategic challenges including debt, deficit pressures, technology, innovation and globalization (Caverley, 2005; Siddiquee, 2008; Ramli et al., 2017). Hence, Malaysian public service agencies recognize that they need to be resilient (Ministry of Finance, 2018). In other words, they need to respond to people demand (adaptation), provide efficient and effective services (competitiveness) and make themselves reputable (value). Such phenomenon known as organizational resilience (Hamel & Valikangas, 2003; Deselnicu et al., 2007; Alford & O'Flynn, 2008). In fact, the efforts to improve the efficiency of the public sector to be more responsive, competitive, reputable, and innovative started in 1980s (Malaysian Administrative Modernisation Planning Unit, 2018). Creative climate, knowledge management practices, and organizational innovation are the key areas placed in the organizational resilience strategy which the government had initiated National Blue Ocean Strategy (NBOS) program launched in 2009 by the former Prime Minister of Malaysia, and eventually the initiatives in NBOS has been re-emphasized in the Eleventh Malaysian plan (2016-2020).

The main focus of NBOS is to culminate creativity, knowledge, as well as innovative environment so as to be in tandem with government's initiative to provide quality of public service delivery that are responsive, competitive and valuable which important for resilient of public service agencies. However, the success of creative climate, knowledge management practices, and organizational innovation are dependable on public servants as they are the change agents that would be able to culminate creativity, knowledge, and innovation (Raja Kasim, 2008; Ali & Buang, 2016; Ku Saud, 2017). Therefore, the government needs to play a major role through top management to support for creativity, knowledge, and innovation in order to gear towards highly resilient of Malaysian public service agencies.

In spite of the above stated facts, the question that arises is whether the creative climate, knowledge management practices, and organizational innovation perceived as important predictors towards organizational resilience? Since there were many complaints pertaining to inefficiency of public service delivery from public at recent times (Public Complaint Bureau, 2016; Malaysian Anti-Corruption Commission, 2017), it showed that public service agencies need to improve service delivery to be resilient that based on the aforementioned predictors (11th Malaysian Plan, 2016-2020; Shafiq et al., 2017; Ministry of Finance, 2018). Therefore, the main objective of this study is to determine the relationship between creative climate, knowledge management practices, and organizational innovation, and organizational resilience in Malaysian public service agencies.

Hypotheses Development

Creative Climate

Creative climate can be defined as a conglomerate of attitudes, feelings, and behaviours which characterize the organizational life (Ekvall, 1996). In organization, there is actually the difference between culture and climate. With regard to the difference between organizational culture and organizational climate, McLean (2005) states that culture creates the parameters for what behaviour is desirable, encouraged, unacceptable, and censored. While, the climate can be viewed as a more concrete and tangible way to measure elements of culture in terms of specific behaviours and characteristics. Based on Ekvall's research in 1996 which associated with specific attitudes, feelings, and behaviours of organizational employees, creative climate can be divided into ten dimensions namely challenge, freedom, idea support, trust/openness, dynamism/liveliness, playfulness/humour, debates, conflicts, risk taking, and idea time. As such, a highly creative climate comprises of the ten dimensions has the ability to improve complex work designs efficiently and effectively that essential to organizational resilience (Ekvall, 1996; Moghimi & Subramaniam, 2013; Shanker, 2013; Mafabi et al., 2015). Hence, after reviewing the literature, this study formulates the following hypotheses:

H1: There is a positive relationship between creative climate and organizational resilience.

Knowledge Management Practices

Fundamentally, public service agencies are moving towards resilient acquire knowledge resources (Fani et al., 2015). Such activity showed that when public service agencies acquire knowledge, employees in the organization can gain new knowledge to develop new or unique ways of improving service operations to achieve organizational competitiveness (Jahrami & Buheji, 2013), adaptation (Matei et al., 2017), and value (Kamaruddin & Abeysekera, 2013). Additionally, public service agencies aim to be resilient should have an effort to plan new strategy for effective knowledge management practices where knowledge must be acquired from other organizations, books, internet etc., and must be disseminated through formal meeting or discussion, as well as they must be able to response to the knowledge quickly to overcome organizational weaknesses so as public organizations have the ability to respond to people demands, to provide effective and efficient services, and enhance their reputation (Moore & Moore, 2003; Kumar & Che Rose, 2012; Nuruzzaman, 2015). On top of

that, public service agencies can review its work routines based on knowledge management practices to improve quality, productivity, efficiency, effectiveness, including introduction of new services to ensure that public service agencies achieve highly resilient (Ongaro, 2004; Basadur & Gelade, 2006; Garcia-Morales et al., 2008). Therefore, this study formulates the hypotheses as stated below:

H2: There is a positive relationship between knowledge management practices and organizational resilience.

Organizational Innovation

A resilient of public service agencies must have the capability to design new work processes that are deemed fit for efficiency and effectiveness (Riivari et al., 2012). For that purpose, public service agencies must allow human resources to implement their work through the work processes competently for the new processes to be sustained. The programs of renewing work processes require organizational innovation to introduce new methods until producing the best system (Bawden & Ortun, 2002). The improvement of organizational innovation process, structural, and competences can be described as a social learning activities where employees have opportunities gather their creative ideas through the process of adventuring and confronting (Andriopoulos & Lowe, 2000; Wang & Ahmed, 2004). The effective social learning activities that can promote innovation (Andriopoulos & Lowe, 2000), obviously, as a process to build organizational resilience (Bhamra et al., 2015; Blanco & Botella, 2016; Kamalahmadi & Parast, 2016). Innovation is a prerequisite for developing organizational capacity to cope with environmental changes (Valsania et al., 2016). Hence, there is a need for public service agencies to add value in changing new service delivery through innovation (Abdul Khalid, 2008). For instance, public healthcare innovation has been introduce a new Research and Development (R&D) concepts and processes for treatment, diagnosis, education, outreach, and prevention. As the results, it can be improved in terms of quality, safety, outcomes, efficiency and costs (Omachonu & Einspruch, 2010). The efforts showed that public service agencies introduce the innovations tend to achieve organizational resilience (Zhou et al., 2017; Martin et al., 2018). Based on this review, this study formulates the following hypotheses:

H3: There is a positive relationship between organizational innovation and organizational resilience.

Research Methodology

Organizational resilience instrument in this study was adapted from Mafabi et al. (2012). Mafabi et al. (2012) conceptualized organizational resilience to be measured into three dimensions such as organizational adaptation, organizational competitiveness and organizational value. The scales of organizational resilience was developed based on a Five-point Likert scale that ranges from (1 to 5): 1= strongly disagree, 2 = disagree, 3 = slightly agree, 4 = agree, 5 = strongly agree.

The items for the creative climate instrument of this study were developed by the researchers based on creative climate questionnaires (CCQ) originally developed by Ekvall (1996). The instruments consists of 10 dimensions with 50 items. Each dimensions consists of 5 items. The study follow the original CCQ uses a Four-point Likert scale that ranges from (0 to 3): 0 = not at all applicable, 1 = applicable to some extent, 2 = fairly applicable, and 3 = applicable to a high extent.

The knowledge management practices instrument was adapted based on Darroch (2003). The scale consists of three dimensions such as knowledge acquisition, knowledge dissemination, and responsiveness to knowledge with 16 items pertaining to knowledge management behaviour and practices that helps in developing innovation which essential towards organizational resilience. The measurement scale of instrument based on a Five-point Likert scale that ranges from (1 to 5): 1= strongly disagree, 2 = disagree, 3 = slightly agree, 4 = agree, 5 = strongly agree.

While, the instruments of organizational innovation was adapted from Wang and Ahmed (2004), and Vaccaro et al. (2012). A Five-point Likert scale was used by researcher that ranges from (1 to 5): 1=strongly disagree, 2=disagree, 3 = slightly agree, 4 = agree, 5 = strongly agree. The questionnaires contain three dimensions: process innovation, structural innovation, and competence innovation that consists of 16 items.

The pilot test was carried out among 30 respondents, middle and senior public managers in Ministry of Energy, Technology, Science, Climate Change and Environment (10), Ministry of Health (10), and Ministry of Home Affairs (10) and the value of cronbach's alpha was 0.7 - 0.8. It indicates that the instrument is valid and reliable. Respondents were interviewed using a questionnaire for the purpose of getting the data needed. The sample (list of managers) was obtained from the Malaysian Ministries Website (2018).

For the actual data collection, a total of 359 respondents who were middle and senior managers from policy division in 25 ministries were randomly selected. The respondents were selected among middle and senior public managers from policy division as their main task involved in handling, coordinating and monitoring strategic issues for the ministries itself and their agencies, respectively. Since, organizational resilience classified as strategic issues (Freeman, 2010), so this group of people is appropriated for the research. The data collection process involved a group of trained enumerators and was conducted from January 2019 until March 2019. Data collected was analyzed using Statistical Packages for Social Science (SPSS) and Analysis of Moment Structures (AMOS version 23.0). SPSS was used to measure the frequency, percentage, and Cronbach's Alpha (please refer to Table 1 & 2). While, AMOS was used to test for CFA model for each construct and hypotheses between construct.

Reliability of Instruments

The reliability of the research instrument refers to stability and the internal consistency of questionnaire (Pallant, 2001; Creswell, 2012). Awang (2012) added, reliability is how reliable is the said measurement model in measuring the intended latent construct. For the verification of reliability principles, the Cronbach's Alpha statistical test was performed in pilot study among 30 respondents. This study also was performed the Cronbach's Alpha statistical test for actual data collection among 359 respondents. The results of the pilot and actual test present in Table 1. Therefore, the results show that items in the questionnaire are considered appropriate and have good internal consistency as this study found that the overall studied variables value above 0.70 which considered acceptable based on George & Mallery's view (2009).

Table 1: Result of Reliability Test

Construct	Pilot Test	Actual Test
Organizational resilience	0.79	0.85
Knowledge management practices	0.78	0.89
Creative climate	0.88	0.90
Organizational innovation	0.84	0.91

Structural Equation Modeling Using Amos

Analysis of Moment Structures (AMOS) version 23.0 was used to conduct the CFA in determining the constructs dimensionality of creative climate, knowledge management practices, organizational innovation and organizational resilience. A model is considered fit if the Chi Square value is low and its significance value is high (larger than 0.05), GFI, AGFI, CFI, IFI, NFI, and TLI index value must be larger than 0.9 and RMSEA value must be lower than 0.08. Analysis conducted involved two steps. For the first step, it involved testing on CFA model for each construct and for the second step to test of hypotheses of each construct. The hypotheses were tested by using SEM as it provides powerful

statistical test as well as its ability to assess the relationships comprehensively. SEM also provides a transition from exploratory to confirmatory analysis (Hair et. al., 2010). Additionally, SEM techniques are appropriate for the type of study which involves multiple dependence relationships like those investigated in the research.

Finding and Discussion

Table 2 depicts the socio-demographic profile of respondents, and the data revealed that women are still the main dominant force of public administration accounting 59.9% of the respondents. Majority of respondents married (90%), and followed by bachelor (10%). Nearly half of the respondents have bachelor degree (60.2%). Results gained showed that majority respondents' age from 25 to 45 (79.9%), and have experienced between 5 to 15 years (79.9%). Thus, the majority of respondents in policy division of 25 Malaysian ministries were consists of middle managers (79.9%).

Table 2: Demographic and Profile Details of Samples (n = 359)

Characteristic	Frequency	Percentage	Cumulative Percentage
Gender			
Male	144	40.1	40.1
Female	215	59.9	100.0
Marital Status			
Single	36	10.0	10.0
Married	323	90.0	100.0
Divorced	-	-	-
Education			
Bachelor	216	60.2	60.2
Master	139	38.7	98.9
PhD	4	1.1	100.0
Others	-	-	-
Age			
25 - 45	287	79.9	79.9
46 - 60	72	20.1	100.0
Work Experience			
5 - 15	287	79.9	79.9
16 - 26	72	20.1	100.0
>27	-	-	-
Job Position			
Middle Manager (Grade 44 - 48)	287	79.9	79.9
Senior Manager (Grade 52 - 54)	72	20.1	100.0

Based on confirmatory factor analysis (CFA) results of the creative climate assessment of the public service agencies, the 25 Malaysian ministries involved in this study could be classified as quite creative. In this study, there were ten factors of creative climate (challenge, freedom, trust, idea time, dynamic, idea support, debate, playfulness, conflict, and risk taking). However, out of ten factors, three factors (playfulness, conflict, & risk taking) have low factor loading which below the acceptable threshold of 0.5. The decision to drop the three dimensions after factor analysis was consistent with

previous creative climate studies by Zain and Kassim (2012) and Shanker (2013). One of the reasons why the dimension of conflict did not appear could be in public sector’s cultures are relatively high in power distance (Hofstede, 1997) and in such culture, public employees tend to prefer leaders to take more control of work processes and lead by example (Chow et al., 1999). Thus, the concept of conflict with leader was rarely happen in this context. The playfulness (jokes and laughter) dimension disappeared may be the main respondents, middle and senior managers in policy division have been involved more on serious tasks that related to strategic issues. As such, there might be less jokes and laughter in their work environment. Risk-taking is also not displayed as a contributor to creative climate in the context of public sector, due to proper, and well-structured of work that they need to be complied with, the practice of risk-taking to make their own decision drastically is not as extensive as in private sector. Thus, after deleted the three dimensions fit indices achieved. The results revealed that the following Goodness of Fit Indices: Chi-square (182) = 507.603, Relative Chi-square = 2.789, $p = .000$, GFI = .883, AGFI = .851, CFI = .941, IFI = .941, NFI = .911, TLI =.932, RMSEA = .069. From the results, it can be concluded that the model is fit. Furthermore, the results in Table 3 indicates that there was a significant relationship between creative climate and organizational resilience ($\beta = .389$, CR = 9.902, $P < .05$). This means that creative climate significantly contribute to organizational resilience. Hence, the *H1* is supported.

In addition, the CFA results of knowledge management practices showed that the following Goodness of Fit Indices: Chi-square (64) = 175.547, Relative Chi-square = 2.743, $p = .000$, GFI = .931, AGFI = .902, CFI = .949, IFI = .949, NFI = .922, TLI =.937, RMSEA = .070. The results indicated that the knowledge management practices model is valid and fit. As shown in the Table 3, the results of the hypothesis testing on whether knowledge management practices influence organizational resilience. The results indicated that knowledge management practices (knowledge acquisition, knowledge dissemination and responsiveness to knowledge) had a significant positive influence on the organizational resilience (organizational adaptation, organizational competitiveness and organizational value), ($\beta = .212$, CR = 5.630, $P < .05$). Therefore, the proposed hypothesis *H2* showed that knowledge management significantly contributes to organizational resilience is supported.

The following CFA results of organizational innovation revealed that Goodness of Fit Indices: Chi-square (51) = 165.910, Relative Chi-square = 3.253, $p = .000$, GFI = .928, AGFI = .890, CFI = .941, IFI = .941, NFI = .917, TLI =.924, RMSEA = .079. This indicates that the organizational innovation model is fit. Finally, the last hypothesis *H3* has also been accepted indicating that organizational innovation had significantly influenced organizational resilience in the expected direction. The results depicts in Table 3, supported the hypothesis that said there was a significant relationship between organizational innovation and organizational resilience. The standardized regression weight showed that organizational innovation was a significant predictor of organizational resilience ($\beta=.481$, CR=11.097, $P < .05$). Therefore, *H3* is supported.

Table 3: Standardized and Unstandardized Regression Weight in the Hypothesized Path Model

Hypothesized Path	β	S.E	B	CR	P
Creative climate →Organizational resilience	.389	.031	.311	9.902	***
Knowledge management practices →Organizational resilience	.212	.027	.153	5.630	***
Organizational innovation →Organizational resilience	.481	.032	.357	11.097	***

Note: Significant results (***) based on p-value < 0.05

Conclusion

The findings of this study implied that public service agencies' managers perceived creative climate as pertinent element towards organizational resilience. Creative climate needs to be taken into serious consideration by policy makers. It is obvious that public servants need support and trust in terms of financial, ideas, knowledge, material and etc. in order to develop innovation which important for organizational resilience (Amabile, 1997; O'Donnell, 2006). Innovation essentials to improve public service delivery as it is one of the big opportunities for Malaysian public sector to strive for competitiveness so that public sector would be able to compete with other countries particularly in foreign direct investment (FDI). The study showed that in Malaysian public service agencies, managers perceived creative climate policies have important influence in their decisions. Through the influence of trust, idea support and freedom of creative climate, managers are guided by their own conscience which related to their actions and motivate them in a certain manner. The influence of such creative climate is important for public managers to make a right decision to provide a path for Malaysian public service agencies to achieve highly resilient. Accordingly, the role of public service agencies in delivering effective and efficient services (competitiveness) was highlighted. It is assumed that creative climate as a basic element among public policy makers for enhancing organizational resilience. Thus, Malaysian public service agencies appear to be an appropriated network nodes due to their lean structures in implementing creative climate towards resilience (Curry, 2009; Bloch & Bugge, 2013; Rahman, 2013; Zhou et al., 2017). Results showed that the seven dimensions of creative climate placed in acceptable range out of the ten dimensions. It means creative climate positively influence the organizational resilience.

This study also was examined the influence of knowledge management practices on organizational resilience. The positive relationship showed that Malaysian public service agencies have some potentials strive to build an efficient knowledge management practices. This study provides a good perspective into the effectiveness of knowledge management practices based on knowledge acquisition, dissemination, and responsiveness to knowledge, and all factors in an acceptable range. Lack of the implementation of effective knowledge management practices in public service agencies may affects work processes in many ways (Massaro et al., 2015). As the consequences, public have the tendency to ignore the public organizations' services if the services provided not respond to their demands. Knowledge management practices in public service organizations can help to develop many innovative ways in work structural and processes (Raja Suzana, 2008). Besides that, knowledge management practices has great impact among public employees in changing their work behaviour that contributes to organizational resilience (Fani & Fard, 2015). Therefore, knowledge management practices showed that they influence innovation in the public service agencies (Kumar & Che Rose, 2012). Most importantly, this study confirms the statement has been made by Darroch (2003) that knowledge management practices influence innovation for organizational competitiveness which crucial to achieve for organizational resilience (McManus, 2008; Mafabi et al., 2012).

Subsequently, results of the study revealed that there was positive relationship between organizational innovation and organizational resilience. Public service agencies as the most important sector in shaping a country's innovation capabilities (Etzkowitz et al. 2000; Etzkowitz & Leydesdorff, 2000). Basically, public sector helps to develop the technologically skilled portion of a country's work force. Malaysia surely cannot develop a successful technology-based economy without of highly skilled workers (Rahman, 2013). Malaysian public service agencies have done many efforts for instances, educate the graduates, entrepreneurs, and technicians that are needed to promote successful innovation dynamic capabilities. In addition, Malaysian public service agencies have developed R&D for businesses as well as for the public sector itself, so as it can be benefited to better nations (Ismail & Ramli, 2011; 11th Malaysian plan, 2016-2020). R&D collaboration is one of the platforms for Malaysian public sector and industry interactions. Industry can benefit from public service agencies for technical assistance and human capital support (Koh & Wong, 2005; Li, 2011). Cohen et al. (2002) added, the publications and reports, informal interactions, meetings and conferences is predominant in public service agencies providing of R&D information to industry. The research culture in Malaysian public service agencies for example, is highly competitive. Researchers must compete for many years to get their research positions, and to disseminate the results of their research that can be used for

industries. This makes it important for public administrators to support the processes of commercialization for competitiveness (Ismail & Ramli, 2011; Ramli et al., 2017). Accordingly, based on the findings of the study, Malaysian government has played an important role in stimulating organizational innovation especially in R&D by providing efficient regulatory systems, support higher education, and investments in R&D to facilitate the R&D in order to compete with other sectors (Ismail & Ramli, 2011). The efforts showed that Malaysian public service agencies strive to develop organizational innovation towards organizational resilience.

Therefore, it can be concluded that creative climate, knowledge management practices, and organizational innovation are important in moving towards organizational resilience. Results of the study revealed that those dynamic capabilities could improve in the operational of work processes, improve organizational structures, as well as improve employees' competencies. To achieve organizational resilience, this study suggests that Malaysian public service agencies improve their service delivery continuously by practicing the strategy of organizational dynamic capabilities consistently such as creative climate, knowledge management practices, and organizational innovation in order to reduce the public complaints at very minimum level in the future.

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