Links between bureaucratic culture and knowledge creation: the mediating role of knowledge-oriented leadership

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Abstract: The purpose of this study is to test the impact of bureaucratic culture on knowledge creation and how this nexus is mediated by knowledge-oriented leadership. Bureaucracy as the identity of organisations in Northern Iraq has been the centre of discourses for reform and change. Managers have tried to harmonise knowledge management within the bureaucratic system in the public sector but that has not led to success yet. A part of the problem manifests itself from the leadership side as well; however the knowledge-oriented leadership may play a positive role to facilitate knowledge management practices within a bureaucratic culture of organisations. This empirical study is based on a sample of 175 employees working in different public universities located in the north of Iraq. The results show that the bureaucratic culture is negatively related to knowledge creation and this relationship is fully mediated by the knowledge-oriented leadership. The results of this study will be an addition to the existing literature because it the first attempt in its kind that has been conducted in an untested context. Also, the investigated public universities can enhance their knowledge management practices by implementing knowledge-oriented leadership styles.

Keywords: knowledge management; public universities; knowledge creation; bureaucratic culture; knowledge-oriented leadership; KOL.

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1 Introduction

In today's competitive era, knowledge is considered as one of the most crucial resources for organisations. Creating knowledge in public organisations is the main concern and probably a challenge in some organisational cultures. Davenport and Prusak (1998) defined knowledge as "a fluid mix of framed experience, values, contextual information, and expert insights." Drucker (1990) claims that "knowledge is the 'real source' not just a normal source." However, this significant asset should be created first then it plays its competitive role to increase the organisational effectiveness and efficiency (Tajeddini, 2015). The role of knowledge creation is undeniable as a surviving advantage of competition. "In an economy where the only certainty is uncertainty, the one sure source of lasting competitive advantage is knowledge" (Nonaka and Toyama, 2005) Scholars have paid considerable attention to the significance of organisational knowledge, but the crucial concern is how an organisation creates its knowledge.

During the last three decades, the organisational knowledge creation theory has been developed by Nonaka (1994), Nonaka and Toyama (2005) and Nonaka et al. (1996). According to the theory, knowledge is created through a conversion process which takes place between tacit and explicit knowledge (Nonaka, 1994). Within the theory, there are four models of practice which they convert implicit knowledge to explicit knowledge: socialisation, externalisation, combination and internalisation (SECI) (Song et al., 2011). Knowledge creation as a practice can be defined as those activities that surround the conversion of subjective tacit knowledge (based on experience) to objective explicit knowledge, also called externalisation (Tiwana, 2000). The importance of knowledge creation manifests in the fact that both public and private universities need knowledge as a tool to compete with their rivals and global competitors (Pei, 2008). On the other hand, universities need to create new knowledge so as to be able to enhance their efficiency and effectiveness. This enhancement can gain organisational value and outperform the rivals to an extension of organisational innovation. As knowledge and innovation are like two wings of a bird, they complement each other. When a public university creates new knowledge, it is faster and responsive to innovate and compete with the market developments (Cavusgil et al., 2003).

If knowledge plays that role of competitive advantage, what are the organisational factors that promote knowledge creation? (Ali, 2021). Knowledge creation is not an easy task for managers; therefore, several factors are involved in the process to be successful. Managers should design human resource management as a tool to drive the organisations to use the KM practice (Cavusoglu, 2016b; Sağsan, 2003). Also, modern technology helps knowledge creation as a KM practice (King and Marks, 2008; Lai et al., 2009; Lin and Huang, 2008). More importantly, organisational structure and culture affect creating new knowledge (Donate and de Pablo, 2015; Gold et al., 2001; Nguyen and Mohamed,

2011; Singh and Kant, 2009; Tajeddini et al., 2017). Leadership is another significant factor for all KM practices and specifically for knowledge creation, that encourages or discourages it (Budur and Demir, 2019a, 2019b; Zaim et al., 2021).

However, sometimes knowledge creation faces obstacles and hindrance due to the poor adjustment between the KM practice and organisational factors. One of the challenges of creating knowledge is organisational bureaucratic culture. According to Tajeddini and Trueman (2012), bureaucratic cultures are hierarchical and compartmentalised with clear lines of responsibilities and authority; the cultures are based on control and power. On the other hand, there are some characteristics of bureaucracy which are not in the interest of knowledge creation such as little communication, reluctance to change and centralisation (Do, 2007). Public universities of Kurdistan like other organisations follow the bureaucratic structure which is handicapped by massive procedures and routines (Ali, 2021). On the other hand, Ahmad et al. (2017) claim that formalisation as a manifestation of bureaucracy drives employees to be less flexible and face more constraints of procedures during the knowledge management processes.

As it was identified above, leadership is considered as an encouraging factor for knowledge creation. According to Nonaka and Takeuchi (1995), leadership could be instrumental in encouraging both team members' work engagement for effective knowledge creation practices and dynamic collaboration for constructive knowledge acquisition for knowledge management creation. One of the pro knowledge leadership styles is knowledge-oriented leadership (KOL) (knowledge-based leadership). This leadership style creates conditions that are conducive to a greater commitment to activities for experimentation and creative learning (Donate and de Pablo, 2015). The main goals for a knowledge-oriented leader are to act as a role model and encourage learning by challenging workers and stimulating them intellectually (Donate and de Pablo, 2015). This paper assumes that KOL may play a crucial role in easing knowledge creation practice through the three effective mechanisms of communication, motivation and appreciation. A number of studies (Bollinger and Smith, 2001; Bryant, 2003; Chang et al., 2012) show that both implicit and explicit motivation have positive relationships with KM development and success. According to Nonaka and Takeuchi (1995), motivational elements and specific rewards for these activities help the firm create the appropriate conditions and develop initiatives for knowledge conversion that lead to new ideas.

Although a significant body of literature is available that has investigated the possible way of implementing knowledge management practices in bureaucratic cultures, a number of gaps exist in the literature that warrant further investigation. First of all, the available studies have focused on the implementation of knowledge management practices as a package all together, however this paper tries to focus purely on knowledge creation and how KOL may mediate for it. And the reason for choosing knowledge creation not other practices such as knowledge sharing or using is that: organisations need to create knowledge first then they can follow other practices, the public organisations in north of Iraq are at their very beginning stages of knowledge management practices. Most of the scholars in the field of knowledge management prioritised knowledge creation as the first practice of knowledge management (ud Din and Farooq, 2017). Second, most of the studies in the field of knowledge management have been conducted in the western context, while this paper has been dealing with a non-western context which is northern Iraq. There are some studies on knowledge

management practices and the organisational capabilities such as Çavusoglu (2014) and Demir et al. (2021) also knowledge oriented leadership as a positive leadership style is investigated by Kamal and Shawkat (2020) however, none of the attempts has specifically tried to investigate the impact of knowledge oriented leadership style on the relationship between bureaucracy and knowledge creation in Kurdistan region. And that excuse is backed by the call of Donate and de Pablo (2015) to investigate target different cultural contexts countries or geographical areas – in order to validate the results for a broader spectrum of cultures and geographies Third, despite the fact that leadership has always been controversial aspect of knowledge management but our suggested model of leadership has ascended with the emergence of knowledge management therefore it is worth to understand the level of cooperation. Previous studies (Donate and de Pablo, 2015; Ahmad et al., 2017; Hassan et al., 2021) have investigated the impact of knowledge-based leadership on knowledge management practices, this study tested it only on knowledge creation. Finally, this paper deals with the public universities of northern of Iraq, these institutions have presented initiatives to start managing their knowledge, this process needs academic input in order to harmonise the process with the existing bureaucratic culture. This study provides some new insights into the literature because the outcomes of it can play a great role in both theoretical and practical dimensions because the public universities in the region are suffering from their bureaucratic culture and their organisational structure. Therefore, this is expected to contribute in enriching the wide-reaching available literature, at the same time, it adds a great input to the eastern context particularly Iraq.

2 Literature review

2.1 Bureaucratic culture and knowledge creation

Daft and Lane (2005) defines organisational culture as a set of assumptions, understandings norms and key values that are shared by members of an organisation and taught to new members. Bureaucratic culture is one form of the three organisational cultures which are bureaucratic, supportive and innovative (Wallach, 1983). Public organisations in Northern Iraq are fully centralised and regulated by the government. The bureaucratic systems are manifested in their massive daily procedures and routines (Torlak et al., 2021). The public universities are rather the extension of the classic bureaucratic system of the general public administration. Such bureaucratic structure is a hindrance for implementing knowledge management.

Knowledge creation is one of the practices in knowledge management and it is not a new concept in the field. It involves developing new knowledge content or replacing existing content in the organisation's explicit or tacit knowledge pool (Alavi and Leidner, 2001). Since the 1990s, Nonaka and Takeuchi (1995) has investigated knowledge creation. They have established a model of knowledge conversion from tacit to explicit knowledge. The significance of the practice is undeniable since organisations need knowledge as a competitive advantage to survive within the rivals. In our current knowledge-oriented economy, creating new knowledge is an essential activity for a firm's long-term success (Davenport and Prusak, 1998; Gherardi, 2009; Nonaka and Takeuchi, 1995). The real question to ask in reviewing the current literature is that: have bureaucratic organisations succeeded in implementing knowledge creation?

Our study theorises on the applicability of knowledge creation in the organisations which customise bureaucratic culture as the organisational structure, it the question of the capability of bureaucratic culture whether it deter or support knowledge creation. There is not much literature on the relationship between knowledge creation and bureaucratic culture. The available studies are rather conducted on knowledge management practices in bureaucracy as a whole. The bureaucratic culture does not seem to encourage an effective knowledge management and the arguments for that claim will be explained accordingly.

First of all, the essence and mentality of bureaucracy is not a knowledge creator. Crawford et al. (2009) claims that knowledge management practices fail in bureaucratic culture, because bureaucratic perspective does not prioritise knowledge but considers knowledge as any other asset and commodity. Bureaucratic organisations retain this perspective, the real nature of knowledge work remains hidden, and thus inaccessible to those who are trying to 'improve organisational outcomes' through KM practices (Budur and Poturak, 2021; Linger and Warne, 2001). The retention of that perspective may lead failure in knowledge creation as well because the organisation cannot recreate new knowledge from the employees' tacit knowledge.

Second, communication is poor in bureaucratic culture and that is due to the established and solid organisational structure. Bureaucratic organisation has a negative effect on individuals' behaviour due to lack of encouragement for exchanging ideas and views. It is considered as a barrier in intra-organisational information flow and communication (Hassan et al., 2020, 2021; Pandey and Bretschneider, 1997). This pillar of knowledge creation should be supported to convert tacit to explicit knowledge (Astuti et al., 2020).

Thirdly, centralisation and formalisation are two apparent features of bureaucracy and none of them encourage employees to participate in the knowledge creation process. Sharratt and Usoro (2003) and Budur and Poturak (2021) have explained the difference between centralisation and decentralisation, centralised organisation stifles the creation of new knowledge. Creating knowledge within the organisations is the result of employees' behaviour, however the extent of that behaviour is restricted in bureaucratic culture. Ahmad et al. (2020) claim that formalisation as a manifestation of bureaucracy drives employees to be less flexible and face more constraints of procedures.

Finally, bureaucratic culture is procedural and supports organisational routine as a result. Employees who deal with unnecessary procedures and rules are not keen to engage in conversations and sharing opinions as a tool of creating knowledge. That drives the employees to be less active psychologically to involve in knowledge creation. Ali (2021) explored that perception of bureaucratic culture or the burdensome rules and procedures gives the feeling of alienation among employees. The feeling of alienation restricts them to involve in social activities such as networking with colleagues and knowledge sharing. Knowledge creation is an act of exchanging ideas and views frequently while bureaucratic culture does not provide this creative environment. When employees are under stress, they are no more innovative and creative and they lack the interest to share knowledge with colleagues (Budur, 2020; Cavusoglu, 2016a). As a result, it is argued that the culture hinders creating knowledge.

Based on the above arguments, the following hypothesis will be tested:

H1   Bureaucratic culture is negatively related to knowledge creation.

2.2   KOL, bureaucratic culture and knowledge creation

Theoretically, KOL is developed by Donate and de Pablo (2015), by combination of both transformational and transactional leadership. The philosophy of this leadership style is to consider knowledge the core strategic asset of the firm (Zack et al., 2009). The challenge for many organisations is how to create knowledge. The theory basically focuses on creating, integrating and applying knowledge in an organisation (Grant, 1996; Kogut and Zander, 1992). It is fundamentally retrieved form the theory of resource-based view which considers strategic resources (including knowledge) as competitive advantage.

Several researchers have claimed that there is a significant relationship between leadership and knowledge creation including Demir et al. (2021) and Kamal and Shawkat (2020) but there are limited studies conducted on that relationship. For this reason, the worldwide literature in that regard will be discussed. Knowledge management practices are the act of human beings within the organisation. Based on that notion, leadership styles can play a crucial role in mediating knowledge creation. In our turbulent economic situation, leaders are considered one of the most effective and essential components of an organisation for overcoming limiting socioeconomic issues and remaining current on changing business trends (Finkelstein et al., 2010; Northouse, 2018). This paper assumes that KOL can play a positive role to create knowledge in bureaucratic culture. Researchers have found significant impacts in testing KOL as an independent and mediating variable in both the private and public sector. Donate and de Pablo (2015) found a positive effect on employees' behaviour when they conducted a study on KOL by combining transformational and transactional leadership styles. Knowledge creation practice is rather an explorative act and explorative initiatives mainly seek to create new knowledge (Grant, 1996; March, 1991). KOL as a leadership style encourages employees to express and exchange ideas, which is facilitating for building knowledge. For this reason, the Kurdish culture is flexible and adaptable to those leadership styles which put the employees as the core and centre of action (Ali, 2018; Demir et al., 2021; Hasan, 2016; Hassan et al., 2021). Kurds as a deprived and humiliated nation always considers themselves as victims therefore when a leader takes care of their emotions and feelings they will be more responsive and reactive (ud Din and Farooq, 2017). Kurdish employees strictly follow knowledge-oriented leaders for the positive attributes that knowledge oriented leader practice, the attributes are motivation, communication and rewarding (Hasan and Perot, 2021).

On the other hand, knowledge creation needs an environment which can attract knowledge. Cohen and Levinthal (1990) found that KOL enables organisations to recognise the value of new information from external sources, simulating and applying it for commercial purposes. In addition, KOL leads to more productivity, better staffing, value added services, customer and employee satisfaction, preventing repetitive mistakes, reducing rework, saving time, updating and developing creativity and identifying deficiencies in organisational knowledge (Tajeddini, 2016; Yang et al., 2014). Furthermore, KOL supports communication among employees, this organisational atmosphere is rarely felt in bureaucratic culture. In that regard, KOL supports in creating new knowledge. Knowledge-oriented leaders encompass clear communication regarding the expectations of knowledge employees and the company's objectives, along with motivational elements (Ribiere and Sitar, 2003). Communication helps the leaders and their subordinates to convey their messages in a timely manner. Lastly, motivation and appreciation are two other characteristics of KOL style (Din et al., 2019). In bureaucratic

cultures, employees are fully regulated and cautious. That sense of fear comes from the fact that they must exactly follow what is required. Knowledge-oriented leaders inspire employees when the expectations are met. A number of studies (Bollinger and Smith, 2001; Bryant, 2003; Chang et al., 2012) show that both implicit and explicit motivation have positive relationships with KM development and success. According to Nonaka and Takeuchi (1995), motivational elements and specific rewards for these activities help the firm create the appropriate conditions and develop initiatives for knowledge conversion that lead to new ideas. Finally, KOL is the style of role-modelling and learning. The leader dedicates time to teach subordinates, especially the less-experienced and newly recruited employees. This helps knowledge creation in bureaucratic culture because in bureaucracy the organisational structure is established and solid, the system does not tolerate mistakes and adventures. According to Donate and de Pablo (2015), the goal of leaders in KOL is to encourage and stimulate learning and tolerate mistakes (Budur and Demir, 2019a).

Based on the above discussion, this study articulates the following hypothesis:

H2   KOL mediates the relationship between bureaucratic culture and knowledge creation.

3   Research methodology

This study is conducted in the Ministry of Higher Education and Scientific Research (MHESR) in Iraqi Kurdistan Region. MHESR in the region manages 14 public universities and 12 public universities (Ali, 2018). The public universities are fully funded by the ministry of higher education.

The data for this study is gathered from five public universities (Raparin, Sulaimani, Koya, Soran and Sulaimani Polytechnic) in the region. Initially, we planned to distribute hard copy questionnaires among universities' faculty and administrative staff, but due to the coronavirus, an online questionnaire was set using Google Forms. In April 2021, the questionnaire was individually sent to 201 people, after four days of responding a total of (175) valid responses were received.

The majority of the respondents were male with 83%. Respondents were classified according to their job occupation and qualification levels. 52% of them were administrative staff while 48% were academic staff. The largest group holds a master degree which is 44%, the second largest group holds bachelor degree with 33% and the third group holds PhD with 12% and the smallest group who holds diploma was 11%. The average years of experience were 10.8 years.

3.1   Measures

Unless stated otherwise, all measures were based on a five-point Likert-type scale (1 = strongly disagree, 5 = strongly agree):

- *Knowledge creation:* This variable was assessed with six highly loading items from the scale developed by Sankowska (2016) correspondingly. These items capture the conceptualisation of knowledge creation introduced by Nonaka and Takeuchi (1995). A sample question is: my organisation encourages employees to exchange different ideas and concepts frequently.

- *Bureaucratic culture:* This paper used six items from Wallach (1983) to evaluate the bureaucratic culture. A sample question is: my organisation is procedural.

- *KOL:* This variable was measured with six items adopted by Donate and de Pablo (2015). Each two items of the six items mainly cover the attributes of motivation, communication and rewarding. A sample question is:
  my leader gives support to others in exchange for their efforts.

4 Results

We computed the descriptive statistics, reliabilities and correlations between the variables presented in Table 1 to identify the differing influences of the factors. The means and standard deviations are in the normal ranges of statistical frameworks. All main variable means exceeded the median scale score of 3. As expected, all but one bivariate correlation among the main model variables are statistically significant.

Table 1   Means, standard deviation, reliabilities and correlations

	Mean	SD	Gender	Age	Degree	Exp.	Position	BC	KC	KOL
Gender	1.17	.37	1							
Age	35.36	5.76	.111*	1						
Degree	2.54	.84	−.008	.201**	1					
Experience	10.80	5.66	.218**	.839**	.126	1				
Position	1.48	.50	−.042	−.239**	−.812	−.142	1			
BC	3.16	.63	.155*	−.007	−.105	−.045	.59**	.60		
KC	2.83	.830	.121***	.066*	−.006	−.041	.057	.555**	.86	
KOL	3.21	.874	−.116	−.066	−.110	−.145	.166*	.406**	.566**	90

Notes: Gender (1 = male, 2 = female), degree (1 = diploma, 2 = bachelor, 3 = master, 4 = PhD), position (1 = lecturer, 2 = employee), BC = bureaucratic culture, KC = knowledge creation, KOL = knowledge-oriented leadership. *P < 0.05 and **P < 0.01.

5 Regression analysis

All statistical analyses were carried out by using SPSS version 24 and the extension of mediation and regression-based PROCESS tool developed by Hayes (2017), which is specifically designed for testing complex mediation, to test the significance of the indirect effects. Bootstrapping was set to 5,000 bootstrap samples.

Hypothesis 1 expects that bureaucratic culture is negatively related to knowledge creation. Our results show that bureaucratic culture explained 31% of variance in KC. BC was significant, and negatively related to KC ($B = -.03$, $p < 0.01$) in terms of the direct relation (Table 2). Thus, Hypothesis 1 is supported.

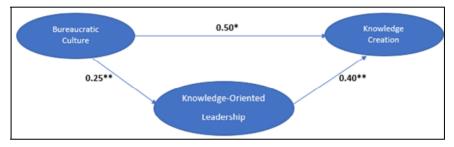**Table 2**   Direct effect of bureaucratic culture on knowledge creation

Coefficient	se	t	p-value	LLCI	ULCI
−.0306	.0627	−.4881	0.032	.1543	.0931

Hypothesis 2 predicted that KOL mediates the relationship between bureaucratic culture and knowledge creation. Our results show that the indirect effect of BC on KC is statistically significant, as evidenced by the no-zero in its respective confidence intervals (B = .25, LLCI = .107, ULCI = .376). Thus, KOL is a significant mediator, such that BC is negatively related to KOL (B = –.41, p < 0.01), which in turn is positively related to KC (B = .40, p < 0.01). Additionally, the direct effect of BC on KC was significant (B = 0.50, p < 0.05), indicating that KOL partially mediates the relationship between BC and KC.

Table 3   Indirect effect of bureaucratic culture on knowledge creation

Coefficient	se	p-value	LLCI	ULCI
.0571	.0413	0.000	–.0231	.1407

Figure 1   Results of the study (see online version for colours)

6   Discussion

While most of the studies on organisational structure and knowledge management have been conducted in western settings. This paper is carried out in a relative overlooked setting: Iraqi Kurdistan Region. As a result, the findings have showed us a new understanding and outlook of the challenges and the possibilities of overcoming these obstacles in the process of knowledge creation. All the correlations among KOL constructs were significantly positive with each other.

The first aim of this study was to investigate the relationship between bureaucratic culture and knowledge creation. The results showed that bureaucratic culture in public organisations does not support knowledge creation. The results answered our research question by showing a highly negative relationship between bureaucratic culture as the predictor and knowledge creation. The results, were expected especially in the context of north of Iraq because the public universities are faraway form the requirements of knowledge creation. For example, the opportunities of expressing views and exchanging views are vital to create new knowledge. These results are in line with the results found on bureaucracy in Taiwan Customs Bureau a paper conducted by Hirst et al. (2011). In addition, our findings suggest the same situation with another previous study by Zwain et al. (2017), they have found that the current bureaucratic system of higher education of Iraq cannot create knowledge without a mediator. On the other hand, based on the characteristics of bureaucratic culture and knowledge creation, the results and theory are backing each other. The organisational structure of public universities is structured and

hierarchical, that does not encourage employees to share their views among each other so as to form new knowledge.

The second aim was to look at the mediating role of KOL that plays between bureaucratic culture and knowledge creation. There is statistically a significant correlation between the variables, and the results confirmed our hypothesis. This style of leadership might have rarely been used in different departments within the university's organisational structure but its relationship and effectiveness on knowledge creation was beyond expectations. The results showed that KOL can efficiently help bureaucracies to overcome the challenges of knowledge creation. That is aligned with the literature and previous studies. For example, Ali (2021), they have conducted a study in Tehran and the results showed a significant impact of KOL on knowledge creation. Also, KOL positively affects many employees' attitudes and behaviours including KM behaviour and affective employee work engagement which eventually lead to knowledge creation. These results were partially expected for two reasons. First, the leadership styles in public universities are rather the retrieving model of other public organisations which are authoritarian. Employees in these organisations are eager for a leadership style to encourage them. Second, knowledge creation as a practice is significantly related to the role of each and all employees to share and express what they know; these features can be found in KOL.

7 Research implications

This study has a dual direction implication on the field and organisations. First, theoretically speaking this study is an addition to the generalisability of current literature on bureaucratic culture and knowledge creation. More importantly for Iraqi researchers, it pushes a step forward as an overview and roadmap for future studies. Secondly, the study has practical implications on public universities in north of Iraq. The universities are suffering from creating their own knowledge as a competitive advantage. One of the reasons is organisational bureaucratic culture. This study can be benefited by university leaders to change their style of leading to KOL. Our study has unveiled the big difference of knowledge creation with and without KOL. We recommend university leaders to start this KOL by introducing the reward system in exchange for the employees' efforts and when the organisational target is reached. That drives employees to try their best in achieving what is required.

8 Limitations and future research

All studies have their own limitations, and this study faced some limitations as well. First of all, the research culture in eastern setting is not cultivated yet. It is difficult to stimulate employees participating in study questionnaires. That may be due to the fact that employees and organisations do not sense the seriousness of the process. Second, existing studies are restricted to public sector employees and they mainly consist of Kurdish nationalities. The study omitted employees from private universities who are more diversified with multinational backgrounds. Therefore, future studies may expand the scope of their studies by including private sector universities. On the other hand,

future studies may cover other public organisations from different ministries such as municipalities and health organisations.

9   Conclusions

Public universities as other organisations in north of Iraq are bureaucratically structured. In this study, empirical data were collected from five public universities in Northern Iraq. The first main purpose was to investigate the relationship between bureaucratic culture as a predictor and knowledge creation as the outcome variable. Secondly, we tested the role of KOL as the mediating variable. The results confirmed that bureaucracy is an obstacle for creating knowledge and that can be solved by KOL as a leadership style. This study has scientifically reached a foundation step in order organisations improve the knowledge creation practice. Leaders of the public organisations should start from themselves by following the KOL style; leaders must do that so as to be followed by their subordinates. Public universities in this region are in two directions, either to stay as they are or step forward. Their bureaucratic system is established and solid that may not change easily, but the leaders can step forward towards knowledge creation.

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