Impact of Organizational Culture on Knowledge Sharing: The mediating role of Top Management support and social interaction

تأثير الثقافة التنظيمية على تقاسم المعرفة: دور الوساطة لدعم الإدارة العليا والتفاعل الاجتماعي

Abir AMARNI [1], Kamel HACHEMAOUI [2]

[1] SME Research & Innovation Laboratory, University of Mascara (Algeria), abir.amarni@outlook.fr

[2] SME Research & Innovation Laboratory, University of Mascara (Algeria) k_hachemaoui@hotmail.com

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Abstract:

This study investigates the indirect effect of organizational culture on knowledge sharing through top management support and social interaction. The data were collected through a survey from 220 employees of Sonelgaz spa. To test the model, structural equation modeling was applied by using AMOS 21.

Results show that the relationship between organizational culture and knowledge sharing is totally mediated by both top management support and social interaction, since the direct effect between organizational culture and knowledge sharing is not significant.

Keywords: knowledge sharing, organizational culture, social interaction, top management support

Jel Classification Codes: D80, M10, M14

Résumé :

Cette étude examine l'effet médiateur du soutien de la direction et l'interaction sociale sur la relation entre la culture organisationnelle et le partage des connaissances. La modélisation en équation structurelle a été appliquée pour tester notre modèle de recherche.

Les résultats montrent que la relation entre culture organisationnelle et partage des connaissances est totalement médiatisée à la fois par le soutien de la direction et par les interactions sociales, car l'effet direct entre

***Auteur correspondant**: Abir AMARNI, abir.amarni@outlook.fr*

la culture organisationnelle et le partage des connaissances n'est pas significatif.
Mots clés : partage des connaissances, soutien de la haute direction, la culture organisationnelle, l'interaction sociale
Jel Classification Codes: D80, M10, M14

1. Introduction :

Nowadays, companies are facing an environment characterized by levels of complexity, globalization and dynamism. Furthermore, the dynamic global business market is distinguished by the rapid growth in the industrial sector especially hydrocarbons sector which occupies a predominant place in the Algerian economy. To cope with these upheavals, companies must invest considerable resources and make every possible effort. Companies have a strategic potential that should be considered and managed at best: it is their knowledge which becomes widely recognized and accepted as a valuable organizational resource in the business community. Organizations increasingly recognize the need to support the principles of knowledge sharing among its members in one way or another, to make this resource more efficient and profitable. However, organizations must firstly understand knowledge sharing mechanisms as well as factors that influence this process (Ma, Qi and Wang, 2008) same as organizational culture. We perceive that several scholars have pointed out the impact of culture on knowledge sharing activities. That is because companies' success seems to lie increasingly in the application of knowledge sharing process to optimize business goals and to cope with environmental challenges that have an influence on knowledge in general.

According to Al-Alawi et al (2007) economic organizations seek to reinforce their competitiveness and ensure their existence and continuity by resolving to prevailing organizational culture which needs to be developed to keep pace with global, economic, technical, political, and social changes. Organizational culture contributes to the formulation and composition of personal patterns to organization individuals through knowledge and concepts publishing, that lead to enhance social interaction among members through the promotion of social relationships. In fact, the success of any

organization is linked to an organizational culture in which people are encouraged to work together and share knowledge as needed (Ryan et al., 2010).

This article intends to contribute to the enrichment of previous studies by examining the indirect impact of organizational culture on knowledge sharing in hydrocarbon sector. This study extends the model by investigating the indirect effect, then the mediating role of top management support and social interaction. The rest of the paper includes a literature review and hypothesis development, methodology, analysis, discussion and conclusion sections.

2. Theoretical Background and hypotheses development

2.1. Knowledge sharing

Knowledge sharing is described by Gupta and Govindarajan (2007) as a process of output, transmission and influx of knowledge in terms of knowledge dissemination activities of a person, group or organization to others. It's a voluntary activity that involves the exchange and the transfer of both tacit and explicit knowledge from one person to another through several ways (Yang et al., 2006; Ford and Chan, 2003). This implies that employees are capable to transmit and receive knowledge. In the same reflection, Van Den Hooff and De Ridder (2004) assume that knowledge sharing is determined by knowledge collecting which can be defined as the process of consulting colleagues to encourage them to share their intellectual capital, and knowledge donating which is recognized as the process of individuals communicating their personal intellectual capital to others. This ideology will be adopted in this study.

2.2. Organizational culture

This concept covers an array of different definitions and various organizational practices. It is viewed as a set of beliefs, values, and assumptions shared by members of an organization (Schein, 1985) or a set of values, beliefs, and behavior patterns that form the core identity of organizations, and help shaping the employees' behavior (Deal and Kennedy 1982). Culture can greatly affect the process of sharing knowledge by facilitating or limiting the flow of knowledge. Organizational culture is

intended as a set of values, traditions and trends, assumptions, and norms that prevail in the organization and reflect on the employee's behavior passed down through the generation, which serves as the basis for formulating individual's personality and interests (Hartnell et al., 2011).

2.3. Social interaction

According to SET theory « Social Exchange Theory » social interaction is more concerned with establishing friendships with others and the perception of belonging within the team, and not necessarily with extrinsic benefits or monetary rewards (Blau, 1964; Organ and Konovsky, 1989). Social interaction can be a source for obtaining new knowledge and skills that facilitate collective work (Bolino, Turnley and Bloodgood, 2002).

2.4. Top Management support

Top management support refers to the general perception through which an organization deals with the well-being of its employees and values their contributions (Eisenberger, Cummings, Armeli and Lynch, 1997). It is also defined by Wang and al (2012) as the inspiration given by managers to the staff to share their knowledge and experience with each other by creating a spirit of team work and collaboration. Besides, it is extremely important that supervisors and managers consider and respond to employees' viewpoints and ideas.

2.5. The relationship between knowledge sharing, organizational culture, top management support and social interaction

This study is different from the other scholars that assessed only the direct effect between different variables including: knowledge sharing, organizational culture, top management support and social interaction, this research has integrated the mediating effect. We supposed the existence of direct and/or indirect impact of organizational culture on knowledge sharing mediated by top management support and social interaction (Fig.1).

Jashapara (2004) defined organizational culture as the most critical construct organizations, which is embedded in values, beliefs and assumptions held by members of the organization. To create an organizational culture that supports and maintains a successful knowledge sharing process, organizations must raise the challenge and invest in their human capital. To be insured that, knowledge can be shared easily among

employees through social interaction and communication, which can be figured in different forms as personnel contacts, mentoring, joint events, outings and any type of face-to-face interaction (Haldin-Herrgard 2000, Tsai and Ghoshal 1998). Social interaction encourages collaboration among co-workers and tends to create a suitable surrounding or atmosphere to share knowledge, by developing a close relationship or closer ties, people would be more comfortable and much more positive in sharing their thoughts and resources (Fathi et al., 2011).

The support of employees and especially leaders in organization who already share ideas and insights is important as well. This is simply because, through their influence and encouragement, knowledge sharing can be built into routine performance appraisal (Rahgozar et al., 2012). To facilitate knowledge sharing, the most important thing is the contribution of managers and leaders. This can be done through focusing on reducing the barriers on both the individual and organizational level (Lin, 2007). Bollinger and Smith (2001) have pointed out that leadership should focus on establishing a culture that respects knowledge, reinforces its sharing, retains its people, and builds loyalty to the organization. Similarly, the leaders act as role-models in a way knowledge sharing occurs, as well as setting the incentives for doing so. The leaders, furthermore, facilitate networks of knowledgeable members of the organization and provide best practice in coordination and collaboration activities (Sondergaard, Kerr and Clegg, 2007). Based on these reflections, the hypotheses were established as follow:

H1: Organizational culture exerts a significant positive impact on top management support.

H2: Top management support has a positive significant effect on knowledge sharing.

H3: Organizational culture has a significant positive influence on social interaction.

H_4: Social interaction exert a significant positive impact on knowledge sharing.

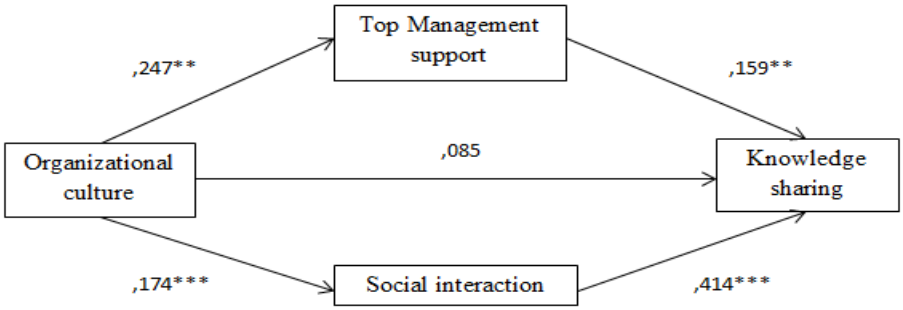
H_5: Organizational culture exerts a significant positive impact on

knowledge sharing.

H_6: The relationship between organizational culture and knowledge sharing is mediated by social interaction.

H_7: The relationship between organizational culture and knowledge sharing is mediated by top management support.

Figure N 1. Research model



Research Method

3.1. Data sample and collection

Data were collected through a questionnaire survey among the Algerian corporation in charge of electricity and natural gas distribution (Sonelgaz spa). Before proceeding with the formal data collection, we conducted a pre-test on 15 randomly selected employees to ensure content validity. The feed-back was positive and showed that the questionnaire was appropriate, clear, and meaningful and requires no modification in the scale items and questions. The final questionnaires were distributed through direct company contacts on a scale of 400 employees form different department. The response rate was 55% i.e.: 220 respondents. The sample studied is composed of 79.5% males and 20.5% females aged between 30 and 50 years (78.2%). Furthermore, 74.1% of the respondents have a university level which indicate high level of employee's capacity in sharing knowledge.

3.2. Measures

The variables used in our research have already been the subject of several studies, measured based on a five-point Likert type scale, ranging from strongly disagree to strongly agree. The measurement approach for each theoretical construct in the model is described briefly below.

Knowledge sharing was measured through its two distinct dimensions i.e. knowledge donation (4 items) and knowledge collection (3 items) by using the scale developed by van den Hooff and De Ridder (2004). Items concerning social interaction were adapted from Chow and Chan (2008). Organizational culture items were derived from both Michailova and Minbaeva (2012), Ferreira and Pilatti (2013) studies. Finally, top management support was measured by four items adapted from Tan and Zhao (2003) research.

4. Data analysis and results

Data analysis in this study was performed using structural equation modeling (SEM) to validate the research model. It was chosen because of its ability to test casual relationships between constructs with multiple measurement items destined for a sample of more than 200 interviewed. This approach is based on a two-stage model-building which consist of the Confirmatory factor analysis (CFA) used to examine the reliability and validity of the measurement model and secondly the structural model to test and analyze the associations hypothesized in the research model, following a similar approach as other past studies (Bock and Kim, 2002; Lin and Lee, 2004).

4.1. The measurement model

The table below gives a summary of the results of the measurement model fit including factor loadings, Cronbach's alpha, composite reliability and the average variance extracted. In detail, factor loadings ranged from 0,562 to 0,953, these values exceed the recommended cut-off value of 0.5, suggested by Straub (1989). The data collected were then submitted to convergent and discriminant validity analysis before the final analysis. We first tested the internal reliability of our measurement items using Cronbach's. A low Cronbach's alpha value of 0,637 (knowledge sharing) war registered indicating satisfactory levels of reliability. Composite reliability (CR) and the average variance extracted (AVE) were then calculated to assess convergent validity values. As presented in the table 2, CR values range from 0,641 (knowledge sharing) to 0,826 (top management support) and AVE values form 0,501 (Knowledge sharing) to

0,709 (top management support). We can conclude that all scores are above the acceptability level (Fornell and Larcker, 1981).

Table 1. Confirmatory factor analysis results

Measures	Factor loadings	Cronbach's alpha	Composite Reliability (CR)	Average variance Extracted (AVE)
Knowledge sharing	0,562	0,637	0,641	0,501
	0,655			
Social interaction	0,720	0,703	0,702	0,641
	0,628			
	0,642			
Top Management support	0,714	0,842	0,826	0,709
	0,953			
Organizational culture	0,697	0,762	0,773	0,633
	0,884			

The overall model fit was assessed using seven common fit measures from two perspectives: absolute fit and incremental fit (Ryu et al., 2003). In more detail, the absolute fit measures used in the evaluation of the CFA model are: root mean square error of approximation (CMIN= 42,376), the ratio between $\chi 2$ and the degree of freedom (NC= 2,018), the standardized root mean square error of approximation (SRMR= 0,053), goodness-of-fit index (GFI= 0,960), in addition of the root mean square error of approximation (RMSEA= 0,068) and CFI= 0,955. The CFA indicated that the measurement model fitted the data to a satisfactory level, as all fit indices are above commonly accepted levels (Bagozzi and Yi, 1988; Hu and Bentler, 1999; Browne and Cudeck, 1993).

Table 2. Correlation matrix, reliability, square root of AVE

	Constructs	CR	AVE	1	2	3	4
1	**Knowledge sharing**	0,641	0,501	**0,707**			
2	**Social interaction**	0,702	0,641	0,527	**0,8**		
3	**Top management**	0,826	0,709	0,371	0,124	**0,842**	

	support						
4	**Organizational culture**	0,773	0,633	0,413	0,350	0,318	**0,795**

Note: CR: composite reliability; AVE: square root of average variance extracted is on the diagonal of matrix; below the diagonal are inter-construct correlations.

As seen in table 3, the discriminant validity test requirement was satisfied as the square root of AVE of all constructs was upper than the correlation between the constructs, which indicates good discriminate validity (Fornell and Larcker, 1981).

4.2. The structural model

Structural path model results regarding the fitting indices are as follows: ($\chi 2$ = 42,392; NC= 1,927; SRMR= 0,054; GFI= 0,960; RMSEA= 0,065). The overall fitness of the proposed model is acceptable in comparison to the benchmark values (Bagozzi and Yi, 1988; Hu and Bentler, 1999; Browne and Cudeck, 1993). So, it is suitable to evaluate the hypothesized paths. Results of structural equation model are shown in Fig 2.

Figure 2. SEM analysis results.

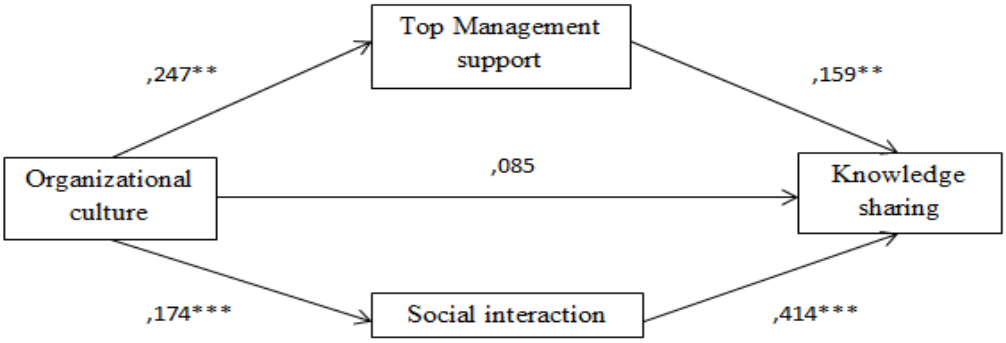


Table 3. Hypotheses testing results

H	Hypothesized path	Path coefficient	Results
H_1	**OC ==> TMS**	0,247**	Positive supported
H_2	**TMS ==> KS**	0,159**	Positive supported
H_3	**OC ==> SI**	0,174***	Positive supported
H_4	**SI ==> KS**	0,414***	Positive supported

H_5	**OC ==> KS**	0,085	Not supported

Note: the abbreviations refer to: OC: organizational culture, TMS: top management support, KS: knowledge sharing, SI: social interaction; ***Significant at the p < 0.01 level.

The table indicates that all hypothesizes were accepted, except H5.

4.3. Mediation analysis

In this study a bootstrapping approach was applied (bootstrap sample size = 1000), to test the mediating role (Preacher & Hayes, 2008) of the constructs top management support and social interaction on the relationship between the organizational culture and knowledge sharing, based on asymmetric confidence intervals (CIs) for indirect relationships. The bootstrap CI method generates a comparatively correct inference as it generates asymmetric CIs for indirect relationships by employing the respective distributions of two regression coefficients (MacKinnon, Lockwood, & Williams, 2004). The table below shows the indirect impact of organizational culture on knowledge sharing through social interaction and top management support.

Table 4. Mediating effects

Relationship	Effect	SE	Lower bound	Upper bound
OC==> TMS==> KS	0,04	0,025	0,008	0,110
OC==> SI==> KS	0,087	0,047	0,024	0,222

Note: 95% Bootstrap confidence intervals for indirect effect

The paths of OC to TMZ, in turn, to KS were significant (CI.95= 0,008; 0,110). Likewise, the paths of OC to SI, in turn, to KS were significant as well (CI. 95=0,024; 0,222). This leads us to accept the hypotheses H_6 and H_7.

5. Discussion and conclusion

Indirect effect of Top management support and social interaction on the relationship between organizational culture and knowledge sharing was discussed in this study. Overall sample analysis showed significant results of the proposed hypotheses. The results showed that organizational culture affects knowledge sharing through Top management support and social interaction. That means that, culture is socially learned and shared by members, it provides the rules for behaviour within organizations (Jen-Te Yang, 2007) and guides staff in knowing what to do and what not to do,

including practices, values, and assumptions about their work. The core values of an organization begin with its managers and leaders. They lead and unify by these values the employees and encourage them to share their knowledge and be a part of organizational change and development. Organizational culture therefor affects leaders who influence employees' knowledge sharing behaviour.

In the same vain, knowledge sharing depends on behavioural factors. Maintaining a strong relationship between employees can be considered as one of the most important ways to encourage knowledge sharing. Relationships can be built informally mainly outside the work place, or in informal meetings such as lunches, drinks and dinners. In the other hand, Willem and Buelens (2007) found that informal meetings, personal networks and incentives were central factors that can encourage knowledge sharing. Ford and Chan (2002) also stated that the excellent relations outside and inside the enterprise and a good social interaction have a considerable impact the knowledge sharing between employees. Moreover, the company must be involved in this kind of relationship and consider them as a part of its culture.

5.1. Practical implications

This study has identified several important implications. First, employees must pay attention to the activity of knowledge sharing. This is because knowledge is the main resources for companies' success.

Second, managers should reflect the image of a knowledge-based organization, they should share and exchange knowledge with their subordinates and involve them in decision makings, also encourage them to share what they know.

Third, organization should create a culture that promotes sharing and exchanging knowledge and make this process formal.

5.2. Limitations and future research directions

Numerous limitations of this study might encourage prospective investigations. Primarily, the number of responses (220 respondents) is quite low compared to the previous research. Therefore, care should be taken in generalizing the results. This study focused on only one case

(Sonelgaz). Future studies should focus on the expansion of the sample studied, so to make the study sharper.

Moreover, this study focused on organizational culture in general sense. Future studies should integrate types of organizational culture (Cameron & Quinn 1999). Further, other studies could join other variables e.g. interpersonal trust, communication.

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