PARTNERSHIP BETWEEN THE EMPLOYER AND THE STAFF AS A VITAL FACTOR FOR KNOWLEDGE SHARING

Intra-organizational knowledge sharing has a significant influence on performance of organizations. Some researchers point out that knowledge sharing can be facilitated by organisational culture. This study examined which characteristics of organizational culture have positive impacts on knowledge sharing. A quantitative research with opinion-based questionnaires was applied. The findings indicated so-called knowledge sharing culture had a significant positive effect on the extent of knowledge sharing in the organization. Four dimensions of knowledge sharing culture were suggested: partnership between the employer and the staff, cooperation among employees, user-friendliness of the used information system, and employees' organizational commitment. All of them were moderate-significantly related to knowledge sharing. However, only partnership between the employer and the staff predicted knowledge sharing in the organization. The results indicate that in the process of building knowledge sharing culture, partnership with the staff including support for employees from management, fairness and communication is essential.

Keywords: knowledge sharing; organizational culture; corporate culture; information exchange; knowledge sharing culture; partnership; Czech Republic

Introduction

To put their human capital in a better use – learn more and faster – plays a critical role in the maintenance of competitive ability for many current organizations. As knowledge sharing among employees enables individuals to access new knowledge and varied ideas that they may not themselves encounter (Boh and Wong, 2013), it is essential for a competitive ability. Also, the popularity of knowledge sharing as a research topic supports the idea of its importance. According to the Scopus, there are more than 3,000 researchers in the world who are dealing with knowledge sharing. They have argued that sharing knowledge contributes for example to cost reductions, faster innovations and better performance overall (Sharifkhani, Pool and Asian, 2016). Regarding the practical view, comprehending how organizational and individual factors influence knowledge sharing is vital (Li *et al.*, 2014).

Prior research has found many factors that influence knowledge sharing. Some studies have turned attention to the importance of organizational culture. Empirical evidence showed that organizational culture has an influence on the financial performance of companies, the profitability ratios, the return on assets, and return on investments (Zabid, Sambasivan and Johari, 2003). Additionally, Zhao, Teng, and Wu (2018) argue that organizational culture promotion is positively related to innovation output. Moreover, Tong, Tak, and Wong (2013) concluded in their study that organizational culture significantly influences knowledge sharing. Even other authors (for example O'Dell and McDermott, 2001; Stankosky, 2005; Al-Alawi, Al-Marzooqi and Mohammed, 2007; Abzari and Teimouri, 2008; Chin-Loy and Mujtaba, 2011) found out that knowledge sharing relates to the organizational culture. Despite this, it is still not clear which elements of organizational culture are essential for knowledge sharing.

It is important for organizations to know what cultural dimensions are most closely associated with knowledge sharing. However, the researchers have still not

agreed which particular aspects of organizational culture do support and enhance knowledge sharing. This means the relationship between organizational culture and knowledge sharing needs further exploration. Thus, this study focused on the multidimensional relationships between organizational culture and knowledge sharing.

This paper shows that knowledge sharing culture really encourages knowledge sharing and further examines which characteristics of organizational culture facilitate knowledge sharing in the organization. In this way, the study contributes to a better understanding of knowledge sharing among individuals in organizations. If aspects of organizational culture encouraging knowledge sharing were found, managers and companies could wittingly enhance shaping of knowledge sharing culture. Their activities to support knowledge sharing could be more focused and their level of knowledge sharing could increase. As a consequence, organizations can benefit from increased knowledge sharing and with it related higher and faster innovativeness, cost reductions, and better performance overall.

The paper is structured as follows: First, literature review is examined. Then the research framework and hypotheses development are explained. Then methodologies are described. After that, results are presented and discussed, as well as implications are stated. Finally, conclusions, limitations and future direction of research are presented in the last section.

Literature review

Knowledge sharing

Knowledge sharing can be understood as the providing and obtaining of information framed within a context by the knowledge of the source (Sharratt and Usoro, 2003). Although based on the knowledge of the source, the knowledge received cannot be identical as the process of interpretation is subjective and is framed by recipients' existing knowledge and their identity (Miller, 2002).

Knowledge sharing is connected mainly with innovativeness. Many researchers (e.g. Calantone, Cavusgil and Zhao, 2002; Rowland and Omar Sharifuddin Syed-Ikhsan, 2004; Le *et al.*, 2020) tried to confirm the relationship between knowledge sharing and innovation performance. The results indicate that employee willingness to knowledge sharing enable the firm to improve innovation capability (H. Lin, 2007; Podrug, Filipović and Kovač, 2017; Le *et al.*, 2020). With regard to dynamic environment in which many companies operate, such a relation between knowledge sharing and organizational innovation capabilities is one of the reasons of popularity of the "knowledge sharing" topic among researchers and practitioners as well.

A question of how to facilitate knowledge sharing in the organization has become vital. Previous research found that knowledge sharing is affected by many elements – individual ones relate to people, who are involved in knowledge sharing; organizational ones relate to the organization and the environment where the knowledge should be shared; and technological ones relate to the tools which can be used for knowledge sharing (Sharratt and Usoro, 2003). To individual factors belong individual characteristics including experience, values, motivation, and beliefs (H. Lin, 2007). Organizational factors refer to the organizational climate. They can cover trust (Sharratt and Usoro, 2003), open leadership climate (Taylor and Wright, 2004), top management support (MacNeil, Mary, 2004), innovation-supportive culture (Saleh and Wang, 1993), reward system linked to knowledge sharing (Bartol and Srivastava, 2002), and organizational structure (Sharratt and Usoro, 2003; Kimble, 2020). Technical factors are

related to technical infrastructure and information technology (Hildreth and Kimble, 2002; Sharratt and Usoro, 2003; Huysman and Wulf, 2006). Kimble (2020) concludes that three broad actions that 'organizations can undertake to manage knowledge more effectively, are: (1) fostering a culture of knowledge sharing, (2) nurturing interpersonal relationships, and (3) creating appropriate organizational structures '.

Last decades, researchers have shown an increased interest in the relation between knowledge sharing and organizational culture.

Organizational culture

The concept of organizational culture has been connected mainly with Hofstede (2004) and Schein (1986). Hofstede and McCrae (2004) define culture as 'the collective programming of the mind that distinguishes one group or category of people from another'. For Schein (1986), organizational culture means 'a pattern of basic assumptions that the group has invented, discovered, or developed in learning to cope with its problems of external adaptation and internal integration, and that has worked well enough to be considered valid, and, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to those problems.' Culture is collective, invisible, and manifested through the behaviours of a certain community (Schein, 2010). Corporate culture has a significant impact on a firm's long-term economic performance and will probably be an even more important factor in determining the success or failure of firms in the next decade (Kotter and Heskett, 1992).

The relation between organizational culture and knowledge sharing has been extensively examined. According to Davenport and Prusak (1998) organisational culture is the main reason for people's reluctance or willingness to share knowledge. Many authors (e.g. O'Dell and McDermott, 2001; Al-Alawi, Al-Marzooqi and Mohammed, 2007; Abzari and Teimouri, 2008; Chin-Loy and Mujtaba, 2011; Tong, Tak and Wong, 2013; Al-Kurdi, El-Haddadeh and Eldabi, 2020; Kimble, 2020) conclude that knowledge sharing can be facilitated by organisational culture. For example, Le et al. (2020) state that collaborative culture positively fosters employees' knowledge sharing behaviours. Al-Kurdi, El-Haddadeh and Eldabi (2020) found out that perceived behaviour control had a significant relation with intention to share knowledge (Al-Kurdi, El-Haddadeh and Eldabi, 2020). The culture and trust seem to be far more powerful in facilitating knowledge sharing than technology itself (Rothenberg, Foos and Schum, 2006; Eskerod and Skriver, 2007; H. Lin, 2007; Ajmal and Koskinen, 2008; Holste and Fields, 2010).

Generally, organizational culture can help organizations to achieve better performance and faster innovations by increasing knowledge sharing among staff. Such findings give a rise to research which dealt with elements that organizational culture should have to encourage knowledge sharing. This led to the establishment of the term 'knowledge sharing culture'.

Knowledge sharing culture

Not long ago, the concept of knowledge sharing culture was introduced (Marouf, 2016); the term 'knowledge culture' and 'knowledge creation culture' were used previously (Janz and Prasarnphanich, 2003). In literature, some pseudo-definitions of knowledge sharing culture can be found. For example, Liang, Xue and Bradley (2011) 'Knowledge-sharing culture is the process of sharing information, skills, and expertise

among people, friends, and organization members'. However, there is no generally accepted definition of this term yet.

Usually, the accurate definition is missing, there are stated characteristics/attributes of knowledge sharing culture in the studies. Marouf (2016) mentions that knowledge sharing culture focuses on the social environment, shared values and assumptions of organizational members. According to Garfield (2016) a knowledge sharing culture includes three elements: '(1) Knowledge reuse is valued over reinvention. (2) Sharing knowledge helps you advance in your career. (3) In the process of innovating, failure is encouraged as long as the lessons learned are shared so that similar failures are prevented'. In such a culture, knowledge sharing is considered as a norm (Cabrera and Cabrera, 2005; Dalkir, 2011). Therefore knowledge sharing comes to people natural (Hislop, 2013) and desirable (Cabrera and Cabrera, 2005).

To sum up, although there are several studies on knowledge sharing culture, there is no generally accepted definition of this term. For the purpose of this study, the authors define the term knowledge-sharing culture as follows: Knowledge sharing culture is a pattern of basic assumptions in the minds of organizational members where knowledge sharing is perceived as natural and this is demonstrated by staff sharing their ideas and insights and the use of knowledge gained from others.

Dimensions of knowledge sharing culture

Organizational culture is a complex phenomenon (Marcoulides and Heck, 1993). So, it can be supposed that knowledge sharing culture is a multidimensional construct. An interesting question is what does knowledge sharing culture include. The findings of Wiewiora, Murphy, Trigunarsyah, and Brown (2014) demonstrate that cultural values such as collaboration and a friendly, non-competitive atmosphere at work are essential for knowledge sharing. Similarly, Lin (2007) shows that enjoyment in helping others significantly influences knowledge-sharing processes. Furthermore, Marouf (2016) identifies trust, collaboration, open communication, and management 'walk the talk' by exhibiting a knowledge sharing behaviour as important elements.

Some authors describe attributes of knowledge sharing as a whole. For example, Kyriakidou and Ozbilgin (2006) characterize knowledge sharing culture as follows: self-managed, natural leaders, consultation, loosely defined jobs, lateral interaction, distributed, boundary spanning, interdependence, outward looking, tolerance for ambiguity, and valuing differences, power through shared knowledge. O'Dell and McDermott (2001) describe aspects of knowledge sharing culture as follows: visible link between sharing knowledge and solving practical problems, approach, tools and structures to support knowledge sharing match the overall style of the organization, reward and recognition systems support sharing knowledge, sharing knowledge is tightly linked to a pre-existing core value of the organization, and networks for sharing knowledge build on existing networks people use in their daily work.

As the way organizational members experience the culture is important, Matošková and Směšná (2017) define dimensions of knowledge sharing culture by types of organizational climates. They mention the following kinds of organizational climate: (1) a climate of fairness and mutual trust, (2) a climate of open communication with free-flowing information, (3) a climate of innovation which tolerates well-intentioned failures and considers changes to be a part of life, (4) a pro-social climate, (5) a performance climate where everyone takes responsibility for his or her work.

Some studies present dimensions and elements important for knowledge sharing culture, but the studies are inconsistent. Here the authors see a research gap in present literature.

Research framework and hypotheses development

This study was a part of a bigger internal university project dealing with knowledge sharing in organizations. The aim of this study was to explore if knowledge sharing culture really facilitates knowledge sharing in the organizations and to examine the dimensions of knowledge sharing culture. This paper attempts to fill the research gap in the role organizational culture in encouraging knowledge sharing by investigating multidimensionality of knowledge sharing culture.

Previously published studies on the dimensions of knowledge sharing culture are not consistent and more empirical work is needed. Hence, one goal of our study was to develop a model of the dimensions of knowledge sharing culture. Using the findings of literature on knowledge sharing culture, the authors of this paper proposed that knowledge sharing culture could have five dimensions: (1) open communication and trust, (2) performance orientation and engagement, (3) organizational innovation climate, (4) cooperation in the organization, (5) justice and fairness.

Table 1 Supposed dimensions of knowledge sharing culture

Based on the results of previous studies (especially O'Dell and McDermott, 2001; Al-Alawi, Al-Marzooqi and Mohammed, 2007; Abzari and Teimouri, 2008; Chin-Loy and Mujtaba, 2011; Tong, Tak and Wong, 2013), this paper proposes that knowledge sharing culture is related to the extent of knowledge sharing. Thus,
H1. The extent in which organizational culture has characteristics in common with knowledge sharing culture has a significant positive effect on the extent of knowledge sharing in the organization.

Additionally,
H2. Identified dimensions of knowledge sharing culture have a significant positive collective effect on the extent of knowledge sharing in the organization.

Figure 1 Conceptual framework

Methodologies

Sample and procedure

A quantitative research design with opinion-based questionnaires was applied. The questionnaires were anonymous, and participants were informed about the aims of the project. Data collection was realised by the individual questionnaire method, where each participant responded individually and without any guidance. 'Pen and paper' as well as online questionnaires were used.

The target population was employees from the Czech Republic without restrictions related to age, education or industry, because we wanted as diverse sample as possible. Several methods were used to contact potential participants, for example e-mails to TOP 100 Czech firms and to members of the People Management Forum and the Regional Chamber of Commerce, information about the survey on social networks

Facebook and LinkedIn and web pages, cooperation with students and graduates, informing of the survey at a conference and a workshop, and a PR article in a journal for HR employees. The final structure of participants is detailed in Table 1. In total, 315 people were included. The majority of participants were from manufacturing and construction industries. As identification questions were not obligatory, many participants decided to skip them. Generally, the willingness of organizations and their employees to participate was very low. The reasons could be that participation in the study was voluntary, the questionnaires could have been too long, or the topic could have been considered too sensitive by the companies in question. However, it is positive that both men and women participated. Participants have different age, education, tenure and various work positions.

Table 2   Profile of Respondents and Companies

Measures

This study measured two constructs – knowledge sharing in the organization and knowledge sharing culture. Both constructs were measured using multiple items.

      Knowledge sharing in the organization.

      Knowledge sharing in the organization is here defined as the extent to which, according to the respondent, knowledge is shared in the organization of his/her employer. It covers general flow of information in the organization, supportive knowledge sharing, intensity of knowledge documentation, work with such knowledge, as well as the intensity of social interactions among employees. This construct was measured by items in questionnaire which was published in Matošková, Macurová, and Tomancová (2018). The inventory consists of 15 items. Sample items were ,A typical employee in our company regularly participates in seminars and workshops to share knowledge and learn from others.', 'Communication in our company is bilateral (i.e. from the supervisor to subordinates, and vice versa).', 'Each team regularly meets and resolves problems and reviews the options and opportunities in its area.' Participants evaluated the items according to their agreement with the given statement, on a scale from 1 to 5 (1 = strongly disagree and 5 = fully agree). The scale of knowledge sharing used had high reliability, Cronbach's α = .86.

      Knowledge sharing culture.

      Authors defined knowledge sharing culture as: 'a pattern of basic assumptions in the minds of organizational members where knowledge sharing is perceived as natural and this is demonstrated by staff sharing their ideas and insights and the use of knowledge gained from others'. This construct measures the extent to which, in the opinion of the respondent, the organizational culture of his/her employer corresponds to the so-called knowledge sharing culture. A new inventory was developed to measure it. Initially, the inventory suggested consisted of 43 items. The items were chosen based on content analysis of the literature and team discussions. For example, the following studies were analysed: Bock et al. (2005), C.-P. Lin (2007), Matošková (2012), and Camelo-Ordaz et al. (2011). Eight items were suggested to be related to organizational innovation climate, eight to cooperation in the organization, three to justice and fairness, ten to performance orientation and engagement, and fourteen to open communication and trust. However, based on the initial analysis of the inventory, some questions were excluded and only 21 questions were left for the final exploratory factor analysis. This exploratory factor analysis is a part of this study. Because of the inventory construction, it was supposed that five factors would appear.

Data Analysis

All data were converted into an electronic version and it was analysed with the use of IBM® SPSS® Statistics software. First, basic statistical characteristics of the items in knowledge sharing culture inventory as well as their Pearson's correlations with the extent of knowledge sharing in the organization were found. Then a principal axis factor analysis with oblique rotation (direct oblimin) was conducted on knowledge sharing culture inventory. The Kaiser-Meyer-Olkin measure confirmed the sampling adequacy for the analysis, KMO = .94 ('marvellous' according to (Hutcheson, 1999), and all KMO values for individual items were greater than .84, which is well above the appropriate limit of .5 (Field, 2013). An initial analysis was run to obtain eigenvalues for each factor in the data. Items from the questionnaire aimed at aspects of knowledge sharing culture which have factor loadings below .40 were omitted from further analysis.

After an index was counted for each factor which was identified in the analysis as well as for the total knowledge sharing culture. For this aim, the points on the Likert scale were converted into number scores. The indexes for each factor were counted as quotients from the sum of points gained in items related to the factor to the maximum points which could be gained in these items. The maximum score means a situation where the participant gives a 5 to all statements belonging to the factor. If the participant left an item blank, this was taken into consideration and the maximum score was adequately reduced. Similarly, the index of the total knowledge sharing culture was counted. It follows that the quotients can acquire a value from 0.2 to 1. Next a reliability analysis of the knowledge sharing culture inventory with the use of Cronbach's alpha was done.

Then an analysis of relations between the independent variables (dimensions of knowledge sharing culture) and a dependent variable (the extent of knowledge sharing in the organization) took place. For this aim, only those cases (102) were chosen where it could be guaranteed that both questionnaires were completed by the same participants. Basic statistical characteristics of the variables employed in the survey were examined. Additionally, Pearson's correlations and regression analyses were used to examine the defined hypotheses. Regarding a multiple regression analysis examining dimensions of knowledge sharing culture as predictors of the extent of knowledge sharing in the organization, the VIF values were all well below 10 and the tolerance statistics all well above 0.2. Thus, there was no collinearity within the data. The Durbin–Watson statistic, which tests whether adjacent residuals are correlated, was 2,1 and so it was acceptable. Also, an assumption of normally distributed errors was met. In sum, assumptions of the linear model were not violated and this model could be used. Additionally, bias corrected and accelerated bootstrap 95% CIs based on 1000 bootstrap samples for regression coefficients were found out and they are reported in square brackets.

Results

First, basic statistical characteristics of the items in the knowledge sharing culture inventory as well as the correlations with the extent of knowledge sharing in the organization were examined (Table 3). Means indicate that employees were rather positive about organizational culture. It seems common to have colleagues in work who help when it is needed, but the answers indicate that high employee affective commitment to organizational goal is not typical in the Czech Republic. The majority of

items have significant but only weak correlations to the extent of knowledge sharing in the organization.

Table 3 Means and standard deviations of knowledge sharing culture items and their correlations with the extent of knowledge sharing

Next, a principal axis factor analysis was used. Four factors had eigenvalues over Kaiser's criterion of 1 and in combination explained 65.8% of the variance. Table 4 shows the factor loading after rotation. The items that cluster on the same factor suggest that factor 1 represents partnership between the employer and the staff, factor 2 represents cooperation among employees, factor 3 represents user-friendliness of the used information system, and factor represents 4 employees' organizational commitment. This means that the supposed dimensions of knowledge sharing culture (see Figure 1) was not confirmed and the items cluster on an unexpected way.

Then the reliability of the instrument was examined. All subscales of knowledge sharing culture had suitable reliabilities. Similarly, the total scale has a great reliability too, Cronbach's α = .95. Thus, internal consistency of the knowledge sharing culture instrument was good.

Table 4 Summary of exploratory factor analysis for the organizational culture questionnaire

In the next step, basic statistical characteristics of the variables employed in the conceptual framework (Figure 1) and their correlations were examined (Table 5).

Table 5 Means, standard deviations, Pearson's correlation coefficients among variables employed in the survey and sample sizes.

Again, it has shown that participants incline to the belief that employees help each other in their organizations. Regarding correlations, knowledge sharing culture has a strong-significant positive association with the extent of knowledge sharing in the organization. Additionally, all identified dimensions of knowledge sharing culture have at least moderate-significant positive association with the extent of knowledge sharing in the organization.

After, a simple regression analysis was done to predict the extent of knowledge sharing based on knowledge sharing culture. A significant regression equation was found ($F(1, 100) = 67.34$, $p < .001$), with an R^2 of .40. The extent of knowledge sharing is equal to .25 [.13, .37] + .57 [.40, .73] * knowledge sharing culture. It means *H1* was confirmed and the extent in which organizational culture has characteristics in common with knowledge sharing culture seems to be an important predictor of the extent of knowledge sharing in the organizations.

Finally, multiple regression analysis was used to test if knowledge sharing culture predicted the extent of knowledge sharing. The results of the regression indicated that four sub-dimensions of knowledge sharing culture explained 40.1% of the variance of the extent of knowledge sharing ($F(4, 96) = 16.1$, $p < .001$). Thus, *H2* was confirmed and identified dimensions of knowledge sharing culture have a significant positive collective effect on the extent of knowledge sharing in the organization. However, only the partnership between the employer and the staff significantly predicted the extent of knowledge sharing ($B = .36$ [.11, .62], $p = .001$), the rest of predictors was insignificant (cooperation among employees: $B = .05$ [-.12, 20], $p = .49$;

user-friendliness of the used information system: $B = .07$ [-.06, .19], $p = .18$; employees' organizational commitment: $B = .09$ [-.06, .23], $p = .23$).

Discussion

Formerly published studies did not find an agreement about dimensions of knowledge sharing culture. Based on the previous findings, mainly Bock et al. (2005), C.-P. Lin (2007), Matošková (2012), and Camelo-Ordaz et al. (2011), this study supposed five dimensions of knowledge sharing culture: (1) open communication and trust, (2) performance orientation and engagement, (3) organizational innovation climate, (4) cooperation in the organization, (5) justice and fairness. However, four dimensions of knowledge sharing culture were finally identified: (1) partnership between the employer and the staff, (2) cooperation among employees, (3) user-friendliness of the used information system, and (4) employees' organizational commitment.

Some indices for these dimensions of knowledge sharing culture can be found in previous studies. Regarding partnership between the employer and the staff, this aspect of culture is related to support from management, fairness and communication. For example, Memon, Qureshi and Jokhio (2020) suggest that managers are essential in creating culture of knowledge sharing. The importance of management (their attitudes and behaviours) in knowledge sharing facilitation is supported for example by studies of Bircham-Connolly and Corner and Bowden (2005), Boh and Wong (2013), Islam, Ahmed, Hasan, and Ahmed (2011), Islam, Rahman, Hasan, and Haji (2014), Jasimuddin, Connell, and Klein (2006), Li et al. (2014), Seba, Rowley, and Lambert (2012), Sharifkhani et al. (2016), Søndergaard, Clegg, and Kerr (2007), Wickramasinghe and Widyaratne (2012). For example according to Wiewiora et al. (2014) superiors' skills and competencies in a sought area (ability dimension), their altruistic intentions (benevolence dimension), as well as their honesty and fairness (integrity dimension) all appeared to facilitate knowledge sharing. Employees should have adequate power, authority, and responsibility to experiment and innovate (Singh, 2008). The findings of Benyahya (2017) are interesting in this connection, because she found out that top managers share their knowledge more than middle managers. The main reasons of hoarding knowledge by middle managers were that they wanted to create the impression that they were indispensable or that they considered their colleagues as their competitors. Similar results were published by Marouf (2015), who shows that employees who held high supervisory positions engaged more in knowledge sharing practices.

The second identified dimension of knowledge sharing culture was cooperation among employees, which means that employees help each other. Similarly, Kim et al. (2015) and H. Lin (2007) concluded that enjoyment in helping others positively influence knowledge sharing. Additionally, Cabrera, Collins, and Salgado (2006) found out that perceived support from colleagues is associated with sharing knowledge. A necessary condition for cooperation among employees is trust. According to Sharratt and Usoro (2003) and Wiewiora et al. (2014), trust and trustworthiness have significant implications for knowledge sharing as well.

The third dimension was user-friendliness of the used information system. User-friendliness might be an essential factor which decides if employees use the tool or not, as the studies of Amidi, Jabar, Jusoh, and Abdullah (2017) and Huysman (2004) mention. In accordance with our findings, Kim and Lee (2006) found that user-friendly information system significantly affect employee knowledge-sharing. The importance

of perceptions about the availability and quality of knowledge management systems in knowledge sharing is also mentioned by Cabrera et al. (2006).

Our last identified dimension of knowledge sharing culture was employees' organizational commitment. Organizational commitment has been reported as an important variable in explaining knowledge sharing in quite a number of studies (C.-P. Lin, 2007). For example, Zheng, Bao, and Qian (2009) proved that the relationship between employee commitment and knowledge sharing is significant positive. When the staff has higher affective and normative commitment, they will feel a sense of community relationship among their colleagues which may create a unique environment of knowledge sharing among the employees (Rahman *et al.*, 2016). Similarly, C.-P. Lin (2007) mentions that individuals who have a feeling of emotional attachment to their organization are likely to share their knowledge whenever they realize that their environment appreciates it and where their knowledge are actually used and beneficial to their organization.

This study deals also with the relation between knowledge sharing culture and the extent of knowledge sharing in the organization. It was found that the extent in which organizational culture has characteristics in common with knowledge sharing culture predicts of the extent of knowledge sharing in the organizations. Similarly, Wiewiora, Trigunarsyah, Murphy, and Coffey (2013) found that cultures emphasizing a collaborative environment and friendly, non-competitive atmosphere at work, which are elements of knowledge sharing culture, are likely to openly share knowledge. On the other hand, forceful unhealthy competition and exploitative and workaholic cultures increase knowledge hiding behaviour among employees (Khoreva and Wechtler, 2020). In this study, partnership between the employer and the staff is what has the biggest influence on the intensity of knowledge sharing in the organization and this was also a significant predictor of knowledge sharing in the organization.

Practical Implications

From a managerial perspective, the findings help organization identify specific dimensions of organizational culture they need to develop to support knowledge sharing and as such they have several practical implications. First, organizational culture is moulded in a big extent by managers and their role in knowledge sharing facilitation is essential. To demonstrate that they truly value knowledge sharing, leaders' vision, attitude and behaviour are critical (Ke and Wei, 2008). Managers should set open communication, support cooperation among employees, set fair processes, behave trustworthy and trust their subordinates. The support for knowledge sharing should not only come from superiors, the support of top management is also necessary, as studies of Kennedy and Mansor (2000) and Islam et al. (2015) indicate. Benyahya (2017) emphasizes that personal experience with having a mentor helps managers to share their knowledge and thus create the knowledge sharing culture.

Second, the more the job design ask for cooperation, the more probable is knowledge sharing (Pham, Nguyen and Nguyen, 2015). Thus, team work is desirable (Fong *et al.*, 2011; Boateng, Okoe and Mensah, 2017). Especially, multidisciplinary teams often connect knowledge that were spread across functional structure (Laursen and Mahnke, 2001; Husted and Michailova, 2002; Cabrera and Cabrera, 2005). Also establishment of communities of practice in which employees will voluntarily meet to discuss problems and suggest process improvements can be facilitated (Parker, 1998).

Third, employees should consider the tools that are offered to them for knowledge sharing to be user-friendly. Therefore, it is necessary to discuss with staff

which media will be used for knowledge sharing and how. It is also useful to offer training to staff how to use the offered media.

Last, the leadership style which supports and encourages knowledge sharing among subordinates will probably increase employees' organizational commitment as well. Lok and Crawford (2004) found that supportive culture and leadership style have positive effects on commitment. Similarly, Yousef (2000), Lee (2005) and Lok and Crawford (1999) argue that those who perceive their superiors as adopting consultative or participative leadership behaviour, are more committed to their organizations. Transformational leadership has similar effects – see e.g. Lee (2005). Additionally, Chênevert, Vandenberghe, and Tremblay (2015) argue that high level of passive leadership makes the employee commitment weaker. Thus, it is important to choose well who will be promoted to a managerial position and to develop desirable managerial skills.

Conclusion

Generally, organizational culture can help organizations to achieve higher performance and faster innovations by increasing knowledge sharing. The aims of this study were to examine which characteristics of organizational culture are essential to knowledge sharing. An ideal of organizational culture supporting knowledge sharing was called knowledge sharing culture and was defined as a pattern of basic assumptions in the minds of organizational members where knowledge sharing is perceived as natural and this is demonstrated by staff sharing their ideas and insights and the use of knowledge gained from others.

Four dimensions of knowledge sharing culture were identified: (1) partnership between the employer and the staff, (2) cooperation among employees, (3) user-friendliness of the used information system, and (4) employees' organizational commitment. Significant positive moderate correlations among all identified sub-dimensions of organizational culture and the extent of knowledge sharing in the organization were found. Partnership between the employer and the staff was also a significant predictor of knowledge sharing in the organization, which implies that if organizations want to improve knowledge sharing among staff they should ensure that employees are perceived as valuable assets and not only as costs.

The findings once again highlight the importance of organizational culture in the association with knowledge sharing. They provide directions for managers which cultural dimensions should be developed. However, this study has several limitations. One of them is its cross-sectional design. It takes time to create a knowledge sharing culture. The impacts of the organizational culture on the level of knowledge sharing could be seen better in long term research. Hence, a longitudinal study would be fruitful. Additionally, participation in the study was voluntary, which could have influenced the representativeness of the sample. It would be better to use the random choice of participants, but it would be more time- and money-consuming and it would have other organizational barriers. Another limitation can be seen in the sample size. The willingness to fill the questionnaires was very low. Our experience shows that managers are interested in the topic, they want to know the results, but they are not very open to let their company be analysed. This can be seen in many studies. It is helpful to establish close relationships with management of companies. In our study, bootstrapping was used to get 95% confidence intervals, which offer more appropriate idea of the probable significance of the found coefficients in the entire population. The data were furthermore self-reported. Such data can be influenced by personal opinions,

feelings, biasedness due to social desirability or errors of memory when considering the answers to questions in the questionnaire. Despite this, it is common to use this approach in management studies. Finally, respondents were from companies in the Czech Republic, so additional research could examine if the results are valid in other countries too, because knowledge sharing can be influenced by national culture.

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Table 1   Supposed dimensions of knowledge sharing culture

Dimension of knowledge sharing culture	Literature supporting the dimension
Open communication and trust	(Donate and Guadamillas, 2011; Pasher and Ronen, 2011; Matošková, 2012; Asrar-ul-Haq and Anwar, 2016; Marouf, 2016; Boateng, Okoe and Mensah, 2017)
Performance orientation and engagement	(Camelo-Ordaz *et al.*, 2011; Chiang, Han and Chuang, 2011; Donate and Guadamillas, 2011; Pham, Nguyen and Nguyen, 2015; Boateng, Okoe and Mensah, 2017; Dong *et al.*, 2017)
Organizational innovation climate	(Bock *et al.*, 2005; Chen, Chuang and Chen, 2012; Amidi *et al.*, 2017; Yuan *et al.*, 2017)
Cooperation in the organization	(Bock *et al.*, 2005; Matošková, 2012; Hislop, 2013; Wiewiora *et al.*, 2014; Pham, Nguyen and Nguyen, 2015; Rashid, Hassan and Al-Oqaily, 2015; Asrar-ul-Haq and Anwar, 2016; Marouf, 2016; Sharifkhani, Pool and Asian, 2016)
Justice and fairness	(Cabrera and Cabrera, 2005; C.-P. Lin, 2007; Lee and Ahn, 2007; Hislop, 2013)

Table 2   Profile of Respondents and Companies

Measure	Items	Knowledge sharing # of Response	%	Organizational culture # of Response	%	Correlation analysis # of Response	%
Number of companies		89		9		6	
Industry Type (CZ-NACE)	Manufacturing	175	55.6	157	66.5	37	36.3
	Construction	69	21.9	56	23.7	42	41.2
	Education	26	8.3	20	8.5	20	19.6
	Wholesale and retail trade; repair of motor vehicles and motorcycles	7	2.2				
	Information and communication	5	1.6				
	Others	21	6.6	3	1.3	3	2.9
	Missing	12	3.8				
	Total	315	100	236	100	102	100
Gender	Male	56	17.8	55	23.3	55	53.9
	Female	47	14.6	47	19.9	47	46.1
	Missing	212	67.3	134	56.8		
Age	Less than 25	4	1.3	4	1.7	4	3.9
	25 – 40	52	16.5	52	22.0	52	51
	41 – 60	44	14	43	18.2	43	42.2
	More than 60	3	1	3	1.3	3	2.9
	Missing	212	67.3	134	56.8		
Work position	Manager	82	26	34	14.4	23	22.5
	HR employee	81	25.7	41	17.4	7	6.9
	Others	120	38.1	117	49.6	71	69.6
	Missing	32	10.2	45	19.1	1	1
Education	university education	46	14.6	46	19.5	46	45.1
	secondary education	33	10.5	33	14.0	33	32.4
	apprentice school	24	7.6	23	9.7	23	22.5
	Missing	212	67.3	134	56.8		
Number of years working for the current organisation	Less than 2	25	7.9	24	10.2	24	23.5
	2 – 5	23	7.3	23	9.7	23	22.5
	6 – 10	20	6.3	20	8.5	20	19.6
	More than 10	35	11.1	35	14.8	35	34.3
	Missing	212	67.3	134	56.8		

Table 3   Means and standard deviations of knowledge sharing culture items and their correlations with the extent of knowledge sharing

Item	*M*	SD	*r*
In our organization, proposals for new opportunities are supported.	3.34	1.058	.205**
The information system used in our company provides useful information for the work.	3.27	1.156	.146*
It is easy to find the required information in the company information system.	3.15	1.110	.100
I know that my colleagues will help me when required.	4.00	1.006	.113
The cooperation in our organization is natural.	3.67	1.048	.224**
The managers foster an atmosphere of openness, enthusiasm and cooperation.	3.12	1.161	.183**
Decisions in our organization (e.g. on promotions and remuneration) are fair.	3.14	1.230	.129
In our organization, employees are considered the most important source of a competitive advantage.	3.19	1.207	.168*
In our organization, the effort to provide the best performance is appreciated.	3.27	1.249	.160*
Employees consider the problems of the organization as their own problems.	2.86	1.052	.170*
In our organization, education and self-development are considered important.	3.46	1.104	.196**
Employees in our company are willing to sacrifice their self-interests in favour of the company.	2.91	1.077	.144*
Each of us accepts responsibility for his/her work.	3.52	1.089	.123
Managers in our organization are honest during the provision of information.	3.30	1.065	.157*
Managers in our organization provide useful information.	3.32	1.017	.220**
The relationship between the company and employees can be characterized as a partnership.	3.27	1.139	.221**
In our company, communication is open.	3.23	1.141	.195**
Managers in our organization do not emphasise formal signs of their positions (e.g. style of dressing, equipping of offices).	3.37	1.264	.179**
People in our organization are supported in saying what they think, even if it means disagreeing with the supervisor.	3.02	1.164	.151*
In our organization, discussions between employees and supervisors about work performance are regarded as a contribution.	3.36	1.092	.158*
If a consultation is required, it is easy to contact a company specialist in the stated area.	3.57	1.038	.112

Notes. * p < .05, ** p < .01.

Table 4   Summary of exploratory factor analysis for the organizational culture questionnaire

Item	N	Partnership between the employer and the staff	Cooperation among employees	User-friendliness of the used information system	Employees' organizational commitment
In our organization, proposals for new opportunities are supported.	227	**.526**	.136	.235	-.024
The information system used in our company provides useful information for the work.	229	.109	.067	**.728**	.088
It is easy to find the required information in the company information system.	222	-.050	.005	**.930**	.033
I know that my colleagues will help me when required.	235	-.012	**.775**	.039	.004
The cooperation in our organization is natural.	234	.118	**.881**	.037	-.017
The managers foster an atmosphere of openness, enthusiasm and cooperation.	233	**.673**	.128	-.039	.123
Decisions in our organization (e.g. on promotions and remuneration) are fair.	232	**.725**	.049	.068	-.010
In our organization, employees are considered the most important source of a competitive advantage.	230	**.752**	-.035	.044	-.013
In our organization, the effort to provide the best performance is appreciated.	233	**.788**	-.039	.037	.085
Employees consider the problems of the organization as their own problems.	234	.135	-.046	.128	**.633**
In our organization, education and self-development are considered important.	232	**.496**	.033	-.001	.287
Employees in our company are willing to sacrifice their self-interests in favour of the company.	232	.114	-.045	.149	**.677**
Each of us accepts responsibility for his/her work.	236	.000	.328	-.027	**.519**
Managers in our organization are honest during the provision of information.	235	**.843**	.014	.038	-.135
Managers in our organization provide useful information.	232	**.809**	-.051	.080	-.023

The relationship between the company and employees can be characterized as a partnership.	232	**.802**	.001	-.065	.057
In our company, communication is open.	234	**.752**	-.038	-.050	.150
Managers in our organization do not emphasise formal signs of their positions (e.g. style of dressing, equipping of offices).	230	**.629**	.062	.003	-.079
People in our organization are supported in saying what they think, even if it means disagreeing with the supervisor.	234	**.713**	.016	-.044	.092
In our organization, discussions between employees and supervisors about work performance are regarded as a contribution.	234	**.799**	-.026	-.063	.096
If a consultation is required, it is easy to contact a company specialist in the stated area.	230	**.638**	.025	.030	-.078
Eigenvalues		10.53	1.42	1.19	1.15
% of variance		50.13	6.76	5.67	5.48
α		.95	.85	.87	.76

Note: Factor loadings over .40 appear in bold

Table 5   Means, standard deviations, Pearson's correlation coefficients among variables employed in the survey and sample sizes

	M	SD	1	2	3	4	5	6
1 The extent of knowledge sharing	.6260	.1355	1	.618*** [.454, .753]	.446*** [.276, .613]	.406*** [.214, .578]	.469*** [.266, .641]	.634*** [.473, .765]
2 Partnership between the employer and the staff	.6554	.1752	94	1	.503*** [.383, .614]	.570*** [.479, .655]	.627*** [.532, .707]	.976*** [.969, .983]
3 Cooperation among employees	.7669	.1913	94	230	1	.399*** [.263, .526]	.403*** [.279, .513]	.606*** [.500, .698]
4 User-friendliness of the used information system	.6430	.2136	94	230	230	1	.453*** [.348, .552]	.671*** [.594, .737]
5 Employees' organizational commitment	.6192	.1756	94	230	230	230	1	.731*** [.663, .790]
6 Knowledge sharing culture	.6596	.1568	94	230	230	230	230	1

Notes. ** $p < .01$, *** $p < .001$. Bias corrected and accelerated bootstrap 95% CIs are reported in square brackets.

Figure 1   Conceptual framework