



Organisational culture as an antecedent of knowledge sharing in NGOs

Carla Curado, Paulo Henriques, Mirian Oliveira & Rute Martins

To cite this article: Carla Curado, Paulo Henriques, Mirian Oliveira & Rute Martins (2021): Organisational culture as an antecedent of knowledge sharing in NGOs, Knowledge Management Research & Practice, DOI: [10.1080/14778238.2021.1908864](https://doi.org/10.1080/14778238.2021.1908864)

To link to this article: <https://doi.org/10.1080/14778238.2021.1908864>



Published online: 08 Apr 2021.



Submit your article to this journal [↗](#)



Article views: 175



View related articles [↗](#)



View Crossmark data [↗](#)

Organisational culture as an antecedent of knowledge sharing in NGOs

Carla Curado ^a, Paulo Henriques ^a, Mirian Oliveira ^b and Rute Martins^c

^aAdvance/CSG/ISEG/Universidade de Lisboa, Lisbon, Portugal; ^bPUCRS/ Advance/CSG/ISEG/Universidade de Lisboa, Lisbon, Portugal; ^cISEG/Universidade de Lisboa, Lisbon, Portugal

ABSTRACT

Knowledge sharing (KS) is a challenge for non-governmental organisations (NGOs) given its high turnover and the informal nature of KS. We examine KS in Portuguese NGOs by adopting the three levels of Schein's theory of organisational culture: artefacts, norms/values, and basic assumptions. We test the influence of the three variables we propose to be proxies of the three levels: internal communication, ethical climate, and altruism. This study's objective is to a) ascertain whether the different levels are correlated with each other, and b) to understand the effects of organisational variables on KS. We found evidence to sustain the correlation among the three levels showing that Schein's theory is supported in the NGO's. Our findings confirm that an ethical climate and altruism have a positive impact on KS. However, the analysis fails to support the influence of internal communication. Altogether, we conclude that organisational culture positively impacts KS at NGOs.

ARTICLE HISTORY

Received 4 May 2020
Accepted 18 March 2021

KEYWORDS

Knowledge sharing;
organisational culture; ngos;
quantitative study

1. Introduction

The knowledge era brings opportunities to organisations. The knowledge-based view of the firm (Grant, 1996) is an extension of the resources-based view that focuses on the organisation's resources and capabilities to create, share, and transform knowledge into a competitive advantage (Curado & Bonits, 2006). Knowledge management should aim at the best organisational performance; thus, organisations can be differentiated by the way that they manage it (Oliveira et al., 2017).

Non-governmental organisations (NGOs) present a profile that seeks to adopt and experiment with innovative ways of thinking and acting (Marteleto & Ribeiro, 2001). They are formed by autonomous organisations or institutions whose main purpose is to volunteer in civil society to counter the failures of the state (Santos, 2012; Soares & Melo, 2010). Drucker (2005) states that NGOs need to learn to use knowledge management as a tool to replace conventional profits because competition is fierce, and only NGOs that manage their resources efficiently will survive. The main objective of knowledge management (KM) is to grant an awareness of both individual and collective knowledge held by an organisation and thus to increase its effectiveness and efficiency (Alavi, Kayworth & Leidner, 2006). Consequently, KM offers the potential to reduce costs, and risks, to improve quality, to respond timely to market demands, and to contribute to stakeholder satisfaction (Torres et al., 2016). Nevertheless, there is a necessary condition to

achieve such potential. KM requires that the organisation sets up a set of activities and processes to make the information available to everyone in the organisation (Torres et al., 2016). Given that NGO's usually face high turnover rates and they experience informal knowledge sharing (KS) (Huck et al., 2011; Pereira et al., 2013; Vidal & Menezes, 2014), NGOs have loyal personnel even though it is not easy for NGOs to offer long-term contracts (Zbucheá et al., 2020).

The literature refers to NGOs' resource scarcity (both tangible and intangible), however, little attention has been paid to the specific resources related to "knowledge" (Corfield et al., 2013; Maalaoui et al., 2020). Knowledge is very important for the NGOs (Zbucheá et al., 2020). Thus, KM has been gaining popularity in NGOs since the 1990s as a way to modernise management (Corfield et al., 2013). However, it remains a great challenge for NGOs to manage KS (Yousif et al., 2020).

KS is a highly required organisational behaviour with impact on the organisation's survival and growth (Hasmath & Hsu, 2020); therefore, NGOs require successful KM (Zbucheá et al., 2020). This study examines knowledge sharing (KS) in Portuguese NGOs by addressing the organisational culture variables that affect it. Hence, the following research question arises: Do organisational culture variables have a positive effect on KS? Schein's organisational culture theory (2004) consists of three levels: artefacts, norms/values, and basic assumptions. We test internal communication (artefact level), ethical climate (norms and values level), and altruism (basic assumptions level)

for their influence. We also test whether these levels have positive correlations among each other.

This study has six sections. The first one introduces the topics under analysis. The second is a literature review. The third section presents the methodology and method for data collection. The fourth section presents the data analysis and the sample. The fifth section contains the results, and the last section concludes.

2. Literature review

2.1. Knowledge management

Knowledge management (KM) is the systematic process of identifying, creating, renewing, and applying knowledge that is strategic to the organisation (Davenport & Prusak, 1998). It continually creates new knowledge and applies it widely and rapidly to new solutions (Corsatto & Hoffman, 2013; Nonaka & Takeuchi, 2008). One of the great challenges of KM is to encourage the practice of KS by promoting an organisational culture that stimulates it (Angeloni & Grotto, 2009). Most people have a natural desire to share what they know, but this desire is often hampered by cultural barriers (O'Dell & Grayson, 1998). In other words, KS may not occur because of the major difficulties that KM confronts – identifying where knowledge is allocated, mapping and systematising it, and making it available later (Corsatto & Hoffman, 2013).

The goal of KM is to make the organisation aware of the individual and collective knowledge it holds in order to become more effective and efficient in increasing its value (Alavi, Kayworth & Leidner, 2006). As a result, a firm can become more efficient by decreasing costs and reducing risk while at the same time achieving better effectiveness by improving productivity, service quality, response time, stakeholder satisfaction, innovation speed, developing new business, and developing the organisation (Torres et al., 2016). However, in order for KM to flourish, the organisation must define a set of activities and processes for distributing and using information at both the individual and organisational levels to amplify knowledge (Torres et al., 2016).

To disseminate knowledge and allow its reuse by others, Gonzalez and Martins (2017) argue for the need of a process with four specific steps: The first step is the creation or acquisition of new knowledge. It is both an intra-organisational and an inter-organisational process. On one hand, it identifies the needs for information and collaborators that facilitates the creation of tacit and explicit knowledge (Gonzalez et al., 2018). On the other hand, an organisation can identify and absorb information and knowledge from external sources such as customers

and suppliers (Rodrigues et al., 2012). In the second stage, knowledge storage is a process by which organisations codify and store knowledge. Knowledge can be stored in databases or retained in memory systems in the form of values, norms, and beliefs of the organisation (Gonzalez et al., 2018). This is followed by KS in which employees share their knowledge with others (Rodrigues et al., 2012) who disseminate the existing knowledge throughout the organisation (Tonet & Paz, 2006). Knowledge utilisation encourages its use by making it easy to locate and to access employees (Gonzalez et al., 2018; Rodrigues et al., 2012).

2.2. Knowledge sharing in NGOs

Managing any organisation is challenging by itself, but the challenge for NGOs increases because resources are scarce (Corfield et al., 2013). Therefore, the heterogeneity of these organisations becomes an obstacle to the implementation of a single management system given the differences in composition, size, mission, and operation. To effectively manage these organisations, Burlamaqui and Rodriguez (2013) propose a style with two dimensions: individual (self-realisation) and group (satisfaction and social responsibility). This style ensures sustainability because it requires diversifying funding sources, attracting new partners, and developing projects that generate revenue as well as professionalising human resources and seeking organisational evaluation systems (Junior et al., 2009).

Vidal and Menezes (2014) warn that NGOs by nature are learning organisations and thus need to be able to empower the skills of their members. Pereira et al. (2013) assume that these organisations face specific strategic challenges given the high turnover of employees and their informal knowledge. Thus, when any of the volunteers leave the organisation, they need to rerecord the institutional memory (Huck et al., 2011). This process can occur if sufficient organisational KS exists (Vidal & Menezes, 2014). That is, there should be a process through which a culture of social interaction takes place – where individuals exchange knowledge by sharing relevant information and experiences (Dehghani et al., 2015).

Knowledge transfer regards inter-organisational KS and is the conscious processing of knowledge (Ipe, 2003) that depends on the ability of employees to absorb knowledge (Szulanski, 2000; Tonet & Paz, 2006). Regarding the source of knowledge, Haas and Hansen (2007) report that it can be absorbed in two ways: through direct contact between sender and receiver that transmits tacit knowledge or through written documents that record what individuals know and that are submitted to a database for everyone to access. With regard to the recipient and their

absorption capacity, Szulanski (2000) and Tonet and Paz (2006) highlight the knowledge and skills the recipient already possesses but warn of the need for the motivation to learn and to accept different ideas. If there is a lack of motivation, then the recipient adopts a passive posture towards the implementation and use of shared knowledge (Tonet & Paz, 2006).

Kwakye and Nor (2011) admit that KS is a critical factor in the functioning of organisations that internally help individuals to collaborate. However, if it is done reluctantly, then it can diminish the organisation's intellectual knowledge and ability to be productive. Therefore, an organisation needs to create a culture capable of promoting KM, specifically KS, so that each individual can share their experience (Lettieri et al., 2004).

2.3. Organisational culture

Okunoye (2003) and Costa et al. (2010) view organisational culture (OC) as a combination of inheritance, social learning, belief in behavioural patterns, and the characteristics of the physical environment. Barale and Santos (2017) argue that the organisation is nothing more than a culture of shared actions that are explainable through expressive, ideational, and symbolic aspects. Organizational culture is then a set of means and techniques that enhance performance and the consequent growth and development that can be changed and managed in order to stimulate social interactions (Barale & Santos, 2017; Machado et al., 2016; Zavareze, 2008).

The most accepted definition of OC in the literature is that of Edgar Schein (2004). The author defines it as a "pattern of shared basic assumptions that has been grasped by a group in solving its problems of external adaptation and internal integration that worked sufficiently well to be considered valid and therefore to be taught to new members as the right way to perceive, think, and feel about these problems" (p. 17). Thus, OC is a mechanism of shared learning. However, one of the major challenges for organisations is to create a culture that promotes KS and continuous learning through formal and informal opportunities that bring people in contact to enable knowledge transfer (Angeloni & Grotto, 2009). To this end, Schein (2004) proposed three levels of cultural analysis: artefacts, norms/values, and basic assumptions.

Artefacts are the most superficial level at which they are the most visible yet difficult to decipher cultural manifestations such as physical, verbal, or behavioural manifestations (Alavi et al., 2006; Schein, 2004). These manifestations may lead to misunderstandings because the correct interpretations are difficult to achieve (Machado et al., 2016). Angeloni and Grotto (2009) add that the observation of the physical space of the organisation can reveal the barriers to KS

because knowledge is currently structured in a way that does not facilitate its promotion. Thus, structuring the physical space in a KS friendly way facilitates the process. Zavareze (2008) shows that the communication process used internally to share knowledge is a network of formal and informal verbal relationships called internal communication (IC). In addition, non-verbal communication goes through the visible artefacts of the organisation (Zavareze, 2008).

Norms and values indicate the beliefs and the context of social interaction in the environment where people act and communicate thus having a decisive effect on the behaviours and attitudes of the organisation (Alavi et al., 2006). The organisation must define and create a type of trust-based culture through an incentive plan and a set of common beliefs and values that ensure learning and KS (Angeloni & Grotto, 2009). This is possible to analyse through the variable ethical climate (EC) because it allows us to understand how employees recognise the organisational context (Lau et al., 2017).

The heart of OC is the basic assumptions that are formed by interpretive schemes that are beyond consciousness. They are invisible and difficult to identify in interactions, but they are used to perceive and make sense of situations (Alavi et al., 2006; Schein, 2004). They regard what is valid in the organisation. For example, the attitudes towards success are unconscious and unquestionable assumptions (Zavareze, 2008). This organisational level can be captured by the altruism variable (ALT) that can be used to analyse the motivations of the individuals that link them to the organisation (Dekas et al., 2013). This organisational level passes the assumptions on to the rest of the organisation as the correct way to perceive, think, and feel (Zavareze, 2008).

In this context, Araújo and Araújo (2011) and Cardoso (2008) propose that Schein's OC theory is a sequential process of correlation among the different levels. For the authors, the principles influence the choices and decisions of the groups that in turn define the level of artefacts that are nothing more than the manifestations of the values and basic assumptions. Just as individuals validate the norms and values, they consolidate the basic assumptions that individuals should follow at the level of artefacts. Therefore, we propose:

H1: The level of basic assumptions is positively correlated with the level of the norms and values.

H2: The level of norms and values is positively correlated with the level of artefacts.

H3: The level of basic assumptions is positively correlated with the level of artefacts.

2.4. Organizational Culture Antecedents of Knowledge Sharing in NGOs

Internal communication: We propose that internal organisational communication be a proxy of the artefacts level of Schein's OC in NGOs because it is a process that is part of "the phenomena that one sees, hears, and feels" (Schein, 2004: 25). According to Almeida (2013), internal communication assumes a strategic position in the organisation and can be divided into organisational communication, communication between managers, and communication between peers and teams (Neves & Eisenberger, 2012). The first presupposes teamwork while the second refers to the methods and activities proposed by managers that lead to the achievement of goals by employees (Welch & Jackson, 2007). Thus, by strategically guiding the organisation through formal and informal networks, IC's main function is to lead to the sharing of information and knowledge (Kalla, 2005) while stimulating the socialisation and integration of employees by creating a sense of commitment to the mission, vision, and principles of the organisation.

Above all, a major obstacle to NGOs is the lack of a communication structure (Serious, 2017). In the universe of NGOs, communication serves to express the objectives and the means to achieve them (Marteleto & Ribeiro, 2001). Besides, a good communication strategy brings benefits to NGOs and consequently reinforces the connection between internal and external audiences. Consequently, we propose:

H4: Internal communication positively affects knowledge sharing.

Ethical climate: We propose the internal ethical climate to be a proxy of the norms and values level of Schein's OC in NGOs because it is part of a group of "broader values that are not testable, such as ethics" (Schein, 2004: 29). Victor and Cullen (1987) propose the most common approach to the ethical climate (EC). The types of EC are based on Kohlberg's theory of moral development (Cullen et al., 2003). Such typology results from the intersection between three ethical criteria (selfishness, benevolence, and principle) and three dimensions of analysis (individual, local, and cosmopolitan) thus resulting in nine types of EC. The selfishness criterion encourages personal gain, i.e., one always looks for the alternative that maximises personal well-being without considering the interests of others (Cullen et al., 2003; Rego, 2002). The benevolence criterion reflects the team spirit and cohesion of the members of the organisation (Cullen et al., 2003). The principle criterion is

acting according to the code of ethics of the profession (Rego, 2002). Following the reasoning of Cullen et al. (2003), the benevolence and principle criteria have a positive relation to organisational commitment and KS as opposed to the criteria of selfishness and hiding knowledge (Connelly & Zweig, 2015; Connelly et al., 2012).

Argandoña (2007) points out that all NGOs have certain values, ethics, and social principles that define their missions and activities. NGOs' principles concerning the individual refer to human dignity, human rights, and solidarity; when it comes to society, they are about trust, openness, and cooperation. The internal principles of the organisation include legality, transparency, efficient management, professionalism, participation, and the decentralisation of decision-making. Wang (2004) and Costa et al. (2010) recognise ethics and individual interest as determinants for KS because individuals have the right to express their knowledge. However, the motivations depend on the organisational context that they are a part of; thus, it is important that the organisation has an ethos for KS because the individuals can lose their exclusive right to their knowledge. Hence, we propose:

H5: An ethical climate positively affects knowledge sharing.

Altruism: We propose altruism to be a proxy of the basic assumptions level of Schein's OC in NGOs since "members will find behavior based on any other premise inconceivable" (Schein, 2004: 31). The concept of altruism (Alt) is difficult to define given the multiplicity of interpretations of various authors. Alt is part of the pentadimensional model of the concept of organisational citizenship behaviour (OCB) that was proposed by Batman and Organ (1983) and adopted by many like Dehghani et al. (2015). The OCB is characterised as "an individual behaviour that it is discretionary, not directly or explicitly recognized by the formal reward system, and generally promotes the effective functioning of the organization" (Organ, 1997, p. 86). Discretionary behaviour is not meant to be a requirement of the job function or job description (Islam et al., 2012) but rather a voluntary behaviour of the members of the organisation (Dehghani et al., 2015). Alt can occur through KS. Thus, we propose:

H6: Altruism positively affects knowledge sharing.

All the above proposed hypotheses are presented in Figure 1.

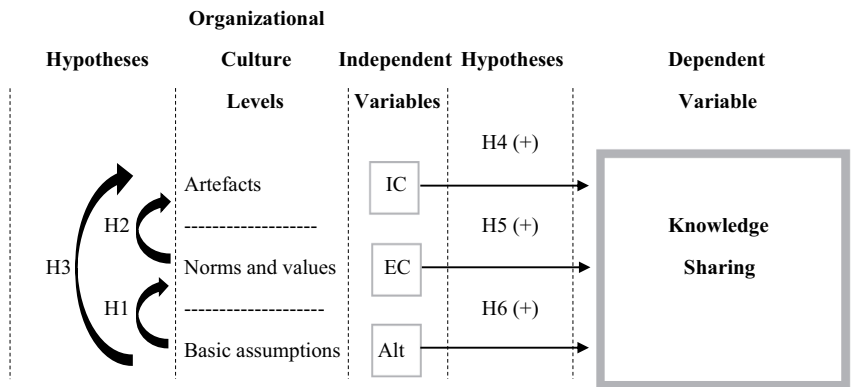


Figure 1. Research model.

3. Methodology

3.1. Quantitative approach

This research follows a quantitative approach to test the hypotheses.

Data collection came from an online questionnaire with two sets of questions that Qualtrics distributed from its online platform. The first set is made up of six closed questions and one open-ended question on the characteristics of the respondent. The second set is composed of four blocks with a total of 30 questions with closed answers (see Appendix A). The formulation of the questions followed the principles proposed by Hill and Hill (2002) and Sekaran (2000). The questions were short and clear and did not exceed 20 words. No multiple-choice questions were used. The questions did not use conjunctions or disjunctions; all were neutral.

The questionnaire used the five-point Likert scale (from 1 – completely disagree to 5 – completely agree). Before sending the questionnaire, we applied a pre-test to a small sample of individuals to better understand if all the questions were understood and if there were any errors. The preliminary questionnaire test was applied to three employees from different NGOs and resulted in minor changes and corrections. We used a public database of Portuguese NGOs (Fundação Calouste, & Gulbenkian, 2015). After seven days, a reminder was sent requesting completion by those who had not yet done so.

3.2. Data collection and analysis

Responses were collected from May 1 to 19, 2019. The questionnaire was digitally sent to 336 email addresses: 118 responses were collected. Following Hair et al. (2014), we cleaned the observations by eliminating all questionnaires with 80% or more similarity between answers and all those that were incomplete. The final sample was 74 with a response rate of 22%. Most respondents were female (71.6%) and aged

between 35 and 44 years old (39.2%). Half of the respondents were married, and 55.4% currently had dependent minors. Most had a level of education equivalent to higher education (91.9%), and 89.2% were professionally employed. Regarding the position held in the organisation, 45.9% were the director, president, or coordinator (14.9%); only 17.6% were men.

In terms of characterising the participating NGOs in relation to their area of action, it was not possible to identify all NGOs due to the applicable General Data Protection Regulation. We could only consider those who provided their email in order to obtain a report of this study. Of those, about 28% belonged to social support organisations (including organisations linked to fighting poverty; supporting the elderly, families, and the sick; helping those with a disability; and child aid). In addition, 9.5% fell into the art and culture category, 2.7% were from environmental/ecological organisations, 2.7% were from citizenship and democracy organisations (defending human rights and consumer rights, fighting racism, and supporting emigrants), and 1.3% represented animal protection organisations. Table 1 presents the sample’s characteristics.

We used a confirmatory factor analysis to help define the sets of variables – factors (Bartholomew, 1984) – by confirming that they reflected the variables in the study. We took this step because we were using these variables in a different context than their original use. We also used the Kaiser-Meyer-Olkin Index (KMO) that indicates the homogeneity of the variables and, according to Marôco (2011), has a range from zero (unacceptable) to one (excellent). This test should be followed by Bartlett’s sphericity test that can identify any variances in the data matrix including their level of significance (Table 2.).

The results in Table 2 show that the adequacy is very good at 0.832 (Damásio, 2012). Bartlett’s test results (<0.05) and the criterion of variance extracted are within the recommended values: The variance

Table 1. Sample's characteristics.

		Gender		Total
		Male	Female	
Age	15 to 24 years		1.4%	1.4%
	25 a 34 years	4.1%	9.5%	13.5%
	35 a 44 years	9.5%	29.7%	39.2%
	45 a 54 years	6.8%	17.6%	24.3%
	More than 55 years old	8.1%	13.5%	21.6%
Marital status	Single	8.1%	24.3%	32.4%
	Married	17.6%	32.4%	50.0%
	Civil union	1.4%	4.1%	5.4%
	Divorced	1.4%	8.1%	9.5%
	Widow(er)		2.7%	2.7%
Having dependent children	Yes	14.9%	40.5%	55.4%
	No	13.5%	31.1%	44.6%
Education level	Primary school		1.4%	1.4%
	Secondary school	2.7%	1.4%	4.1%
	Graduation	25.7%	66.2%	91.9%
	Other		2.7%	2.7%
Professional status	Employee	23%	66.2%	89.2%
	Student			
	Student and Employee		2.7%	2.7%
	Unemployed			
Job/position	Retired	5.4%	2.7%	8.1%
	Secretary		1.4%	1.4%
	President/Top manager	17.6%	28.4%	45.9%
	Middle manager	1.4%	5.4%	6.8%
	Supervisory member	2.7%		2.7%
	Accountant		2.7%	2.7%
	Vice-president	2.7%	1.4%	4.1%
	Treasurer	0%	2.7%	2.7%
	Specialist	4.1%	6.8%	10.8%
	Operational manager		14.9%	14.9%
	Support staff		2.7%	2.7%
	Advisor		1.4%	1.4%
	Other		4.1%	4.1%

extracted for each factor and the total variance should be considered in order to extract at least 5% of the total variance or a minimum of factors that explain at least 50% of the total variance of the initial variables (Hair et al., 2014). We used the varimax rotation method, which causes only one of the original variables to be strongly associated with a single factor (Field, 2009). Hair et al. (2014) proposed the Scree Test to know the number of factors to be extracted. After extraction, four factors explained 75.5% of the variance that guaranteed that the cut-off point was greater than 0.55 as suggested by Comrey and Lee (1992). Table 3 presents a description of the variables, their source, and the reliability of the scales in this study.

We used Cronbach's Alpha to assess the reliability of the factors. The results show values between 0.86 and 0.92, which indicate the reliability of the variables because the coefficients must have a minimum value of 0.7 (Hair et al., 2014). Furthermore, the normality of the distribution was tested using the Kolmogorov-Smirnov (K-S) indicator, which must correspond to $p > 0.05$ according to Field (2009). However, this was not verified

because the values were below 0.05. As such, the asymmetry and kurtosis values were considered for values between -0.05 and 0.05 ; this confirmed that they did not exceed the values of 3 and 7, respectively. Thus, a satisfactory normal distribution of the sample was confirmed.

3.3. Hypothesis testing

Some statistical tests were performed to test the hypotheses such as a Pearson correlation analysis to show the degree of correlation between the organisation variables representing the OC levels (Table 4). Using Pearson's coefficient (r), we measured the intensity and direction of the correlation between two variables (Filho & Júnior, 2009) – this coefficient varies between -1 and 1 with 0 being the absence of correlation. The sign indicates the direction (positive or negative) and the value reflects the intensity of the correlation (strong, weak, or moderate) (Bryman & Cramer, 2003).

Table 2. KMO and bartlett tests.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	Bartlett's Sphericity Test		
	Approx. Chi-Square	df	Sig.
0.832	1010.410	153	<0.001

Table 3. Description of variables, sources, and reliability.

	Variables descriptions	Source	Cronbach's Alpha
Artefacts	Internal Communication It reflects how communication between peers, managers, and organisations encourages knowledge sharing. It shows if the information reaches the collaborators through a formal or informal network.	Christensen (2014)	0.902
Norms and Values	Ethical Climate It reflects how employees recognise the organisational context and how this environment motivates them to share information. It is intended to analyse which behaviours and principles lead to KS.	Lau et al. (2017)	0.860
Basic Assumptions	Altruism It reflects the willingness of the employee to freely share information with their colleagues. It is intended to analyse the motivations of the employees connecting them to the organisation.	Dekas et al. (2013)	0.912
	Knowledge Sharing It reflects the way employees perceive the sharing of information and experiences in the organisation. It is intended to analyse the process of KS.	Curado (2017)	0.920

Table 4. Pearson correlation analysis.

	Artefacts Level - Internal Communication	Norms and Values Level -Ethical climate	Basic Assumptions Level – Altruism	Knowledge Sharing
Artefacts Level - Internal Communication	1			
Sig.				
Norms and Values Level – Ethical climate	0.403**	1		
Sig.	0.000			
Basic Assumptions Level – Altruism	0.457**	0.403**	1	
Sig.	0.000	0.000		
Knowledge Sharing	0.355**	0.392**	0.368**	1
Sig.	0.000	0.001	0.001	

**Significance level 0.01 (two tailed)

Table 5. Verification of the hypothesis of correlation of the three levels of Schein’s OC.

Hypothesis	Results	Interpretation
H1: The level of Basic Assumptions is positively correlated with the level of the Norms and Values.	r = 0.403 p < 0.01 Weak positive correlation	Hypothesis is supported
H2: The level of Norms and Values is positively correlated with the level of Artefacts.	r = 0.403 p < 0.01 Weak positive correlation	Hypothesis is supported
H3: The level of Basic Assumptions is positively correlated with the level of Artefacts.	r = 0.457 p < 0.01 Weak positive correlation	Hypothesis is supported

Table 5 verifies that all OC levels have a weak and positive correlation with KS with coefficients between 0.355 and 0.368 and a $p < 0.01$. The correlations among the OC levels are stronger. When analysing the correlation between the basic assumptions level and the norms and values level ($r = 0.403$), we assume that the more employees identify with the organisational context, the more motivated they are to adopt organisational principles (supports H1). The same happens when analysing the correlation between the level of norms and values and artefacts ($r = 0.403$). Thus, a greater perception of the organisational

context by employees leads to greater visible manifestations within the organisation (supports H2). Further, there is correlation between the level of basic assumptions and the level of artefacts ($r = 0.457$), that is, when employees feel more motivated, they have a greater predisposition to adopt behaviours and attitudes that encourage visible expressions of OC (supports H3).

To understand the effect of organisational variables (independent) of KS (dependent variable), and thus to test the remaining hypotheses, we used a multiple linear regression analysis (Tabachnick & Fidell, 2013). Hair et al. (2014) proposed that four assumptions should be verified for these types of hypotheses: linearity, homoscedasticity, error independence, and normal distribution of errors. Thus, we confirmed that these requirements were met via SPSS options and generating graphics: 1) linearity was confirmed by a straight line that reflected the relationship between the dependent variable and the independent variable; 2) homoscedasticity was confirmed by the dispersion of the residuals along each independent variable, which were constant (Hair et al., 2014); 3) error independence assumed that each value was independent and indicated there was no self-correlation; and 4) the normal error distribution was confirmed by checking that the residuals in the model were

Table 6. Models' testing results.

Models	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	df1	df2	F	Sig.
1	0.392	0.153	0.142	0.511		1	72	13,041	0.001
2	0.454	0.206	0.184	0.498		1	71	4,730	0.033
3	0.476	0.227	0.194	0.495	1,745	1	70	1,870	0.176

Table 7. Significant models.

Models	Unstandardised coefficients		Standardised coefficients		Sig.
	B	Error	β	t	
1 (Constant)	3,552	0.292		12,154	<0.001
EC	0.268	0.074	0.392	3,611	0.001
2 (Constant)	3,078	0.359		8,579	<0.001
EC	0.199	0.079	0.290	2,513	0.014
Alt	0.198	0.091	0.251	2,175	0.033

randomly distributed when the mean of the differences between the model and the observed data was zero or close to zero. After introducing a stepwise method that uses mathematical methods to predict, keep, or remove variables in the model, we obtained the results in Table 6.

Table 6 shows the results of testing three models that explain KS: Model 1 considers the EC variable only. Model 2 considers EC and Alt variables, and Model 3 contains the contributions of the three independent variables under study: IC, EC, and Alt. Model 3 is not acceptable, and Model 2 presents the highest R^2 . Therefore, we accept that the IC variable does not explain KS, and that EC and Alt explain 20.6% of it. Table 7 reports the estimations regarding the significant models.

Such results reject H4 (no significant effect of IC on KS) and support H5 (positive effect of EC on KS) and H6 (positive effect of Alt on KS).

4. Discussion of results

The analysis of the results used a quantitative approach with the following statistical tests: an exploratory factor analysis, a Pearson correlation analysis, and a multiple linear regression. The analysis shows that all variables have positive correlations with each other and thus confirmed the related hypotheses. The basic assumptions are positively correlated with the norms and values. The norms and values are positively correlated with the artefacts. The basic assumptions are positively correlated with artefacts. Therefore, we confirm and expand the study by Freitas (1991) that defines the organisational culture from two perspectives: 1) the cognitive that considers the rules and beliefs consolidated and shared by the collaborators and 2) the symbolic that interprets the perception that individuals have about the organisation. Looking at each level of organisational culture allows us to understand the behaviour of individuals

in the organisational context and their essential contributions to building that culture.

The remaining hypotheses were tested using the multiple linear regression analysis. The results indicate that IC does not affect KS. Our findings show EC and Alt only explain KS and have an effect of 20.6% on KS. This effect may be explained by the fact that NGOs have limited resources and cannot address these three variables at the same time.

The results also illustrate the contributions of the two variables from the literature on governmental organisations: ethical climate (Lau et al., 2017) and altruism (Dekas et al., 2013). Both of these also apply to NGOs. The results lead to the belief that the NGOs under study may have enough EC and Alt resources and very limited communication resources. Based on such evidence, we state that organisational culture impacts KS in NGOs, which is similar to Alavi et al. (2006), Angeloni and Grotto (2009), and Machado et al. (2016) who studied the effect of organisational culture on knowledge management in governmental organisations.

The Alt reflects the deeper level of OC and translates into the behaviour of members of organisations and their voluntary nature (Dehghani et al., 2015). We assume that it does not mean direct investment by NGOs. The EC illustrates the intermediate level of OC and demonstrates the values of benevolence and principle having a positive relation to organisational commitment (Cullen et al., 2003) and not requiring direct investment by NGOs. On the contrary, IC involves formal and informal networks that generate KS (Kalla, 2005) and require investments by the organisations. The absence of these networks is an obstacle to the functioning of organisations (Serious, 2017).

The results show that two variables positively affect KS and confirm two of the hypotheses regarding the effect of OC variables on KS. Organizational culture and management are related because they influence each other. To identify the culture of an organisation, one must look at the management model. Managers

need to acknowledge that changes at one organisational level may affect other levels. The context of social interaction (ethical climate) that is perceived through the norms and values results from effective internal communication. On the other hand, internal communication has a decisive effect on the behaviours and attitudes that individuals adopt. These are visible at the artefact level. Intrinsic behaviours (like altruism) reflect the accepted behaviours in the organisation; they are beyond consciousness, and they come from the deepest level of the organisational culture – the basic assumptions level. This research yields key findings to help NGO managers make decisions about practices that they can implement, or correct, to encourage KS. Therefore, organisations should try to integrate knowledge management into their cultures without forcing it because individuals are unaware of their existing culture until they are challenged to know a new one (Oliveira et al., 2017). A cultural change can often generate some resistance so managers should make employees aware of the benefits that come from knowledge management especially the importance of KS.

Regarding the methodology, the choice of a quantitative approach allowed us to measure the variables accurately to understand the degree of correlation between the OC levels and the effect that the variables have on KS.

5. Conclusions

This study makes a contribution to both theory and management because studies on NGOs are scarce especially with regard to those in Portugal. To our knowledge, no such study has yet been developed. Thus, this research is the first to investigate the effect of organisational variables (internal communication, ethical climate, and altruism) associated with the levels of Schein's organisational culture theory on knowledge sharing in Portuguese NGOs. Thus, this study provides NGOs with information on the consequences of each variable. Given the limited resources that NGOs face – and the effort required to develop each of the levels of organisation culture that the variables represent – our contribution becomes quite relevant. We responded to our initial research question and thus understand the effect of organisational culture variables on KS in Portuguese NGOs. We also reached our research objective of ascertaining whether the different levels of organisational culture are correlated with each other.

From a theoretical viewpoint, this work addresses the positive correlation between the three levels of Schein's organisational culture (2004) and shows that such correlation between the three levels exists and thus supports the theory. The results also illustrate that an ethical climate and altruism have a positive

impact on knowledge sharing at NGOs; thus, we assume that organisational culture affects knowledge sharing in NGOs. Similar findings on the effect of organisational culture affecting KS are observed in governmental organisations (Wisnuharnowo et al., 2020), academic communities (Ahmed et al., 2020; Dwi & Hermanto, 2020), and for-profit organisations (Lee et al., 2016; Lei et al., 2019). Therefore, our results further expand the theoretical rationale of organisational culture affecting KS to NGOs.

Organizational culture facilitates social integration among members, and thus it is a requirement for KS. Organizational culture should encourage people to share their knowledge within the organisation (Islam et al., 2015). Our results illustrate such a phenomena: An ethical climate in the organisation and the altruism of individuals positively impacts KS. Fostering a positive social interaction culture supports implementation of KM initiatives (Lin, 2011). According to the literature, KS is a key strategic priority that requires NGOs to communicate knowledge (Guldborg et al., 2013). However, our findings failed to support the hypothesis on the contribution of internal communication to KS. We may wonder if there are any communication problems and misunderstandings between group members that restrain such an expected positive impact. It may also be a consequence of poor leadership: According to Schein (2004: 91), the top management team may improve communication and group effectiveness at the artefacts level.

From a managerial viewpoint, this study contributes to the literature on knowledge management (specifically KS) in Portuguese NGOs. In order to remain competitive, organisations must be able to use the available means and take advantage of all the resources they hold especially in the context of NGOs where resources are scarce (Corfield et al., 2013). Our results show that ethical climate and altruism have a positive effect on knowledge sharing so NGOs' managers and leaders should be aware of the consequences of the ethical climate and altruism and the lack of influence of the internal communication, which probably reflects the resource constraints of NGOs. Knowledge sharing is nothing more than a communication process; thus, managers must recognise the importance of effective internal communication, which enables the dissemination and improvement of information sharing between issuers and receivers in the organisation. The ethical climate is relevant for KS.

The motivation and predisposition for knowledge sharing depends on the organisational context (Walsh & Lannon, 2020; Zbucnea et al., 2020); thus, it is necessary that the values, traditions, and customs of each organisation allow and drive the involvement and identification of the organisational context for

each individual. By being so motivated, individuals may adopt altruistic behaviours and share their information, knowledge, and experiences without fear of losing power. Rather, they may see it as a way to gain more knowledge and help the organisation to create knowledge that then ensures a competitive advantage. Intranets support knowledge management by generating an efficient distribution and access of knowledge (Ho et al., 2012; Nishimoto & Matsuda, 2007). The use of a Wiki, for example, could enhance existing resources on communication. It would enable staff to become familiar with communication, and KS could serve as a repository of shared information/stories thus supporting NGO members in building and maintaining organisational culture (Guldberg et al., 2013).

6. Study limitations and future suggestions

One of the limitations noted at the outset was how little information we had on the NGOs under study especially in Portugal. This is an unexplored topic in academia. In this study, the number of responses was greatly reduced compared to the number of questionnaires sent out. Thus, we must acknowledge a low response rate. Another limitation to the study is that each level of Schein's (2004) organisational culture is represented by a single variable: At the artefacts' level, it is internal communication; for norms and values it is the ethical climate; and for basic assumptions it is altruism. We must also accept our model's low level of impact considering the reported R^2 . As a suggestion, future research could consider in person delivery of printed questionnaires to the NGOs. This delivery might lead to better adherence to the study and more answers. Since this is a subject that is unexplored in the literature, other variables such as the organisational structure, social responsibility, leadership strategy, and organisational commitment could be introduced in the future. Apart from replicating the study in other countries, such research would benefit from a longitudinal approach to explore pathways that lead to more mature knowledge sharing in NGOs. Addressing the complex and alternative ways in which knowledge sharing can be reached in NGOs would be interesting because there are different levels of organisational culture that influence KS.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This work was supported by the CNPq and CAPES (Brazil); FCT- Fundação para a Ciência e Tecnologia (Portugal) [UIDB/04521/2020].

ORCID

Carla Curado  <http://orcid.org/0000-0002-2608-8982>
 Paulo Henriques  <http://orcid.org/0000-0001-7869-7619>
 Mirian Oliveira  <http://orcid.org/0000-0002-5498-0329>

References

- Ahmed, S., Ashraf, A., & Sheikh, A. (2020). Relationship between organizational culture and knowledge sharing: A study of university librarians. *Libri: International Journal of Libraries & Information Services*, 70(2), 143–156. <https://doi.org/10.1515/libri-2019-0034>
- Alavi, M., Kayworth, T., & Leidner, D. (2006). An empirical examination of the influence of organizational culture on knowledge management practices. *Journal of Management Information Systems*, 22(3), 191–224. <https://doi.org/10.2753/MIS0742-1222220307>
- Almeida, L. (2013). Comunicação e ciências empresariais: A importância da comunicação interna para a motivação dos colaboradores. *EXEDRA, Revista Científica ESEC*, 8, 91–113.
- Angeloni, M., & Grotto, D. (2009). A influencia na cultura organizacional no compartilhamento do conhecimento. *Revista De Administração FACES Journal*, 8(2), 76–93. <https://www.redalyc.org/articulo.oa?id=194016886006>
- Araújo, E., & Araújo, E. 2011. *Análise dos artefatos culturais, crenças e valores da empresa "Y" de contabilidade e dos seus reflexos na gestão empresarial* ISSN 1984–9354. VII Congresso Nacional de Excelência em Gestão.
- Argandoña, A. (2007) *Ethical management systems for not-for-profit organizations*. IESE Business School Working Paper No. 693. Available at SSRN, <http://dx.doi.org/10.2139/ssrn.1026231>
- Barale, R., & Santos, B. (2017). Cultura organizacional: Revisão sistemática da literatura. *Revista Psicologia: Organizações E Trabalho*, 17(2), 129–136. <http://dx.doi.org/10.17652/rpot/2017.2.12854>
- Bartholomew, D. J. (1984). The foundations of factor analysis. *Biometrika*, 71(2), 221–232. <https://doi.org/10.1093/biomet/71.2.221>
- Batman, T. S., & Organ, D. W. (1983). Job satisfaction and the good soldier: The relationship between affect and employee "citizenship". *Academy of Management Journal*, 26(4), 587–595. <https://doi.org/10.5465/255908>
- Bryman, A., & Cramer, D. (2003). *Quantitative data analysis with minitab: A guide for social scientists* (1st ed.). Routledge.
- Burlamaqui, A., & Rodriguez, M. 2013. *A arte de compartilhar práticas e experiências no terceiro setor: Um estudo de caso* ISSN 1984–9354. IX Congresso Nacional de Excelência em Gestão.
- Cardoso, M. (2008). Uma reflexão sobre a cultura organizacional à luz da psicanálise. *Revista Brasileira De Enfermagem*, 61(1), 103–108. <https://doi.org/10.1590/S0034-71672008000100016>
- Christensen, M. (2014). Communication as a strategic tool in change processes. *International Journal of Business Communication*, 51(4), 359–385. <https://doi.org/10.1177/2329488414525442>
- Comrey, A. L. and Lee, H. B., (1992), *A first course in factor analysis*, Hillsdale, New Jersey: Erlbaum.
- Connelly, C. E., & Zweig, D. (2015). How perpetrators and targets construe knowledge hiding in organizations. *European Journal of Work and Organizational*

- Psychology*, 24(3), 479–489. <https://doi.org/10.1080/1359432X.2014.931325>
- Connelly, C. E., Zweig, D., Webster, J., & Trougakos, J. P. (2012). Knowledge hiding in organizations. *Journal of Organizational Behavior*, 33(1), 64–88. <https://doi.org/10.1002/job.737>
- Corfield, A., Paton, R., & Little, S. (2013). Does knowledge management work in NGOs?: A longitudinal study. *International Journal of Public Administration*, 36(3), 179–188. <https://doi.org/10.1080/01900692.2012.749281>
- Corsatto, C., & Hoffman, W. (2013). Gestão do conhecimento e inteligência competitiva: Delineamento de estratégias de competitividade e inovação para pequenas empresas. *Revista Eletrônica De Biblioteconomia E Ciência Da Informação*, 18(38), 19–36. <https://www.redalyc.org/pdf/147/14729735003.pdf>
- Costa, G., Prior, M., & Rogerson, S. (2010). *Why link knowledge management, organizational culture and ethics: Inquiring results*. Centre for Computing and Social Responsibility, De Montfort University.
- Cullen, J. B., Parboteeah, K. P., & Victor, B. (2003). The effects of ethical climates on organizational commitment: A two-study analysis. *Journal of Business Ethics*, 46(2), 127–141. <https://doi.org/10.1023/A:1025089819456>
- Curado, C. (2017). Human resource management contribution to innovation in small and medium-sized enterprises: A mixed methods approach. *Creativity and Innovation Management*, 27(1), 79–90. <https://doi.org/10.1111/caim.12251>
- Curado, C., & Bonits, N. (2006). The knowledge-based view of the firm and its theoretical precursor. *International Journal of Learning and Intellectual Capital*, 3(4), 367–381. <https://doi.org/10.1504/IJLIC.2006.011747>
- Damásio, B. (2012). Uso da análise fatorial exploratória em psicologia. *Avaliação Psicológica*, 11(2), 213–228. Dialnet-
UsoDaAnaliseFatorialExploratoriaEmPsicologia-6674931.pdf
- Davenport, T., & Prusak, L. (1998). *Working knowledge: How organizations manage what they know*. Harvard Business School Press.
- Dehghani, M., Hayat, A., Kojuri, J., & Keramat, E. (2015). Role of organizational citizenship behavior in promoting knowledge sharing. *Journal of Health Management & Informatics*, 2(4), 126–131. [article_42653_0ef0-d0aa8a0cd44b0c3f4299979a74a1.pdf](https://doi.org/10.42653_0ef0-d0aa8a0cd44b0c3f4299979a74a1.pdf) (sums.ac.ir)
- Dekas, K., Bauer, T., Welle, B., Kurkoski, J., & Sullivan, S. (2013). Organizational citizenship behavior, version 2.0: A review and qualitative investigation of ocbs for knowledge workers at Google and beyond. *The Academy of Management Perspectives*, 27(3), 219–237. <https://doi.org/10.5465/amp.2011.0097>
- Drucker, Peter.F. (2005). *Managing the Nonprofit Organization – Principles and Practices*. New York, USA: Collins Business
- Dwi, D. A., & Hermanto, A. T. (2020). The effect of organizational culture and transformational leadership on knowledge sharing: A study in Bumigora University of West Nusa Tenggara, Indonesia. *Russian Journal of Agricultural & Socio-Economic Sciences*, 103(7), 20–25. <https://doi.org/10.18551/rjoas.2020-07.03>
- Field, A. (2009). *Discovering statistics using SPSS*. SAGE Publications.
- Filho, D., & Júnior, J. (2009). Desvendando os mistérios do coeficiente de pearson. *Política Hoje*, 18(1), 115–146. <https://periodicos.ufpe.br/revistas/index.php/politica-hoje/article/view/3852>
- Freitas, M. E. (1991). *Cultura Organizacional, Formação Tipologias e Impacto*. Makron Books.
- Gonzalez, R., & Martins, M. (2017). O Processo de Gestão do Conhecimento, uma pesquisa teórico-conceitual. *Gestão & Produção*, 24(2), 248–265. <https://doi.org/10.1590/0104-530x0893-15>
- Gonzalez, R., Martins, M., & Melo, T. (2018). Gestão do conhecimento: Tipologia a partir dos fatores contextuais da organização. *Transformação*, 30(2), 249–266. <https://doi.org/10.1590/2318-08892018000200009>
- Grant, R. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17(S2), 109–122. <https://doi.org/10.1002/smj.4250171110>
- Gulbenkian, F. C. (2015) *Base de dados de ONGs* <https://gulbenkian.pt/programas/cidadania-ativa1/base-de-dados-ong/> (Consulted 31- 08-2019)
- Guldberg, K., Mackness, J., Makriyannis, E., & Tait, C. (2013). Knowledge management and value creation in a third sector organisation. *Knowledge and Process Management*, 20(3), 113–122. <https://doi.org/10.1002/kpm.1410>
- Haas, M., & Hansen, M. (2007). Different knowledge, different benefits: Toward a productivity perspective on knowledge sharing in organizations. *Strategic Management Journal*, 28(11), 1133–1155. <https://doi.org/10.1002/smj.631>
- Hair, J. R., Anderson, R., Tatham, R., & Black, W. (2014). *Multivariate Data Analysis*. Prentice-Hall.
- Hasmath, R., & Hsu, J. Y. (2020). A community of practice for Chinese NGOs. *Journal of Chinese Political Science*, 25 (4), 575–589. <https://doi.org/10.1007/s11366-020-09687-3>
- Hill, M., & Hill, A. (2002). *Investigação por Questionário*. Edições Sílabo.
- Ho, L.-A., Kuo, T.-H., & Lin, B. (2012). How social identification and trust influence organizational online knowledge sharing. *Internet Research*, 22(1), 4–28. <https://doi.org/10.1108/10662241211199942>
- Huck, J., Al, R., & Rathi, D. (2011). Finding KM solutions for a volunteer-based non-profit organization. *VINE*, 41 (1), 26–40. <https://doi.org/10.1108/03055721111115539>
- Ipe, M. (2003). Knowledge sharing in organizations: A conceptual framework. *Human Resource Development Review*, 2(4), 337–359. <https://doi.org/10.1177/1534484303257985>
- Islam, M. Z., Jasimuddin, S. M., & Hasan, I. (2015). Organizational culture, structure, technology infrastructure and knowledge sharing: Empirical evidence from MNCs based in Malaysia. *VINE*, 45(1), 67–88. <https://doi.org/10.1108/VINE-05-2014-0037>
- Islam, T., Anwar, F., Khan, S., Rasli, A., Ahmad, U., & Ahmed, I. (2012). Investigating the mediating role of organizational citizenship behavior between organizational learning culture and knowledge sharing. *World Applied Sciences Journal*, 19(6), 795–799. DOI: 10.5829/idosi.wasj.2012.19.06.1569
- Júnior, M., Faria, M., & Fontenele, R. (2009). *Gestão nas organizações do terceiro setor: Contribuição para um novo paradigma nos empreendimentos sociais*. XXXIII Encontro da ANPAD, ANPAD.
- Kalla, H. (2005). Integrated internal communications: A multidisciplinary perspective. *Corporate Communications: An International Journal*, 10(4), 302–314. <https://doi.org/10.1108/13563280510630106>
- Kwakyé, E., & Nor, K. (2011). Individual factors and knowledge sharing. *American Journal of Economics and Business Administration*, 3(1), 66–72. <https://doi.org/10.3844/ajebasp.2011.66.72>

- Lau, P., Tong, J., Lien, B., Hsu, Y., & Chong, C. (2017). Ethical work climate, employee commitment and proactive customer service performance: Test of the mediating effects of organizational politics. *Journal of Retailing and Consumer Services*, 35, 20–26. <https://doi.org/10.1016/j.jretconser.2016.11.004>
- Lee, J.-C., Shiue, Y.-C., & Chen, C.-Y. (2016). Examining the impacts of organizational culture and top management support of knowledge sharing on the success of software process improvement. *Computers in Human Behavior*, 54(1), 462–474. <https://doi.org/10.1016/j.chb.2015.08.030>
- Lei, H., Do, N. K., & Le, P. B. (2019). Arousing a positive climate for knowledge sharing through moral lens: The mediating roles of knowledge-centered and collaborative culture. *Journal of Knowledge Management*, 23(8), 1586–1604. <https://doi.org/10.1108/JKM-04-2019-0201>
- Lettieri, E., Borga, F., & Salvodelli, A. (2004). Knowledge management in non-profit organizations. *Journal of Knowledge Management*, 8(6), 16–30. <https://doi.org/10.1108/13673270410567602>
- Lin, H.-F. (2011). Antecedents of the stage-based knowledge management evolution. *Journal of Knowledge Management*, 15(1), 136–155. <https://doi.org/10.1108/13673271111108747>
- Maalaoui, A., Le Loarne-Lemaire, S., & Razgallah, M. (2020). Does knowledge management explain the poor growth of social enterprises? Key insights from a systematic literature review on knowledge management and social entrepreneurship. *Journal of Knowledge Management*, 24(7), 1513–1532. <https://doi.org/10.1108/JKM-11-2019-0603>
- Machado, F., Maranhão, C., & Pereira, J. (2016) *O conceito de cultura organizacional em Edgar Schein: Uma Reflexão À Luz Dos Estudos Críticos Em Administração*. REUNA, Belo Horizonte, MG, Brasil, 21(2), 75–96. <http://revistas.una.br/index.php/reuna/article/view/712>
- Marôco, J. (2011) *Análise estatística com o SPSS statistics*. Report Number.
- Marteletto, R., & Ribeiro, L. (2001). *Informação e construção do conhecimento para a cidadania no terceiro setor*. UFPb. <http://ridi.ibict.br/bitstream/123456789/185/1/MARTELETOIS2001.pdf>
- Neves, P., & Eisenberger, R. (2012). Management communication and employee performance: The contribution of perceived organizational support. *Human Performance*, 25(5), 452–464. <https://doi.org/10.1080/08959285.2012.721834>
- Nishimoto, K., & Matsuda, K. (2007). Informal communication support media for encouraging knowledge-sharing and creation in a community. *International Journal of Information Technology and Decision Making*, 6(3), 411–426. <https://doi.org/10.1142/S0219622007002551>
- Nonaka, I., & Takeuchi, H. (2008). Teoria da criação do conhecimento organizacional. In H. Takeuchi & I. Nonaka (Eds.), *Gestão do conhecimento* (pp. 54–90). Bookman.
- O'dell, C., & Grayson, C. J. (1998). If only we knew what we know: Identification and transfer of internal best practices. *California management review*, 40(3), 154–174. <https://doi.org/10.2307/41165948>
- Okunoye, A. (2003) *Knowledge Management and Global Diversity: A Framework to Support Organizations in Developing Countries*, Unpublished PhD thesis, University of Turku, Turku.
- Oliveira, M., Fernandes, C., & Oliva, E. (2017). A cultura organizacional no desenvolvimento da gestão do conhecimento: Proposição de um modelo integrativo. *Espacios*, 38(6), 9–16. <http://www.revistaespacios.com/a17v38n06/a17v38n06p09.pdf>
- Organ, D. W. (1997). Organizational citizenship behavior: It's construct clean-up time. *Human Performance*, 10(2), 85–97. https://doi.org/10.1207/s15327043hup1002_2
- Pereira, R., Moraes, F., Júnior, A., & Palmisano, A. (2013). Especificidades da gestão do terceiro setor. *Organização Em Contexto*, 9(18), 167–196. <https://doi.org/10.15603/1982-8756/roc.v9n18p167-195>
- Rego, A. (2002). Climas éticos e comportamentos de cidadania organizacional. *Revista De Administração De Empresas*, 42(1), 50–63. <https://doi.org/10.1590/S0034-75902002000100006>
- Rodrigues, L., Silveira, T., & Rosa, F. (2012). Gestão do Conhecimento: Uma ferramenta de gestão. *Revista Gestão Premium*, 2(1), 26–39.
- Santos, S. (2012). *Organização do terceiro setor* (1ª ed.). Livro-texto EaD, EdUnP. Edição.
- Schein, E. (2004). *Organizational culture and leadership* (3ª ed.). Jossey-Bass. Edição.
- Sekaran, U. (2000). *Research methods for business*. John Wiley & Sons Inc.
- Soares, A., & Melo, M. (2010). Gestão do terceiro setor: Uma prática social? *Revista De Gestão USP*, 17(1), 1–11. <https://doi.org/10.5700/rege383>
- Szulanski, G. (2000). The process of knowledge transfer: A diachronic analysis of stickiness. *Organizational Behavior and Human Decision Processes*, 82(1), 9–27. <https://doi.org/10.1006/obhd.2000.2884>
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics*. Allyn & Bacon/Pearson Education.
- Tonet, H., & Paz, M. (2006). Um modelo para o compartilhamento de conhecimento no trabalho. *RAC*, 10(2), 75–94. <https://doi.org/10.1590/S1415-6552006000200005>
- Torres, A., Ferraz, S., Santos-Rodrigues, H., & Matos, F. (2016). Os processos de gestão do conhecimento influentes na inovação organizacional. *International Journal of Knowledge Engineering and Management*, 5(12), 1–28.
- Victor, B., & Cullen, J. B. (1987). A theory and measure of ethical climate in organizations. *Research in Corporate Social Performance and Policy*, 9, 51–57. <https://archive.org/details/ResearchInCorporateSocialPerformanceAndPolicyVol9/page/n59/mode/2up>
- Vidal, F., & Menezes, M. (2014). Gestão de ongs e desenvolvimento social: Paradoxos e desafios da administração no terceiro setor. *Revista Alcance*, 11(3), 403–421. [https://doi.org/10.14210/alcance.v11i3\(Set-Dez\)](https://doi.org/10.14210/alcance.v11i3(Set-Dez))
- Walsh, J. N., & Lannon, J. (2020). Dynamic knowledge management strategy development in international non-governmental organisations. *Knowledge Management Research & Practice*, 1–12. <https://doi.org/10.1080/14778238.2020.1785348>
- Wang, C. C. (2004). The influence of ethical and self-interest concerns on knowledge sharing intentions among managers: An empirical study. *International Journal of Management*, 21(3), 370–381.
- Welch, M., & Jackson, P. (2007). Rethinking internal communication: A stakeholder approach. *Corporate Communications: An International Journal*, 12(2), 177–198. <https://doi.org/10.1108/13563280710744847>
- Wisnuharnowo, L. H. T., Hermanto, H., & Sakti, D. P. B. (2020). The influence of organizational culture, organizational commitments and information technology on knowledge sharing. *International Journal of*

Multicultural and Multireligious Understanding, 7(11), 19–27. <https://doi.org/10.18415/ijmmu.v7i11.2116>

Yousif, N. B. A., Grondys, K., Gad, S., & Elsayed, W. (2020). Knowledge management in non-governmental organizations (NGOs). *Administratie Si Management Public*, 35 (35), 90–108. <https://doi.org/10.24818/amp/2020.35-06>

Zavareze, T. (2008) *Cultura organizacional: Uma revisão de literatura*. *Psicologia.com.pt*, 12. (May 01 2020). <https://www.psicologia.pt/artigos/textos/A0441.pdf>

Zbucheá, A., Ivan, L., Petropoulos, S., & Pinzaru, T. (2020). Knowledge sharing in NGOs: The importance of the human dimension. *Kybernetes*, 49(1), 182–199. <https://doi.org/10.1108/K-04-2019-0260>

Appendix A – Items used

Internal Communication

I can be open in bringing up subject matters with my closest leader.
 The dialogue between my closest leader and me is good.
 There is tolerance/acceptance in my communication with my leader.
 My closest leader is available if I wish to bring up personal matters.
 My closest leader trusts the employees.
 My closest leader respects me.
 The communication between my co-workers and me is good.
 I can bring up work related topics with my co-workers.
 I can bring up personal issues with my co-workers.

Ethical Climate

The most important concern is the good of all the people in the workplace as a whole.

Internal Communication

What is best for everyone in the workplace is the major consideration here.
 Our major concern is always what is best for other people.
 In this workplace, people are expected to follow their own personal and moral beliefs.
 In this workplace, people are guided by their own personal ethics.
 Each person in the workplace decides for themselves what is right and wrong.
 In this workplace, the law or ethical code of their profession is the major consideration.
 People are expected to comply with the law and professional standards over and above other considerations.
 Successful people in this workplace go by the book.
 People in this workplace strictly obey the workplace policies

Altruism

Helps others who have heavy workloads.
 Willingly helps others solve work-related problems.
 Is always ready to lend a helping hand to those around him/her.
 Tries to prevent problems for co-workers.
 Considers the impact of his/her actions on co-workers.
 Communicates with others before initiating actions that might affect them.

Knowledge Sharing

I often share the reports and official documents from my work with the members of my team.
 I always share my manuals, methodologies and models with the members of my team.
 I often share my experience or know-how with the members of my team.
 I always share my know-where and know-whom when prompted by the members of my team.
 I often share my expertise from my education or training with the members of my team.

(Continued)