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Sustainable Human Resource Management: How to Create a Knowledge Sharing Behavior through Organizational Justice, Organizational Support, Satisfaction and Commitment

Natàlia Cugueró-Escofet[ID]**, Pilar Ficapal-Cusí** *[ID] **and Joan Torrent-Sellens**[ID]

Faculty of Economics and Business Studies, Universitat Oberta de Catalunya (Spain), 08035 Barcelona, Spain; ncuguero@uoc.edu (N.C.-E.); jtorrent@uoc.edu (J.T.-S.)
* Correspondence: pficapal@uoc.edu; Tel.: +34-932542104

Abstract: Knowledge sharing (KS) behavior is one of the main drivers to generate social sustainability. It predicts high organizational performance and innovation capabilities, and creates enjoyment and happiness in helping others. Even if incentives to enhance KS behaviors exist, employees would still be reluctant to share knowledge. For this reason, we test a comprehensive model of sustainable human resource management with the inclusion of KS to explain how to enhance collaborative practices in terms of voluntary knowledge sharing. In a comprehensive model, we incorporate organizational justice, employee perceived organizational support, job satisfaction and affective organizational commitment, and how they relate in order to generate knowledge sharing behavior. Using a sample of 1350 employees working for multinational firms operating in Spain, the present research obtains two main results. First, organizational justice, employee perceived organizational support and affective organizational commitment are positively related with KS. Second, employee perceived organizational support, job satisfaction and affective organizational commitment play a mediating role between organizational justice and KS, which reinforces the positive relationship between both constructs. Consequently, employees would be more willing to cooperate and share in fair organizational contexts, especially when they are satisfied and affectively committed, and when their contributions are valued and recognized. Finally, we discuss human resource management's (HRM) practical interventions and recommendations for future research on sustainable organizations.

Keywords: knowledge sharing; sustainable human resources management; organizational justice; perceived organizational support; affective organizational commitment; job satisfaction

1. Introduction

Sustainable human resource management (HRM) is an emerging field in the human resource management literature [1,2] that connects organizational sustainability with roles, practices and human resources strategies [3–5]. The research conducted in the area of sustainable HRM has approached the problem through a variety of perspectives [3,6–8] and by including multiple constructs and, hence, models [3,9–12]. Consequently, the literature has contemplated a myriad of alternative explanations of the phenomena at hand [6–8,13]. Nonetheless, it is useful to highlight that almost all perspectives have concluded that sustainable organizations should encompass a combination of financial, human, social and environmental benefits by recognizing at the same time the impact of people and HRM policies on the final success of the organization [3]. Following the sustainable approach, organizations should achieve good performance through HRM tools, in a way that these should reflect equity, development, well-being and respect for the environment, and all of that through satisfied and

committed employees [10,14,15]. Several empirical studies tried to identify the meaning and crucial dimensions of the concept of sustainable HRM, and found that some of the crucial factors that contribute to the definition of this concept are justice, equality, transparent human resource practices, profitability and employee welfare [16].

Knowledge sharing (KS) has been used to connect organizational HRM practices with sustainability [17,18]. Specifically, the literature has considered that the activated interactions among employees and the efficient knowledge management within teams are essential for the sustainability of the organization [14]. KS is defined as "the provision of information task and know-how to help others and to collaborate with others to solve problems, develop new ideas or implementing policies and procedures" [19], ([20], p. 117). Recent research has found that employees with a higher perception of fairness [21], of organizational support [22,23] and commitment [24] have a greater willingness to engage in KS behavior. Different managerial practices and organizational cultures have a different impact on KS [25]. In addition, KS has a positive effect on cooperation and organizational performance [19].

KS can be facilitated through social interactions between the participants [26]. However, the literature reveals that there exists a high complexity in maintaining KS between participants insofar as knowledge, eventually, resides in the individuals [27]. In this context, we stress the importance of coordination even if achieving stable coordination in social exchanges generates reciprocal obligations that would not be clearly identified, as they are usually imprecise and blurred [28]. Hence, KS behavior depends largely on the individual intentions and motivations of those who share knowledge, and for that reason is influenced by organizational and environmental procedures, such as legal norms, ethical norms, habits and codes of conduct, amongst others [29–31].

Research based on social exchange theory and the norm of reciprocity has analyzed the relationships between HRM practices and the KS attitudes and behavior. According to this theory, individuals regulate their interactions with others through the resulting perception of a cost and benefit analysis of this concrete interaction [32]. Therefore, KS is positively affected when an individual expects to obtain some future benefits through reciprocity [33]. In this context, the social exchange variables can function as antecedents, moderators and mediators between HRM practices and the results obtained [34]. The models developed are diverse, so there is not a complete consistency about which of the social factors considered in research have some incidence over KS behavior.

The purpose of the present research is, first to explore the mechanisms that conduce individuals to share their knowledge and second to develop a comprehensive model that explains how to promote KS behavior. The comprehensiveness of the model would encompass all mediating effects found relevant in the social exchange theory framework. We included several measures we considered relevant. First, organizational justice as a measure of how individuals consider the organization they are working for as being just or not. Second, job satisfaction to incorporate the expectations and sentiments they have regarding their job. Third, commitment as the degree of identification and ties they had established with their organization and the willingness to continue working there. Finally, perceived organizational support as a measure of efforts and contributions from the coworkers and the policies that make evident the interest and worries for the worker's wellbeing. We go further to investigate which direct and mediated effects have all these measures to promote KS, as a behavior that makes the HRM more sustainable.

In the next section, we explain the model and the variables included to build the specific hypotheses. Afterwards, we present the method of analysis and the sample used. Next, we explain the results, testing the overall model and all the hypotheses. Finally, we propose some discussion regarding the possible managerial and research implications and present conclusions regarding the limitations of the present research and a number of venues of future research.

2. Conceptual Framework and Research Hypotheses Development

2.1. Organizational Justice and Knowledge Sharing

KS is a dynamic process that refers to the creation, assimilation and application of knowledge that has to do with organizational effectiveness [35–38]. It implies a multidirectional process of knowledge exchange between individuals that includes knowledge donating (based on the willingness to transfer the own intellectual capital) and knowledge collecting (achieved when others share their own knowledge) [39]. This process is relevant to voluntary knowledge exchange, which implies the generation and support to the flow of ideas and experiences, and all sharing dynamics of knowledge involved in the regular activities [30,40]. To integrate these dynamics, it is important to include the antecedents that determine individual participation and the extra-role conduct included in intra-organizational knowledge exchanges [14,41]. These determinants relate to individual dispositions and organizational cultures and structures [5,20,24,42,43]. Due to their increasing interest, predictors of KS and the relationships related to them have been analyzed [44–46].

Under the label of 'organization justice' what is studied in organizations is the perception of justice that organizational participants rate to decide whether the organization is fair from their perspective or point of view. The concept includes four types of justice: distributive, procedural, informational and interpersonal, depending on what aspect of (in) justice is perceived [47]. Distributive justice refers to the perceptions of what people receive, in terms of tangible or intangible resources. Procedural justice is concerned with the perception of fairness about the set of organizational procedures used to arrive at a decision that affects the output received. Informational justice refers to the fairness perceived regarding the information a decision-maker delivers during the decision process that leads to an output. Finally, interpersonal justice is the perception of fairness that concerns the treatment received by a decision-maker during the decision process that leads to some output. Justice is important as it also has different dimensions, concerning the different motives people can display, such as instrumental, relational and moral or transcendental. Justice is a very important aspect in social interactions and is central to the social exchange theory to examine its relationship with KS behavior [20,48]. From a social exchange theory perspective, the social exchange is based on an equity exchange in which there is expected reciprocity based on equity, even if the obligations generated are not clearly determined, and remain quite imprecise [49]. Thus, equity perceptions are positively related to the duty sentiments to contribute to the organization [44] and employees that perceive there is justice tend to display a higher cooperative behavior [50]. As we have mentioned, there are four types of justice, distributive, procedural, informational and interpersonal, depending on which aspect of justice is evaluated or perceived [51], each factor can have different effects on KS. There is empirical evidence that employees that perceive distributive justice are intrinsically motivated to share knowledge with their colleagues [52]. This positive effect has also been contrasted with procedural and interactional justice [45,53]. Other research has established parallelism between KS behaviors and the participation component of organizational citizenship behavior [33]. Specifically, with the extra-role behavior related to cooperation and affiliation that includes the voluntary actions that consist of helping workmates (e.g., attending meetings and engaging in positive communications by sharing new ideas with others) [54]. From this perspective, research reveals a consistent relationship between perceptions of procedural justice and organizational citizenship behavior [55]. Thus, we propose the following hypothesis:

Hypothesis 1a (H1a). *Organizational justice is positively related to knowledge sharing.*

Perceived organizational support is a construct based on the norm of reciprocity through which collaborators deliver effort and dedication towards the organization and expect in return future benefits [56,57]. Research supports that procedural and distributive justice have influence over perceived organizational support [58], and that perceived organizational support mediates

the relationship between justice and some of the dimensions of organizational citizenship behavior, particularly collaborative behavior [55]. Thus, organizational justice perceptions affect general perceptions of how employees feel they are valuable for the organization [59], and these perceptions of being valuable influence the willingness to correspond with sharing and helping behaviors towards others [60]. Following this approach, employees would be more willing to cooperate and share in environments they find a just treatment, with reciprocity, insofar as the organization values and recognizes their contributions. With the end goal of determining whether the relationship between justice and KS behavior is mediated through perceived organizational support, we establish the following hypothesis:

Hypothesis 1b (H1b). *Employee perceived organizational support plays a mediating role between organizational justice and knowledge sharing.*

Job satisfaction is a general individual attitude towards the job [61]. Job satisfaction is a positive emotional state that results from the valuation of a job or from job experiences [62]. Job satisfaction such defined is the degree to which individuals like (satisfaction) or dislike (dissatisfaction) their jobs depending on several job characteristics. Robbins (1996) considers job satisfaction as the result of comparing the rewards actually received from the ones they would expect to receive. Research has found that there are several relationships between justice, equity in general and the employees' attitudes, while some evidence supports that perceptions derived from the judgment about the job environment have influence over job satisfaction [63,64]. Moreover, research has found a positive relationship between job satisfaction and organizational commitment [65]. Commitment is defined as the psychological link between an employee and the organization [66]. Organizational commitment is one of the dimensions that has been studied using social exchange theory, and the reasoning behind the existence of commitment is that if employees think that the organization satisfies their socioemotional needs and realize they receive attention from it, they would tend to give back in terms of identification or organizational commitment [67]. Commitment has three dimensions: normative commitment, continuity commitment and affective commitment [68]. We were interested mainly in the affective organizational commitment, defined as the emotional attachment from the individual towards the organization. Affective commitment has been found related to other organizational behaviors such as behaviors towards helping others [69], and as a mediator to maintain a positive behavior towards the rest of the organizational members [50,70]. For instance, some research showed that affective organizational commitment had a mediator role between procedural justice and the sharing knowledge behavior [71], and between interactional justice and KS [72]. Other studies have found evidence of an indirect effect between justice, satisfaction and work commitment mediated by perceived organizational support [60].

Based on the existing literature, we could expect that perceptions of justice could create greater levels of satisfaction and commitment and this, in turn, would create an environment that would favor knowledge sharing behavior. In this way, employees who perceive a just treatment in their organization would better satisfy their needs and expectations, and would be greater identified with the organization. This feeling of satisfaction and commitment would influence KS behaviors. Thus, we establish the following hypothesis:

Hypothesis 1c (H1c). *Job satisfaction and affective organizational commitment mediate the relationship between organizational justice and knowledge sharing.*

2.2. Perceived Organizational Support and Knowledge Sharing

Following social exchange theory, research has found a relationship between perceived organizational support and KS behavior based on the employees' interest in adopting behaviors that correspond to the support they receive from the organization [55,73]. This research has established the

importance of supporting employees from the organization, the supervisor or coworkers, to encourage KS behavior [74,75]. Establishing some parallelism between organizational citizenship behavior and knowledge exchange, Podsakoff et al. (2000) have also demonstrated a positive relationship between perceived organizational support and exchange behaviors among leaders and collaborators. However, some studies have nuanced views on the influence of perceived organizational support over KS, as not all the situations favor KS behavior [76]. In all cases, it is clear that non-incentivizing policies of support between coworkers result in higher impedance towards sharing behavior [77]. Following this research, we hypothesize:

Hypothesis 2a (H2a). *Employee perceived organizational support has a positive relationship with knowledge sharing.*

Empirical evidence has reported a well-established relationship between perceived organizational support and affective commitment [78,79] showing that perceived organizational support is a predictor of commitment [80–82]. Based on the norm of reciprocity, employees that perceived organizational support feel the obligation to contribute to the organizational well-being and to achieve goals, and their way to fulfill this obligation would be through a greater affective commitment [83,84]. This involvement would generate some beliefs regarding the rights that the organization had about the knowledge created or acquired, and thus this would encourage knowledge exchange [85].

Organizational commitment has also been studied as a mediator of the relationship between predictors of KS [86]. For instance, some investigations considered that affective commitment was a mediator between perceived organizational support and KS [87]. It has been shown that perceived organizational support was positively associated with the organizational commitment and that organizational commitment, in turn, had a positive effect over the KS behavior [88]. Consequently, when employees perceive the organization supports them, they reciprocate increasing their commitment and organizational citizenship behavior [79]. Thus, we propose the following hypothesis:

Hypothesis 2b (H2b). *Affective organizational commitment plays a mediating role between employee perceived organizational support and knowledge sharing.*

2.3. Commitment and Knowledge Sharing

Research has found that affective commitment or emotional attachment to the organization had important implications in additional behaviors that have a voluntary and discretionary nature, in a way that one shares knowledge if and only if it is disposed to do it, in the benefit of others or the organization [89,90]. Some research has contended that affective commitment was positively related to the individual willingness of doing extra work efforts [91]; and this behavior is, in turn, related to the willingness to give and receive knowledge [92]. Following this reasoning, it has been pointed out that affective commitment was an important variable to explain KS behavior [85,93–96] and direct influence on the intention of continuous knowledge exchange [97]. Thus, we propose the following hypothesis:

Hypothesis 3 (H3). *Affective organizational commitment is positively related to knowledge sharing.*

3. Methodology

3.1. Sample and Procedure

The sample comprises 1350 employees working in multinational firms operating in Spain. The employees belonged to industrial and service sectors, whose activities covered a wide range of industries and tasks. In terms of gender, 58.2% of the sample are females. Employees' mean age is 35.0 years (SD = 9.14), distributed over the following categories: 20–29 years (37.0%), 30–39 years (32.6%), 40–49 years (16.4%), 50–59 years (10.6%) and 60 years or more (3.4%). The participants are highly educated. Most of them have completed at least a bachelor's degree (65.5%). Compared to the official

data provided by the Spanish Bureau of Statistics (Labor Force Survey) our sample is somewhat biased towards young and highly educated employees. The mean job tenure is 6.5 years (SD = 6.33), position tenure is 10.1 years (SD = 9.45) and organizational tenure is 9.90 years (SD = 9.56).

The survey was designed and prepared to be complimented online as a self-report. Respondents took approximately 15 minutes to complete the survey. Fieldwork was carried out between December 2017 and February 2018.

Non-probabilistic sampling, also known as random accidental sampling, had been used to obtain the sample [98]. The response rate was 84.2%. Of the original sample, 13.5% of employees abstained from participating because of time problems or presumed lack of relevance of the study, and a further 2.3% of the questionnaires returned were removed from the dataset due to completion mistakes or omissions. Cross-tabs and ANOVA analyses comparing participants and non-participants have not suggested significant differences regarding main socio-demographic characteristics. After contacting the employees selected to take part in the study, the scales were administered individually during work time with the prior consent from the firms' managers. The participants received instructions to enable them to answer the scales. They were also assured of the confidentiality and anonymity of the data obtained. The researchers obtained the informed consent of all participants. In addition, the participants did not receive monetary or non-monetary rewards. In the present study, no specially protected data were collected, and there was no reference to ideology, religion or beliefs. In addition, to ensure the confidentiality of the results obtained, the questionnaires were anonymous, so that the participants could not be identified in any possible way.

3.2. Measurements

The constructs had been adapted following the steps recommended in the literature [99,100]. First, the items were translated from English to Spanish by research experts (university lecturers), and by language experts belonging to the Language Service of the Open University of Catalonia. Second, we created a focus group to discuss the translated items (e.g., equivalence of meanings). Third, language experts back-translated the items from Spanish to English. Finally, we checked the equivalence of meaning between the original and adapted versions.

Tables 1 and 2 present descriptive statistics, correlations and reliabilities among the latent constructs used. Organizational justice (OJ) was assessed with four factors representing the four dimensions of justice, being distributive, procedural, informational and interpersonal. We used a 5-point Likert scale developed in Colquitt et al. [51]. The scale presented a set of items that consisted of questions with an answer that ranged from 1 (never) to 5 (always). An item sample of each of the four factors of justice is, for example, "have you had influence over the (outcome) arrived at by those procedures?" (procedural justice), "does your (outcome) reflect what you have contributed to the organization? (distributive justice), "has (he/she) treated you with respect?" (interpersonal justice) and "were (his/her) explanations regarding the procedures reasonable?" (informational justice). The analyses in our data set hold with this four-factor model. Cronbach alphas were: 0.87 (procedural justice), 0.93 (distributive justice), 0.75 (interpersonal justice) and 0.91 (informational justice). The Cronbach alpha of the entire construct is 0.92. The fit indicators for the four-factor model of organizational justice were, RMSEA = 0.076, CFI = 0.937 and TLI = 0.927. Appendix A shows OJ items.

Knowledge sharing is assessed using a scale of seven items extracted from the participation factors of the organizational citizenship behavior scale [54]. The original scale consists of 34 items, organized in five factors: loyalty, obedience, and three aspects of participation, social participation, advocacy participation and functional participation. The participation aspect was important in terms of collaborating with the organization to voluntarily share the knowledge that each person would have at some point in an organizational circumstance and has been considered important to create a sustainable competitive advantage. This behavior nurtures the relationships among members of teams and allows the ability to increase their performance. Therefore, for the KS scale, we took the items that represent a sharing behavior within the organization, both through social participation and advocacy

participation. Items were taken to capture the two aspects of sharing behavior we are interested in, which are promoting sharing behaviors of others and sharing knowledge oneself. We finally selected a group of 2 items from the social participation factor and 5 items from the advocacy participation factor. This scale was a 7-point Likert that states some aspects of behavior and respondents should range response form 1 (totally disagree) to 7 (totally agree). The Cronbach alpha of the scale was 0.88. In our data, the measure had the following fit indicators for a single factor model, RMSEA = 0.079, CFI = 0.942 and TLI = 0.913. An item sample of KS is "shares ideas for new projects or improvements widely", even if we included the final 7 items taken for the measure of KS in Appendix B.

Table 1. Descriptive statistics and reliabilities among latent variables.

	No. of Items	*M* (*SD*)	Alpha	Type of Likert Scale (Lower–Higher)
Organizational justice (OJ)	20	3.39 (0.75)	0.92	1–5
Satisfaction with the organization (SAT)	12	4.75 (1.23)	0.92	1–7
Perceived organizational support (POS)	36	3.85 (1.05)	0.95	1–7
Commitment (COM)	21	3.68 (0.92)	0.87	1–7
Knowledge sharing (KS)	7	4.88 (1.15)	0.88	1–7

Note: M = mean; SD = standard deviation; Alpha = Cronbach's alpha.

Perceived organizational support (POS) is assessed with a scale developed by Eisenberger et al. [56,101]. The scale consisted of a list of statements that respondents should range from 1 (totally disagree) to 7 (totally agree). The total number of items is 36 and a sample item is "the organization strongly considers my goals and values". The Cronbach alpha of this measure is 0.95 and the fit indicators in our sample for a single factor model are RMSEA = 0.081, CFI = 0.867 and TLI = 0.899.

Satisfaction with the job (SAT) is assessed using the scale developed by Meliá and Peiró [102]. This 7-point Likert scale consisted of 12 items with a Cronbach alpha of 0.92, and consists of a set of aspects of the job that respondents should rate to what extent they are satisfied or not, being 1, very unsatisfied and 7, very satisfied. One sample item is written as, "the objectives, goals and productivity that you should attain". The fit indicators in our sample for a single factor model were RMSEA = 0.076, CFI = 0.922 and TLI = 0.918.

Commitment (COM) is assessed adapting the scale developed for measurement attitudinal commitment [68]. This 7-point Likert scale consisted of 21 items with a Cronbach alpha of 0.87. A sample item is "this organization has a great deal of personal meaning for me". Several scales have considered that attitudinal commitment has three aspects: affective commitment, continuance commitment and normative commitment. In our study, we considered affective commitment. Analyzing our data, the measure of commitment has the following fit indicators for a single factor model: RMSEA = 0.079, CFI = 0.939 and TLI = 0.910.

Table 2. Correlations among latent variables and scales composites.

Construct	1	2	3	4	5
Organizational justice (OJ)	—	0.705	0.656	0.501	0.401
Satisfaction with organization (SAT)	0.773	—	0.699	0.574	0.378
Perceived organizational support (POS)	0.708	0.776	—	0.702	0.369
Commitment (COM)	0.532	0.635	0.747	—	0.396
Knowledge sharing (KS)	0.419	0.387	0.437	0.442	—

Note: Correlations below the diagonal are among latent variables. Correlations above the diagonal are among scales created from averaging the items. All correlations are significant at the 0.01 level.

3.3. Data Analysis

We analyzed the data using structural equation modeling (SEM) with descriptive statistics such as normality, reliability and correlation, and a common method bias (CMB) test to ensure basic assumptions. We also tested the measurement models of all the variables included in the model

using confirmatory factor analyses and provide the fit indicators for all the scales used. For research hypotheses about direct effects, we used the structural model and tested the standardized path coefficients using t-values. For the research hypotheses regarding mediation, we tested all the indirect effects using bootstrap estimates and providing the confidence intervals for these effects.

4. Results

4.1. Common Method Bias, Normality, Reliability and Correlation

Regarding the normality, we validated the kurtosis and skewness of our measures. Based on this we found that the results for the univariate tests showed that the absolute value of skewness was lower than 2 and for kurtosis was lower than 7. For the multivariate normality, p values of skewness and kurtosis were $p < 0.05$, with a relative multivariate kurtosis of $1.51 < 3$. Hence, our data had a moderate non-normality and to test the model we used the robust maximum likelihood estimation.

With respect to reliability and correlations, we found internal consistency as Cronbach's alphas shown in Table 1, and correlations shown in Table 2, were within the acceptable values, as measures in this study had an acceptable level of reliability that ranges from 0.88 to 0.95. All correlations between the latent constructs were lower than 0.78 and between the scales created averaging the items are lower than 0.71, thus indicating that there was discriminant validity between all constructs.

Our data is obtained from a survey, and survey data can potentially have common method variance (CMV) problems. CMV is "the variance attributable to the measurement method rather than to the constructs the measures represent" ([103], p. 879). Even if research is not consistent about the real problem of having CMV, and how this could be overstated [104] we have followed the conventional recommendations and report them in turn [105].

Problems associated with CMV bias causes are, common rater effects, item characteristic effects, item context effects and measurement context effects. For that, we followed several procedural remedies to sidestep them [103,105]. First, all questionnaires were randomized, with this we ensured participants answer a different questionnaire. Second, questionnaires were presented in different moments, to minimize the respondents' propensity to mix ratings. Third, anonymity was guaranteed and we made clear for respondents that answers were not right or wrong answers. Fourth, the final variables included in our model were more than the ones initially used, to add the necessary complexity to avoid desirability bias. Finally, the scale endpoints introduced were different to reduce anchoring effects that could create method biases ([103], p. 888). In addition, some ex-post statistical techniques were used, regarding the models tested. We tested a complex enough hybrid model combining the measurement of several constructs with regression paths. Hence, the final model is complex enough and minimizes further desirability bias, as this complexity decreases "the respondent's ability and motivation to use his or her prior responses to answer subsequent questions" ([103], p. 888). For that reason, we did not add any additional procedures to increase complexity, we consider that with the model proposed the set of variable combinations and relationships are difficult to grasp. We started with a Harman's test and, we tested a single-factor model with a CFA [106]. The explanatory variable for a single factor had a lower fit compared to the fit obtained for the overall model ($p > 0.001$), based on these results we could reject the single-factor model, in favor of the complete model with all factors.

Even if conventionally CMV needed to be considered, the fact is that not all methods with single source generate this drawback. This would depend on the variables considered and in their theoretical connections in the actual model [104]. Therefore, the design of the study should "involve a careful analysis of our purpose and the nature of our desired inference in relation to the measurement methods" used ([104], p. 228). We tested using Lindell and Whitney [107]—a model with a latent variable method that loads the items of other latent constructs. We applied this test to compare two models, one model including paths from the latent variable and another model without paths and test whether the paths are significant. The final likelihood-ratio test shows that the paths from the latent could be better zero, which means better goodness of fit without the latent.

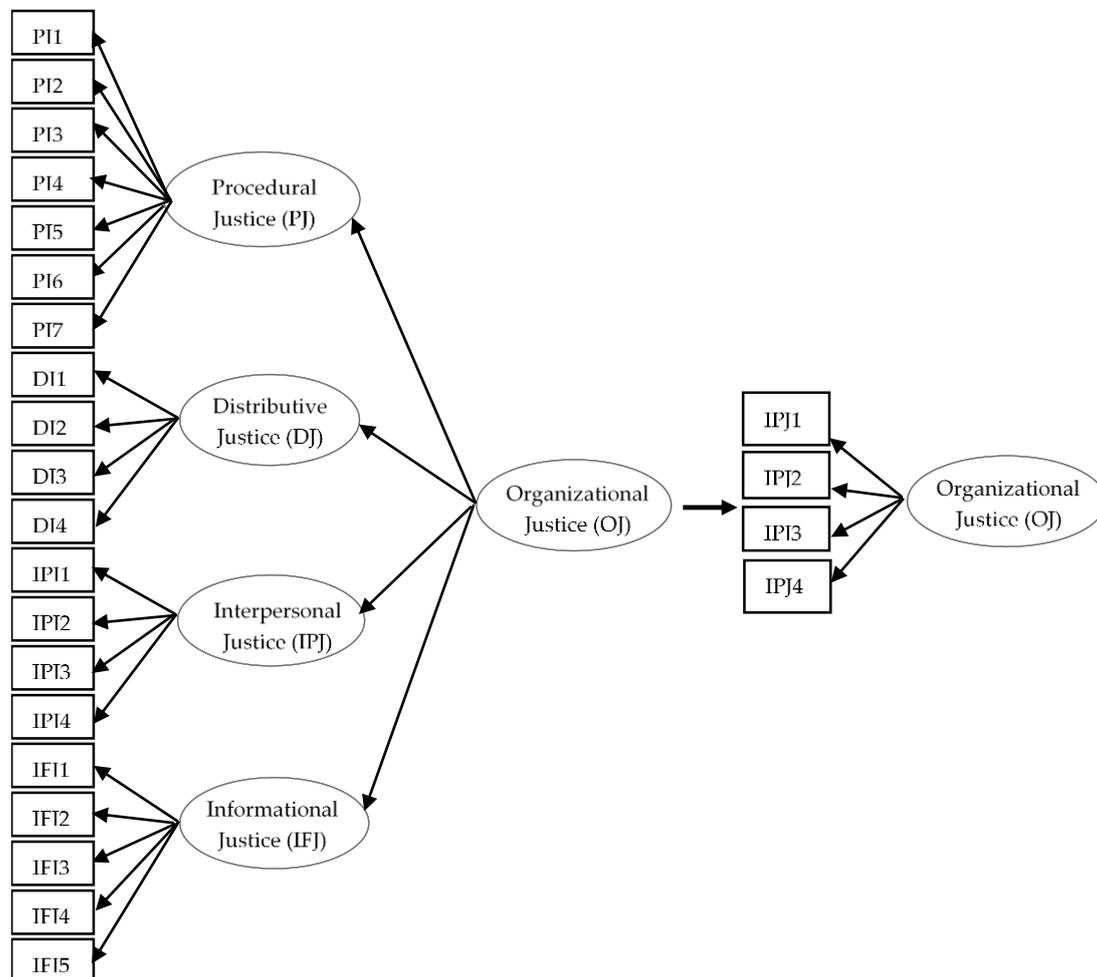### 4.2. Item Parceling of Organizational Justice

Our model includes a large number of observed variables, so we consider that the construct of organizational justice can be further reconstructed through item parceling. The results in Table 3 show that the organizational justice model is statistically acceptable regarding the fit indicators displayed.

Table 3. The overall fit of the confirmatory factor analysis (CFA) model of organizational justice.

	Chi-Square (df)	$p > Chi^2$	RMSEA	CFI	TLI
Organizational Justice (OJ)	$Chi^2(164) = 1450.3$	0.000	0.076	0.937	0.927

Note: Chi^2: chi-square; (df): degrees of freedom; RMSEA: root mean square error of approximation; CFI: comparative fit index; TLI: Tucker-Lewis index.

All factor loadings are positive and statistically significant ($p < 0.05$), and we choose, as shown in Figure 1, to simplify the organizational justice construct and use the parceling model as indicated in this figure.

**Figure 1.** The measurement model of organizational justice with item parceling.

4.3. Assessment of Model Fit

We evaluated the overall fit statistics of the measurement model and the structural model. For the structural model, we calculated path estimates and the significance of these paths (Figure 2). The paths were all positive and significant ($p < 0.001$). Overall, the paths, their values and sign make sense and were aligned with our hypotheses. Measurement model had a reasonable fit, and all the loadings

were significant and with the appropriate sign. The standard errors in the measurement model were also reasonable. In summary, the estimation solution showed that our measurement model and our structural model had an adequate fit for the data. Therefore, once this was established, we tested the overall hybrid model. The results indicated that the overall hybrid model in our data obtained good fit indices. We report the summary of the fit indices for the measurement model and the full hybrid model in Table 4.
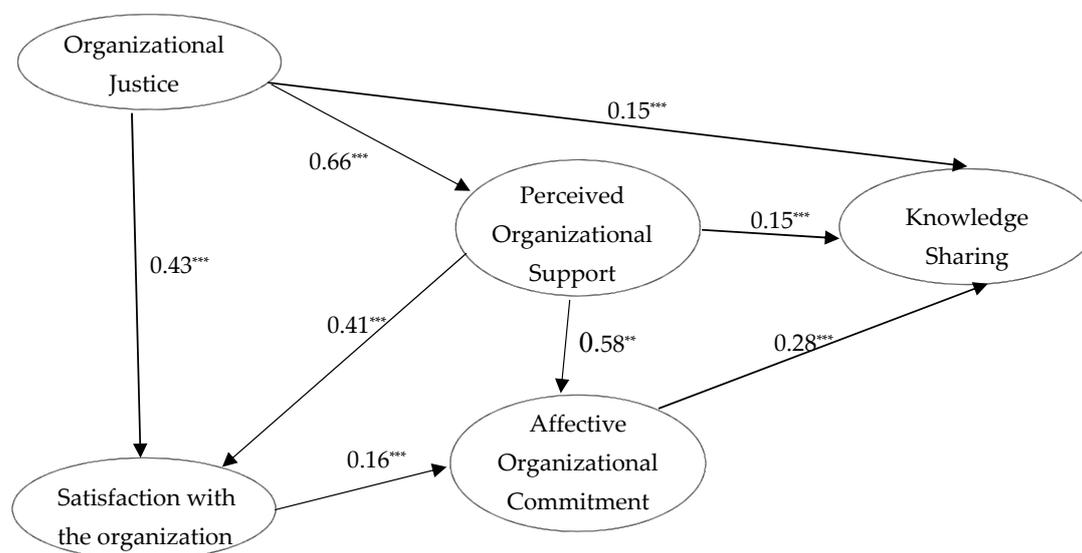
Figure 2. Structural model of knowledge sharing (KS) behavior with standardized coefficients. **Note:** **: $p < 0.05$; *** $p < 0.001$.

Table 4. The overall fit of the measurement and full models.

	Chi-Square(df)	$p > \text{Chi}^2$	RMSEA	CFI	TLI
Measurement model	$\text{Chi}^2(3070) = 19{,}038.5$	0.000	0.052	0.937	0.927
Full model	$\text{Chi}^2(3072) = 19{,}045.9$	0.000	0.052	0.947	0.967

Note: Chi^2: chi-square; (df): degrees of freedom; RMSEA: root mean square error of approximation; CFI: comparative fit index; TLI: Tucker-Lewis index.

4.4. Hypotheses Testing

The hypotheses we tested were based on the direct and mediated effects of the measures considered in the full hybrid model. For that reason, we show in Figure 2 all the standard path estimates and we report the magnitude of the paths and their significance. We found that all the paths were significant and had the hypothesized sign. For the hypotheses regarding mediation effects, we also tested all mediating effects of all the measures that have a mediation role in our model (commitment—COM, satisfaction—SAT and perceived organizational support—POS). Mediated effects were tested using bootstrap estimates for the proposed models.

Testing the hypotheses of the direct effects we found that, with respect to the hypothesis H1a, organizational justice had a significant positive direct effect on knowledge sharing (0.15, with $p < 0.001$). Regarding the hypothesis H2a, POS had a significant positive direct effect on knowledge sharing (0.15, with $p < 0.001$) and with respect to the hypothesis H3, COM had a significant positive direct effect on knowledge sharing (0.28, with $p < 0.001$).

We tested the hypotheses of the indirect or mediated effects in our sample using a bootstrapping method. The bootstrapping approach was the most adequate to test the mediation (indirect) effects, as it utilizes a non-parametric resampling procedure that does not need the assumption of normality for the measures. The results of bootstrap estimates and confidence intervals for the indirect effects are

shown in Table 5. We include all the possible indirect effects that are present in the model, the single meditation for some of the measures, but also the multi-mediating effects of organizational justice (OJ) and perceived organizational support (POS). Taken together all hypotheses H1b, H1c and H2b were supported in our data. Therefore, we found that employee perceived organizational support (POS) has a significant mediating effect between organizational justice (OJ) and knowledge sharing (KS) (H1b). We also found that job satisfaction and affective commitment have a significant mediating effect between organizational justice (OJ) and knowledge sharing (KS) (H1c). Finally, we found that affective organizational commitment (COM) has a significant mediating effect between perceived organizational support (POS) and knowledge sharing (KS) (H2b).

As a summary, all the research hypotheses proposed, concerning direct and mediated effects of all the constructs incorporated, got support when tested in our data. We show the results all together in Table 5.

Table 5. Estimates of the mediating effects of perceived organizational support (POS), satisfaction with the organization (SAT) and affective organizational commitment (COM).

		Product of Coefficients		BC 99% CI *	
Path: IV → MV → DV	ab	SE	Z	Lower	Upper
OJ → POS → SAT	0.270	0.030	15.12	0.401	0.520
OJ → SAT → COM	0.235	0.021	10.88	0.192	0.276
OJ → POS → COM	0.141	0.023	6.05	0.095	0.187
OJ → POS → SAT → COM	0.231	0.018	13.02	0.202	0.273
OJ → POS → KS (**H1b**)	0.058	0.016	3.59	0.026	0.090
OJ → SAT → COM → KS (**H1c**)	0.041	0.008	4.95	0.025	0.058
OJ → POS → COM → KS	0.069	0.010	6.76	0.049	0.089
OJ → POS → SAT → COM → KS	0.012	0.008	4.94	0.009	0.025
POS → SAT → COM	0.065	0.012	16.23	0.056	0.131
POS → COM → KS (**H2b**)	0.152	0.007	19.41	0.136	0.167
POS → SAT → COM → KS	0.018	0.016	4.05	0.005	0.035
SAT → COM → KS	0.036	0.007	5.00	0.022	0.050

Note: IV: independent variable; MV: mediating variable; DV: dependent variable; ab: completely standardized estimate of the mediating effect; SE: standard error; BC: bias corrected; CI: confidence interval; OJ: organizational justice; SAT: job satisfaction with the organization; COM: affective organizational commitment; KS: knowledge sharing; POS: perceived organizational support. * this 99% confidence interval excludes zero, thus the mediating effects are significant at $p < 0.01$.

5. Discussion

5.1. Overview of Key Findings

Sustainable HRM literature has pointed out the relevance of KS as one of the key determinants for social organizational sustainability [108]. Several investigations show a positive effect of KS on the performance and survival of organizations [14,23]. In addition, organizational sustainability essentially should incorporate the active interactions among employees and effective knowledge exchanges between work teams' members [17,18]. HRM policies should be aligned with these social sustainability demands; thus, there is an urgent need for a deeper understanding of the crucial variables necessary to promote KS behaviors that make the HRM sustainable. However, KS is a phenomenon not easy to understand due to its inherent complexity, as it incorporates many interactions between people and organizations [109]. KS behavior is moderated by diverse people's interests, ways of rewarding and/or recognizing it, which may, in turn, generate several significant challenges and tensions [110].

Once we agree on the importance of KS, we should understand the factors that promote and hinder KS within the organization [40,44]. KS is a continuous behavior that needs a stable way of doing things in a given organization. It needs an established way of how we treat people here and how we commit to them. A KS model should incorporate a comprehensive set of measures that are important to generate the willingness of knowledge holders to voluntarily share their knowledge.

Therefore, we need a stable and comprehensive model, complex enough, to explain how to generate and promote KS behaviors, and following this, understand and select the crucial aspects that we should develop in our set of HMR policies to increase our chances of being socially sustainable. This study contributes to the existing literature by providing a basis to increase our understanding of the influence of organizational justice, perceived organizational support, organizational commitment and job satisfaction jointly with their mediating mechanisms that could generate KS behavior.

To drive collaborative behaviors that result in KS, organizations must foster collaborative work environments. In this context, organizational justice plays a critical role. In line with recent available empirical evidence [14,111,112], our results indicate the importance of organizational justice as a direct antecedent of KS. In addition, perceived organizational support and affective organizational commitment also exert direct effects on KS. Thus, when employees perceive fair treatment, feel supported by the organization or are affectively committed, they would be more inclined to participate in KS practices. Our hypotheses H1a, H2a and H3, when precisely tested, gave support to these statements.

Nevertheless, the results of the mediating effects show that if employees perceive organizational support, job satisfaction and affective organizational commitment this reinforce the direct relationship between organizational justice and KS. These results confirm that, beyond justice, organizational support and affective commitment, organizations can weave a set of interactions that further favor KS. Thus, employees additionally are more willing to cooperate and share in fairness organizational contexts, especially when they are satisfied and affectively committed, and when their contributions are valued and recognized in reciprocity. These two effects of organizational justice are important and sum up to generate further KS behaviors.

As many other results of previous research in HRM have shown, people are the most important resource in organizations, however, their talent and skills are basic and not enough; therefore, these should be complemented with adequate behaviors to make knowledge available to the whole organization. In fact, not all the necessary knowledge in organizations is easy to find or acquire; sometimes knowledge can be found outside, but not always, and even in the case of being available outside, acquiring it from outside is time-consuming, as it usually needs to be complemented by ways of using it in the specific organizational context. Therefore, once some employees have the necessary knowledge, organizations should promote ways of making this knowledge available for the rest ready for use in daily activities.

All constructs used in our model connect social sustainability and HRM, suggesting for managers some guidance through a set of policies that can be helpful to create and promote collaborative behaviors. HRM policies that favor fairness, strengthen relationships among employees, generate emotional bonds between employees and supervisors, facilitate better relationships between employees, and generate positive and sustainable impacts in terms of job satisfaction are positive and generate KS, and therefore increase social sustainability.

5.2. Practical Implications

Practical implications are very important, as practical guidance is crucial to transform the research results into practical improvements. Predictors of KS behavior validated in the present research can be triggered through the principles of HRM practices. These principles relate to the ability to attract and retain talent, with the disposition of having healthy and motivated employees and with the investment in the present and future qualifications of employees [11,108]. Following this, implementing interventions that encourage KS exchange also favors the sustainable development of firms.

Considering our results, it is possible to establish HRM policies aligned with organizational justice that should directly influence the attitudes and behaviors about knowledge sharing. Among others, the application of organizational justice in all HRM processes is crucial, as it is the case of selection and hiring, evaluation and compensation, fair compensation within the organization and also in accordance with the environment and actions related to encouraging non-discrimination and also social, cultural

and environmental diversity. In relation to the set of predictors, it is also possible to establish another set of HRM practices that should reinforce KS behaviors. First, the implementation of positive work environments, including interventions that promote employees' caring in terms of health and safety that in turn contribute to employees' satisfaction. Second, employees' development practices in terms of employability and improvement of career opportunities that improve employees' engagement with the organization. Finally, KS behavior can be encouraged through leadership practices of organizational support, and by educating employees of their benefits, boosting teamwork, supporting employees' participation in work-related decision-making processes, and by creating an open and proactive communication climate within the organization.

5.3. Strengths and Limitations

We offer a comprehensive model of KS behavior, however, we are conscious that this is not an easy task. Simple and technical solutions to complex organizational problems are always incomplete. However, this does not mean that techniques and models are not necessary, we are aware that our research is a step towards other future research that could better understand the problem at hand and find additional insights that would surely improve, step-by-step, the present model proposed.

For that reason, this research has some limitations that we explain in turn. The first one is that we use a cross-sectional sample nonetheless; the sample is big enough and includes all relevant variables that were considered important in terms of KS. However, for future research we have planned the use of other samples.

The second concern is about the choice of what sustainability means in terms of the organization. We consider that organizations need to promote practices that keep the knowledge circulating and operative within the overall organization. Many organizations have considered that people are very crucial to transform the organization and make it survive alongside actual competitive environments. Therefore, it seems that sharing knowledge voluntarily is a crucial variable to consider in a sustainable HRM as a desirable outcome of HRM sustainable policies. But, of course, other variables can extend our understanding of social sustainability as well, and future research can also consider them in turn.

The third concern is that because of our choice, we have contributed to the understanding of the antecedents of KS. However, knowledge is a complex process in organizations that largely depends on individual interests and motivations, as long as on organizational traits and environmental contexts. Therefore, it needs to encompass aspects of knowledge creation, distribution and acquisition. For that reason, to improve our model, future research should further investigate other aspects of knowledge that we have not included here. In addition, and importantly, future research may consider that knowledge is a multifaceted concept as well; therefore, different types of knowledge can be included (e.g., explicit and tacit). Along the same lines, explanatory constructs can also be extended. For example, in our research we have not addressed the effects that different dimensions of justice have on KS. We should also consider the analysis of constructs that were incorporated recently in the KS literature recently (e.g., innovative work behavior, proactive behavior, psychological ownership and inter-organizational trust). Nevertheless, we will leave this type of extensions for future research.

Finally, this study can be extended using several socio-demographic characteristics (e.g., age, organizational tenure, professional background, education and gender) and other organizational variables (e.g., type of organization, the industry, business model and size) to find possible differences between groups that could be relevant when implementing the social sustainable HRM interventions considered in the present research.

6. Conclusions

We contribute to the field in terms of incorporating key variables that can help to design interventions that could improve the level of KS in organizations. Organizational justice, for instance, is crucial in terms of sustainable and consistent policies of HRM, as it has both direct and indirect effects over the promotion of KS behaviors. It means that, people, when working in an organization

that is perceived as just overall, have the willingness to directly share their knowledge. Moreover, the organizational justice perceptions themselves have also a positive impact on perceived organizational support, that in turn, may increase the willingness to commit, first, and share knowledge afterward, or after perceiving this support, to directly share knowledge. In addition, organizational justice has an impact on job satisfaction as well; that, in turn, increases commitment and afterward the willingness to share. Hence, organizational justice has been shown in this study as a very crucial aspect to take into account when generating a sustainable HRM model. The role of organizational justice has been found as unavoidable. However, beyond justice, organizations can use other organizational and individual dimensions, such as perceived organizational support, job satisfaction or affective organizational commitment to reinforce KS behaviors.

According to the interactions obtained, researchers can replicate and expand the current research in order to better comprehend and generalize actual results. These extensions can incorporate other KS antecedents and possible consequences obtained from KS that can also explain sustainable HRM. As we mentioned before, this research can be extended using different types of knowledge or incorporating new socio-demographic or organizational characteristics, thus, this study has a preliminary character that can be extended in the future.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Table A1. Measure of Organizational Justice (OJ).

No.	Item
Procedural justice (refers to the procedures used to arrive at employee's outcomes)	
1	Have you been able to express your views and feelings during those procedures? *[¿En qué medida usted ha podido expresar sus puntos de vista y sentimientos durante estos procedimientos?]*
2	Have you had influence over the (outcome) arrived at by those procedures? *[¿En qué medida usted ha influido sobre el resultado laboral con estos procedimientos?]*
3	Have those procedures been applied consistently? *[¿En qué medida se han aplicado estos procedimientos sistemáticamente?]*
4	Have those procedures been free of bias? *[¿En qué medida se ha procedido sin favoritismos en los procedimientos utilizados?]*
5	Have those procedures been based on accurate information? *[¿En qué medida se han basado estos procedimientos en información precisa?]*
6	Have you been able to appeal the (outcome) arrived at by those procedures? *[¿En qué medida usted ha podido conseguir el resultado laboral con estos procedimientos?]*
7	Have those procedures upheld ethical and moral standards? *[¿En qué medida estos procedimientos han respetado principios éticos y morales?]*
Distributive justice (refers to the employee's outcomes)	
1	Does your outcome reflect the effort you have put into your work? *[¿En qué medida su retribución refleja el esfuerzo que usted ha puesto en su trabajo?]*
2	Is your outcome appropriate for the work you have completed? *[¿En qué medida su retribución es adecuada para el trabajo que usted ha terminado?]*

Table A1. *Cont.*

No.	Item
3	Does your outcome reflect what you have contributed to the organization? [*¿En qué medida su retribución refleja cómo ha contribuido usted a la organización?*]
4	Is your outcome justified, given your performance? [*¿En qué medida su retribución está justificada después de su rendimiento?*]
Interpersonal justice (refers to the authority figure who enacted the procedure)	
1	Has (he/she) treated you in a polite manner? [*¿En qué medida (el/la) supervisor/a le ha tratado de manera adecuada?*]
2	Has (he/she) treated you with dignity? [*¿En qué medida (el/la) superisor/a le ha tratado con dignidad?*]
3	Has (he/she) treated you with respect? [*¿En qué medida (el/la) supervisor/a le ha tratado con respeto?*]
4	Has (he/she) refrained from improper remarks and comments? [*¿En qué medida usted se ha abstenido de hacer observaciones o comentarios impropios al supervisor/a?*]
Informational justice (refers to the authority figure who enacted the procedure)	
1	Has (he/she) been candid in (his/her) communications with you? [*¿En qué medida (el/la) supervisor/a se ha comunicado con usted de buenas maneras?*]
2	Has (he/she) explained the procedures thoroughly? [*¿En qué medida (el/la) supervisor/a le ha explicado a fondo los procedimientos?*]
3	Were (his/her) explanations regarding the procedures reasonable? [*¿En qué medida las explicaciones (del/de la) supervisor/a sobre los procedimientos han sido razonables?*]
4	Has (he/she) communicated details in a timely manner? [*¿En qué medida (el/la) supervisor/a le ha comunicado la información de manera oportuna?*]
5	Has (he/she) seemed to tailor (his/her) communications to individual's specific needs? [*¿En qué medida parecí que (el/la) supervisor/a adaptaba sus informaciones a las necesidades específicas de los individuos?*]

Note: In square brackets, items in Spanish language.

Appendix B

Table A2. Measure of Knowledge Sharing (KS).

No.	Item
1	Shares ideas for new projects or improvements widely [*Comparto ampliamente ideas para mejorar o nuevos productos*]
2	Keeps informed about products and services and tells others [*Me mantengo informado sobre los productos y servicios, y los explico a los demás*]
3	Frequently makes creative suggestions to co-workers [*Con frecuencia hago sugerencias creativas a mis compañeros de trabajo*]
4	Encourages management to keep knowledge/skills current [*Animo a los encargados a mantener el conocimiento y habilidades al día*]
5	Encourages others to speak up at meetings [*Animo a los otros a hablar en las reuniones*]
6	Helps co-workers think for themselves [*Ayudo a los compañeros de trabajo a pensar por sí mismos*]
7	Keeps well-informed where opinion might benefit organization [*Me mantengo bien informado sobre los asuntos que pueden beneficiar a la organización*]

Note: In square brackets, items in Spanish language.

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