

I Share, we Share? A Mixed-Method Analysis of Helping behaviors, HRM Practices and Knowledge Sharing Behavior

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Abstract: Knowledge sharing represents a key process to create value in organizational environments that reflects a complex interplay of individual and organizational level factors. Driven and heavily reliant on individuals' willingness to share with others, effective knowledge sharing behavior is fostered through organizational characteristics that can promote prosocial behaviors, such as structured Human Resources Management Practices (HRMP). Nevertheless, knowledge sharing represents an extra-role voluntary behavior that depends on individual intention to engage in altruistic behavior to help others. While several studies assess the mediation role of such helping behaviors (HB) between organizational conditions that can foster knowledge sharing, few studies explore the complex combination between HRMP and individual HB leading to knowledge sharing in organizations. Similarly, there is a lack of empirical evidence on how HRMP and HB can contribute to the absence of knowledge sharing. This study addresses such gaps by examining the impact of HRMP and altruistic HB as conditions leading to knowledge sharing in the service industry (n=130) using a mixed-methods approach. We follow a quantitative design, using a partial-least squares (PLS) analysis to explore the relationship between HRMP, HB and knowledge sharing. Then, we follow a qualitative design, using a fuzzy-set qualitative comparative approach (fsQCA) to identify complex configurations between HRMP, HB, age and education contributing to the presence and absence of knowledge sharing. Our quantitative findings find a positive relationship between both HRMP and HB leading to knowledge sharing behavior (KSB). Our qualitative findings present four alternative ways leading to knowledge sharing and corroborate the quantitative analysis. Additionally, qualitative results show four different configurations leading to the absence of knowledge sharing. We offer insight of the convergence of results, providing managerial approaches that can be used to promote KSB. Similarly, we recommend best practices to counter an absence of KSB given our methodological options and preventive practices inside the scope of Human Resources Management (HRM).

Keywords: Knowledge Sharing Behavior, Human Resources Management Practices, Helping Behaviors, Mixed-methods

1. Introduction

Knowledge sharing is still an individual process whose optimization requires psychological and behavioral knowledge, although it is extensively studied in the context of perceived managerial practices that can promote it at the organizational level (Obrenovic et al., 2020). Previous studies support the argument of knowledge sharing as a prosocial extra-role social behavior when considering the crucial interaction between social interactions, organizational support, and altruistic behavioral traits (Suwanti, 2019). Nevertheless, and while empirical and conceptual efforts have been conducted to expand individual psychological complexity of knowledge sharing (Obrenovic et al., 2020), the combined influence between individual altruistic predispositions and organizational practices affecting knowledge sharing remains scarce in the literature. Similarly, evidence shows that HRMP are related to KSB (Dodohk, 2020).

However, little is known about HRMP directly leading to knowledge given social capital complexities (Singh et al., 2021). Such scarcity presents a research gap. Our work aims to provide theoretical and practical contributions to knowledge management literature by exploring and integrated combination of individual altruistic helping behaviors and HRMP related to KSB.

We use a theoretical rationale supported by the theory of planned behavior (Ajzen, 1991) and the social exchange principles (Blau, 1968) to explore the relationship between existing HRMP and HB leading to KSB in service organizations. The articulation between both theories comes from a cost-benefit rationale to justify willingness to share knowledge (Zhao and Detlor, 2021). As an intangible organizational resource, knowledge can be perceived as a form of power, acting as social currency (Chen et al., 2019). By extension, besides reputation, sharing knowledge can also contribute to positive reputation and status (Zhao and Detlor, 2021). Such influences shape individual and group attitudes that act as cognitive weights contributing to knowledge sharing behavior (Ho et al., 2009) – underpinning the principles behind the theory of reasoned action (Ajzen,

1991). Given their usefulness to understand the impact of different motivations on behavior, we use both theories, considering their thorough use in knowledge management literature (Zhao and Detlor, 2021; Ho et al. 2009). We follow a mixed-methods approach that permits a refined level of analysis allowing to understand both the configurations leading to the presence, but also those leading to the absence of knowledge sharing. Additionally, and following the identified emergence of understanding individual differences in knowledge sharing (Obrenovic et al., 2020), we analyze complex non-linear effects, connecting HB and HRMP with demographic characteristics of organizational members to expand on theoretical and practical findings.

Our work is structured in several sections. First, we present the literature review leading to the research hypotheses and research propositions. Then, we expand on the adoption of the SmartPLS and fsQCA methodologies as techniques supporting the research choices. The empirical results will be presented, concluding with theoretical and practical implications of our work, discussing current limitations and future work.

2. Literature Review

2.1 Human Resources Management Practices and Knowledge Sharing Behavior

HRMP encompass managerial strategies aimed at maximizing employee performance, being structured around organizational objectives (Johnson and Szamosi, 2018). Developing on the social exchange theory (Blau, 1968) HRMP that directly affect the structural dimension of the organization's social capital promote KSB (Cabrera and Cabrera, 2005). Evidence shows that HRMP focused on the organization's social capital – such as work design, staffing, training and development, performance management, reward management and culture (Cabrera and Cabrera, 2005; Kremer, Villamor and Aguinis, 2019) – can foster interdependencies that increase the number of interactions and knowledge flows (Kremer, Villamor and Aguinis, 2019). Research also addresses the importance of knowledge-oriented HRMP in mediating KSBs through the facilitation of social networking activities (Singh et al., 2021). However, little is known about the complex interactions between HRMP and individual characteristics shifting the malleable nature of social capital towards the promotion of knowledge sharing activities (Singh et al., 2021). We argue that the existence of both soft HR and hard HRMP promote KSB (Cabrera and Cabrera, 2005; Kremer, Villamor and Aguinis, 2019), considering the organizational reliance on HRMP that can achieve knowledge mobilization through changes in the organizational social capital (Dodokh, 2020; Singh et al., 2021). Therefore, we propose that:

H1: HRMP have a positive relationship with KSB.

2.2 Knowledge Sharing as an extra-voluntary helping behavior

HB comprise voluntary gestures of support and help towards others that prevent or take place as a response to work related problems (Podsakoff et al., 2000). By extension, HB define one of the multiple facets of Organizational Citizenship Behaviors (OCB) (Sawyer et al., 2022). OCBs encompass individual and discretionary behaviors that promote and support organizational performance through altruistic motivations (Bateman and Organ, 1983). According to Organ (1988), OCBs include those that are beyond formal job requirements, driven by civic virtue, courtesy and sportsmanship, that contribute to the organizational function and not explicitly rewarded. Expanding on this idea, Dekas et al. (2013) suggest that HB portrays the altruistic and courtesy behavioral outcomes that prevent work-related problems. Examples of HB include filling in for a colleague on their day-off, providing career advice or even provide support in problem solving tasks (Dekas et al., 2013).

In the context of knowledge management literature, KSB can be defined as extra-role voluntary behavior, not always mandatory in organizations (Cabrera and Cabrera, 2005; Choi, Kim and Yun, 2019), with previous conceptual works even proposing KSB as a subdimension of OCB (Dekas et al., 2013). Conversely, knowledge sharing is often driven by motivational mechanisms that permit the engagement of such behaviors (Ajzen, 1991) when social exchanges are perceived and reciprocated (Choi et al., 2019). Drawing parallels between KSB and HB, evidence suggests that knowledge sharing can pose as a prosocial behavior, being stimulated by internationalized norms, with perspective-taking playing a vital part in the decision to share others (Obrenovic et al., 2020). However, while recognized as a prosocial behavior, there is still scarce empirical and conceptual work bridging knowledge sharing and prosocial, extra-role altruistic behavior (Thomas and Gupta, 2021). Considering the discussed similarities between HB and KSB, we propose that:

H2: HB has a positive relationship with KSB.

Evidence suggests that the growing body of work surrounding KSB addresses a juxtaposed relationship with individual, collective, and organizational characteristics (Ahmad and Karim, 2019). However, individual differences and psychological predispositions to engage in such behavior still posit a need to expand our knowledge behind knowledge sharing related phenomena (Obrenovic et al., 2020). Following such rationale, we argue that individual level and organizational level factors of influence are also complexly connected to demographic information leading to knowledge sharing: namely age and education (cf. Kianto et al., 2019). The complex interplay between conditions presents conflicting evidence, suggesting multiple pathways that can contribute to knowledge sharing. Lastly, and considering managerial consequences and the lack of empirical research addressing the discussed antecedent's contribution to the absence of knowledge sharing, we propose that:

P1: There are alternative configurations between age, education, HRMP and HB leading to the presence of KSB.

P2: There are alternative configurations between age, education, HRMP and HB leading to the absence of KSB.

Figure 1 presents the research model.

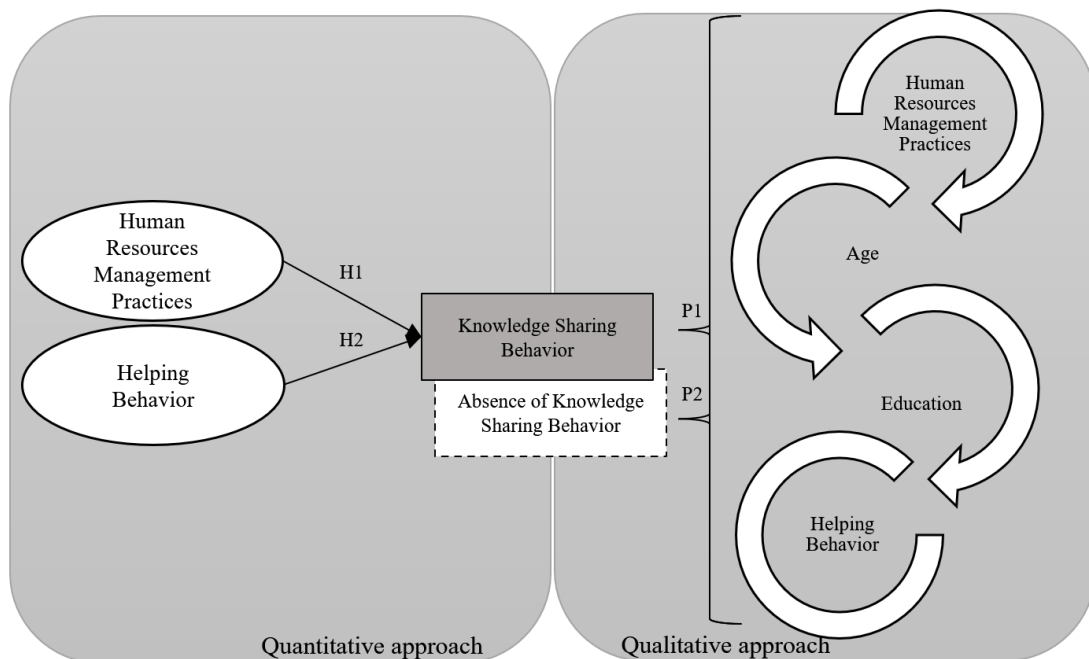


Figure 1: Research Model

3. Methods

3.1 Mixed-methods approach

This study follows a mixed-methods approach, using survey data to perform quantitative and qualitative analyses of KSB. Such research methodology allows for corroboration of results between techniques, allowing a flexible strategy of integration of results (Venkatesh et al., 2013). We use a PLS analysis to explore the relationship between HRMP and HB with KSB. We then use an fsQCA technique to identify complex configurations as proposed by the research propositions. The research design allows for triangulation of results, bridging academic and practical contributions as a result (Pindek et al., 2019).

3.2 Sample

The data comes from an online survey using QualtricsXM®, sent to a database including the 6500 top services sector companies operating in Portugal. We conducted several ex-ante measures to reduce common-method variance threats found in cross-sectional instruments (Reio Jr., 2010). Measures used come from different sources, previously validated and used. Anonymity and confidentiality were ensured. Items were counterbalanced and randomized. Clear instructions were provided to respondents, subject to consent. We then conducted a pretest of the adapted measures to Portuguese, following a back translate methodology. Following cleanup procedures, the final sample comprises 130 responses.

3.3 Measures

We use previously validated scales from different sources in the literature to address the studied constructs and further reduce common-method variance (Reio Jr., 2010). The scale for HB comes from the HB dimension of the OCB scale (Dekas et al., 2013). HB measures individual perceptions of selfless discretionary behaviors aimed at helping others under the perceived principle of increased social cost over benefit (Dekas et al., 2013; Organ, 1988). HRMP scale comes from Shape and Rednan (2010). HRMP measures the individual perception of existing hard HR and soft HRMP inside an organization (Shape and Rednan, 2010). KSB scale comes from Curado (2018). KSB measures the self-perceived engagement in knowledge sharing activities, considering both tacit and explicit knowledge sharing alike. All the measures were adapted, following a five-point Likert scale system (1 – Completely disagree to 5 – Completely Agree). Table 1 reports the descriptive statistics of the sample.

Table 1: Descriptive statistics

Demographics (n=130)	Category	f	%
Age (in years)	18-25	15	11.6
	26-33	21	16.3
	34-41	30	23.3
	42-49	27	20.9
	50-57	24	18.6
	58-65	9	7.0
	More than 66 years of age	3	2.3
Education	Secondary Education	13	10.1
	Professional Education	9	7.0
	Licenciante degree	61	47.3
	Master	41	31.8
	PhD	1	0.8
	Other	4	3.1

3.4 Quantitative analysis

We follow a quantitative approach through a PLS analysis. PLS is a method of structural equation model suitable to small sized samples (Chin, 1998). All the used measures were previously validated in different settings of research. However, given the diversity of service companies in the sample, we conducted an exploratory factory analysis to further assess the validity of the constructs. Initial assessment of Pearson's *r* and scatterplot among variables supports evidence of linearity (Watkins, 2018). The sample follows a normal distribution for all variables ($p < 0.001$). Bartlett's sphericity ($p < 0.001$) and the Keiser-Meyer-Olin statistic (> 0.8) suggest data appropriateness to conduct the EFA procedures (Hair et al., 2016). The estimation model follows a least-squares estimation method through the principal component analysis using a varimax rotation. Then, we calculate the empirical estimation of the number of factors to extract. We follow a minimum average partials (MAP) analysis to counter the weaknesses of decisions based on eigenvalues alone (Watkins, 2018). MAP computes a matrix of partial correlations after the extraction of each component. Then, the partial off-diagonal correlation is calculated from the extracted previous matrix for each component (Velicer, 1976). The final solutions for the original and corrected MAP analysis propose the extraction of the 3 factors (HRMP, HB and KSB), further corroborating the Construct Validity of the measures.

3.4.1 Measurement Model

Following the EFA analysis, we assess construct reliability given the literature cutoff values. The obtained values were within the recommended range (Hair et al., 2019b). The analysis of variation extracted (AVE) and CR allows the convergent validity of the constructs. Similarly, all constructs present values above recommended cutoff thresholds for AVE (> 0.4) and CR (> 0.8) (Hair et al., 2019a; 2019b). HRMP shows the lowest value for AVE (0.44). Nevertheless, literature suggests that values higher than 0.4 are acceptable if combined with a high CR (> 0.8) (Hair et al., 2019b) (HRMP ($\alpha = 0.883$; CR = 0.902; AVE = 0.440), HB ($\alpha = 0.920$; CR = 0.937; AVE = 0.713) and KSB ($\alpha = 0.874$; CR = 0.914; AVE = 0.728)). All outer loadings are above 0.7, or above 0.4 when combined with a CR higher than 0.7 (Hair et al., 2019a). Outer loadings for HRMP present an item with a lower loading (HRMP8 = 0.410). However, deletion of the item would decrease the reliability of the scale. The remaining HRMP items loadings ranged from 0.520 to 0.780. Outer loadings for KS ranged from 0.764 to 0.913 Outer loadings for OCB ranged from 0.811 to 0.892. All outer loadings are higher than the cross loadings for all the indicators for all the measures. Variance inflation factors show values below the recommended value (< 5) for all the items. The heterotrait-monotrait ratio of correlations (HTMT) ranged from 0.359 to 0.509, being below the recommended threshold (0.85 for conceptually different constructs) (Hair et al., 2019b).

3.4.2 Quantitative results

We analyzed the significance of the relationships in the structural model using the SmartPLS® bootstrapping algorithm. Then, we conducted a blindfold analysis to predict the accuracy of the path model. Results show a value between low to medium accuracy ($R^2 = 0.300$; $Q^2 = 0.230$; $p < 0.001$) (Hair et al., 2019b). Regarding the hypotheses tests, results show that awareness and presence of HRMP positively impacts KSB outcomes ($\beta = 0.318$; $t = 4.163$; $p < 0.001$). Thus, hypothesis 1 is supported. Similarly, extra voluntary HB positively impact KSB ($\beta = 0.318$; $t = 4.163$; $p < 0.001$). Therefore, hypothesis 2 is also supported. Table 2 presents the quantitative results.

Table 2: Quantitative results

Paths	Coefficient	t value	p	Hypothesis result
HRMP→KSB	0.318	4.163	<0.001	Supported
HB→KSB	0.358	4.909	<0.001	Supported

3.5 Qualitative analysis

After the quantitative analysis, we conducted a qualitative approach to explore our propositions on configurational complexity leading to the presence and absence of knowledge sharing. FsQCA is a context application technique that explores configurational pathways of complex conditions contributing to the studied outcomes (Pappas and Woodside, 2021). Created to expand on traditional empirical analysis that use symmetrical statistical approaches, fsQCA an objective technique that relies on statistically informed configurational approaches using complex theory (Kumar et al., 2022). As a technique following Boolean principles, fsQCA allows for the combination of sets of variables whose non-linear synergy is of interest in the study of complex outcomes, such as behaviors and behavioral intentions (Fiss, 2011). Furthermore, fsQCA offers a holistic approach, exploring diversity (under a variety of conditions) and pathways leading to both the presence and absence of a desired outcome (Fiss, 2011). Given the detailed analysis possibilities of the fsQCA technique, the combined qualitative treatment of quantitative data supports mixed-methods research (Pappas and Woodside, 2021). Thus, the empirical quantitative nature is expanded with qualitative inductive reasoning for an increase richness of results (Ragin, 2008). FsQCA is a suitable technique to study knowledge sharing given knowledge sharing multidisciplinary complexities (Santos et al., 2022; Santos, Oliveira and Curado, 2021; Oyemomi et al., 2019). Similarly, fsQCA usage has exponentially increased in Management research (Kumar et al., 2022), Entrepreneurship (Kraus et al., 2018), Marketing and Information Systems (Pappas and Woodside, 2021). Considering such rationale, we follow a fsQCA technique to explore how HRMP and HB, in combination with demographic characteristics of the sample (Kianto et al., 2019), interact leading to the presence and absence of knowledge sharing.

3.5.1 Calibration

We used a direct method for calibration that requires the transformation of variable values into membership scores (Ragin, 2008) for HB, HRMP, age, education and KSB. Membership scores follow three anchors calculated from the average of conditions, ranging from 0, 0.5, and 1. The three anchors express full non-membership (0), full membership (1), and maximum ambiguity conditions calibrated according to the transformation midpoint (0.5). Table 3 expands the descriptive statistics of the sample, with the inclusion of the calibration cuts used.

Table 3. Descriptive statistics and calibration of conditions and outcome

Conditions and outcome	Descriptive statistics	Calibration cuts
Knowledge Sharing Behavior (KSB)	$\mu = 4.21$; $\sigma = 0.77$; min = 1; max = 5	(5; 4.3; 3.9)*
Human Resources Management Practices (HRMP)	$\mu = 2.93$; $\sigma = 0.89$; min = 1; max = 4.75	(3.95; 2.85; 1.8)*
Helping Behaviors (HB)	$\mu = 3.77$; $\sigma = 0.76$; min = 1.4; max = 5	(4.9; 3.9; 2.9)*
Age (in years)	$\leq 25 = 11.5\%$	$\leq 25 = 0$
	≥ 26 and $\leq 33 = 16.2\%$	≥ 26 and $\leq 33 = 0.2$
	≥ 34 and $\leq 41 = 23.1\%$	≥ 34 and $\leq 41 = 0.4$
	≥ 42 and $\leq 49 = 20.8\%$	≥ 42 and $\leq 49 = 0.6$
	≥ 50 and $\leq 57 = 18.5\%$	≥ 50 and $\leq 57 = 0.8$
	$\geq 58 = 9.9\%$	$\geq 58 = 1$
Education (university degree)	Not graduated = 16.9%	Not graduated = 0
	Graduated = 46.9%	Graduated = 0.5
	Postgraduated = 36.2%	Postgraduated = 1

* Calibration cuts (0.95; 0.50; 0.05).
 μ = average; σ = standard deviation; min = minimum value; max = maximum value

3.5.2 Necessity and Sufficiency analysis

The fsQCA permits the assessment of complex non-linear relationships by assessing each single case and indicating necessary and sufficient conditions leading to the outcomes (Rihoux and Ragin, 2009). This comparative analysis of cases follows two analyses. The necessity analysis addresses necessary conditions for the outcome when the outcome is present in the subset of the condition, or set of conditions (Ragin, 2008). Results show that there are no necessary conditions to KS. That is, KSB can be present even in circumstance where HRMP, KS, education or age are not. We then conduct the sufficiency analysis via the generation of a truth table that provides configurational solutions for the studied conditions. After the inspection of both the intermediate and parsimonious solutions, we identify core conditions and peripheral conditions leading to the outcome (Ragin, 2006). Core conditions are conditions leading to the outcomes present in both the parsimonious and intermediate solutions, whereas peripheral conditions are conditions that are only present in the intermediate solution. The absence of a condition or outcome is represented by "~" (Ragin, 2008) ahead of its label.

3.6 Qualitative Results

Following the inspection of the truth tables, we identified the configurational pathways leading to both the presence and absence of knowledge sharing. Results show raw coverage and consistency values respecting the recommended threshold (Ragin, 2006; Woodside and Zhang, 2013). Table 4 reports the intermediate solution leading to the presence of knowledge sharing. Table 5 reports the intermediate solution leading to the absence of knowledge sharing. Black circles (●) indicate the presence of a condition in the configuration contributing to the outcome. Voided circles (○) indicate the absence of a condition in the configuration contribution to the outcome. Blank spaces indicate that the condition is not relevant for the configuration. Larger circles indicate a core condition. Smaller circles indicate a peripheral condition.

Table 4: Complex configurations for the presence of Knowledge Sharing Behavior (KSB)

KSB = f(edu, age, HB, HRMP)							
Configuration	Conditions				Coverage		Consistency
	education	age	HB	HRMP	Raw	Unique	
1	●		●	●	0.456136	0.456136	0.767212

Overall Solution coverage: 0.456136; Overall Solution consistency: 0.767212

Table 5: Complex configurations for the absence of Knowledge Sharing Behavior (~KSB)

~KSB = f(fedu, age, HB, HRMP)							
Configurations	Conditions				Coverage		Consistency
	education	age	HB	HRMP	Raw	Unique	
1	○			○	0.405205	0.056777	0.839661
2				○	0.459550	0.038842	0.813349
3	●	○	○		0.421668	0.091710	0.795093
4	○	●	○		0.345353	0.033438	0.834206

Overall Solution coverage: 0.705153; Overall Solution consistency: 0.756989

Results show the existence of a single condition leading to the presence of KSB (Configuration 1). Education, HB and HRMP are core conditions in the configuration, yet, age is not relevant to the presence of knowledge sharing. Organizational members with higher education, who engage in altruistic behaviors and are aware of HRMP inside the organization share knowledge with others, regardless of their age.

Regarding the absence of KS, results show that there are four configurations leading to the absence of KS. Education condition's presence and absence are peripheral conditions, whereas the age condition's presence and absence, the lack of HB and absence of HRMP are core conditions. Results show that organizational members with lower levels of education that perceive an absence of HRMP in the organization do not share knowledge, regardless of their age and degree of engagement in helping others (Configuration 1). Similarly, the absence of perceived HRMP by organizational members contributes – by itself – to the absence of knowledge sharing, regardless of their age, education and engagement to help others (Configuration 2). Results also show that HRMP is an irrelevant condition contributing to the absence of KSB behavior in when considering young and

more educated organizational members that are not engaged in helping others (Configuration 3). Configuration 4 regards older and less educated organizational members that do not engage in HB.

4. Discussion and Conclusions

Our findings underpin and expand on previous research emphasizing the importance of perceived organizational support through organizational practices and promotion of cooperation. Lin and Hsiao (2014) propose that employees that are more prone to engage in organizational citizenship behavior are more likely to share knowledge. Similarly, our findings corroborate the important role of HRMP in knowledge sharing practices, since HRMP stimulate the organization's social capital (Dodokh, 2020; Singh et al., 2021). Qualitative findings expand the quantitative findings by exploring complex non-linear configurations leading to the presence and absence of knowledge sharing.

Qualitative results show that there is a single configuration leading to knowledge sharing (Table 4. Configuration 1), which is consistent with the results from the hypotheses testing. Our findings reveal that older altruistic employees and the existence of HRMP generate KSB. Such evidence is consistent with the importance of individual altruistic predisposition to share knowledge with others (Obrenovic et al., 2020) paired with the promotion of HRM initiatives (Singh et al., 2020). Our findings suggest the importance of having HRMP among altruistic individuals with higher education. We propose that the promotion of self-efficacy through the pursuit of university degrees should be encouraged in service organizations.

By contrast, there are four configurations leading to the absence of knowledge sharing. Thus, achieving knowledge sharing is rare. It seems it is a more complicated organizational endeavor, prone to inflexible circumstances where managerial strategies concerning peer support and the existence of both hard and soft HRMP need to be ensured. On the other hand, the absence of knowledge sharing is more common to achieve. Such results endorse previous literature arguments who discuss the complexity behind organizational frameworks to the successful implementation of knowledge management tools (Agrawal and Mukti, 2020).

There are evident negative consequences of not having HRMP (Table 5. Configurations 1 and 2) or not having HB (Table 5. Configurations 3 and 4); in such cases there is no KSB. Results show contrasting evidence of circumstances between age and education when organizational members do not engage in helping others, regardless of existing HRMP (Table 5. Configurations 3 and 4). Such results corroborate previous findings highlighting the importance of the demographic interplay in individual characteristics leading to knowledge sharing (Fasbender and Gerpott, 2021; Ohja, 2005). One configuration shows that there are circumstances where only the absence of HRMP is necessary to prevent KSB (Table 5. Configuration 2). Following on contrasting demographic circumstances, results reveal such argument through the irrelevance of HRMP in cases where HB is absent (Table 5. Configurations 3 and 4). We argue that attention must be given not only to the *existence* but also to the *usage* of HRMP (Singh et al., 2021).

Fasbender and Gerpott (2021) suggest that age discrimination is indirectly related to an intention to limit knowledge sharing. While older individuals with higher perceptions of self-efficacy are more likely to share knowledge with their younger counterparts, ageist HRMP can negatively moderate the self-efficacy of older organizational members, leading to reduced knowledge sharing. Similarly, our findings corroborate this view as per circumstances found where age (and education) contributes in different ways to the absence of knowledge sharing. Younger employees with higher education and with an absence of HB are found in circumstances leading to the absence of knowledge sharing (Table 5. Configuration 3). Older employees with a lower level of education and with an absence of HB also don't share their knowledge (Table 5. Configuration 4). Advising caution, we posit that older, less educated organizational members might be exposed to HRMP that favor younger workers (Boehm and Dwertmann, 2015). Therefore, we advise the promotion of HRMP that can support knowledge sharing (Dodokh, 2020), and fight ageism (Fasbender and Gerpott, 2021).

Our work provides several theoretical and practical contributions. We use a mixed-methods approach to achieve triangulation and complementarity between quantitative and qualitative methodologies. Findings in Table 4 are in line with hypotheses testing results (supporting triangulation), whereas Table 5 offers configurations to the absence of KSB (providing complementarity). Inherent complexities related to KSB allowed for a richness of results that would not be possible to achieve using a quantitative methodology alone. Our work also addresses several research gaps. First, we expand on the identified psychological complexities behind KSB and altruistic

behavior (measured by HB). We also address an identified research gap related to the complex interaction of HRMP and social capital characteristics (education, age, HB) by devising a research strategy that accommodated such requirements.

Regarding the practical implications of our work, we provide insight of both configurations leading to the presence and absence of knowledge sharing. Thus, this work conclusions provide guidelines and directions to undertake in the shape of organizational practices to potentiate KSB. Similarly, our findings hint *what not to do* to counter KSB absence. We may advise managers to promote a communication culture in their organizations, promoting the self-efficacy of employees through self-actualization and training. Similarly, we posit that fostering prosocial behavior policies, paired with robust HRMP is vital to the maximization of KSB between members. We also advise caution when considering team configurations based on age and education in situations where organizational culture is characterized by low communication, high competition, and lack of perceived altruistic behavior among peers.

5. Limitations and future work

This work presents limitations. We use a combination of PLS and fsQCA techniques to provide a theoretical and practical contribution grounded on a detailed, in-depth analysis of knowledge sharing phenomena in service organizations. However, our research design also follows a cross-sectional time horizon, therefore limiting causality. The reduced sample size (n=130) focused on a specific geographical scope (Portugal) presents possible researching bias, requiring further replication of findings in more diversified environments. Notwithstanding, our work provides a managerial blueprint that can be pursued to maximize knowledge flows in service organizations. We recommend future research to include further hybrid conditions that articulate organizational practices and individual conditions: namely team characteristics, configurations, and the role of leadership as contributors to the presence and absence of knowledge sharing. Given research limitations, we would also like to suggest future research to pursue a longitudinal time horizon to better understand the evolution of internal and external influences interacting with knowledge sharing. Lastly, we also recommend the inclusion of diversified knowledge, as described by knowledge management ontology: namely through the exploration of differences between tacit and explicit knowledge sharing alike.

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