The effects of expert power and referent power on knowledge sharing and knowledge hiding

Abraham Cyril Issac, Timothy Colin Bednall, Rupashree Baral, Pierpaolo Magliocca and Amandeep Dhir

Abstract

Purpose – The purpose of this research study is to determine the ways in which employees’ personal power—in the form of expert and referent power— influences their knowledge sharing and hiding behaviour. There are hardly any studies that have investigated the effects of employee power and expectations regarding the consequences of divulging knowledge. In this study, the authors investigate whether expected gains and losses in employee personal power influence employees’ willingness to participate in knowledge transfer.

Design/methodology/approach – The authors adopted a two-wave survey design and collected critical data from 288 employees of knowledge-intensive industries identified through online technology groups, such as Stack Exchange. In the first wave, out of the total, 192 knowledge workers attended the follow-up survey. The authors apply polynomial regression followed by surface response analysis to establish the effects of any discrepancy between the current levels of employees’ personal power and their expected levels if they divulge their unique critical knowledge.

Findings – The authors find out that employees having relatively strong personal power are more likely to share knowledge, and the expected losses in power are categorically associated with a reduced intention to share knowledge. The authors also observed an increased knowledge hiding with expected losses in power. Surprisingly, the authors find that these established negative outcomes are also specifically associated with the expected gains in personal power.

Research limitations/implications – The most significant contribution of this study is to establish that power plays an important but complex role in determining the employees’ participation in knowledge transfer activities. The authors specifically conclude that the optimal scenario for knowledge sharing is one in which the employees’ contributions are fairly valued and their reputation is not expected to change because of knowledge sharing.

Originality/value – To the best of the authors’ knowledge, this study is one of the first comprehensive studies that link power to both sharing and hiding of knowledge. This study is also unique in terms of its investigation of the effects of any discrepancy between current levels of employees’ personal power and their expected levels if they share or hide their unique critical knowledge. Thus, this research study is a unique contribution in terms of what and why of an untouched area in the entire knowledge management literature with a special focus on knowledge sharing and hiding.

Keywords Knowledge hiding, Knowledge sharing, Expert power, Referent power, Knowledge management

Paper type Research paper

Introduction

In the field of knowledge management, knowledge transfer among employees is thought to be a crucial determinant of an organisation’s capacity to use new knowledge and innovate (Liao et al., 2007). To date, most studies have focused on knowledge sharing as an employee behaviour (Ismail Al-Alawi et al., 2007). Knowledge sharing is thought to be important, as it supports organisations’ competitive advantage (Gutierrez et al., 2015;
Majority of the studies on knowledge management have established knowledge sharing as a voluntary phenomenon (Silva de Garcia et al., 2020). The exception to the above may be when the organisations use a systemic knowledge management platform in which knowledge sharing is mandatory (Issac and Thomas, 2019). Organisations have begun realising the increased importance of knowledge sharing in the context of the “new-normal” induced by the pandemic.

The mundane functions of staffing and training have become redundant, and the development of every organisation is linked to the level of knowledge sharing among its employees (Del Giudice and Maggioni, 2014; Zutshi et al., 2021). Transfer and conversion of knowledge to institutional memory essentially adds to the vibrancy of any organisation (Del Giudice et al., 2015). Previous studies have shown that effective knowledge sharing is positively related to prompt project completion (Ardito et al., 2019; Issac et al., 2021a, 2021b), improved organisational performance (Fait et al., 2019; Pereira and Mohiya, 2021), drastically lower costs of production (Pereira et al., 2021) and increased sales and revenue (Ali et al., 2021; Almeida et al., 2021; Cabrera and Cabrera, 2002). Considering these holistic benefits, organisations have diligently invested in efficient knowledge management systems to optimise the levels of knowledge sharing.

Nevertheless, some employees not only decline to participate in knowledge sharing but they also intentionally withhold knowledge that is requested of them – a behaviour referred to as knowledge hiding (Connelly et al., 2012). The phenomenon of knowledge hiding is not so uncommon and has always existed in all walks of life, including the workplace. Compared to the large literature on knowledge sharing, studies regarding the antecedents of knowledge hiding are relatively scarce (Rhee and Choi, 2017; Zhu et al., 2019). Knowledge hiding is categorically distinct from the absence of knowledge sharing. While the non-availability of actionable knowledge or a lack of confidence in knowledge gained may constitute the absence of knowledge sharing, knowledge hiding involves specifically the voluntary withholding of knowledge (Issac and Thomas, 2017). Existing studies on knowledge hiding agree regarding the intentional nature of knowledge hiding, and at present, scholars also understand that knowledge hiding can detrimentally affect organisations (Oliveira et al., 2021; Škerlavaj et al., 2018). Studies have identified various strategies, such as evasive hiding, playing dumb, rationalised hiding (Connelly et al., 2012), counter questioning (Kumar Jha and Varkkey, 2018), blatant lying and backstabbing (Issac et al., 2021), which typically comprise individuals’ knowledge hiding behaviour within organisations.

Apart from conceptualising the construct, Connelly et al. (2012) established the dimensionality of knowledge hiding. Studies have also established that knowledge hiding phenomenon is manifested variably in different cultural contexts (Demirkasimoglu, 2015; Issac and Baral, 2021). Knowledge hiding even varies according to an individual’s experience within the organisation and the nature of the job (Issac et al., 2020). Though scholars have identified certain predictors of the behaviour, such as trust (Su, 2020; Xiong et al., 2021), the complexity and uncertainty of a task (Zhang and Min, 2021), personality traits (Arshad and Ismail, 2018; Yao et al., 2020) and territoriality (Garg et al., 2021; Peng, 2013; Singh, 2019), etc.; a holistic understanding of knowledge hiding behaviour remains lacking (Siachou et al., 2021). This lack of a holistic understanding warrants dedicated scholarly attention (Di Vaio et al., 2021). The morphological analysis by Issac et al. (2021a) unravels a large number of gaps existing in the knowledge hiding literature. Though researchers have extensively studied the knowledge hiding construct, especially in the past two years, still the entire knowledge hiding literature remains relatively silent on the effects of
power or status on knowledge hiding. Interestingly, we also observe that within the entire gamut of knowledge sharing literature, the effects of power on knowledge sharing is also an underexplored area.

Some authors have speculated that low-status employees are less likely to participate in knowledge transfer (Bunderson and Reagans, 2011). Others propose that employees are deterred from such participation if they fear losing their unique status (Bednall and Sanders, 2017; Renzl, 2008), while they may be encouraged to participate if they expect their status will be enhanced (Wang and Noe, 2010). However, no studies have investigated the effects of employee status and expectations regarding the consequences of divulging knowledge on employee behaviour. In other words, the literature is categorically silent on the effects of power on activities related to knowledge management. Therefore, the objective of our study is to address the aforementioned gaps by answering the following research questions (RQs):

RQ1. How does the status of employees within an organisation influence their willingness to support knowledge transfer?

RQ2. What is the effect of personal power like expert power and referent power, on knowledge sharing and hiding?

In this study, we investigate whether the expected positive and negative consequences of knowledge transfer influence employees’ willingness to participate in knowledge transfer. Specifically, we examine whether current levels and expected gains and losses in expert power and referent power (French Jr and Raven, 1959) influence knowledge sharing and knowledge hiding behaviours.

To answer these questions, we undertake a two-wave study of employees working in knowledge-intensive industries across the world. The data were collected from online knowledge portals like Stack Exchange, Engineers Australia, Professional Australia, etc. Specific qualifying questions were included to ascertain respondents as knowledge workers. We also set a qualifying criterion for knowledge hiding (non-disclosure); thus, we effectively move away from the previous studies in the existing knowledge hiding literature that assumes every single individual as a knowledge hider and designs the study accordingly. We analysed the effects of incongruence in current and expected levels of expert and referent power using polynomial regression and the surface response analysis (Edwards, 2002; Shanock et al., 2010).

The novelty of our study is underscored by three key contributions. Firstly, we specifically look at the hitherto underexplored association between status and knowledge sharing and hiding. Though knowledge hiding is a relatively a new construct, and research has picked up mainly after 2012, knowledge sharing has extensively been a part of knowledge management literature, and to date, no study has effectively looked into the effects of status on the same. Secondly, our study attempts to test the incongruence in expert and referent power on both knowledge sharing and hiding. The effects of increase or decrease in expert and referent power on knowledge sharing and hiding are found out. Thirdly, we advance the current levels of understanding on the need for organisations to optimise knowledge sharing by keeping power equations in check. We believe that studying the incongruence by mapping the changes in the expert and referent power is likely more effective in estimating employees’ knowledge sharing and hiding tendencies.

In the following sections, we outline our theoretical rationale and hypotheses. Then, we describe our study design, sample and data analysis approach in greater detail. Finally, we discuss in detail our findings and their implications for theory and practice before considering some of the limitations of our study and detailing the future research avenues our study offers.
Theoretical background and hypotheses development

In the area of knowledge management, knowledge transfer is considered a crucial employee behaviour for supporting an organisation’s absorptive capacity (Liao et al., 2007). Absorptive capacity refers to the dynamic ability of organisations to appraise the value of knowledge, assimilate it and apply it in a more creative and innovative manner (Fong et al., 2018). In such transactions, the effective use of new knowledge can elicit creative initiatives and solutions (Cohen and Levinthal, 1990).

While most studies in the field of knowledge management have focused on knowledge sharing as an important employee behaviour, we argue that knowledge hiding is equally – if not more – critical because it can function as a barrier to learning and development within the organisation (Ladan et al., 2017). Not merely the absence of knowledge sharing, knowledge hiding refers to the deliberate non-disclosure of requested information (Connelly et al., 2012). In developing the knowledge hiding construct, Connelly et al. (2012) emphasised three knowledge hiding strategies: evasive hiding, playing dumb and rationalised hiding. However, the most significant aspect of their study was to establish a negative tone towards knowledge hiding practices. Though a few studies have subsequently examined factors and activities such as “white lies” and “authorised hiding” as forms of rationalised hiding, no study has imbued the construct with a categorically positive connotation – likely because the long-term losses organisation and individuals face as a result of knowledge hiding outweigh the short-term benefits they may reap.

Because knowledge hiding tendencies within an organisation curtail knowledge transfer, knowledge hiding is essentially a counterproductive behaviour (Xiao and Cooke, 2018). Knowledge hiding has a substantial negative impact on task performance while increasing workplace deviance (Singh, 2019). It also has a negative impact on an organisation’s creativity and on the knowledge hider him or herself because colleagues often reciprocate with their own knowledge hiding behaviour (Bogilović et al., 2017; Černe et al., 2014; Fong et al., 2018; Rhee and Choi, 2017).

Studies on knowledge hiding have identified a range of its antecedents (Chatterjee et al., 2021; Koay and Lim, 2021). For example, employees are more likely to engage in knowledge hiding when they feel a heightened sense of psychological ownership over the information (Huo et al., 2016; Peng, 2013). Meanwhile, other factors have been found to mitigate knowledge hiding tendencies, including ethical leadership (Tang et al., 2015; Zhao et al., 2019), psychological safety (Jiang, Hu, Wang and Jiang, 2019; Peng et al., 2018), the absence of organisational politics (Malik et al., 2019) and the lack of time pressure (Škerlavaj et al., 2018). Dynamic cultural strength coupled with prosocial motivation also reduces knowledge hiding (Babić et al., 2018; Issac and Baral, 2019). Moreover, as mentioned previously, knowledge complexity (Labafi, 2017), workplace incivility (Arshad and Ismail, 2018), workplace ostracism (Zhao et al., 2016) and conflict (Boz Semerci, 2019) have been linked to knowledge hiding.

Scholars have explored the tendency of employees to engage in knowledge sharing or hiding through the lens of social exchange theory (Blau, 1964); according to this theory, an employee’s appraisal of the likely benefits and costs of knowledge sharing or hiding unpins their decision to transfer knowledge (Gagné et al., 2019; Serenko and Bontis, 2016; Y. Wang et al., 2019). For instance, Černe et al. (2014) demonstrated that one employee’s knowledge hiding behaviour weakens that employee’s social exchange relationship with a second employee and thus leads to reciprocated knowledge hiding. Similarly, Serenko and Bontis (2016) found that employees who observe their colleagues’ knowledge sharing and hiding tend to reciprocate.

In terms of the possible benefits and costs associated with social exchanges that involve knowledge transfer, scholars have also examined employee participation in such exchanges through the lens of power. Liao (2008) was the first to establish that managers'
power can influence knowledge sharing behaviour within R&D teams, particularly if such managers possess reward power (i.e. the power to reward desired actions) and expert power (i.e. they were seen as topic experts). Subsequent research has focused on the role of employee power in influencing participation in knowledge transfer. Bunderson and Reagans (2011) emphasised that the possession of valuable and unique information gives the possessor a strategic source of intra-organisational power, which they may only be willing to share for strategic reasons. They suggested that employees low in power and status are less likely to engage in knowledge transfer if they feel their contributions will be ignored or overshadowed by contributions from more powerful employees. They also argued that knowledge transfer is more likely if the recipient has a relatively high status because such an exchange can enhance the status of the person sharing knowledge. Consistent with this argument, Liu et al. (2020) found that high-status employees are less likely to hide knowledge, although their participation depends on the obligation they feel to divulge knowledge and the levels of envy they perceive among colleagues. In summary, these studies imply that employees’ power and status are strong determinants of their decisions to participate in knowledge transfer.

Alternatively, some authors have proposed that employees’ willingness to engage in knowledge transfer depends on their expectations regarding the outcome of the exchange (Kumar and Ganesh, 2009). Both Renzl (2008) and Bednall and Sanders (2017) argued that employees are less likely to share knowledge if, in doing so, they risk losing their unique value. Renzl’s (2008) study found that trust in management mitigates this concern to some extent. Conversely, Wang and Noe (2010) suggested that employees might be motivated to share knowledge if they perceive opportunities to increase their levels of power. In general, these perspectives suggest that employee beliefs regarding potential gains and losses of power influence their decisions to share knowledge.

In this study, we test two competing perspectives: that knowledge transfer is influenced by current levels of power and that knowledge transfer is influenced by prospective gains or losses in power. To investigate each perspective, we draw on French and Raven’s (1959) bases of power. We focus on the two sources of employees’ interpersonal power: expert power, or the extent to which others rely upon a person for their knowledge, skill and expertise and referent power, or the extent to which a person is liked and respected by colleagues. We assume that both sources of interpersonal power exert a similar influence on knowledge transfer; thus, we do not form differential hypotheses about each form of power, and we compare them solely on an exploratory basis (Tables 1 and 2). We account for the three sources of positional power – reward, coercive and legitimate power – by including employees’ job levels as a covariate within our model. However, we do not focus

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<th>Variable</th>
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<td>The extent to which a person is relied upon for his/her knowledge, skill and expertise in the current situation</td>
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<td>2</td>
<td>Expected change in expert power after knowledge sharing</td>
<td>The extent to which a person is relied upon for his/her knowledge, skill and expertise after sharing knowledge</td>
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<td>3</td>
<td>Current levels of referent power</td>
<td>The extent to which a person is liked and respected by colleagues in the current situation</td>
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<tr>
<td>4</td>
<td>Expected change in referent power after knowledge sharing</td>
<td>The extent to which a person is liked and respected by colleagues after sharing knowledge</td>
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<tr>
<td>5</td>
<td>Knowledge sharing</td>
<td>The process by which an entity’s knowledge is captured and reused</td>
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<td>6</td>
<td>Knowledge hiding</td>
<td>The intentional attempt to withhold requested knowledge</td>
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### Table 2: Means, standard deviations and correlations among variables

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<th>Wave 2</th>
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**Notes:** Correlations among the observed variables are presented below the diagonal; latent variable correlations are presented above. Job level comprises the following scale: 1 = employee, 2 = team leader, 3 = manager, 4 = senior manager, 5 = director/head of department and 6 = chief executive. *p < 0.05, **p < 0.01, ***p < 0.001
on positional power because employees’ decisions to engage in knowledge transfer are unlikely to directly affect such power.

We base our first hypothesis on the perspective of Bunderson and Reagans (2011), who claim that employees’ status influences their willingness to support knowledge transfer. According to this perspective, low-power employees are less inclined to share knowledge because of their belief that their ideas will have less of an impact. Low-power employees are often ridiculed for their attempts to share knowledge, and this ridicule makes them feel inconsequential and discourages them from participating in knowledge sharing activities. Consistent also with the findings of Liu et al. (2020), we expect that low power employees will be more inclined to engage in knowledge hiding. Based on the above, we propose the following hypothesis:

H1. Employees’ current levels of personal (expert and referent) power increases their participation in knowledge sharing (1a) and decreases their likelihood of knowledge hiding (1b).

We base our second hypothesis on the perspectives of Renzl (2008), Wang and Noe (2010); and Bednall and Sanders (2017), who claim that employees expectations about potential gains and losses in power will influence their willingness to engage in knowledge transfer. We expect that employees who anticipate gaining recognition for their expertise (expert power) and the respect of their colleagues (referent power) are more likely to share knowledge and less likely to hide knowledge. On the other hand, if employees expect that they will lose expert or referent power, they will be less likely to share knowledge and more likely to hide knowledge. Thus, we expect that a positive difference between expected and current power (i.e. expected power exceeds current power) will encourage knowledge transfer, whereas a negative difference (i.e. current power exceeds expected power) will discourage knowledge transfer. Thus, we hypothesise as follows:

H2. Employees’ expectations of increases/decreases in their levels of personal (expert and referent) power lead to increased/decreased knowledge sharing (2a) and a decreased/increased likelihood of knowledge hiding (2b).

Method

Participants and procedure

The participants included 288 employees of knowledge-intensive industries who were recruited via an invitation to complete an online survey that was posted to online platforms, such as Stack Exchange, Engineers Australia and Professionals Australia and to the alumni networks of engineering colleges and technical universities. We screened out participants who were not currently engaged in paid employment. We also asked participants whether they could recall an episode or occasion in which a colleague had requested knowledge from them, and we excluded participants who could not. To minimise method bias (Podsakoff et al., 2012), we collected data in two waves, with a 66% (192 participants) response rate in the second wave. Most participants (84.4%) identified as male and reported working for their organisation for an average of 6.28 years (SD = 5.62). Most of the employees worked full-time, with an average of 43.33 h per week (SD = 19.73).

Materials

We used previously published scales that have been shown to be reliable. Tables 2 and 3 present the reliability coefficients, including Cronbach’s alpha and coefficient omega (all > 0.70). Table 3 presents the individual items.

Expert and referent power. We adapted Hinkin and Schriesheim’s (1989) expert and referent power scales while changing the original scales, which referred to supervisors’ levels of perceived power, so that they were self-referential. For expert power, we changed
the stem to “Other employees depend on me to […],” whereas for referent power, we changed it to “Other people see me as someone who […]” We asked employees to rate their current levels of expert and referent power as well as their expected levels if they shared their unique knowledge, skills and expertise.

Knowledge sharing. We used Huang et al.’s (2014) five-item scale to measure knowledge sharing. The scale measures the extent to which employees share tacit (e.g. expertise and know-how) and explicit (e.g. physical documents) knowledge.

Knowledge hiding. To assess knowledge hiding, we asked employees whether they could recall an incident in which they had declined a colleague’s request for knowledge (either directly or indirectly). We used this dichotomous variable as our main measure of knowledge hiding. Among employees who answered in the affirmative, we assessed specific knowledge hiding behaviours via Connelly et al.’s (2012) scale, which comprises three facets: evasive hiding (providing incorrect information), playing dumb (pretending to be ignorant) and rationalised hiding (providing an excuse for not sharing knowledge).

Control variables. Our study also included four control variables. We controlled for gender because some studies have suggested that gender influences employees’ willingness to share knowledge (Lin, 2008). We also included job level to account for the influence of positional (i.e. reward, coercive and legitimate) power on willingness to share knowledge. In addition, we controlled for tenure based on the expectation that more experienced employees would have greater knowledge to share and hours worked per week based on the expectation that employees who work more hours would have greater opportunities for knowledge sharing.

**Data analysis strategy**

We analysed the effects of incongruence between current and expected levels of expert and referent power using polynomial regression and surface response analysis (Edwards, 2002;
Shanock et al., 2010). Polynomial regression overcomes many of the limitations involved in using difference scores to assess incongruence between two variables (X and Y). Specifically, difference scores do not retain information about the original levels of X and Y, and their interpretation is ambiguous (e.g., a positive effect of a difference score may indicate X becoming more similar to Y or the effect of X overtaking Y). In contrast, polynomial regression retains the original levels of X and Y and provides a clear interpretation of results through surface response analysis. It can analyse both the main effects of X and Y and the effects of directional and non-directional differences Y between X and.

Results

Descriptive statistics

All analyses were performed in Mplus 8.4 (Muthén and Muthén, 2017) using the MLR estimator, with the surface plots generated using the plotly package (Plotly Technologies, Inc., 2015) for R 4.0.2 (R Core Team, 2020). Table 2 presents the descriptive statistics, including means, standard deviations and correlations among the variables. We found that both current and expected referent power was positively correlated with both knowledge sharing and knowledge hiding. Other variables, including expert power and the control variables, did not exhibit a linear relationship with either knowledge sharing or knowledge hiding.

Twenty-three participants reported not disclosing information in response to a request for information. Because non-disclosure was a relatively uncommon behaviour among the participants, we represented knowledge hiding in the model as participants’ (dichotomous) response to the question about whether they had declined to share requested knowledge. We used the knowledge hiding behavioural scales to illustrate the types of hiding in which these participants engaged.

To evaluate the factor structure and reliability of the measures, we essentially conducted a series of confirmatory factor analyses. We tested an initial model with expert and referent power (both current and expected) and knowledge sharing. We included design-driven residual correlations between the final two knowledge sharing items (Cole et al., 2007) because these two items related to explicit knowledge sharing, whereas the first three items referred to tacit knowledge sharing (Huang et al., 2014). To capture item-specific variance, we also allowed the error terms of the corresponding current and expected expert/referent power items to covary. This model yielded the following fit statistics: \( \chi^2(df = 120) = 208.707, p = 0.000 \), comparative fit index (CFI) = 0.966, root mean square error of approximation (RMSEA) = 0.051, standardized root mean square residual (SRMR) = 0.051. Although the approximate fit statistics suggested a close model fit, the chi-square was significant. To diagnose possible model misspecifications, we examined the residual matrix and found these correlations were generally quite small (with 96% falling within the range of -0.10 to 0.10). Because no systematic pattern of discrepancies was apparent, we opted to retain the hypothesised measurement model.

To evaluate the measurement equivalence of the current and expected expert/referent power scales, we undertook a series of measurement invariance tests (Widaman et al., 2010). We first tested the metric invariance of the scales by constraining the factor loadings of corresponding items to equality. This constraint did not significantly worsen the model fit: \( \Delta \chi^2(df = 7) = 12.06, p = 0.099 \). We then tested a scalar invariance model, which constrained the intercepts of corresponding items to equality but estimated the factor means freely. Similarly, this constraint did not worsen the model fit: \( \Delta \chi^2(df = 7) = 6.32, p = 0.503 \). Table 3 presents this final measurement model and associated factor loadings.
<table>
<thead>
<tr>
<th></th>
<th>Knowledge sharing</th>
<th>Knowledge hiding</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1a</td>
<td>Model 1b</td>
</tr>
<tr>
<td>Constant</td>
<td>5.56*** (0.43)</td>
<td>5.81*** (0.44)</td>
</tr>
<tr>
<td></td>
<td>0.86 (1.32)</td>
<td>0.75 (1.47)</td>
</tr>
<tr>
<td>Gender</td>
<td>-0.26 (0.21)</td>
<td>-0.37 (0.21)</td>
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<tr>
<td></td>
<td>0.20 (0.74)</td>
<td>0.25 (0.80)</td>
</tr>
<tr>
<td>Job level</td>
<td>0.02 (0.06)</td>
<td>-0.03 (0.05)</td>
</tr>
<tr>
<td></td>
<td>0.05 (0.16)</td>
<td>0.08 (0.16)</td>
</tr>
<tr>
<td>Tenure</td>
<td>-0.01 (0.02)</td>
<td>-0.01 (0.02)</td>
</tr>
<tr>
<td></td>
<td>0.02 (0.04)</td>
<td>-0.02 (0.04)</td>
</tr>
<tr>
<td>Hours worked per week</td>
<td>0.00 (0.01)</td>
<td>0.00 (0.01)</td>
</tr>
<tr>
<td></td>
<td>-0.02 (0.04)</td>
<td>-0.03 (0.02)</td>
</tr>
<tr>
<td>b1: Expert power – current</td>
<td>0.55* (0.17)</td>
<td></td>
</tr>
<tr>
<td>b2: Expert power – expected</td>
<td>-0.49* (0.19)</td>
<td></td>
</tr>
<tr>
<td>b3: Current × Current</td>
<td>-0.53 (0.28)</td>
<td></td>
</tr>
<tr>
<td>b4: Current × Expected</td>
<td>0.69* (0.27)</td>
<td></td>
</tr>
<tr>
<td>b5: Expected × Expected</td>
<td>-0.05 (0.10)</td>
<td></td>
</tr>
<tr>
<td>b1: Referent power – current</td>
<td>0.48* (0.23)</td>
<td></td>
</tr>
<tr>
<td>b2: Referent power – expected</td>
<td>-0.37 (0.26)</td>
<td></td>
</tr>
<tr>
<td>b3: Current × Current</td>
<td>-0.25 (0.19)</td>
<td></td>
</tr>
<tr>
<td>b4: Current × Expected</td>
<td>0.53 (0.36)</td>
<td></td>
</tr>
<tr>
<td>b5: Expected × Expected</td>
<td>-0.11 (0.20)</td>
<td></td>
</tr>
<tr>
<td>Non-model parameters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a1: Agreement (linear; b1 + b2)</td>
<td>0.06 (0.12)</td>
<td></td>
</tr>
<tr>
<td>a2: Agreement (quadratic; b3 + b4 + b5)</td>
<td>0.11 (0.07)</td>
<td></td>
</tr>
<tr>
<td>a3: Disagreement (linear; b1 – b2)</td>
<td>1.04* (0.34)</td>
<td></td>
</tr>
<tr>
<td>a4: Disagreement (quadratic; b3 – b4 + b5)</td>
<td>-1.28* (0.53)</td>
<td></td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.01</td>
<td>0.16</td>
</tr>
<tr>
<td></td>
<td>0.05</td>
<td>0.14</td>
</tr>
</tbody>
</table>

Notes: To preserve the latent variables in their original metric, we applied the effects coding method of Little, Slegers and Card (2006). We centred each of the observed expert/referent power scales at the mid-point (i.e. we subtracted 3 from each observed variable to make the “Neither Agree nor Disagree” mid-point equal to zero.) The probability of non-disclosure is represented as a log-odds ratio.
Hypotheses testing

Table 4 presents the results of the polynomial regression analyses. For each outcome, we assessed a baseline model (1a and 2a), which only included control variables. The effects of the identified control variables were all non-significant.

In the next step, we tested the effects of incongruence between current and expected levels of expert and referent power on knowledge sharing using the polynomial approach (Models 1b and 2b). We tested the linear effects of employees’ current levels of power (parameter $b_1$), the linear effect of employees’ expected levels of power ($b_2$), the quadratic effect of current power ($b_3$), the interaction between current and expected levels of power ($b_4$) and the quadratic effect of expected power ($b_5$). We calculated four non-model parameters representing the linear and quadratic effects of congruence between current and expected power levels ($a_1$ and $a_2$) and the linear and quadratic effects of incongruence ($a_3$ and $a_4$). Specifically, $a_3$ represented the effects of directional difference between current and expected power (i.e. $X - Y$), and $a_4$ represented the effects of non-directional difference (i.e. $|X - Y|$). Because we measured knowledge hiding using a dichotomous variable, we applied the same approach using logistic regression.

The first hypothesis held for knowledge sharing but not for knowledge hiding. We found that current levels of expert and referent power were positively associated with participation in knowledge sharing (as indicated by a significant $b_1$). For knowledge hiding, these effects were non-significant.

Figure 1  Surface plot depicting the effects of the incongruence of current and expected expert power on knowledge sharing

Notes: We present the plot only in sections in which data from the sample exist
The second hypothesis was partially supported. When participants expected to lose expert power (i.e. current expert power exceeded expected expert power, as indicated by a significant $a_3$), their reported knowledge sharing decreased as Figure 1 illustrates. Contrary to our expectations, we found that expected gains in expert power also decreased employees’ participation in knowledge sharing. Thus, a non-directional difference between current and expected expert power was associated with decreased knowledge sharing (as indicated by a significant $a_4$).

We observed a similar pattern for knowledge hiding as illustrated in Figure 2. We found that when employees expected either to gain or to lose referent power (i.e. a non-directional difference existed between current and expected referent power, as indicated by a significant $a_6$), they were more likely to report engaging in knowledge hiding. Among the participants who reported that they did not disclose knowledge when requested, the most common knowledge hiding behaviours were rationalised hiding ($M = 2.97$, $SD = 0.90$), playing dumb ($M = 2.55$, $SD = 0.91$) and evasive hiding ($M = 2.51$, $SD = 0.88$). All of these participants acknowledged engaging in at least one knowledge hiding behaviour (i.e. no participant provided all “disagree” responses to the set of knowledge hiding questions).

Current and expected expert power did not appear to influence knowledge hiding. None of the control variables were found to exert a significant effect on either knowledge sharing or knowledge hiding.

Figure 2  Surface response plot depicting the effects of the incongruence of current and expected referent power on the probability of non-disclosure

Notes: We present the plot only in sections in which data exist. The vertical axis represents the probability (converted from log odds) of non-disclosure at each level of current and expected referent power.
Discussion

This study sought to determine the ways in which employees’ present levels of power – underscored by status and anticipated changes in dynamic levels of personal power, such as expert and referent power – influence their decisions to engage in knowledge sharing or knowledge hiding. We, therefore, compared two competing perspectives:

1. the hypothesis that current levels of power influence employees’ willingness to engage with others and share knowledge (Bunderson and Reagans, 2011); and

2. the hypothesis that expected gains or losses in power relative to current levels influence employees’ participation in knowledge transfer (Renzl, 2008; Wang and Noe, 2010).

To address this conundrum, we applied polynomial regression to determine the influence of current and expected levels of power on employees’ involvement in activities such as knowledge sharing and hiding. We found partial support for both hypotheses.

Supporting the first hypothesis, we found a positive main effect of current and expected expert and referent power on knowledge sharing. This finding aligns with Bunderson and Reagans’ (2011) perspective that higher-status employees are more willing to share knowledge, particularly if they believe that their contributions will be consequential. Essentially, the anticipated influence of their unique knowledge may offer a positive reinforcement that motivates them to engage further in knowledge sharing initiatives. Employees who report strong expert power are likely to feel confident in their knowledge, and those who report strong referent power are likely to regard themselves as influential among their colleagues. Together, these positive self-appraisals may encourage employees to share their knowledge. However, we did not observe any straight relationship like the one Liu et al. (2020) found with the aid of countervailing mediational effects of felt obligation (a positive indirect effect) and perceived envy (a negative indirect effect). Thus, the effect of status on knowledge hiding may not be apparent unless these other mediating mechanisms are present.

Supporting the H2, we found that employees who expect to lose expert power are more likely to refrain from sharing knowledge and that employees who expect to lose referent power are more likely to engage in knowledge hiding. In the case of the former, employees who expect to lose power by sharing direct knowledge will be less inclined to engage in knowledge sharing (Bednall and Sanders, 2017; Renzl, 2008). In the case of the latter, employees may fear being criticised for their methods, or they may fear a loss of likeability if they perceive the requested information to be damaging to their reputation.

In contrast, we found that incongruence between current and expected levels of referent power do not influence employees’ participation in knowledge sharing – perhaps because knowledge sharing (as a general behaviour) is typically discretionary, and non-participation is, therefore, unremarkable and unlikely to be noticed. We also found that incongruence in current and expected levels of expert power does not influence knowledge hiding. Knowledge hiding is essentially a voluntary behaviour, and the above relationship may result because knowledge hiding categorically occurs in contexts in which employees have been approached for their expertise, which they decline to share. In such situations, an employee’s reputation as an expert is likely already established, which may leave them less concerned about the consequences on their expert power if they decline a request, particularly if they have already decided they do not wish to divulge their knowledge.

Unexpectedly, we found that employees who anticipate gaining expert power are more likely to reduce their knowledge sharing. Although we did not hypothesise this result, we propose two potential explanations for it. Firstly, gaining expert power is not necessarily a desirable outcome; the scale items refer to colleagues depending on an employee for their expertise. Employees may not wish to take on the additional responsibilities of such an expert role, especially if they expect it to be time-consuming, unsupported by management and not otherwise recognised or rewarded. The expert role, if undertaken in such situations, may also
warrant some critical responsibilities, which might appear unproductive in the short term. Secondly, employees may not wish to be regarded as experts if they lack confidence in their knowledge and skills, or they genuinely do not possess the necessary expertise. Such employees may feel a genuine vacuum when the situation demands actionable knowledge, and they may fear that such circumstances may tarnish their “expert image” within the organisation. This explanation is underscored by the surface response plot (Figure 1), which shows that the lowest levels of knowledge sharing occur among employees who have low levels of current expert power and expect their expert power will increase.

Similarly, we found that employees are more likely to engage in knowledge hiding if they expect to gain referent power. Although this finding is also unexpected, employees' perceptions of their workplace context may explain it. Employees who anticipate gaining referent power perceive themselves as working for an organisation where their words and actions can influence their reputation. Such employees appear to regard gaining referent power as the most likely outcome of divulging unique knowledge but possibly not the only outcome. If a person’s reputation can be affected by sharing useful knowledge, their reputation may, as a corollary, also be damaged (or “cancelled”) by inadvertently offering advice or opinions that contradict organisational norms or culture.

Conclusion

Our study makes the following contributions. Firstly, we expand the application of social exchange theory (Blau, 1964) to show how the benefits and costs associated with potential changes in expert and referent power influence employee behaviour. Our findings show that expected shifts in both forms of power strongly influence employees’ decisions to share knowledge. Secondly, we examine and simultaneously test competing rationales for the roles of power and status, including the perspective of Bunderson and Reagans (2011), who argue that low status is likely to deter employees from sharing knowledge, versus the perspective of Renzl (2008) and Wang and Noe (2010), who argue that potential shifts in power are likely to influence knowledge sharing. Our findings provide partial support for both perspectives and thus imply that scholars should jointly consider employees' perceptions of their current and prospective levels of power.

In summary, our research categorically underscores the important but complex role power plays in determining employees’ participation in knowledge sharing and knowledge hiding activities. Our findings suggest that employees who perceive themselves as having greater expert and referent power are more likely to share knowledge. We also suggest that the potential shifts in power – whether gains or losses – that may result from divulging unique knowledge are unappealing to employees and should be managed carefully. Overall, our findings suggest that knowledge sharing (and the lack of knowledge hiding) occurs in a supportive workplace in which all employees are recognised for their unique contributions and employees’ reputations are not contingent on their decisions to share or withhold their knowledge.

Implications for theory

By investigating the effects of personal power, including expert and referent power, on both knowledge sharing and knowledge hiding, our study addresses two pertinent gaps in the knowledge management literature. The most significant contribution of our study is to categorically establish the bi-directional association between the change in personal power and knowledge transfer. The current theoretical understanding suggests that a decrease in personal power motivates individuals to refrain from sharing knowledge. Apart from ratifying the above agreement, our study suggests that an increase in these personal powers also encourages individuals to refrain from sharing knowledge. This relationship is more pronounced as expert power increases. Specifically, our study reveals that an increase in expert power may reduce employees’ knowledge sharing propensities, whereas an increase in referent power may
increase their knowledge hiding tendencies. Our study thus reinforces the existing understanding of the relationship between status and knowledge transfer. Individuals who possess higher status within an organisation are keen to share their knowledge because they feel such knowledge to be superior and consequential. Our findings also complement Bunderson and Reagans’ (2011) understanding of status and knowledge transfer; however, a detailed understanding of our study indicates that any change in the power status quo leads employees to disengage from knowledge sharing. Therefore, our study makes a specific contribution towards both the knowledge sharing and knowledge hiding literatures. While it addresses a long-standing gap in the former, it sets the tone for further research in the latter.

Implications for practice

Our study suggests that employees are generally emboldened to share their unique knowledge when they regard themselves as possessing strong expert and/or referent power. However, employees appear to dislike the potential changes – both gains and losses – in their levels of power that may occur if they share knowledge. In a workplace context, where the potential exists for employees’ levels of personal power to shift, these findings suggest that employees calibrate their levels of knowledge sharing to maintain a desired level of expert and/or referent power. Because expected shifts in personal power are likely to discourage knowledge sharing, it is important for managers to provide an environment of psychological safety (Edmondson, 1999). Any desired intervention should focus on:

- imparting actionable knowledge through training and mentoring activities; and
- instilling confidence in the knowledge employees gain.

Managers should also protect employees from the possible consequences of sharing knowledge, such as being tasked with additional work responsibilities or advisory roles. Any intervention mechanisms may be rendered ineffective, however, if employees are unable to display confidence in the expertise attained. Based on our findings, knowledge sharing appears to be greatest when employees do not expect a shift to occur in their levels of personal power. We believe that systemic measures such as rotation policies, the cultivation of a more delegative and democratic spirit within organisations and efforts to reduce hierarchical relationships, may lessen uncontrolled changes in power within an organisation. Therefore, managers should attempt to cultivate an egalitarian work environment in which all contributions are valued.

Limitations and future scope

While our study provides insights about the complex influence of power on knowledge sharing and hiding, it is not without its limitations. Because our study relies on single-source, non-experimental data, it is vulnerable to concerns regarding method variance (Podsakoff et al., 2012) and endogeneity (Antonakis et al., 2010). These limitations are somewhat mitigated by our adoption of a lagged (two-wave) design, which reduces the potential impact of time-specific omitted variables, such as mood or day-to-day workload. In addition, the results associated with our H2 are based on differences between current and expected levels of power. Siemsen et al. (2010) showed that quadratic and interaction effects (i.e. $b_3$, $b_4$ and $b_5$, which compose $a_4$) cannot be artefacts of common method variance. Thus, because our results are based on differences between current and expected levels of power, they reduce the potential of method variance to distort the findings. Nonetheless, it would be useful to replicate this study with either objective records of knowledge sharing or multiple sources of subjective rating data.

Our study only captures information about employees’ knowledge sharing and knowledge hiding behaviours in general; thus, it does not examine specific employees’ interactions with specific individuals. The decision to engage in knowledge sharing or hiding occurs in a complex, dynamic social system, which survey research can only approximate. Thus, we
recommend that future studies employ more sophisticated methods for investigating the influences of social processes (e.g. trust and reciprocity) and structures (e.g. relations among team members) on knowledge exchange, such as social network analysis (Lusher et al., 2013). Longitudinal studies would also provide insights regarding the extent to which expert power and referent power change over time and the ways in which these types of power influence and are influenced by employees’ ongoing participation in knowledge sharing and/or hiding.

Our study demonstrates that any advice or opinion that contradicts organisational norms or culture may tarnish an employee’s reputation within the organisation. Thus, a possible extension of this study would be to investigate the spectrum of outcomes an employee believes are possible if they divulge knowledge and the extent to which low-probability, but high-impact events affect their willingness to divulge knowledge. Employees’ expectations of changes in power and the effect those expectations have on knowledge sharing and hiding, especially in different cultural contexts, is also worth investigating. Finally, our study specifically captures the effect of personal power. Future studies can investigate the effect of positional powers and contingency factors on knowledge sharing and hiding tendencies within an organisation. Thus, though our study is instrumental in addressing long-standing critical gaps in the knowledge management literature, it also reveals valuable avenues of future research in terms of method, scope and validation.

References


R Core Team (2020), “R: a language and environment for statistical computing”, Vienna, Austria, available at: https://www.r-project.org


Further reading

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