



Territoriality, task performance, and workplace deviance: Empirical evidence on role of knowledge hiding

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ABSTRACT

Why and when people share their knowledge has received enough academic attention, while little attention devoted to why and when people hide knowledge at workplace. Drawing on the social exchange theory, the norms of reciprocity, and the psychological ownership theory, this study examines how territoriality directly and under the indirect influence of knowledge hiding affect task performance and workplace deviance in organization. The study of 198 triads (ie., the team leader, the team leader's subordinate, and team leader's supervisor) reveals that territoriality and knowledge hiding have negative effect on task performance but positive influence on workplace deviance (ie., interpersonal and organizational deviance). Another contribution of the study is that knowledge hiding negatively mediates the influence of territoriality on task performance and workplace deviance. Implications for theory, practice and future research have been discussed.

1. Introduction

Why and when people share their knowledge has received considerable academic attention, while little attention has been devoted to why and when people hide knowledge. Knowledge as a resource multiplies with its usages (Probst, Raub, & Romhardt, 2002) but general human tendency is to believe knowledge as a limited resources that should be hidden (Skerlavaj, Connelly, Cerne, & Dysvik, 2018). The literature is replete with positively skewed research on knowledge sharing (Černe, Nerstad, Dysvik, & Skerlavaj, 2014; Markovic & Bagherzadeh, 2018; Wang & Noe, 2010); however, the concept of knowledge hiding is yet unexplored (Černe et al., 2014; Connelly, Zweig, Webster, & Trougakos, 2012; Skerlavaj et al., 2018) and there is a lack of emphasis on knowledge hiding as a distinct concept and not the opposite of knowledge sharing. It is argued that the motivational source of knowledge sharing and knowledge hiding are different (Connelly et al., 2012), as instrumental or anti-social drivers push people to engage in knowledge hiding, whereas pro-social motivation is attributed to be the reason for people to display knowledge sharing behaviors in the workplace (Connelly & Zweig, 2015). Knowledge hiding in organizations has received much attention from practitioners but requires significant academic attention (Černe et al., 2014; Connelly et al., 2012; Greenberg, Brinsfield, & Edwards, 2007), as knowledge hiding is damaging to organizations, as it creates negative spirals of retaliation (Černe et al., 2014). Therefore, there is the utmost need to understand, control and predict those factors that contribute to

knowledge hiding in the workplace.

Knowledge hiding is an intentional attempt by a person to withhold or conceal job-related knowledge from coworkers who ask for it (Connelly et al., 2012) and gains impetus if the knowledge hider possesses feelings of ownership of knowledge. Such a feeling of ownership towards knowledge, skills, and expertise relates to behavioral expression of his or her feelings of ownership towards a physical or social object (Brown, Lawrence, & Robinson, 2005). As such, the psychological ownership of knowledge results in territoriality in the workplace, which refers to job behaviors for creating, communicating, sustaining, and restoring territories around the knowledge, skills and expertise to which the coworker feels a proprietary attachment (Brown et al., 2005). Therefore, it is posited that the focal person's knowledge hiding behavior under the influence of territoriality will have a detrimental effect on his/her task performance and increase his/her workplace deviant behaviors. Task performance refers to an employee's effectiveness in completing his/her core job or role-based responsibilities (Conway, 1999; Motowidlo & Van Scotter, 1994), whereas workplace deviance refers to volitional acts by employees to potentially violate the legitimate interests of, or do harm to, an organization or its stakeholders (Sackett & DeVore, 2001).

The extant literature has emphasized interpersonal distrust (Černe et al., 2014; Connelly et al., 2012), knowledge sharing climate (Connelly et al., 2012; Pan & Zhang, 2014; Peng, 2013), prosocial motivation, perspective taking and time pressure (Skerlavaj et al., 2018), and territoriality (Peng, 2013) as possible predictors of

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knowledge hiding. On the other hand, experience of personal loss, frustration, and stress (Pierce, Kostova, & Dirks, 2003), loss of creativity (Černe et al., 2014), interpersonal distrust (Connelly et al., 2012) and harming interpersonal relationships (Connelly & Zweig, 2015) have been observed as consequences of knowledge hiding. However, it is noticeable that the past research has considered knowledge hiding either as an antecedent (Černe et al., 2014; Connelly et al., 2012; Connelly & Zweig, 2015; Skerlavaj et al., 2018) or outcome (Babic et al., 2017; Peng, 2013), rather than a mediator or moderator variable. Furthermore, past research on knowledge hiding was conducted in the context of dyadic interactions (Connelly et al., 2012; Connelly & Zweig, 2015), rather than at team level – either within or between teams in the organization.

It is proposed here that the territoriality in the workplace around knowledge, skills and expertise (Brown et al., 2005) lowers task performance and enhances the workplace deviance behaviors of knowledge hidiers. Knowledge hiding behaviors in the workplace are damaging to all – the knowledge hidiers, the coworkers, and the organizations. Babcock (2004) in a study found that knowledge hiding behaviors caused a total of \$31.5 billion annual losses across Fortune 500 firms. The fact of the matter is that the knowledge hiding behaviors are a widespread workplace phenomenon that damages transfer of knowledge (Connelly et al., 2012) and results in severe financial losses to organizations (Zhao, Xia, He, Sheard, & Wan, 2016). However, the extant literature depicts knowledge hiding as prevalent in service sector firms and that it weakens knowledge transfer (Connelly et al., 2012; Zhao et al., 2016); the antecedents and outcomes of knowledge hiding have not been extensively examined, though, and this study is an attempt to bridge the gap in the existing literature on knowledge hiding. In particular, this study attempts to contribute to the literature on knowledge hiding by focusing on employee interactions within teams in the banking and insurance industry (ie., service sector firms) in the context of emerging economies. In this study, I build on social exchange theory (Blau, 1964), psychological ownership theory (Pierce, Rubinfeld, & Morgan, 1991), and the norms of reciprocity (Gouldner, 1960) to argue that when person ‘A’ is denied knowledge by person ‘B’, person ‘B’ is likely to reciprocate by hiding knowledge from the initial knowledge hider (ie., person ‘A’). Therefore, I posit that coworkers develop a tendency to retaliate in a manner wherein they reciprocate by not providing required ideas, information, knowledge, and expertise to the initial knowledge hider (Černe et al., 2014), which results in poor task performance and increased workplace deviant behaviors of the latter.

This study aims to advance theory and influence managerial practice, as per the aims of Journal of Business Research, on why and how employees hide knowledge and how to arrest knowledge hiding at workplace. It will help leaders and practicing managers to apply the findings of this study to the actual business situations.

The paper has been arranged wherein the next section discusses theory and hypotheses formulations, Section 3 details the methods used in this study, followed by Section 4 wherein the obtained results are presented and in the Section 5 these results are discussed in light of previous studies. This paper also provides limitations and direction for future study in the final section.

2. Theory and hypotheses

Drawing upon social exchange theory (Blau, 1964), the norms of reciprocity (Gouldner, 1960) and psychological ownership theory (Pierce et al., 1991; Pierce, Kostova, & Dirks, 2001), this study examines how territoriality under direct and indirect influence of knowledge hiding affects task performance and workplace deviance in organizations. According to *social exchange theory*, coworkers develop relationships based on their experiences with others through the myriad of interpersonal transactions that take place in the workplace (Blau, 1964). Coworkers depend on one another where person A provides

information, knowledge, ideas, and expertise to person B, and this is reciprocated when the need arises. It is argued that social exchange relationships between coworkers facilitate knowledge sharing (Černe et al., 2014; Wang & Noe, 2010) and, in turn, enhance task performance and reduce workplace deviant behaviors. However, if the perpetrator hides knowledge from the target, there is a high probability that the perpetrator will not receive help and support from the target, and, in turn, the perpetrator's task performance suffers heavily and there is the likelihood of her/him indulging in workplace deviant behaviors. The resulting work atmosphere is due to the norms of reciprocity (Gouldner, 1960), as unspoken and tacit social exchange governs interactions between coworkers in the workplace (Blau, 1964).

The *norms of reciprocity* are both positive and negative, as it depends on the kinds of social interactions between coworkers (Gouldner, 1960). If person ‘A’ voluntarily and spontaneously provides information, knowledge and expertise to person ‘B’, person ‘A’ will implicitly invoke a similar reciprocal behavior in person ‘B’. Positive reciprocity results in enhanced task performance and reduced counterproductive work behaviors (Zhang, LePine, Buckman, & Wei, 2014), increased trusting relationships with coworkers, honesty and creativity (Černe et al., 2014; Settoon, Bennett, & Liden, 1996) of the focal person. It is quite natural that negative reciprocity is also available in organizational settings (Černe et al., 2014), especially when coworkers perceive negative behavior or misbehavior in social exchange relationships in the workplace. Therefore, the distrust towards the focal person in a dyad leads coworkers to reciprocate the behavior (Gouldner, 1960), as it simply makes the latter feel better. Therefore, if negative reciprocity has a long and painful history, coworkers will hide knowledge from one another, especially from those they distrust, and that leads to future intentions of withholding knowledge between coworkers (Connelly et al., 2012). I argue that the norms of negative reciprocity may thrive upon the recently proposed territoriality perspective, which helps explain why coworkers are inclined to control their relationships with others in organizational life (Brown & Robinson, 2007).

Territoriality is an underlying psychological mechanism which feeds into the norms of negative reciprocity and consequent counterproductive work behaviors. Territoriality is a kind of socio-behavioral representation (e.g. “it's mine, not yours”) of psychological ownership of knowledge that represents a cognitive phenomenon internal to an individual coworker (Brown et al., 2005). According to *psychological ownership theory*, coworkers develop ownership feeling over ideas, information, knowledge and expertise when they constantly control them, have invested much time or energy on acquiring them, and/or are familiar with them (Pierce et al., 1991; Pierce et al., 2001). Such a feeling of ownership, especially over intangible objects, results in high level of uncertainty and ambiguity, as there is a risk that others could claim ownership too (Pierce & Jussila, 2011). I argue that the territoriality perspective has received scant attention in organizational research, but territorial behaviors are present in all organizations (Brown, Crossley, & Robinson, 2013). Therefore, organization should possess effective human resource management practices to arrest these dysfunctional job behaviors and encourage value creation orientation in the organization (Budhwar, Pereira, Mellahi, & Singh, 2018; Ishizaka & Pereira, 2016; Malik, Pereira, & Budhwar, 2018; Malik, Pereira, & Tarba, 2017). As a result, I posit that in the context of knowledge management, with knowledge and information so intangible in terms of possession and ownership, territoriality is likely to occur and to result in knowledge hiding in organizational settings.

2.1. Territoriality and knowledge hiding

Territoriality as a concept originated with studies on animal beings. The concept, however, has significant relevance in an organizational context, as employees, too, exhibit feelings of territoriality and this affects several job-related behaviors of the self and others (Brown et al., 2005). I argue that territoriality is a key lens with roots in biology that

helps explain why coworkers engage in establishing, communicating, and controlling their relationships with significant others at workplace (Brown et al., 2005). The key outcomes of coworkers' territorial behaviors are *marking* - claiming and communicating a territory, and *defending* - protecting the territory against others (Brown, Pierce, & Crossley, 2013) and these in turn result in knowledge hiding behaviors. I contend that '*marking*' relates to public announcements of one's idea and '*defending*' describes the typical ways employees hold knowledge privately so as to prevent any territorial infringements (Peng, 2013).

Coworkers who are high on territoriality will have a high tendency to withhold knowledge from others (Peng, 2013) and that, in turn, reduces the creativity of the initial knowledge holder, as it leads to a reciprocal distrust loop, which leads to further knowledge hiding from others (Černe et al., 2014). Knowledge as a resource multiplies with its uses (Probst et al., 2002) and is deeply rooted in the knowledge management literature (Skerlavaj et al., 2018); whereas, knowledge hiding is damaging to organizations as it creates negative spirals of retaliation (Černe et al., 2014). I propose that coworkers engage in knowledge hiding with others to whom they distrust (Černe et al., 2014; Connelly et al., 2012) when there is the lack of a knowledge sharing climate in the organization (Connelly et al., 2012) and where coworkers possess the belief in creating and holding ideas, information, and knowledge to establish their own territories (Peng, 2013). As such, it is hypothesized that:

Hypothesis 1. Territoriality positively influences knowledge hiding.

2.2. Territoriality, task performance and workplace deviance

2.2.1. Territoriality and task performance

Territoriality has characteristics of being preventive (e.g. marking territory, use of psychological defense mechanisms to prevent infringement of one's own territory) that push coworkers to become preoccupied with objects of ownership at the expense of their task performance and pro-social behaviors (Avey, Avolio, Crossley, & Luthans, 2009). Individual employees experience territorial feelings and behavior over several relevant aspects of organizational life (Brown & Robinson, 2007). The territorial feelings of employees result in reciprocal distrust loops in coworkers, which lead to further knowledge hiding (Černe et al., 2014) and, as such, may lower the task performance of the focal person. Brown et al. (2005) note that in organizations where territoriality is deep-rooted and ubiquitous, coworkers may - for fear of infringing on another's territory - be unwilling to venture into certain areas, take on new assignments, or work together with particular coworkers. It is argued that coworkers' fixation with expressing and upholding proprietary claims may lower their focus on task performance (Brown et al., 2005), and this, as a result, adversely affects their task performance. Furthermore, the feelings of territoriality cause coworkers to remain preoccupied with communicating and maintaining their proprietary claims on knowledge, skills, expertise, etc., and resultantly diminished focus on task performance and attainment of organizational goals (Brown et al., 2005). The feelings of psychological ownership and resultant territorial behaviors at work augment the degree to which coworkers are isolated from each other (Pierce, Jussila, & Cummings, 2009) to an extent that no helping relationships, cooperation and collaboration amongst them are forthcoming, thereby negatively affecting their task performance. Therefore, I hypothesize that:

Hypothesis 2. Territoriality negatively influences task performance.

2.2.2. Territoriality and workplace deviance

Workplace deviance refers to "voluntary behavior that violates significant organizational norms and in so doing threatens the well-being of an organization, its members, or both" (Robinson & Bennett, 1995, p. 556). Such a kind of workplace deviance results in explicit acts

of employees' aggression and theft, and expresses in more subtle and passive actions, namely purposefully failing to complete the assigned tasks, casually following job-related instructions, and wrongly performing work (Chirumbolo, 2015). Workplace deviance is harmful to an organization, as it affects its functioning or property, or hurts coworkers in a manner that reduces their effectiveness (Fox, Spector, & Miles, 2001). The extant literature suggests that workplace deviance - individual and organizational deviance - is a largely pervasive and expensive problem in organizations (Bennett & Robinson, 2000; Shelly, Bennett, & Budden, 2018) and relates negatively to organizational commitment (Mulki, Jaramillo, & Locander, 2006), perceived organizational support and job satisfaction (Hsieh & Wang, 2016). Therefore, I argue that employees' workplace deviances are negative job behaviors that they perform intentionally with the explicit purpose to harm their organization or coworkers (Spector & Fox, 2005) and result in organizational outcomes such as economic losses (Bennett & Robinson, 2000), and for coworkers, they cause strain, anxiety, and burnout (Bowling & Beehr, 2006).

Organizational deviance refers to those sets of deviant behaviors directed at an organization or its systems, such as taking longer breaks, leaving work early without permission and putting little effort into work (Liao, Joshi, & Chuang, 2004). Interpersonal deviance is a kind of deviant behavior aimed at coworkers in the organization, such as cursing someone at work, acting rudely towards co-workers and playing a mean prank on others at work (Bennett & Robinson, 2000). Furthermore, I argue that employee territorial behaviors which result in *marking* - claiming and communicating a territory, and *defending* - protecting the territory against coworkers (Brown, Crossley, & Robinson, 2013) are likely to adversely affect trust and collaborative relationships amongst the coworkers and that, in turn, pushes the 'focal person' to exhibit deviant job behaviors. Therefore, it is posited that employees' territorial feelings over their own ideas, information and knowledge result in knowledge hiding (Peng, 2013) by the 'initiator' who, in turn, will not receive necessary help and support from the 'recipients' due to 'norms of negative reciprocity' (Gouldner, 1960), and that, in turn, leads the 'initiator' to engage in interpersonal and organizational deviant job behaviors. As such, I propose that:

Hypothesis 3. Territoriality positively influences interpersonal deviance.

Hypothesis 4. Territoriality positively influences organizational deviance.

2.3. Knowledge hiding, task performance and workplace deviance

Many coworkers tend not to share all their knowledge (Cress, Kimmerle, & Hesse, 2006) but they engage in knowledge hiding - to withhold or conceal knowledge requested by colleagues in the organization (Connelly et al., 2012). Therefore, organizations need to install systems and processes, namely reward systems (Brock, Zmud, Kim, & Lee, 2005), reinforcing interpersonal relationships (Jarvenpaa & Majchrzak, 2008; Kuvaas, Buch, & Dysvik, 2012), knowledge-oriented leadership (Donate & Sánchez de Pablo, 2015) and organizational culture (Gonzalez & Massaroli de Melo, 2018; Zheng, Yang, & McLean, 2010) to encourage coworkers to share knowledge. I posit that coworkers hide knowledge from colleagues whom they distrust, but the mode of knowledge hiding behavior depends upon their perceptions of the context (Connelly et al., 2012).

The literature suggests that knowledge hiding is pushed by instrumental or anti-social drivers, whereas prosocial motivation largely leads to knowledge sharing (Connelly & Zweig, 2015). Connelly and Zweig (2015) suggest that, as counterproductive work behaviors are different from organizational citizenship behaviors, knowledge hiding and knowledge sharing behaviors are distinctly different. As such, knowledge hiding results in undesired organizational consequences

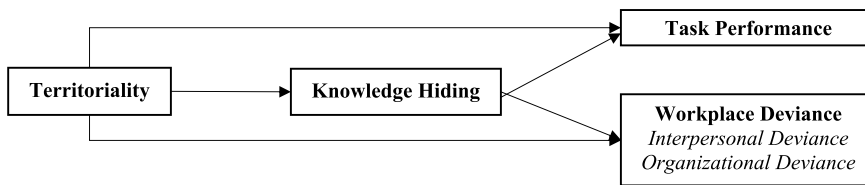


Fig. 1. Hypothesized research framework.

wherein coworkers develop a reciprocal distrust loop vis-à-vis the knowledge hider and this results in diminishing the creativity of the knowledge hider (Černe et al., 2014) and adversely affects the task performance of the knowledge hider. The extant literature has a plethora of evidence for reasons behind coworkers engaging in knowledge hiding, but the literature exploring the consequences of knowledge hiding behavior is scant (Connelly & Zweig, 2015). Furthermore, since the perspective of ‘perpetrator’ and ‘target’ of knowledge hiding are different, they perceive differently the act of knowledge hiding (Connelly & Zweig, 2015), as the actors and the observers possess and use different attributions to knowledge hiding behaviors (Gordon & Miller, 2000).

I argue that for negative events, the target offers internal attributions rather than the external attributions of the perpetrators, whereas for positive events, the perpetrators offer greater internal-external preponderance than the targets (Malle, 2006). Therefore, it is posited that whenever the actor's behaviors have negative valences, the actor-target attributional differences become more noticeable due to self-serving biases (Malle, 2006) and that, in turn, affects task performance and workplace deviant behaviors of actors who fail to receive the required help, support, and trusting relationships from coworkers. As such, I hypothesize that:

Hypothesis 5. Knowledge hiding negatively influences task performance.

Hypothesis 6. Knowledge hiding positively influences interpersonal deviance.

Hypothesis 7. Knowledge hiding positively influences organizational deviance.

2.4. Territoriality, task performance and workplace deviance: The mediating role of knowledge hiding

Employees tend to withhold and hide knowledge when they have strong feelings of psychological ownership (Pierce et al., 2001, 2003) over knowledge which pushes employees to believe their knowledge is their personal property and are motivated to hide and/or to defend their territory (Peng, 2013). Brown et al. (2005) refer to territoriality as a socio-behavioral representation (e.g. “it's mine, not yours”) of psychological ownership of ideas, information, and knowledge; and I argue that the actor with feelings of territoriality will engage in counter-productive work behaviors - interpersonal and organizational deviant behaviors – and lower task performance due to non-cooperation from the coworkers.

The extant research suggests that knowledge hiding evokes distrusts amongst the targets of the knowledge hiding and the latter reciprocate the same behaviors towards the perpetrators of knowledge hiding (Černe et al., 2014; Connelly et al., 2012). The literature depicts several consequences of knowledge hiding in organizations, namely reciprocal behavior (Černe et al., 2014), territoriality (Peng, 2013), and damage to social relationships (Connelly & Zweig, 2015). Knowledge hiding behaviors have also been reported to reduce individual and organizational performance (Connelly et al., 2012), damage interpersonal relationships amongst coworkers (Connelly et al., 2012), increase workplace deviance (LeBlanc & Kelloway, 2002) and reduce employee creativity (Rhee & Choi, 2018). Furthermore, the consequences of knowledge

hiding are severe as well as disappointing, and result in different negative outcomes (Connelly et al., 2012; Peng, 2013). Knowledge hiding results in wasting organizational resources (Sanchez & Mahoney, 1996), reducing co-workers' motivation and their commitment (Černe et al., 2014), having a spillover negative effect on organizations' key stakeholders (Hui & Jha, 2000), a reduction in organizational innovation and creativity (Breschi & Lissoni, 2001), and that, in turn, damages overall organizational performance and profitability.

While drawing on social exchange theory, I argue that knowledge hiders encounter uncooperative behaviors from coworkers, as the latter believe in self-interest and cost-benefit analysis (Blau, 1964). Therefore, I posit that when coworkers perceive and interpret knowledge hiding from the ‘actor’ as self-serving and uncooperative, the former may display a kind of social sanction, namely marginalization and withdrawal of respect for the knowledge hiders (Dyer & Chu, 2000). This kind of coworker social sanction hinders required help, support and cooperation with the knowledge hiders, and that, in turn, affects task performance negatively but positively affects the workplace deviance of knowledge hiders. Therefore, I propose that:

Hypothesis 8. Knowledge hiding mediates the relationship between territoriality and task performance.

Hypothesis 9. Knowledge hiding mediates the relationship between territoriality and interpersonal deviance.

Hypothesis 10. Knowledge hiding mediates the relationship between territoriality and organizational deviance.

Fig. 1 depicts the hypothesized research framework of this study.

3. Methods

3.1. Sample and procedures

I collected data from 198 triads – the team leader (ie. the perpetrator), the perpetrator's supervisor and the perpetrator's subordinate (ie. the target) – from banking and insurance organizations in the United Arab Emirates (UAE). It is important to mention that the UAE has been moving away from an oil-based economy to a non-oil economy, wherein the banking and insurance sector has received considerable governmental attention, as it helps contribute significantly to the UAE's gross domestic product (GDP). The perpetrator, the supervisor of the perpetrator and the target worked on a daily basis reporting relationships for at least one year (Mean = 2.35 and SD = 0.85) preceding data collection. In order to avoid common method bias, I collected data using three separate questionnaires: one for the perpetrator, one for perpetrator's supervisor, and one for perpetrator's immediate subordinate (ie. the target). The perpetrator gave responses to the questionnaire for ‘territoriality’, the target filled in for the ‘knowledge hiding’ behavior of the perpetrator, and the perpetrator's supervisor gave responses to the questionnaires on the ‘task performance’ and ‘workplace deviance’ of the perpetrator. I developed questionnaires in English, used translation-back translation procedure (Brislin, 1986), translated into Arabic and back to English to ensure the clarity of content in the measuring instruments.

The data collection involved two stages. In the first stage, I sent out participation request letters, along with a summary of the proposed research, to the human resources (HR) managers of 60 medium and

large banking and insurance organizations in the UAE. I got permission from 38 organizations to go ahead with data collection, provided the triads – the perpetrator, the perpetrator's supervisor, and the perpetrator's immediate subordinate – voluntarily agreed to participate in this study. In the second stage, I contacted these three sets of employees and requested them to participate in the study. I received voluntary consent from 300 triads to participate and 214 sets of responses were received. However, I found 198 sets of responses to be usable in this study; and the second stage lasted over five months.

The team sizes ranged from four to six members (Mean = 4.98, SD = 0.95), including the perpetrator, the perpetrator's immediate supervisor, and the immediate subordinate of the perpetrator. The selection of the immediate subordinate of the perpetrator to be included in this study was a difficult choice to make, especially in some of the teams where two or more subordinates were willing to participate in this study. Therefore, in such situations, the perpetrator's immediate subordinates who worked with the perpetrator in the team for the longer period of time were selected. The perpetrator consisted of 122 males and 76 females whose combined average age was 31.85 years and 64.2% of them had a minimum graduate level of education. The perpetrators' supervisors consisted of 102 males and 96 females with average age of 39.6 and 62.8% had a minimum graduate level of education. On the other hand, the perpetrator's immediate subordinates (ie. the targets) consisted of 108 males and 90 females whose average age was 29.8 years and 91.2% of them had a minimum graduation level of education. The average organizational tenure of the perpetrators was 2.9 years, whereas that of perpetrators' immediate subordinates and the perpetrators' supervisors was 2.3 years and 4.3 years respectively. The perpetrators and the targets were expatriates, whereas the supervisors were all UAE nationals.

3.2. Measures

I used measuring instruments from past studies and the response scale for all items (see appendix 1) ranged from 1 (“strongly disagree”) to 7 (“strongly agree”) on a Likert scale.

Territoriality scale consisted of four items adapted from Avey et al. (2009) and Peng (2013). The sample items included “guarding knowledge from others” and “protecting ideas from being used by others at workplace”. The Cronbach's alpha α was 0.904.

Knowledge hiding instrument was adapted from Peng (2012) and consisted of three items. The sample items included “withholding helpful knowledge” and “hiding innovative ideas from others at workplace”. The Cronbach's alpha was 0.953.

Task performance scale had five items adapted from Kraimer and Wayne (2004). The sample items included “my subordinate meets performance standards to organizational level of expectations”, and “I am happy with my subordinate's technical competence”. The Cronbach's alpha calculated for the scale was 0.975.

Interpersonal deviance instrument had six items adapted from Bennett and Robinson (2000). The sample items included “making fun of colleagues at workplace” and “playing pranks on colleagues at workplace”. The Cronbach's alpha was 0.973.

Organizational deviance had six items adapted from Bennett and Robinson (2000). The sample items included “putting little efforts on assigned tasks” and “intentionally working slower on assigned tasks”. The Cronbach's alpha was 0.951.

Control variables. Based on previous studies, I controlled for age (e.g. Marcus & Schuler, 2004; Peng, 2013), gender (e.g. Hershcovis et al., 2007; Peng, 2013) where female and male were coded for 0 and 1 respectively, and organizational tenure (e.g. Peng, 2013; Wang & Noe, 2010) of the perpetrator (ie. the knowledge hider) on territoriality and knowledge hiding.

3.3. Analysis

After the data collection and before proceeding with tests of confirmatory factor analysis (CFA) and structural equation modeling (SEM) to test the hypotheses, the collected data was tested for non-response bias. Here, the early respondents' responses (ie. those who returned filled-in questionnaires in the first two weeks after the survey questionnaires were distributed for their response) were compared with those of the late respondents (ie. those who responded and returned the questionnaires after 4–5 weeks after several reminders). Here, the underlying assumption was that the opinions of late respondents represented that of the opinions of the theoretical non-respondents (Rogelberg & Stanton, 2007). The *t*-test suggested that there was no significant difference between the two groups of respondents on each of the items in the questionnaire. As a result, the non-response bias was not a problem in this study. Furthermore, the study did not have the problem of any retrospective biases, as the items included in the questionnaire were not focused on hearsay but on the activities, events and outcomes on the perceptions of the respondents, which helped reduce the potential, if any, for retrospective bias in this study.

To observe factor structure of focal variables, I conducted multilevel confirmatory factor analysis (CFA) using AMOS 24 with maximum-likelihood estimation procedures. The expected five-factor solution (territoriality, knowledge hiding, task performance, individual deviance and organizational deviance) displayed adequate fit with the data ($\chi^2/df = 1.568$, $p < 0.001$; TLI = 0.969; CFI = 0.973; SRMR = 0.04; RMSEA = 0.054, $p < 0.240$). Table 2 shows that the factor loadings ranged from 0.823–0.852 for the territoriality items, 0.915–0.968 for the knowledge hiding items, 0.930–0.970 for the task performance items, 0.878–0.959 for the individual deviance items, and 0.824–0.931 for the organizational deviance items. Therefore, the results suggest that these factors – territoriality, knowledge hiding, task performance, individual deviance and organizational deviance – measured unique constructs.

I also tested for convergent and divergent validity as measures of the construct validity where items should load on the intended constructs with standardized loadings > 0.5 , scale composite reliability (SCR) > 0.7 , and average variance extracted (AVE) > 0.5 (Fornell & Larcker, 1981; Hair, Black, Babin, Anderson, & Tatham, 2006). Table 1 shows that these five measuring instruments have high convergent validity (Chin, 1998; Chin & Todd, 1995; Fornell & Larcker, 1981; Hair et al., 2006), as standardized loading of item on intended construct was in the range of ≥ 0.823 with SCR ≥ 0.904 , AVE ≥ 0.701 . All these indicate that the observed items explain more variance than the error terms and consequently indicate the unidimensionality of the measurement scale (Fornell & Larcker, 1981). Thereafter, I tested for the discriminant validity of the constructs and found that the standardized loading for each of the items of a measuring instrument was ≥ 0.823 and the square root of the AVE was larger than the correlations between the constructs and other constructs of the study. Appendix 1 illustrates results for testing for convergent and discriminant validity and all the constructs have sound convergent and discriminant validity.

I conducted structural equation modeling (SEM) to test empirically all the hypotheses of the study as per Baron and Kenny (1986). Baron and Kenny (1986) suggest that four conditions are necessary for running the mediation analysis, namely a) the independent variables must be significantly associated with the mediator variable, b) the independent variable must be significantly associated with the dependent variable, c) the mediator variable and the dependent variable must be significantly associated, and d) the relation between the independent and the dependent variables should be non-significant or weaker when the mediator variable is entered. This study satisfied all four of Baron and Kenny's (1986) conditions to run mediation analysis. Thereafter, I tested for mediation hypotheses using Preacher, Rucker, and Hayes (2007) bootstrapping approach.

Table 1
Means, standard deviations, and correlations[#].

	Mean	SD	1	2	3	4	5	6	7	8
1 Age	31.85	5.28	–							
2 Gender	0.61	0.48	0.304**	–						
3 Organizational tenure	3.95	1.70	0.381**	0.315**	–					
4 Territoriality	5.15	0.92	0.083	–0.081	0.132	(0.837)				
5 Knowledge hiding	5.10	1.09	0.098	–0.010	0.055	0.230**	(0.934)			
6 Task performance	3.44	1.07	–0.040	–0.100	–0.023	–0.173*	–0.201**	(0.934)		
7 Interpersonal deviance	4.91	1.06	0.033	0.032	0.012	0.174*	0.203**	–0.169*	(0.918)	
8 Organizational deviance	4.52	1.01	0.106	0.037	0.109	0.182*	0.192**	–0.172*	0.239*	(0.876)

[#] Square root of the average variance extracted are on the diagonal parentheses and in bold & bracket.

* $p < 0.05$.

** $p < 0.001$.

4. Results

4.1. Descriptive statistics, validity and reliability

Table 1 presents descriptive statistics and correlations for all the constructs in the study. Results shows that age, gender and work experience of supervisors did not relate significantly to job outcomes of focal persons' task performance and counter productive work behaviors – individual and organizational deviance. Table 1 also depicts average variance extracted (AVE), scale composite reliability (SCR), Cronbach's alpha for each of the variables in the study and the square root of AVE (in bold and in a diagonal line). All these indicators suggest convergent and divergent validity of the constructs of the study as per the recommendation of Fornell and Larcker (1981). Appendix 1 provides a list of measures of all the constructs of the study and related statistics for convergent and divergent validity.

4.2. Tests for direct impact

Table 2 provides results for hypothesized direct impact of the independent variables on the mediator and outcome variables. It also depicts hypothesized direct impact of the mediator variable on the outcome variables in the study. The results show that territoriality significantly encourages knowledge hiding (H1: $\beta = 0.261$; $t = 3.466$, $p < 0.001$), lowers task performance (H2: $\beta = -0.224$; $t = -3.102$, $p < 0.002$), increases interpersonal deviance (H3: $\beta = 0.196$; $t = 2.981$, $p < 0.006$), and enhances organizational deviance (H4: $\beta = 0.203$; $t = 2.998$, $p < 0.005$).

Table 2 also provides results for the influence of knowledge hiding (ie. the mediator) on the dependent variables, namely task performance, interpersonal deviance and organizational deviance. The results show that knowledge hiding significantly lowers task performance (H5: $\beta = -0.208$; $t = 2.876$, $p < 0.004$), encourages interpersonal deviance (H6: $\beta = 0.205$; $t = 2.828$, $p < 0.005$) and increases organizational deviance (H7: $\beta = 0.219$; $t = 2.997$, $p < 0.003$). Overall, I found that the proposed hypotheses of my study, namely H1, H2, H3,

Table 2
Hypothesis testing for direct impact.

Impact	Standardized direct effect	Standard error	t value	Sig. level	Hypothesis testing
KH←TT	0.261	0.087	3.466	$p < 0.001$	H1 Supported
TP←TT	–0.224	0.072	3.102	$p < 0.002$	H2 Supported
ID←TT	0.196	0.066	2.981	$p < 0.006$	H3 Supported
OD←TT	0.203	0.068	2.998	$p < 0.005$	H4 Supported
TP←KH	–0.208	0.076	–2.876	$p < 0.004$	H5 Supported
ID←KH	0.205	0.075	2.828	$p < 0.005$	H6 Supported
OD←KH	0.219	0.129	2.997	$p < 0.003$	H7 Supported

(Wherein, TT = Territoriality, KH = Knowledge Hiding, ID = Individual Deviance, OD = Organizational Deviance.

Table 3
Hypothesis testing for indirect impact.

Impact	Standardized indirect effect	Sig. level	Hypothesis testing
TP←KH←TT	–0.054	$p < 0.003$	H8 is Accepted
ID←KH←TT	0.054	$p < 0.003$	H9 is Accepted
OD←KH←TT	0.057	$p < 0.004$	H10 is Accepted

(Wherein, TT = Territoriality, KH = Knowledge Hiding, ID = Individual Deviance, OD = Organizational Deviance)

H4, H5, H6 and H7 are supported.

4.3. Tests for indirect impact

Preacher et al. (2007) suggestions were followed for using the bootstrapping approach for mediation analysis in this study. Table 3 provides results for the hypothesized indirect effect of the mediating variable (ie. knowledge hiding) on linkages between independent (ie. territoriality) and dependent variables (ie. interpersonal and organizational deviance). The results indicate that knowledge hiding indirectly and significantly mediates the relationship of territoriality with task performance (H8: $\beta = -0.054$, $p < 0.003$). On the other hand, the results depict that knowledge hiding positively and significantly mediates the relationship of territoriality with interpersonal deviance (H9: $\beta = 0.054$, $p < 0.003$) and organizational deviance (H10: $\beta = 0.057$, $p < 0.004$). Therefore, I find support for hypotheses H8, H9, and H10.

5. Discussion

Drawing on the social exchange theory (Blau, 1964), the psychological ownership theory (Pierce et al., 1991) and the norms of reciprocity (Gouldner, 1960), it is argued that when ‘the perpetrator’ denies relevant work-related ideas, information and knowledge to ‘the target’, the latter reciprocates with a non-cooperative attitude and conceals relevant knowledge from the former – ‘tit for tat’. As a result, I posit that a distrust loop develops between the perpetrator and the target – the knowledge hider and the knowledge seeker respectively - that adversely affects productivity and performance in the workplace (Černe et al., 2014). Such working relationships adversely affect the task performance of the perpetrator who also displays workplace deviant behaviors and this study supported the above. The results of this study are in sync with previous studies that the perpetrator's territorial behaviors negatively affect task performance (e.g. Brown et al., 2005; Černe et al., 2014; Pierce et al., 2009) but positively influence knowledge hiding (Černe et al., 2014; Connelly et al., 2012; Peng, 2013) and workplace deviant behaviors (Brown, Crossley, & Robinson, 2013; Brown, Pierce, & Crossley, 2013; Peng, 2013). On the other hand, my study suggests that knowledge hiding significantly mediates the influence of territoriality on task performance and workplace deviant behaviors (Connelly et al., 2012; LeBlanc & Kelloway, 2002; Rhee & Choi, 2018).

5.1. Theoretical contributions

The extant literature depicts how organizations install systems and processes, namely reward systems (Bock et al., 2005), reinforcing interpersonal relationships (Jarvenpaa & Majchrzak, 2008; Kuvaas et al., 2012), knowledge-oriented leadership (Donate & Sánchez de Pablo, 2015) and organizational culture (Gonzalez & Massaroli de Melo, 2018; Zheng et al., 2010) to encourage coworkers to share knowledge. Despite that, knowledge hiding is evident in organizations (Connelly et al., 2012) and studies on the consequences of knowledge hiding behavior are scant (Černe et al., 2014; Connelly & Zweig, 2015; Skerlavaj et al., 2018), which calls for rigorous research.

The first theoretical contribution of this study is that psychological ownership is bidirectional, as it turns out to be both positive and negative. Similarly, Constant, Kiesler, and Sproull (1994), and Jarvenpaa and Staples (2000, 2001) observe that psychological ownership positively affects knowledge sharing. These divergent findings in past studies suggest that what causes psychological ownership to turn out negative in one context and positive in another remains inconclusive. However, this study supports the findings of several other studies where psychological ownership encourages knowledge hiding (Peng, 2013; Pierce et al., 2003) and adversely affects performance (Černe et al., 2014; Skerlavaj et al., 2018) but increases workplace deviant behaviors (Chirumbolo, 2015; Connelly & Zweig, 2015).

This study's second theoretical contribution to the knowledge hiding literature is to establish the existence of a mediation model of knowledge hiding to provide a basic and solid foundation for future inquiry about knowledge hiding, as I posit that employees withhold and hide knowledge when they have strong feelings of psychological ownership over knowledge (Pierce et al., 2001, 2003) and treat their knowledge as personal property and are motivated to hide and/or to defend their territory (Peng, 2013). Drawing on social exchange theory (Blau, 1964), norms of reciprocity (Gouldner, 1960), and psychological ownership theory (Pierce et al., 2001), my study empirically suggests that knowledge hiding mediates between territorial behavior (e.g. Brown & Robinson, 2007) of the perpetrator, and his/her task performance and workplace deviant behaviors. Furthermore, this study calls for investigating the mediation role of knowledge hiding, as the theory and recent research on knowledge hiding emphasizes the importance of studying it as either antecedent (Černe et al., 2014; Connelly et al., 2012; Connelly & Zweig, 2015; Skerlavaj et al., 2018) or outcome (Babic et al., 2017; Peng, 2013) rather than either as mediator or moderator variable.

The third theoretical contribution of this study is to advance research on task performance (Bozionelos & Singh, 2017; Černe et al., 2014; van Woerkom & Sanders, 2010) and workplace deviant behaviors (Bennett & Robinson, 2000; Hershcovis et al., 2007; Shelly et al., 2018) where the former is beneficial to an organization; and the latter is an expensive problem to an organization. Mueller and Kamdar (2011) show how seeking help from coworkers increases performance on creative tasks, whereas the studies of Černe et al. (2014) and Skerlavaj et al. (2018) suggest that knowledge hiding reduces employee performance on creative tasks in the organization. In addition, workplace deviance (i.e. interpersonal and organizational deviance) is pervasive and an expensive problem in an organization (Bennett & Robinson, 2000; Shelly et al., 2018), and this study suggests that employees' territorial and knowledge hiding behaviors aggravate counterproductive work behaviors. Therefore, the findings of this study advance recent research by suggesting that territoriality and knowledge hiding behaviors should be arrested as they lower task performance and enhance counterproductive work behaviors of the employees in an organization.

However, I note that previous studies as aforementioned have focused on help seeking and giving amongst the coworkers in a workplace, while this study examined how territoriality either directly or through a mediating role of knowledge hiding affects task performance and workplace deviance in a team situation. Therefore, the concepts

that were examined in this study are not exactly the same; however, it adds significantly to the existing research on understanding, predicting and controlling knowledge hiding in organizations.

5.2. Practical implications

The dynamic business environment calls for leveraging prosocial behaviors (Bozionelos & Singh, 2017; Mueller & Kamdar, 2011; Pereira, Malik, & Sharma, 2017) and arresting territorial and knowledge hiding behaviors (Černe et al., 2014; Peng, 2013; Skerlavaj et al., 2018) to enhance coworkers performance and reduce counterproductive work behavior in the organization. The findings of this study indicate how territoriality and knowledge hiding negatively influence knowledge hiders' task performance and positively influence their workplace deviant behaviors. Leaders and managers need to be aware of the fact that territoriality of knowledge and resultant knowledge hiding by the knowledge hider results in a reciprocal distrust loop in coworkers and leads to further knowledge hiding. Therefore, understanding how and when territoriality and knowledge hiding behaviors affect task performance and workplace deviance has practical implications. The present study offers three key practical implications for encouraging prosocial and arresting anti-social employees' behaviors in the workplace.

First, the study found that employees' territorial behaviors positively influence knowledge hiding. Therefore, it is suggested that organizations can reduce knowledge hiding (Connelly et al., 2012; Connelly & Zweig, 2015) by curtailing employees' territorial behaviors – *marking* and *defending* (Brown, Crossley, & Robinson, 2013; Brown, Pierce, & Crossley, 2013) - through co-ownership of knowledge, team focused performance appraisal and reward systems. Changing the layout of an office by demolishing physical walls (whether half or fully covered offices), along with leadership and organizational culture that encourages employees to spend time together either in the cafeteria or in common meeting rooms can go a long way to reducing employees' territorial job behaviors and knowledge hiding.

Second, this study depicts territoriality as negatively associated with task performance and positively associated with workplace deviance. This happens as the focal employee's territorial job behavior generates and sustains a reciprocal distrust loop in coworkers that leads to further knowledge hiding and leads to lower task performance, but enhances the workplace deviance of the focal person. Therefore, it is suggested that organizations engage resources to analyze and design/re-design each job in a manner that calls for interdependency rather than interdependency or dependency at workplace. As jobs become interdependent across departments/divisions in the organization, employees will self-unlearn territorial *marking* and *defending* (Brown, Crossley, & Robinson, 2013; Brown, Pierce, & Crossley, 2013) and learn collaborative and cooperative job attitudes, which, in turn, enhance their task performance.

Third, it was found that knowledge hiding is negatively associated with task performance but positively associated with workplace deviance of the knowledge hider. As a result, it is suggested that organizations should design and install human resource (HR) processes and systems to recruit and select prospective employees who are low on neuroticism (Anaza & Nolwin, 2017; Oseghale, Malik, Nyuur, Pereira, & Ellis, 2018) but high on agreeableness (Wang, Noe, & Wang, 2014) and conscientiousness (Colbert, Mount, Harter, Witt, & Barrick, 2004) personality traits, which reduce knowledge hiding, workplace deviance and enhance employee task performance. Therefore, I suggest that organizations should avoid juggling amongst '*make-a-talent*', '*buy-a-talent*', or '*make-buy-a-talent*' HR selection strategies to choose from but to go for '*buy-a-talent*' as an HR selection strategy. The '*buy-a-talent*' HR selection strategy will provide managers and leaders with prospective colleagues who come with functional personality traits that reduce knowledge hiding and workplace avoidance and augment task performance.

6. Limitations and suggestions for future research

Though this study has several theoretical and practical implications, it is not without limitations. First, like several past studies (Černe et al., 2014; Peng, 2013; Skerlavaj et al., 2018), this study does not differentiate between tacit and explicit knowledge hiding and their linkage with antecedent and outcome variables. However, I know that tacit rather than explicit knowledge is difficult to formalize and share (Nonaka, 1994; Szulanski, 1996) but easier to hide from colleagues (Peng, 2013). Therefore, I suggest that future research should extend this work to examine how tacit and explicit knowledge hiding differentiate amongst themselves to impact on task performance and workplace deviance.

Second, in order to avoid common method bias, I collected data using three separate questionnaires: the perpetrator gave response to the questionnaire for 'territoriality', the target filled-in for the 'knowledge hiding' behavior of the perpetrator, and the perpetrator's supervisor responded to questionnaires on the 'task performance' and 'workplace deviance' of the perpetrator. Data collection using survey questionnaires has its own advantages but future research should extend this present work using experimental design to validate the findings of this study.

Finally, it was found that considerable research needs to be carried out to understand why and when people hide knowledge in the workplace. Therefore, I suggest that future research should extend my work by including team and organizational level variables to predict

knowledge hiding of both the perpetrator and the target.

7. Conclusion

Human tendency is such that sometimes employees withhold knowledge from coworkers, which generates and sustains reciprocal distrust loops in the workplace. Knowledge hidiers themselves become great losers by withholding information from their coworkers, as the latter retaliate and reciprocate by hiding knowledge from the initial knowledge hidiers through interpersonal distrust loops. As such, knowledge hiding lowers task performance and augments counter-productive work behaviors – in either case, knowledge hiding is an expensive proposition for organizations. Knowledge hiding and its outcomes threaten the well-being of an organization, its members, or both; and requires timely actions from managers and/or leaders to arrest these organizational malaises. Organizations need to reduce knowledge hiding behavior by dismantling employees' psychological ownership of knowledge through sustained use of team culture and supporting HR practices.

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Appendix 1. Convergent and divergent validity of measuring instruments

Construct	Measuring items	Std. loading	Variance	Error	Key construct validity properties
Territoriality	I protect my ideas from being used by others in my organization. (TT1)	0.827	0.684	0.316	Cronbach Alpha = 0.904 SCR = 0.904 AVE = 0.701
	People who work with me should not use my ideas without my permission. (TT2)	0.823	0.677	0.323	
	I guard my knowledge from others at workplace. (TT3)	0.852	0.726	0.274	
Knowledge hiding	I ask colleagues not to use information, ideas, and knowledge that are mine. (TT4)	0.847	0.717	0.283	Cronbach Alpha = 0.953 SCR = 0.954 AVE = 0.873
	My supervisor withholds helpful knowledge from me. (KH1)	0.915	0.837	0.163	
	My supervisor hides innovative ideas from me. (KH2)	0.919	0.845	0.155	
Task performance	My supervisor does not transform personal knowledge into organizational knowledge. (KH3)	0.968	0.937	0.063	Cronbach Alpha = 0.975 SCR = 0.974 AVE = 0.883
	My subordinate meets job objectives well. (TP1)	0.935	0.874	0.126	
	I am happy with my subordinate's overall job performance. (TP2)	0.936	0.876	0.124	
Interpersonal deviance	My subordinate meets performance standards to organizational level of expectations. (TP3)	0.930	0.865	0.135	Cronbach Alpha = 0.973 SCR = 0.970 AVE = 0.842
	I am happy with subordinate's technical competences. (TP4)	0.928	0.861	0.139	
	My subordinate always meets specific job responsibilities. (TP5)	0.970	0.941	0.059	
	S/he makes fun of others at work. (ID1)	0.919	0.845	0.155	
	S/he speaks in a manner to hurt colleagues at work. (ID2)	0.894	0.799	0.201	
	S/he has tendency to curse colleagues at work. (ID3)	0.878	0.771	0.229	
Organizational deviance	S/he plays a mean prank on colleagues at work. (ID4)	0.889	0.790	0.210	Cronbach Alpha = 0.951 SCR = 0.952 AVE = 0.875
	S/he acts rudely towards colleagues at work. (ID5)	0.959	0.920	0.080	
	S/he publicly embarrasses colleagues at work. (ID6)	0.964	0.929	0.070	
	S/he prefers taking additional or a longer break than acceptable in my organization. (OD1)	0.824	0.679	0.321	
	S/he comes in late to work without permission. (OD2)	0.840	0.706	0.294	
	S/he neglects to follow my instructions though I am her/his boss. (OD3)	0.910	0.828	0.172	
	S/he intentionally works slower on assigned tasks. (OD4)	0.931	0.867	0.133	
	S/he prefers to leave for home early from work without permission. (OD5)	0.853	0.728	0.272	
	S/he puts little effort into assigned work. (OD6)	0.824	0.679	0.321	

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