The dirty side of money: How extrinsic incentives jeopardize knowledge sharing

THE DIRTY SIDE OF MONEY: HOW EXTRINSIC INCENTIVES JEOPARDIZE KNOWLEDGE SHARING

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INTRODUCTION

A long tradition supports the notion that knowledge sharing is a critical determinant for organizations' success. By sharing their ideas and know-how, employees can significantly contribute to their own creativity (e.g., Perry-Smith 2006), fasten the development of new products (Mesmer-Magnus & DeChurch 2009), and strengthen a mutual learning (Lin 2007).

As a response to the need for knowledge sharing enhancement, most organizations have adopted organizational forms likely to foster the development and generation of knowledge assets (Daft & Lewin 1993). Following this, scholars have proposed the notion of 'new organizational forms', which identifies firms adopting new ways of structuring their boundaries and their internal organization (Foss 2002), characterized by lateral integration mechanisms which foster horizontal communication and overcome the barriers within the organization. Moreover, given that jobs have become increasingly knowledge-intensive (Cross & Cummings 2004), the strategic value of workers relies no longer in the organizations' ability to manage their knowledge, rather on their ability to manage the owners of that knowledge. Therefore, successful knowledge management strategies are those that strongly account for individual's knowledge sharing behavior, and what motivates such behavior. In this regard, organizations should be aware that different types of motivation simultaneously influence each other (i.e., the motivation crowding effect, Osterloh et al. 2001) shaping how people behave.

In this paper, we examine employees' knowledge sharing by considering the influence of both the organizations' structural elements and the individuals' motivation crowding effect. In particular, building on the dynamics of motivation in new organizational forms (Osterloh et al. 2002), we aim to address the following two research questions: *1) How does individual-level motivation - in the form of crowding effect - influence intra-organizational knowledge sharing behaviours?; and 2) What is the impact of extrinsic rewards on employees' knowledge sharing behaviours when organizational integrative mechanisms are in place?*. To answer these questions, we analyze survey data from 754 knowledge workers from 23 international manufacturing firms and found that while both individuals' intrinsic motivation and organizational integrative mechanisms lead to higher knowledge sharing, putting in place extrinsic rewards for knowledge sharing hamper both their positive effects. In so doing, we

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found evidence of the negative power of extrinsic motivators in influencing interpersonal relationships and communicational processes within the organizations.

LITERATURE REVIEW AND HYPOTHESES

Knowledge Sharing

Knowledge sharing is defined as a social interaction culture in which employees exchange work-related experiences, skills, and know-how with colleagues (Lin 2007), while providing them with task information which may help them do something better, solve problems more quickly and develop new ideas (Kuvaas et al. 2012). Sharing knowledge is therefore a form of cooperative behavior, workplace helpfulness and collaboration. Further, knowledge sharing can increase one's own knowledge, help individuals think critically, thus enhancing firm's innovation capability (Lin 2007). By participating in knowledge sharing processes, employees can take advantage of the ideas and perspectives of their coworkers, receive feedback on a project from their superior (Cumming 2004), playing a critical role in the organizational effectiveness (Argote et al. 2000, 2003).

Knowledge sharing is defined here as the provision or receipt of information, knowledge and skills with colleagues resulting from others' request for knowledge. Our concept of knowledge sharing thereby includes both the process of asking and getting help from colleagues (i.e., recipient perspective) and the one of sending knowledge when colleagues ask for it (i.e., the sender perspective).

New Organizational Forms

With firms' boundaries becoming more permeable, it is frequent to witness the rise of various forms of internal hybrids likely to smooth the lateral sharing and integration of knowledge and information (Osterloh et al. 2002). As Holmström and Roberts (1998, p. 90) argue, "information and knowledge are at the heart of organizational design". This idea recalls the concept of new organizational forms, which help managers deal with complexity and uncertainty, by moving from the traditional bureaucratic structures to flatter, more innovative and less hierarchical ones (Balogun & Johnson 2004, Hassard et al. 2012).

Despite informal organizations may emerge within the context of formal organizational structures (Puranam et al. 2014), in this work we aim at investigating the extent to which the organizations formally provide horizontal communication channels likely to foster knowledge sharing behaviors, thereby taking on an organization design-oriented perspective.

Motivation for Knowledge Sharing

Providing the appropriate motivation to stimulate knowledge sharing behaviors may not be easy. However, it is critical for any organization since, in order to increase knowledge sharing participation, employees must be motivated to do so (Perry-Smith 2006, Wittenbaum et al. 2004). Scholars widely acknowledge that intrinsic motivation is a powerful type of motivation when employees' knowledge sharing needs to be stimulated (Gagné 2009, Reinholt et al. 2011).

Beside this, organizations often make use of rewards to motivate their employees' participation in knowledge sharing. Drawing on the Social Exchange Theory (Molm 1997), scholars posit that people behave in order to maximize their benefits and minimize their costs. Given this, employees may decide to hoard their knowledge unless they are duly compensated.

THE HYPOTHESES

Intrinsic Motivation and Employees' Knowledge Sharing

Intrinsic motivation characterizes those individuals who perform an activity (e.g., task, action, etc.) for its inherent satisfaction and interest rather than for other consequences it may produce; that is, for the fun, the challenge or the positive experience the activity provides them. Moreover, the concept of intrinsic motivation recalls the altruism, that is the intrinsic enjoyment in helping others (Kankanhalli et al. 2005) which, in turn, is one component of organizational citizenship behaviors (Organ 1997).

Knowledge workers, which are usually highly intrinsically motivated, tend to value knowledge generation for its own sake, to foster both the search for knowledge from others and its subsequent integration, to be more curious and not to feel threatened by new and different views (Mudambi et al. 2007). In a similar vein, Gagné (2009) states "that intrinsically motivated people will want to share knowledge simply out of their passion for their work and as an expression of themselves" (p. 574), regardless of what they could get from sharing what they know with others. According to this, we posit that:

Hypothesis 1: Employees' intrinsic motivation is positively associated with knowledge sharing behaviours within the organization.

New Organizational Forms and Knowledge Sharing

Scholars acknowledge that hierarchical structures tend to discourage knowledge exchange processes (Pierce 2012, Tagliaventi & Mattarelli 2006), while less centralized ones, which are usually provided with integrative mechanisms, foster the establishment of communication channels between separated units (Mintzberg 1979). Building on lean structure characteristics, integrative mechanisms occurring via lateral "consultation rather than vertical commands" (Burns & Stalker 1961: 121) are more appropriate for knowledge sharing. By virtue of such horizontal linkages, these organizational structures encourage social interaction and knowledge exchange (Kim & Lee 2006, Wang & Noe 2010). Osterloh and Frey (2000) address this issue by demonstrating that, especially when transfer of tacit knowledge is at stake, participation, interpersonal relationships and less hierarchical linkages are needed. Therefore, we argue that the implementation of integrative mechanisms that stimulate lateral instead of vertical communication is likely to facilitate intra-organizational knowledge sharing processes:

Hypothesis 2: The implementation of organizational integrative mechanisms is positively associated with knowledge sharing behaviours within the organization.

Motivation Crowding-Out Effect on Employees' Knowledge Sharing

Extrinsic rewards can strongly shape individuals' behavior (Fehr & Falk 2002). However, they can also undermine individuals' intrinsic motivation, via two main mechanisms. First, when individuals perceive an external factor, their self-determination is reduced because a shift in the locus of control from inside to outside the individual occurs (Rotter 1966). Second, external interventions are likely to be detrimental when they lead the individual to have the feeling that his/her involvement and competence are not really valued, decreasing his/her self-esteem, because he/she thinks the activity to be accomplished is not worthwhile (Lepper et al. 1973). This idea is supported by the argument that human behaviour is more realistically influenced at the same time by both extrinsic and intrinsic motivation (Frey & Oberholzer-Gee 1997), whose systematic and dynamic relationship produces the so-called crowding effects (Frey 1997, Frey &

Jegen 2001). Thus, the Motivation Crowding Theory looks at purely intrinsically and purely extrinsically motivated individuals as the two extremes of a continuum of possible combinations between these two types of motivation and posits that individuals can move along this spectrum, by getting closer either to the extrinsic motivation (crowding-out effect) or to the intrinsic motivation pole (crowding-in effect).

The motivation crowding-out effect is particularly relevant when organizations seek to enhance individuals' knowledge sharing orientations. Being knowledge a public good, it is likely that people may free ride on the efforts of others (Osterloh & Frey 2000) by benefitting from the collective advantages of organizational knowledge exchange, without personally contributing to the joint effort. This represents a critical issue to our study because knowledge processes outcomes are usually hard to observe, to verify, and to measure, making opportunistic behaviours more likely to occur. We therefore expect the following:

Hypothesis 3: The positive association between employees' intrinsic motivation and their knowledge sharing behaviours is weakened when extrinsic rewards for knowledge sharing are in place.

Interaction between Integrative Mechanisms and Extrinsic Rewards on Employees' Knowledge Sharing

Organizations equipped with lateral and cross-level communication channels often fail in their attempt to foster knowledge sharing activities among employees, because of rewards systems which motivate them to adopt individualistic behaviours. While employees in organic structures are usually collaborative, sociable and relationship-oriented (Kessler et al. 2016), extrinsic incentives tend to inhibit cooperative behaviours by motivating individuals to do something because it leads to a separable outcome (Ryan & Deci 2000). Hence, extrinsically motivated employees are less likely to participate in knowledge exchange processes, especially when the knowledge to be exchanged is tacit in nature. This is due to the fact that it makes their effort (i.e., their performance) hard to measure, thus, hard to be compensated (Lam & Lambermont-Ford 2010). Given this, we offer the following hypothesis:

Hypothesis 4: The positive association between organizational integrative mechanisms and employees' knowledge sharing behaviours is weakened when extrinsic rewards for knowledge sharing are in place.

The above discussion is summarized in the research model illustrated in Figure 1 below.

Insert Figure 1 about here

METHOD

Setting and Data Collection

The empirical research was conducted on a sample of 754 employees from 23 manufacturing firms located in a critical economic area in Central Italy (Tuscany) and operating in international markets. Data were collected through a web-survey administered to those

employees who can be considered nodes of knowledge as they operate at the center of strategic information flows.

Measurement and Validation of Constructs

According to Spector (1994), we used self-reported measures for operationalizing all variables in the questionnaire. All scales we adopted are multiple items- and seven-point Likert type scales.

Van den Hooff and Van Weenen (2004) provided the items used to measure knowledge sharing behaviour (four-item scale). We adopted Wasko and Faraj (2000) four-item scale to measure employees' intrinsic motivation. Extrinsic rewards were measured using four items derived from Hargadon (1998) and Davenport and Prusak (1998). The measure of integrative mechanisms is derived from Galbraith (1973) and Gupta and Govindarajan (2000). We also controlled for employees' age, their education level, whether the play a managerial role within the firm, their level of autonomy in the job and the extent to which they make use of ICT facilities to share knowledge.

ANALYSIS AND RESULTS

Descriptive statistics and correlation matrix for the study variables are reported in Table 1. The correlations are all well below the .80 that would indicate high collinearity.

Table 2 presents the results of the hierarchical multiple regression analysis run using Stata on our dependent variable (i.e., employees' knowledge sharing behaviours). The findings provide evidence about the positive association between individuals' intrinsic motivation and knowledge sharing participation (Model 2, $\beta = .44$, $p < .001$; Model 3 and Model 4, $\beta = .45$, $p < .001$). Hypothesis 1 is thus strongly supported. We also found that adopting integrative mechanisms helps the employees strengthen their knowledge sharing participation (Model 2-4, $\beta = .07$, $p < .01$), thus supporting Hypothesis 2. Moreover, the analysis shows a significant and negative moderator effect of extrinsic rewards on the relationship between employees' intrinsic motivation and the dependent variable (Model 3, $\beta = -.06$, $p < .05$; Model 4, $\beta = -.04$, $p < .10$), therefore supporting Hypothesis 3. Finally, we found evidence about the moderating role that extrinsic rewards play in the relationship between integrative mechanisms and employees' knowledge sharing behaviours. In this regard, Model 4 reveals that the relationship postulated in Hypothesis 4 is strongly significant ($\beta = -.04$, $p < .001$).

Insert Table 1 and Table 2 about here

Insert Figure 2 and Figure 3 about here

CONCLUSION

The present paper attempts to explain knowledge sharing behaviours' antecedents by putting together an individual perspective (i.e., motivation) with an organizational- (i.e., integrative mechanisms) and a HRM-based one (i.e., extrinsic rewards). By examining a sample of 754 employees from 23 international manufacturing firms, we found evidence of the power of

extrinsic motivators as detrimental to those behaviors, in that they negatively affect the positive role of both intrinsic motivation and integrative mechanisms on knowledge sharing.

This paper provides meaningful theoretical and practical contributions. First, it sheds light on the importance of developing an appropriate motivation management strategy aimed to avoid the crowding out effect of intrinsic motivation (Osterloh & Frey 2000). Second, simultaneously analyzing both intrinsic and extrinsic motivation has great advantage because individuals' behaviours are actually shaped by both of them at the same time. Third, investigating the way organizational integrative mechanisms affect knowledge sharing is consistent with the literature supporting the organizational forms as a critical management tool which helps the organization align its strategy to the environment (Dijksterhuis et al. 1999). Fourth, we add empirical evidence that may inform prior research on incentives that induce inter-employee linkages. Grounding primarily on Siemsen et al.'s (2007) study, this work recalls the importance of investigating workgroup context by identifying different types of connections among employees. The authors' distinction among outcome-, help-, and knowledge linkage may correspond with our research model.

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

Given that data collection was limited to organizations operating in a highly specific area, probably our findings could not be applicable to firms of different national cultures (Bock et al. 2005). Moreover, cross-sectional data make it difficult to understand the direction of causality; thus, they preclude us from investigating possible endogenous effects in our model. Furthermore, the paper focuses only on the two main types of motivation, i.e., intrinsic and extrinsic motivation. Future research could then take into account other kinds of individual motivation (e.g., identified regulation, introjected regulation; Gagné et al. 2010). Another threat to validity may result from acknowledging that love for money and extrinsic rewards increases in case of social rejection (see, for instance, Mead et al. 2011). Given that our study does not control for employees' perception of social acceptance and inclusion, future research may want to include this factor into the analysis and verify whether it might change our results. Finally, in line with Kessler et al. (2016), measuring organic/mechanistic structures by focusing exclusively on structural elements (e.g., integrative mechanisms in this study) may not allow to capture the complexity of the organization design.

REFERENCES AVAILABLE FROM THE AUTHORS