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Knowledge sharing motivation among IT personnel: Integrated model and implications of employment contracts

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ABSTRACT

The existing research literature suggests that six main factors influence the collaborative behavior of workers. Collaborative behavior has a crucial impact on the thriving of an organization and its human capital, being a necessary condition for motivating workers to share and exchange their knowledge. The relevant factors are: the workers' identification with the organization; self, means and external efficacy; human resource management practices; perceived organizational support. While previous studies have dealt with these factors as sub-groups, the current study proposes and tests an integrative model that combines all of them, and adds a new factor: employment contract. The model was validated on IT workers from several sectors.

1. Introduction

The social capital of an organization encompasses the various social ties of its employees (Okoli & Oh, 2007), which facilitate information exchange, innovation, learning, and effective cooperation between the organization's units. These ties include knowledge sharing (KS) aspects ("the people I know influence what I know"), and have a positive correlation with the productivity of the human capital (Reed, Lubatkin, & Srinivasan, 2006).

Several studies indicate that teamwork is capable of improving the functioning of an organization, especially in organizations developing technological products, such as those in the Information Technologies (IT) sphere. Successful and effective teamwork stems from the collaborative behaviors of the team members, for example, knowledge sharing (Carmeli, Gelbard, & Goldriech, 2011; Hackman, 1987, 1990; Hoegl & Gemuenden, 2001).

Nowadays, IT is a central aspect of an organization's competitive strategy, placing its IT projects and personnel center stage (Sauer & Reich, 2009). The literature indicates that KS, especially in technological teams, is a key factor in an organization's capability to utilize its personnel and benefit from it (Carmeli et al., 2011). It is therefore assumed that any insights that could help understand the factors motivating KS in IT teams, are likely to improve IT projects, productivity, and the organization's performances in general (Schwarz, Hirschheim, Jayatilaka, & Goles, 2009). This study focuses, then, on putting together an integrative model that would throw light on variables motivating KS.

Outsourcing by employing external workers has recently become a common and convenient employment solution (Bryson & Ngwenyama, 2000; Tan & Sia, 2006), especially in project-based work that requires flexibility and rapid adjustment to fluctuations in the numbers of professional manpower. This type of activity is particularly common in the IT sphere (Earl, 1996; Hilmer & Quinn, 1994; Worthington, 1997).

Employing workers in a project or a team under different terms of employment (internal vs. external workers) may affect the texture of an organization's social capital. The social capital of an organization is the sum total of the social ties of its personnel. These ties facilitate information exchange, innovation, learning, and effective cooperation between the organization's units. These have all KS aspects ("the people I know influence what I know"), and they correlate positively with the productivity of the human capital (Reed et al., 2006).

According to the research literature, six main factors participate in motivating workers to share their knowledge: organizational identification (Ashforth & Mael, 1989; Dutton, Dukerich, & Harquail, 1994; George & Chattopadhyay, 2005; Kramer, 1991), self-efficacy (Bandura, 1997), means efficacy (Eden, Ganzach, Flumin-Granat, & Zigman, 2010), external efficacy (Eden et al., 2010), human resource management practices (HRP) (Aryee & Law, 2007), and perceived organizational support (POS) (Allen, Shore, & Griffeth, 2003; Hutchison, Sowa, Eisenberger, & Huntington, 1986; Levinson, 1965; Rhoades & Eisenberger, 2002). Other studies suggest that there is a need to understand the connections between employment modes, HRP and efficacy variables (Ply, Ellen Moore,

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Williams, & Bennet Thatcher, 2012). While the existing studies deal with these factors as sub-groups (Aryee & Law, 2007; Dutton et al., 1994; George & Chattopadhyay, 2005; Holton & Yamkovenko, 2008; Kramer, 1991), the present study proposes and tests an integrative model that combines all of them and adds a new factor: employment contract. The model was tested on Israeli government and private sector IT employees, and was found valid.

2. Theoretical background

2.1. IT management and projects

IT is a central aspect of an organization's competitive strategy. This places the management of IT systems, projects, and personnel at the focus of organizational concerns, and calls for a reform in the approach to human resources in these projects (Sauer & Reich, 2009). Gelbard and Carmeli (2008) suggest that behavioral models should be adopted in the field of Information and Communication Technologies (ICT) since of their relevancy to all ICT management core constructs: Projects, Assets, Policies, and Evaluation, as illustrated in Appendix A, Fig. A.7. Other studies also suggest that organizational and behavioral factors should be considered, in addition to technological factors, since they play a major role in the success or failure of ICT projects (Agarwal & Rathod, 2006; Gelbard & Carmeli, 2009; Xia & Lee, 2004). Therefore, it is no longer possible to ignore risks having to do with the stability of human resources, their ability to share knowledge, and their performances. The reason for this is that a significant human turnover affects the timetables of a project, the ability to preserve knowledge within an organization, and the manner in which tasks are performed. Employing various types of workers in a project or a team may affect the texture of the organization's social capital.

One advanced IT management agenda views a project as an emotional process that involves deep identification with the goals of the project and the organization, and in which the project manager must assume a proactive approach. The IT project manager, once a support player, now has a leading role, which requires self-confidence, involvement, and high personal capabilities. A theory to be presented later on indicates that external workers find it difficult to identify with the organization and its goals. The connection between the mode of employment and the organizational identification of IT personnel must be explored, considering that these workers are, and will continue to be expected to strongly identify with the organization.

2.2. Employment contracts in IT workforce

As discussed in IS literature (Wynekoop & Walz, 1998), IT workers have unique characteristics and behaviors, such as work exhaustion (Moore, 2000), stress and burnout (Shropshire & Kadlec, 2012). These phenomena are frequently noticed among IT workers, and lead to high turnover rates (Chang, 2010; Joseph, Koh, & Ang, 2007), that are liable to cause project delay, financial and competitive loss, and weakness. There are several ways to carry out organizational IT tasks, from in-house employment through extensive outsourcing, using a varying mix of internal and external workers. Internal workers are employed directly by the organization. The organization defines their job description and tasks, and, of course, determines and pays them a salary and benefits. External workers are usually employed in one of the following ways: through manpower or service contractors; by outsourcing; as advisers; as freelancers (Worthington, 1997). The present study deals with IT workers employed through manpower contractors and/or other external companies. This mode of employment is generally thought to have several advantages: flexible employment mechanisms, which enable employing or dismissing workers at short notice according to need; budgetary flexibility – workers are regarded in the same way as products or services purchased from a supplier; evading issues related to employer–employee relations; engaging highly skilled workers, or workers whose skills lie in spheres that are not at the core of the organization's work and are not worth hiring as internal workers; cutting down costs due to economies of scale: it is less costly for a manpower company or a software vendor to employ IT workers than it is for an organization where IT is a side activity (Bryson & Ngwenyama, 2000; Earl, 1996; Hilmer & Quinn, 1994; Lacity & Willcocks, 1998; Worthington, 1997).

In spite of this, when a decision is made to employ external workers, a number of significant disadvantages must also be taken into consideration. Cost: hiring an external IT worker is more costly than hiring an internal one, as the client must pay a risk premium for temporary work. The total cost of external employment also includes the overheads of the employer (the manpower company or the software vendor), various other expenses, and, of course, profits to be gained. Conflict of interest: because external workers receive their wages from another employer, usually a software vendor, conflict of interest may arise, especially if they hold senior positions. Risks to information security and control: an alien element introduced into a company/organization may put its information security at risk. Potential loss of strategic assets and information: an external worker who possesses highly valuable information may leave the organization unexpectedly, and cause information loss. Use of the external employment channel to evade employing regular workers: in some organizations, the external channel by which IT workers are employed is also used to hire other workers, being faster and simpler than regular employment. When this happens, the organization may lose control of its official manpower management (Ang, 1998; Earl, 1996; Hilmer & Quinn, 1994; Tan & Sia, 2006; Worthington, 1997).

Between 2008 and 2012, the median outsourcing share of IT budgets more than doubled (3.8% in 2008, 8.6% in 2010) (Computer Economics, 2008a, 2012). In 2010, the median percentage of external workers in most of the organizations was around 5%, and in certain extreme cases it exceeded 13.5% (75th percentile) (Computer Economics, 2010). In 2008, these percentages were 5% and 15% respectively (Computer Economics, 2008a). The decrease noticed in 2010 seems to be unique, and outsourcing frequency appears to have continued increasing since 2011 (Computer Economics, 2012).

Organizations commonly use external services for various purposes such as software development, system, helpdesk, and information security (Computer Economics, 2008b, 2012). However, a trend has been emerging of outsourcing for daily tasks and not only for urgent ones, even though most of the outsourced IT functions do not have a great potential for reducing costs (Computer Economics, 2008b, 2012).

All this confirms that issues related to nontraditional employment contracts such as employment of external workers are important and should be addressed, given the growing share of this mode of employment in the total expenditure of an organization, its widespread use, and the increasing risks it entails for the organization.

2.3. Management and behavioral theories

2.3.1. Human resource practices

With the ongoing technological development of the past few years, organizations have increasingly realized that human capital is the main source for competitive advantage. To ensure a competitive advantage based on human capital, special attention must be given to practices that maximize and leverage this asset (Wright,